D73ZOV750RA02

Maida Development

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ZINC-OXIDE

VARISTORS

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THE MAIDA DEVELOPMENT COMPANY

Since 1947 the Maida Development Company has been a leading manufacturer and supplier of high quality components for the electronic industry. Maida currently has four full product lines, consisting of zinc oxide varistors, ceramic disk capacitors, NTC thermistors, and X2Y™ EMI devices. From its founding in 1947, by Francis X. Maida, the corporate offices for Maida are located in Hampton, Virginia.

Maida products are shipped and distributed worldwide to OEMs and end-users that require exceptional service and delivery. Distribution is achieved with an international team of trained, experienced sales representatives and distributors strategically located worldwide. Maida also manages customer accounts and ships products directly to customers through its Corporate and China offices.

Component products manufactured by Maida cover a wide range of uses and industries. Maida's zinc oxide varistors are used in many applications that require protection against transients induced by lightning struck power lines. They also provide protection for suppression of transients caused by switching inductive loads from transformers, relays and coils. Common applications include surge protective devices (SPD's), ground fault circuit interrupters, arc-fault circuit interrupters, power supplies, telecommunication equipment, computer and computer-related products, motor control systems, cable TV systems, portable electronics devices and AC smoke detectors, plus many special applications.

The Maida manufactured products include a complete line of radial-leaded ceramic zinc oxide varistors along with a line of surface mount varistors. Maida also manufactures a complete line of high voltage ceramic disc capacitors, complemented by a full selection of safety capacitors. NTC ceramic thermistors used for in-rush current limiting and temperature sensing applications are also parts of the product line-up at Maida. Custom design and fabrication of components for specific customer requirements are also available from Maida.

Maida products are component-recognized in the United States as well as internationally by organizations such as UL, CSA, and VDE.

Maida products have a long heritage of proven high quality performance and reliability. They even worked their way to the moon and back during the Apollo Space Program. The Maida success story in part has resulted from a continuous dynamic program of research and development for improving both products and manufacturing processes to meet customer needs. Dedicated employees, management with a customer service attitude, sound competitive marketing, and state-of–the art products sum up the Maida story.

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Terminology & General Specifications

TECHNICAL TERM	DESCRIPTION	SPECIFICATION
Operating Temperature	Operating Temperature Range without Derating.	-40°C to +85°C
Storage Temperature	Storage Temperature Range without Voltage Applied.	-50°C to +125°C
Curent / Energy Derating	Derating of maximum Values when Operated above +85°C	-2.5% / °C
Varistor Voltage Temperature Coefficient	$\frac{Vv \text{ at } 85°C - Vv \text{ at } 25°C}{Vv \text{ at } 25°C} \times \frac{1}{60°C} \times 100$ Where Vv is varistor voltage at 1mADC	-0.05% / °C
Insulation Resistance	Minimum resistance between shorted terminals and varistor surface.	10,000M Ω minimum
HiPot Encapsulation	Minimum voltage applied for one minute between shorted terminals and varistor surface.	2,500 VDC
Impulse Response Time	Time lag between application of surge and varistor's "turn-on" conduction state.	< 50 nanoseconds
DC Leakage Current	Maximum current with rated DC voltage applied.	200uA maximum
Safety Agency Recognitions	UL1449 cUL CSA VDE	See Specification Sheet
Applied Voltage - AC	Maximum continuous sinusoidal RMS voltage which may be applied (MCOV).	See Specification Sheet
Applied Voltage - DC	Maximum continuous DC voltage which may be applied.	See Specification Sheet
Transient Energy (Joules)	The maximum energy absorbed with a varistor voltage change of less than ± 10% when one impulse of an 8x20us current waveform is applied.	See Specification Sheet
Transient Peak Current	The maximum current with a varistor voltage change of less than ± 10% when one impulse of an 8x20us current waveform is applied.	See Specification Sheet
Varistor Voltage	Voltage across the varistor measured at 1mADC	See Specification Sheet
Maximum Clamping Voltage	Peak voltage across the varistor with a specific peak impulse current applied (8x20us).	See Specification Sheet
Capacitance	Typical value measured at 1Vrms and a test frequency of 1KHz.	See Specification Sheet

LEAD CODES

The Maida Development Company prides itself on its ability to manufacture wire leaded devices to meet almost every request of its customers. The following table depicts common varieties of leads that are presently supplied. It should be noted that the dimensions (such as the X, Z, height, lead length, epoxy "pant leg", wire diameter, etc.) can be modified on any the items shown to meet almost any request. Maida is also capable of supplying the various lead forms in either right-hand or left-hand configurations.

For any inquiries regarding specific lead forms please contact us.

NOTE: The images shown depict a round varistor only. However, any lead configuration can be obtained on either round or square varistors.

TAPE & REEL

The Maida Development Company zinc oxide varistors are available in Bulk, Tape & Reel, or Ammo Pack packaging formats. All Tape & Reel and Ammo Pack part numbers are designated by suffixing the Maida style number with a T followed by a 1-2 digit alphanumeric code. The codes are generally given to indicate whether the packaging is either Ammo Pack or Tape & Reel, the typical lead spacing of the varistor, the lead style, the wire gauge (or wire diameter), and the taping pitch.

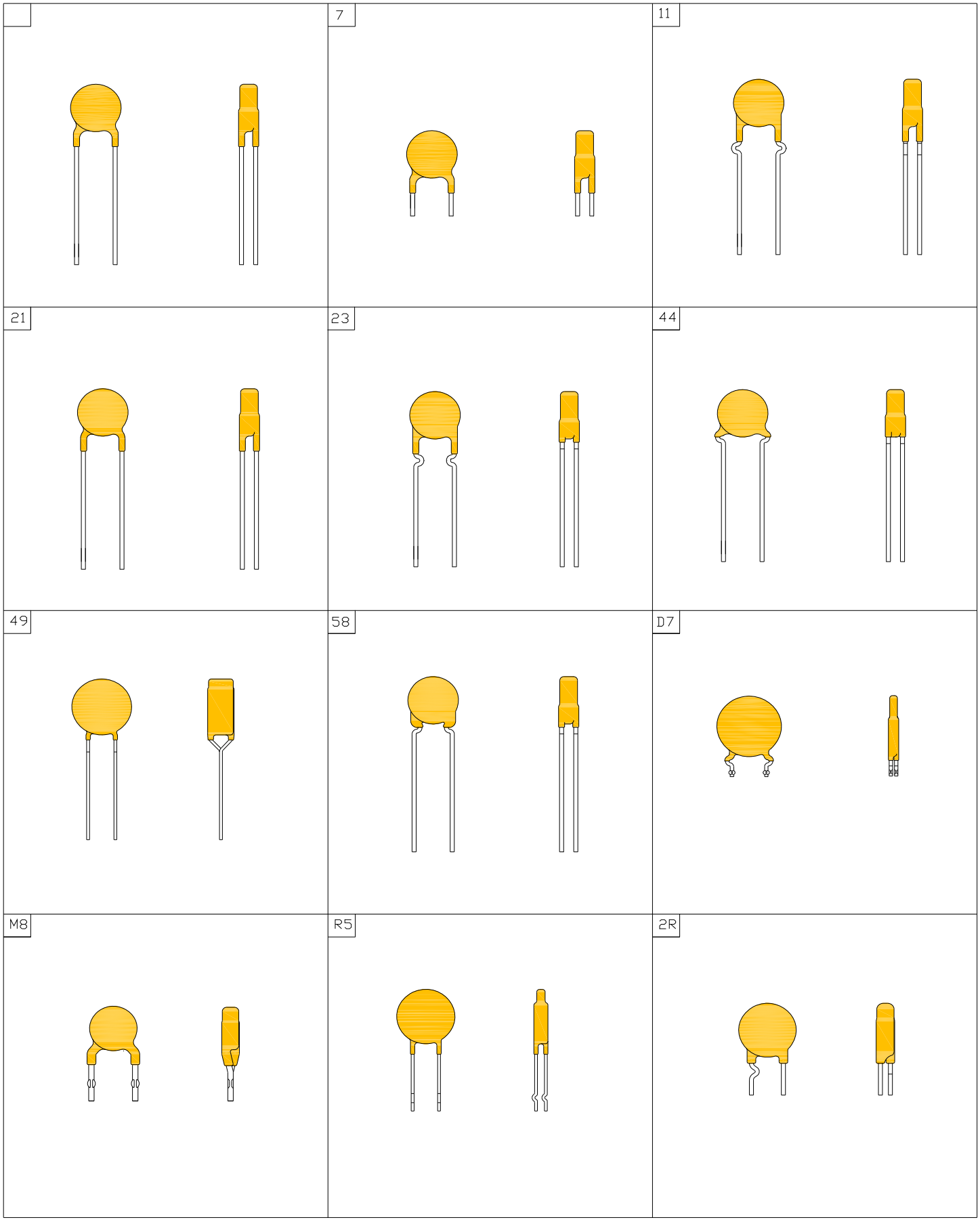
Generally, through-hole varistors with a lead spacing of 0.394", or less, and a nominal disc diameter of 20mm, or less, can be taped. Larger diameters and/or lead spacing's may be offered taped; however customers should contact us for confirmation.

All SMV Series, Encapsulated MOV Series, and MLV Series are provided Tape & Reel. For bulk packaging please contact us.

Maida's taping specifications comply with the requirements of the EIA taping standard. Configurations are available to meet almost any request.

Detailed drawings for all taping codes are available upon request.

COMMON LEAD CODES



TAPING CODES

Code	Description	Lead Spacing (in)	Lead Spacing (mm)	Lead Form Type	Wire AWG
T1	PANASERT TAPE & REEL	0.200	5.08	STRAIGHT LEADS	22
T11	AMMO PACK TAPE & BOX	0.200	5.08	STRAIGHT LEADS	22
T12	AMMO PACK TAPE & BOX	0.300	7.62	STRAIGHT LEADS	22
T13	AMMO PACK TAPE & BOX	0.300	7.62	INSIDE KINK	22
T14	PANASERT TAPE & REEL	0.200	5.08	INSIDE KINK	22
T16	PANASERT TAPE & REEL	0.200	5.08	OFFSET KINK	22
T17	PANASERT TAPE & REEL	0.200	5.08	OUTSIDE KINK	22
T18	PANASERT TAPE & REEL	0.250	6.35	OUTSIDE KINK	22
T19	PANASERT TAPE & REEL	0.300	7.62	STRAIGHT LEADS	20
T1A	PANASERT TAPE & REEL	0.300	7.62	OUTSIDE KINK	20
T1B	PANASERT TAPE & REEL	0.250	6.35	STRAIGHT LEADS	22
T1C	PANASERT TAPE & REEL	0.200	5.08	OUTSIDE KINK	22
T1D	AMMO PACK TAPE & BOX	0.200	5.08	INSIDE KINK	22
T1E	PANASERT TAPE & REEL	0.200	5.08	INSIDE KINK	22
T1F	PANASERT TAPE & REEL	0.300	7.62	INSIDE KINK	22
T1G	PANASERT TAPE & REEL	0.300	7.62	STRAIGHT LEADS	20
T1H	PANASERT TAPE & REEL	0.394	10.01	STRAIGHT LEADS	20
T1I	PANASERT TAPE & REEL	0.375	9.53	STRAIGHT LEADS	20
T1J	AMMO PACK TAPE & BOX	0.300	7.62	OUTSIDE KINK	22
T1K	PANASERT TAPE & REEL	0.250	6.35	INSIDE KINK	22
T1L	PANASERT TAPE & REEL	0.200	5.08	STRAIGHT LEADS	22
T1M	PANASERT TAPE & REEL	0.300	7.62	OUTSIDE KINK	22
T1N	PANASERT TAPE & REEL	0.300	7.62	OUTSIDE KINK	20
T1P	PANASERT TAPE & REEL	0.335	8.51	OUTSIDE KINK	20
T1Q	PANASERT TAPE & REEL	0.375	9.53	INSIDE KINK	20
T1R	PANASERT TAPE & REEL	0.300	7.62	DOUBLE KINK	22
T1T	PANASERT TAPE & REEL	0.375	9.53	OUTSIDE KINK	20
T1U	AMMO PACK TAPE & BOX	0.300	7.62	OUTSIDE KINK	20
T1V	AMMO PACK TAPE & BOX	0.394	10.01	OUTSIDE KINK	22
T1W	AMMO PACK TAPE & BOX	0.200	5.08	IN-LINE LEADS	22
T1X	PANASERT TAPE & REEL	0.394	10.01	OUTSIDE KINK	20
T1Y	PANASERT TAPE & REEL	0.300	7.62	INSIDE KINK	20
T1Z	PANASERT TAPE & REEL	0.250	6.35	IN-LINE LEADS	22
T2	PANASERT TAPE & REEL	n/a	n/a	AXIAL	
T21	AMMO PACK TAPE & BOX	n/a	n/a	AXIAL	
T3	AMMO PACK TAPE & BOX	0.200	5.08	OUTSIDE KINK	22
T31	PANASERT TAPE & REEL	0.394	10.01	OUTSIDE KINK	18
T32	PANASERT TAPE & REEL	0.200	5.08	IN-LINE LEADS	22
T33	PANASERT TAPE & REEL	0.250	6.35	STRAIGHT LEADS	20
T34	PANASERT TAPE & REEL	0.100	2.54	STRAIGHT LEADS	22
T35	PANASERT TAPE & REEL	0.200	5.08	INSIDE KINK	20
T36	AMMO PACK TAPE & BOX	0.300	7.62	STRAIGHT LEADS	20
T37	PANASERT TAPE & REEL	0.375	9.53	STRAIGHT LEADS	22
T38	PANASERT TAPE & REEL	0.300	7.62	STRAIGHT LEADS	22
T39	PANASERT TAPE & REEL	0.300	7.62	IN-LINE LEADS	22

TAPING CODES (cont.)

Code	Description	Lead Spacing (in)	Lead Spacing (mm)	Lead Form Type	Wire AWG
T4	PANASERT TAPE & REEL	0.300	7.62	IN-LINE LEADS	20
T41	PANASERT TAPE & REEL	0.200	5.08	OUTSIDE KINK	20
T42	PANASERT TAPE & REEL	0.200	5.08	STRAIGHT LEADS	20
T43	AMMO PACK TAPE & BOX	0.300	7.62	IN-LINE LEADS	20
T44	AMMO PACK TAPE & BOX	0.394	10.01	STRAIGHT LEADS	20
T45	AMMO PACK TAPE & BOX	0.394	10.01	OUTSIDE KINK	20
T46	PANASERT TAPE & REEL	0.375	9.53	STRAIGHT LEADS	20
T47	AMMO PACK TAPE & BOX	0.375	9.53	INSIDE KINK	20
T48	PANASERT TAPE & REEL	0.200	5.08	OUTSIDE KINK	20
T49	PANASERT TAPE & REEL	0.200	5.08	INSIDE KINK	22
T5	AMMO PACK TAPE & BOX	0.250	6.35	OUTSIDE KINK	22
T51	PANASERT TAPE & REEL	0.200	5.08	IN-LINE LEADS	20
T52	AMMO PACK TAPE & BOX	0.250	6.35	INSIDE KINK	22
T53	PANASERT TAPE & REEL	0.300	7.62	OUTSIDE KINK	20
T54	PANASERT TAPE & REEL	0.250	6.35	OUTSIDE KINK	20
T55	PANASERT TAPE & REEL	0.200	5.08	DOUBLE KINK	22
T56	PANASERT TAPE & REEL	0.300	7.62	STRAIGHT LEADS	22
T57	AMMO PACK TAPE & BOX	0.300	7.62	INSIDE KINK	20
T58	PANASERT TAPE & REEL	0.300	7.62	INSIDE KINK	22
T59	AMMO PACK TAPE & BOX	0.200	5.08	INSIDE KINK	20
T6	3220 SMV TAPE & REEL	n/a	n/a	n/a	n/a
T61	AMMO PACK TAPE & BOX	0.200	5.08	OUTSIDE KINK	20
T62	AMMO PACK TAPE & BOX	0.200	5.08	INSIDE KINK	22
T63	PANASERT TAPE & REEL	0.200	5.08	STRAIGHT LEADS	20
T64	AMMO PACK TAPE & BOX	0.200	5.08	INSIDE KINK	21
T65	PANASERT TAPE & REEL	0.394	10.01	STRAIGHT LEADS	18
T66	PANASERT TAPE & REEL	0.375	9.53	INSIDE KINK	20
T67	PANASERT TAPE & REEL	0.200	5.08	INSIDE KINK	24
T68	AMMO PACK TAPE & BOX	0.300	7.62	STRAIGHT LEADS	22
T69	PANASERT TAPE & REEL	0.200	5.08	BUMP LEAD	22
T7	1206 MLV TAPE & REEL	n/a	n/a	n/a	n/a
T70	PANASERT TAPE & REEL	0.200	5.08	IN-LINE LEADS	22
T71	AMMO PACK TAPE & BOX	0.200	5.08	OUTSIDE KINK	22
T72	PANASERT TAPE & REEL	0.394	10.01	INSIDE KINK	20
T73	PANASERT TAPE & REEL	0.300	7.62	OUTSIDE KINK	22
T74	PANASERT TAPE & REEL	0.250	6.35	STRAIGHT LEADS	20
T75	PANASERT TAPE & REEL	0.300	7.62	IN-LINE LEADS W/ OUTSIDE KINK	20
T76	PANASERT TAPE & REEL	0.300	7.62	IN-LINE LEADS	22
T77	PANASERT TAPE & REEL	0.375	9.53	STRAIGHT LEADS	22
T78	PANASERT TAPE & REEL	0.200	5.08	STRAIGHT LEADS	22
T79	PANASERT TAPE & REEL	0.160	4.06	STRAIGHT LEADS	22

TAPING CODES (cont.)

Code	Description	Lead Spacing (in)	Lead Spacing (mm)	Lead Form Type	Wire AWG
T8	PANASERT TAPE & REEL	0.300	7.62	STRAIGHT LEADS	24
T81	PANASERT TAPE & REEL	0.375	9.53	OUTSIDE KINK	22
T82	PANASERT TAPE & REEL	0.400	10.16	OUTSIDE KINK	22
T83	PANASERT TAPE & REEL	0.160	4.06	STRAIGHT LEADS	24
T84	PANASERT TAPE & REEL	0.300	7.62	IN-LINE LEADS	20
T85	PANASERT TAPE & REEL	0.100	2.54	INSIDE KINK	22
T86	PANASERT TAPE & REEL	0.225	5.72	STRAIGHT LEADS	22
T87	PANASERT TAPE & REEL	0.200	5.08	OUTSIDE KINK	22
T88	PANASERT TAPE & REEL	0.160	4.06	IN-LINE LEADS	22
T89	PANASERT TAPE & REEL	0.300	7.62	IN-LINE LEADS	20
T90	AMMO PACK TAPE & BOX	0.300	7.62	OUTSIDE KINK	20
T91	PANASERT TAPE & REEL	0.354	8.99	INSIDE KINK	22
T92	AMMO PACK TAPE & BOX	0.200	5.08	OUTSIDE KINK	22
T93	AMMO PACK TAPE & BOX	0.394	10.01	STRAIGHT LEADS	18
T94	PANASERT TAPE & REEL	0.300	7.62	STRAIGHT LEADS	18
T95	PANASERT TAPE & REEL	0.394	10.01	ITRON IN-LINE	20
T96	PANASERT TAPE & REEL	0.200	5.08	OUTSIDE KINK	24
T97	AMMO PACK TAPE & BOX	0.300	7.62	IN-LINE LEADS	20
T98	AMMO PACK TAPE & BOX	0.200	5.08	OUTSIDE KINK	24
T99	AMMO PACK TAPE & BOX	0.300	7.62	IN-LINE LEADS	22

INTRODUCTION

The Standard Series is our broadest and most comprehensive line of radial-leaded varistors. These components consist of wire leads and have nominal disk diameters from 3mm to 25mm. They are available with maximum continuous operating voltages (MCOV) ranging from 11VAC to 1000VAC (up to 1500VAC upon request).
The Standard Series is designed to handle most low and medium power applications requiring through-hole components. Most sizes are available in Tape and Reel and ammo pack.
For a complete listing of Maida Development Company's IEC ANNEX Q certified devices please see Appendix B of this catalog.

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our Standard Series components by the Maida Style Number:

D 65 21 ZOV 131 RA 20

1. **Coating Designation**
   D – Standard Epoxy Coating
   P – Phenolic Coating
   Neither – Denote no conformal coating.
2. **Nominal Disk Diameter**

56 – 3mm	69 – 14mm
58 – 5mm	79 – 15mm
73 – 7mm	64 – 16mm
68 – 8mm	63 – 18mm
61 – 10mm	65 – 20mm
71 – 11mm	66 – 25mm
62 – 12mm	

3. **Lead Configuration**
   (Refer to lead codes)
4. **Material Identifier**
   Zinc Oxide Varistor
5. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 131 is 130 VAC
6. **Special Instructions,** RA is standard
7. **Rating Code,** up to four numbers

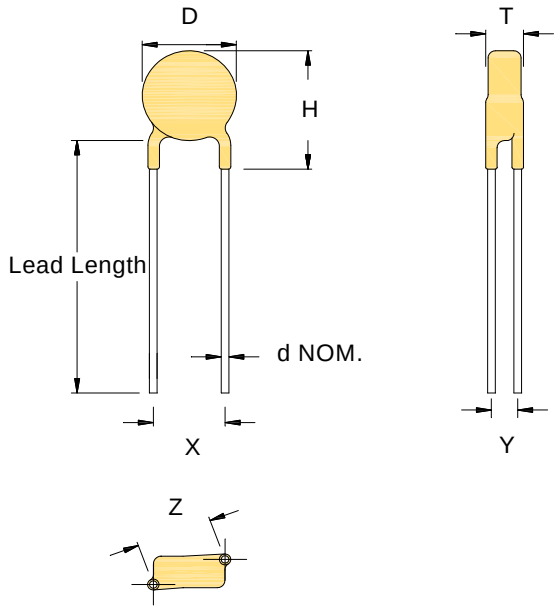
STANDARD MARKING

Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

For example:
MDC
Z131
20UL

Where:
MDC - Company Initials
Z - Zinc Oxide Varistor
131 - AC Voltage rating (130VAC)
20 - Rating code
UL - UL recognition, if applicable

A manufacturing date code and/or special markings are available upon request.
Other safety agency designations are included where applicable.



STANDARD *SERIES*

SPECIFICATIONS

11VAC thru 40VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
D58ZOV110RA00	X						5	Z110 - 00UL	11	14	0.6	0.6	250	125	16	20	40	1	2200
D73ZOV110RA01	X						7	Z110 - 01UL	11	14	1.1	1.1	500	250	16	20	36	2.5	3500
D6121ZOV110RA02	X						10	Z110 - 02UL	11	14	2.6	2.6	1000	500	16	20	36	5	7500
D6921ZOV110RA04	X						14	Z110 - 04UL	11	14	5.2	5.2	2000	1000	16	20	36	10	18000
D6521ZOV110RA10	X						20	Z110 - 10UL	11	14	13	13	3000	2000	16	20	36	20	37000
D56ZOV140RA0R1							3	Z14	14	18	0.1	0.1	50	25	20	24	55	1	500
D58ZOV140RA00	X						5	Z140 - 00UL	14	18	0.7	0.7	250	125	20	24	48	1	2000
D73ZOV140RA01	X						7	Z140 - 01UL	14	18	1.3	1.3	500	250	20	24	43	2.5	2800
D6121ZOV140RA02	X						10	Z140 - 02UL	14	18	3.2	3.2	1000	500	20	24	43	5	6000
D6921ZOV140RA04	X						14	Z140 - 04UL	14	18	6.3	6.3	2000	1000	20	24	43	10	15000
D6521ZOV140RA13	X						20	Z140 - 13UL	14	18	16	16	3000	2000	20	24	43	20	30000
D56ZOV170RA0R12							3	Z17	17	22	0.12	0.12	50	25	24	30	67	1	400
D58ZOV170RA00	X						5	Z170 - 00UL	17	22	0.9	0.9	250	125	24	30	60	1	1600
D73ZOV170RA01	X						7	Z170 - 01UL	17	22	1.6	1.6	500	250	24	30	53	2.5	2000
D6121ZOV170RA03	X						10	Z170 - 03UL	17	22	3.9	3.9	1000	500	24	30	53	5	4000
D6921ZOV170RA05	X						14	Z170 - 05UL	17	22	7.8	7.8	2000	1000	24	30	53	10	10000
D6521ZOV170RA15	X						20	Z170 - 15UL	17	22	19	19	3000	2000	24	30	53	20	22000
D56ZOV200RA0R15							3	Z20	20	26	0.15	0.15	50	25	30	36	73	1	487
D58ZOV200RA00	X						5	Z200 - 00UL	20	26	1.1	1.1	250	125	30	36	73	1	1675
D73ZOV200RA01	X						7	Z200 - 01UL	20	26	2	2	500	250	30	36	65	2.5	3614
D6121ZOV200RA03	X						10	Z200 - 03UL	20	26	4.8	4.8	1000	500	30	36	65	5	6655
D6921ZOV200RA06	X						14	Z200 - 06UL	20	26	9.5	9.5	2000	1000	30	36	65	10	14447
D6521ZOV200RA20	X						20	Z200 - 20UL	20	26	24	24	3000	2000	30	36	65	20	33064
D56ZOV250RA0R18							3	Z25	25	31	0.18	0.18	50	25	35	43	86	1	412
D58ZOV250RA01	X						5	Z250 - 01UL	25	31	1.2	1.2	250	125	35	43	86	1	1417
D73ZOV250RA02	X						7	Z250 - 02UL	25	31	2.4	2.4	500	250	35	43	77	2.5	3058
D6121ZOV250RA04	X						10	Z250 - 04UL	25	31	5.6	5.6	1000	500	35	43	77	5	5632
D6921ZOV250RA07	X						14	Z250 - 07UL	25	31	11	11	2000	1000	35	43	77	10	12225
D6521ZOV250RA24	X						20	Z250 - 24UL	25	31	28	28	3000	2000	35	43	77	20	27977
D56ZOV300RA0R2							3	Z30	30	38	0.2	0.2	50	25	42	52	99	1	342
D58ZOV300RA01	X						5	Z300 - 01UL	30	38	1.5	1.5	250	125	42	52	99	1	1176
D73ZOV300RA02	X						7	Z300 - 02UL	30	38	2.8	2.8	500	250	42	52	93	2.5	2537
D6121ZOV300RA05	X						10	Z300 - 05UL	30	38	6.8	6.8	1000	500	42	52	93	5	4673
D6921ZOV300RA09	X						14	Z300 - 09UL	30	38	14	14	2000	1000	42	52	93	10	10144
D6321ZOV300RA26	X						18	Z300 - 26UL	30	38	26	26	2500	1500	42	52	93	20	18230
D6521ZOV300RA30	X						20	Z300 - 30UL	30	38	34	34	3000	2000	42	52	93	20	23215
D56ZOV350RA0R25							3	Z35	35	45	0.25	0.25	50	25	50	62	117	1	287
D58ZOV350RA01	X						5	Z350 - 01UL	35	45	1.8	1.8	250	125	50	62	117	1	987
D73ZOV350RA02	X						7	Z350 - 02UL	35	45	3.4	3.4	500	250	50	62	110	2.5	2130
D6121ZOV350RA06	X						10	Z350 - 06UL	35	45	8.1	8.1	1000	500	50	62	110	5	3922
D6921ZOV350RA10	X						14	Z350 - 10UL	35	45	16	16	2000	1000	50	62	110	10	8514
D6521ZOV350RA35	X						20	Z350 - 35UL	35	45	41	41	3000	2000	50	62	110	20	19484
D56ZOV400RA0R3							3	Z40	40	56	0.3	0.3	50	25	61	75	138	1	133
D58ZOV400RA01	X						5	Z400 - 01UL	40	56	2.2	2.2	250	125	61	75	138	1	438
D73ZOV400RA03	X						7	Z400 - 03UL	40	56	5.2	5.2	500	250	61	75	135	2.5	945
D6121ZOV400RA07	X						10	Z400 - 07UL	40	56	13	13	1000	500	61	75	135	5	1627
D6921ZOV400RA12	X						14	Z400 - 12UL	40	56	20	20	2000	1000	61	75	135	10	3285
D6521ZOV400RA40	X						20	Z400 - 40UL	40	56	49	49	3000	2000	61	75	135	20	7517

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

11VAC thru 40VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D58ZOV110RA00	0.298	0.161	0.423	0.200	0.040	0.076	0.030	0.214	0.040	0.025
D73ZOV110RA01	0.354	0.161	0.479	0.200	0.040	0.076	0.030	0.214	0.040	0.025
D6121ZOV110RA02	0.472	0.161	0.597	0.300	0.040	0.083	0.030	0.311	0.040	0.032
D6921ZOV110RA04	0.650	0.161	0.775	0.300	0.040	0.083	0.030	0.311	0.040	0.032
D6521ZOV110RA10	0.905	0.161	1.030	0.300	0.040	0.083	0.030	0.311	0.040	0.032
D56ZOV140RA0R1	0.197	0.165	0.322	0.160	0.040	0.083	0.030	0.180	0.040	0.020
D58ZOV140RA00	0.298	0.165	0.423	0.200	0.040	0.088	0.030	0.219	0.040	0.025
D73ZOV140RA01	0.354	0.165	0.479	0.200	0.040	0.088	0.030	0.219	0.040	0.025
D6121ZOV140RA02	0.472	0.165	0.597	0.300	0.040	0.095	0.030	0.315	0.040	0.032
D6921ZOV140RA04	0.650	0.165	0.775	0.300	0.040	0.095	0.030	0.315	0.040	0.032
D6521ZOV140RA13	0.905	0.165	1.030	0.300	0.040	0.095	0.030	0.315	0.040	0.032
D56ZOV170RA0R12	0.197	0.170	0.322	0.160	0.040	0.080	0.030	0.179	0.040	0.020
D58ZOV170RA00	0.298	0.170	0.423	0.200	0.040	0.102	0.030	0.225	0.040	0.025
D73ZOV170RA01	0.354	0.170	0.479	0.200	0.040	0.102	0.030	0.225	0.040	0.025
D6121ZOV170RA03	0.472	0.170	0.597	0.300	0.040	0.109	0.030	0.319	0.040	0.032
D6921ZOV170RA05	0.650	0.170	0.775	0.300	0.040	0.109	0.030	0.319	0.040	0.032
D6521ZOV170RA15	0.905	0.170	1.030	0.300	0.040	0.109	0.030	0.319	0.040	0.032
D56ZOV200RA0R15	0.197	0.176	0.322	0.160	0.040	0.049	0.030	0.167	0.040	0.020
D58ZOV200RA00	0.298	0.176	0.423	0.200	0.040	0.054	0.030	0.207	0.040	0.025
D73ZOV200RA01	0.354	0.176	0.479	0.200	0.040	0.054	0.030	0.207	0.040	0.025
D6121ZOV200RA03	0.472	0.176	0.597	0.300	0.040	0.062	0.030	0.306	0.040	0.032
D6921ZOV200RA06	0.650	0.176	0.775	0.300	0.040	0.063	0.030	0.307	0.040	0.032
D6521ZOV200RA20	0.905	0.176	1.030	0.300	0.040	0.065	0.030	0.307	0.040	0.032
D56ZOV250RA0R18	0.197	0.182	0.322	0.160	0.040	0.054	0.030	0.169	0.040	0.020
D58ZOV250RA01	0.298	0.182	0.423	0.200	0.040	0.059	0.030	0.209	0.040	0.025
D73ZOV250RA02	0.354	0.182	0.479	0.200	0.040	0.059	0.030	0.209	0.040	0.025
D6121ZOV250RA04	0.472	0.182	0.597	0.300	0.040	0.067	0.030	0.307	0.040	0.032
D6921ZOV250RA07	0.650	0.182	0.775	0.300	0.040	0.069	0.030	0.308	0.040	0.032
D6521ZOV250RA24	0.905	0.182	1.030	0.300	0.040	0.071	0.030	0.308	0.040	0.032
D56ZOV300RA0R2	0.197	0.190	0.322	0.160	0.040	0.061	0.030	0.171	0.040	0.020
D58ZOV300RA01	0.298	0.190	0.423	0.200	0.040	0.066	0.030	0.211	0.040	0.025
D73ZOV300RA02	0.354	0.190	0.479	0.200	0.040	0.066	0.030	0.211	0.040	0.025
D6121ZOV300RA05	0.472	0.190	0.597	0.300	0.040	0.075	0.030	0.309	0.040	0.032
D6921ZOV300RA09	0.650	0.190	0.775	0.300	0.040	0.077	0.030	0.310	0.040	0.032
D6321ZOV300RA26	0.812	0.190	0.937	0.300	0.040	0.079	0.030	0.310	0.040	0.032
D6521ZOV300RA30	0.905	0.190	1.030	0.300	0.040	0.079	0.030	0.310	0.040	0.032
D56ZOV350RA0R25	0.197	0.199	0.322	0.160	0.040	0.069	0.030	0.174	0.040	0.020
D58ZOV350RA01	0.298	0.199	0.423	0.200	0.040	0.074	0.030	0.213	0.040	0.025
D73ZOV350RA02	0.354	0.199	0.479	0.200	0.040	0.074	0.030	0.213	0.040	0.025
D6121ZOV350RA06	0.472	0.199	0.597	0.300	0.040	0.083	0.030	0.311	0.040	0.032
D6921ZOV350RA10	0.650	0.199	0.775	0.300	0.040	0.085	0.030	0.312	0.040	0.032
D6521ZOV350RA35	0.905	0.199	1.030	0.300	0.040	0.088	0.030	0.313	0.040	0.032
D56ZOV400RA0R3	0.197	0.211	0.322	0.160	0.040	0.048	0.030	0.167	0.040	0.020
D58ZOV400RA01	0.298	0.211	0.423	0.200	0.040	0.055	0.030	0.207	0.040	0.025
D73ZOV400RA03	0.354	0.211	0.479	0.200	0.040	0.055	0.030	0.207	0.040	0.025
D6121ZOV400RA07	0.472	0.211	0.597	0.300	0.040	0.064	0.030	0.307	0.040	0.032
D6921ZOV400RA12	0.650	0.211	0.775	0.300	0.040	0.066	0.030	0.307	0.040	0.032
D6521ZOV400RA40	0.905	0.211	1.030	0.300	0.040	0.066	0.030	0.307	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

STANDARD *SERIES*

SPECIFICATIONS

50VAC thru 130VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
D56ZOV500RA0R4							3	Z50	50	66	0.4	0.4	50	25	74	90	163	2	109
D58ZOV500RA01	X						5	Z500 - 01UL	50	66	3.5	3.5	800	600	74	90	163	5	364
D73ZOV500RA02	X						7	Z500 - 02UL	50	66	7	7	1750	1250	74	90	157	10	767
D6121ZOV500RA03	X						10	Z500 - 03UL	50	66	14	14	3500	2500	74	90	147	25	1375
D7121ZOV500RA04	X						11	Z500 - 04UL	50	66	19	19	4000	2800	74	90	147	30	1533
D6221ZOV500RA05	X						12	Z500 - 05UL	50	66	22	22	4500	3200	74	90	147	40	2602
D6921ZOV500RA06	X						14	Z500 - 06UL	50	66	28	28	6000	5000	74	90	147	50	2829
D6521ZOV500RA42	X						20	Z500 - 42UL	50	66	56	56	10000	7000	74	90	147	100	5041
D56ZOV600RA0R5							3	Z60	60	81	0.5	0.5	50	25	90	110	200	2	92
D58ZOV600RA01	X						5	Z600 - 01UL	60	81	4.5	4.5	800	600	90	110	190	5	299
D73ZOV600RA02	X						7	Z600 - 02UL	60	81	9	9	1750	1250	90	110	180	10	629
D6121ZOV600RA03	X						10	Z600 - 03UL	60	81	18	18	3500	2500	90	110	175	25	1128
D7121ZOV600RA04	X						11	Z600 - 04UL	60	81	20	20	4000	2800	90	110	175	30	1257
D6221ZOV600RA05	X						12	Z600 - 05UL	60	81	22	22	4500	3200	90	110	175	40	2133
D6921ZOV600RA06	X						14	Z600 - 06UL	60	81	36	36	6000	5000	90	110	175	50	2319
D6521ZOV600RA45	X						20	Z600 - 45UL	60	81	72	72	10000	7000	90	110	175	100	5264
D56ZOV750RA0R6							3	Z75	75	102	0.6	0.6	100	50	108	132	220	2	77
D58ZOV750RA01	X						5	Z750 - 01UL	75	102	5.5	5.5	800	600	108	132	220	5	249
D73ZOV750RA02	X						7	Z750 - 02UL	75	102	11	11	1750	1250	108	132	220	10	524
D6121ZOV750RA03	X						10	Z750 - 03UL	75	102	22	22	3500	2500	108	132	210	25	940
D7121ZOV750RA04	X						11	Z750 - 04UL	75	102	22	22	4000	2800	108	132	210	30	1048
D6221ZOV750RA05	X						12	Z750 - 05UL	75	102	27	27	4500	3200	108	132	210	40	1778
D6921ZOV750RA06	X						14	Z750 - 06UL	75	102	44	44	6000	5000	108	132	210	50	1933
D6521ZOV750RA55	X						20	Z750 - 55UL	75	102	88	88	10000	7000	108	132	210	100	4387
D56ZOV950RA0R7							3	Z95	95	127	0.7	0.7	100	50	135	165	240	2	34
D58ZOV950RA01	X						5	Z950 - 01UL	95	127	6.6	6.6	800	600	135	165	240	5	118
D73ZOV950RA02	X						7	Z950 - 02UL	95	127	13	13	1750	1250	135	165	255	10	255
D6121ZOV950RA03	X						10	Z950 - 03UL	95	127	25	25	3500	2500	135	165	255	25	469
D7121ZOV950RA04	X						11	Z950 - 04UL	95	127	28	28	4000	2800	135	165	255	30	537
D6221ZOV950RA05	X						12	Z950 - 05UL	95	127	33	33	4500	3200	135	165	255	40	924
D6921ZOV950RA06	X						14	Z950 - 06UL	95	127	53	53	6000	5000	135	165	255	50	1019
D6521ZOV950RA65	X						20	Z950 - 65UL	95	127	106	106	10000	7000	135	165	255	100	2331
D56ZOV121RA0R9							3	Z121	120	160	0.9	0.9	100	50	170	207	310	2	34
D58ZOV121RA02	X						5	Z121 - 02UL	120	160	8	8	800	600	170	207	310	5	118
D73ZOV121RA03	X						7	Z121 - 03UL	120	160	16	16	1750	1250	170	207	320	10	255
D68ZOV121RA03	X						8	Z121 - 03UL8	120	160	19	19	2500	1700	170	207	320	15	327
D6121ZOV121RA04	X						10	Z121 - 04UL	120	160	33	33	3500	2500	170	207	320	25	469
D7121ZOV121RA05	X						11	Z121 - 05UL	120	160	36	36	4000	2800	170	207	320	30	537
D6221ZOV121RA07	X						12	Z121 - 07UL	120	160	41	41	4500	3200	170	207	320	40	924
D6921ZOV121RA09	X						14	Z121 - 09UL	120	160	52	52	6000	5000	170	207	320	50	1019
D6421ZOV121RA10							16	Z121 - 10	120	160	58	58	6300	5300	170	207	320	70	1506
D6321ZOV121RA65	X						18	Z121 - 65UL	120	160	65	65	7500	6500	170	207	320	100	1830
D6521ZOV121RA20	X						20	Z121 - 20UL	120	160	130	130	10000	7000	170	207	320	100	2331
D56ZOV131RA1R0							3	Z131	130	175	1	1	100	50	184	224	350	2	34
D58ZOV131RA02	X			X			5	Z131 - 02UL	130	175	8.5	8.5	800	600	184	224	350	5	116
D73ZOV131RA03	X		X	X			7	Z131 - 03UL	130	175	17.5	17.5	1750	1250	184	224	340	10	250
D68ZOV131RA03	X		X				8	Z131 - 03UL8	130	175	27	27	2300	1500	184	224	340	15	316
D6121ZOV131RA04	X		X	X			10	Z131 - 04UL	130	175	45	45	3500	2500	184	224	340	25	438
D7121ZOV131RA05	X		X	X			11	Z131 - 05UL	130	175	48	48	4000	2800	184	224	340	30	494
D6221ZOV131RA07	X		X	X			12	Z131 - 07UL	130	175	53	53	4500	3200	184	224	340	40	835
D6921ZOV131RA09	X		X	X			14	Z131 - 09UL	130	175	70	70	6500	5000	184	224	340	50	890
D6421ZOV131RA10			X				16	Z131 - 10	130	175	100	100	7700	6000	184	224	340	70	1304
D6321ZOV131RA70	X		X				18	Z131 - 70UL	130	175	130	130	9000	7000	184	224	340	100	1571
D6521ZOV131RA20	X		X	X			20	Z131 - 20UL	130	175	150	150	12000	9000	184	224	340	100	2001
D6694ZOV131RA140	X		X				25	Z131 - 140UL	130	175	170	170	18000	13000	184	224	340	100	3634

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

50VAC thru 130VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D56ZOV500RA0R4	0.197	0.174	0.322	0.160	0.040	0.039	0.030	0.165	0.040	0.020
D58ZOV500RA01	0.298	0.174	0.423	0.200	0.040	0.046	0.030	0.205	0.040	0.025
D73ZOV500RA02	0.354	0.174	0.479	0.200	0.040	0.046	0.030	0.205	0.040	0.025
D6121ZOV500RA03	0.472	0.174	0.597	0.300	0.040	0.054	0.030	0.305	0.040	0.032
D7121ZOV500RA04	0.531	0.174	0.656	0.300	0.040	0.054	0.030	0.305	0.040	0.032
D6221ZOV500RA05	0.590	0.174	0.715	0.300	0.040	0.054	0.030	0.305	0.040	0.032
D6921ZOV500RA06	0.650	0.174	0.775	0.300	0.040	0.055	0.030	0.305	0.040	0.032
D6521ZOV500RA42	0.905	0.225	1.030	0.300	0.040	0.055	0.030	0.305	0.040	0.032
D56ZOV600RA0R5	0.197	0.243	0.322	0.160	0.040	0.044	0.030	0.166	0.040	0.020
D58ZOV600RA01	0.298	0.178	0.423	0.200	0.040	0.050	0.030	0.206	0.040	0.025
D73ZOV600RA02	0.354	0.178	0.479	0.200	0.040	0.051	0.030	0.206	0.040	0.025
D6121ZOV600RA03	0.472	0.178	0.597	0.300	0.040	0.058	0.030	0.306	0.040	0.032
D7121ZOV600RA04	0.531	0.178	0.656	0.300	0.040	0.059	0.030	0.306	0.040	0.032
D6221ZOV600RA05	0.590	0.178	0.715	0.300	0.040	0.059	0.030	0.306	0.040	0.032
D6921ZOV600RA06	0.650	0.178	0.775	0.300	0.040	0.060	0.030	0.306	0.040	0.032
D6521ZOV600RA45	0.905	0.243	1.030	0.300	0.040	0.060	0.030	0.306	0.040	0.032
D56ZOV750RA0R6	0.197	0.184	0.322	0.160	0.040	0.048	0.030	0.167	0.040	0.020
D58ZOV750RA01	0.298	0.184	0.423	0.200	0.040	0.055	0.030	0.207	0.040	0.025
D73ZOV750RA02	0.354	0.184	0.479	0.200	0.040	0.056	0.030	0.208	0.040	0.025
D6121ZOV750RA03	0.472	0.184	0.597	0.300	0.040	0.064	0.030	0.307	0.040	0.032
D7121ZOV750RA04	0.531	0.184	0.656	0.300	0.040	0.064	0.030	0.307	0.040	0.032
D6221ZOV750RA05	0.590	0.184	0.715	0.300	0.040	0.065	0.030	0.307	0.040	0.032
D6921ZOV750RA06	0.650	0.184	0.775	0.300	0.040	0.065	0.030	0.307	0.040	0.032
D6521ZOV750RA55	0.905	0.172	1.030	0.300	0.040	0.066	0.030	0.307	0.040	0.032
D56ZOV950RA0R7	0.197	0.191	0.322	0.160	0.040	0.055	0.030	0.169	0.040	0.020
D58ZOV950RA01	0.298	0.191	0.423	0.200	0.040	0.063	0.030	0.210	0.040	0.025
D73ZOV950RA02	0.354	0.191	0.479	0.200	0.040	0.063	0.030	0.210	0.040	0.025
D6121ZOV950RA03	0.472	0.191	0.597	0.300	0.040	0.071	0.030	0.308	0.040	0.032
D7121ZOV950RA04	0.531	0.191	0.656	0.300	0.040	0.059	0.030	0.306	0.040	0.032
D6221ZOV950RA05	0.590	0.191	0.715	0.300	0.040	0.073	0.030	0.309	0.040	0.032
D6921ZOV950RA06	0.650	0.191	0.775	0.300	0.040	0.074	0.030	0.309	0.040	0.032
D6521ZOV950RA65	0.905	0.179	1.030	0.300	0.040	0.074	0.030	0.309	0.040	0.032
D56ZOV121RA0R9	0.197	0.201	0.322	0.160	0.040	0.051	0.030	0.168	0.040	0.020
D58ZOV121RA02	0.298	0.201	0.423	0.200	0.040	0.056	0.030	0.208	0.040	0.025
D73ZOV121RA03	0.354	0.201	0.479	0.200	0.040	0.056	0.030	0.208	0.040	0.025
D68ZOV121RA03	0.394	0.201	0.519	0.200	0.040	0.056	0.030	0.208	0.040	0.025
D6121ZOV121RA04	0.472	0.201	0.597	0.300	0.040	0.063	0.030	0.307	0.040	0.032
D7121ZOV121RA05	0.531	0.201	0.656	0.300	0.040	0.066	0.030	0.307	0.040	0.032
D6221ZOV121RA07	0.590	0.201	0.715	0.300	0.040	0.063	0.030	0.307	0.040	0.032
D6921ZOV121RA09	0.650	0.201	0.775	0.300	0.040	0.063	0.030	0.307	0.040	0.032
D6421ZOV121RA10	0.710	0.201	0.835	0.300	0.040	0.066	0.030	0.307	0.040	0.032
D6321ZOV121RA65	0.787	0.201	0.912	0.300	0.040	0.063	0.030	0.307	0.040	0.032
D6521ZOV121RA20	0.905	0.201	1.030	0.300	0.040	0.063	0.030	0.307	0.040	0.032
D56ZOV131RA1R0	0.197	0.204	0.322	0.160	0.040	0.052	0.030	0.168	0.040	0.020
D58ZOV131RA02	0.298	0.204	0.423	0.200	0.040	0.057	0.030	0.208	0.040	0.025
D73ZOV131RA03	0.354	0.204	0.479	0.200	0.040	0.057	0.030	0.208	0.040	0.025
D68ZOV131RA03	0.394	0.204	0.519	0.200	0.040	0.057	0.030	0.208	0.040	0.025
D6121ZOV131RA04	0.472	0.204	0.597	0.300	0.040	0.065	0.030	0.307	0.040	0.032
D7121ZOV131RA05	0.531	0.204	0.656	0.300	0.040	0.068	0.030	0.308	0.040	0.032
D6221ZOV131RA07	0.590	0.204	0.715	0.300	0.040	0.066	0.030	0.307	0.040	0.032
D6921ZOV131RA09	0.650	0.204	0.775	0.300	0.040	0.067	0.030	0.307	0.040	0.032
D6421ZOV131RA10	0.710	0.204	0.835	0.300	0.040	0.068	0.030	0.308	0.040	0.032
D6321ZOV131RA70	0.787	0.204	0.912	0.300	0.040	0.068	0.030	0.308	0.040	0.032
D6521ZOV131RA20	0.905	0.204	1.030	0.300	0.040	0.068	0.030	0.308	0.040	0.032
D6694ZOV131RA140	1.100	0.198	1.250	0.500	0.040	0.123	0.030	0.515	0.040	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

STANDARD *SERIES*

SPECIFICATIONS

140VAC thru 230VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
D56ZOV141RA1R1							3	Z141	140	180	1.1	1.1	100	50	198	242	380	2	33
D58ZOV141RA02	X			X			5	Z141 - 02UL	140	180	9	9	800	600	198	242	380	5	111
D73ZOV141RA03	X		X	X			7	Z141 - 03UL	140	180	20	20	1750	1250	198	242	360	10	232
D68ZOV141RA03	X		X				8	Z141 - 03UL8	140	180	30	30	2400	1700	198	242	360	15	293
D61121ZOV141RA04	X		X	X			10	Z141 - 04UL	140	180	50	50	3500	2500	198	242	360	25	407
D71121ZOV141RA05	X		X	X			11	Z141 - 05UL	140	180	54	54	4000	2800	198	242	360	30	458
D62221ZOV141RA07	X		X	X			12	Z141 - 07UL	140	180	59	59	4500	3200	198	242	360	40	775
D69221ZOV141RA09	X		X	X			14	Z141 - 09UL	140	180	78	78	6500	5000	198	242	360	50	825
D64221ZOV141RA10			X				16	Z141 - 10UL	140	180	106	106	7700	6000	198	242	360	70	1209
D63221ZOV141RA75	X		X				18	Z141 - 75UL	140	180	135	135	9000	7000	198	242	360	100	1457
D65221ZOV141RA20	X		X	X			20	Z141 - 20UL	140	180	160	160	12000	9000	198	242	360	100	1855
D66942ZOV141RA150	X		X				25	Z141 - 150UL	140	180	180	180	18000	13000	198	242	360	100	3370
D56ZOV151RA1R2							3	Z151	150	200	1.2	1.2	100	50	212	259	430	2	30
D58ZOV151RA02	X			X			5	Z151 - 02UL	150	200	10.5	10.5	800	600	212	259	430	5	101
D73ZOV151RA03	X		X	X			7	Z151 - 03UL	150	200	21	21	1750	1250	212	259	395	10	212
D68ZOV151RA03	X		X				8	Z151 - 03UL8	150	200	30	30	2300	1700	212	259	395	15	268
D61121ZOV151RA04	X		X	X			10	Z151 - 04UL	150	200	55	55	3500	2500	212	259	395	25	373
D71121ZOV151RA05	X		X	X			11	Z151 - 05UL	150	200	58	58	4000	2800	212	259	395	30	420
D62221ZOV151RA07	X		X	X			12	Z151 - 07UL	150	200	64	64	4500	3200	212	259	395	40	710
D69221ZOV151RA09	X		X	X			14	Z151 - 09UL	150	200	84	84	6500	5000	212	259	395	50	756
D64221ZOV151RA10			X				16	Z151 - 10	150	200	112	112	7700	6000	212	259	395	70	1108
D63221ZOV151RA80	X		X				18	Z151 - 80UL	150	200	140	140	9000	7000	212	259	395	100	1336
D65221ZOV151RA20	X		X	X			20	Z151 - 20UL	150	200	170	170	12000	9000	212	259	395	100	1701
D66942ZOV151RA160	X		X				25	Z151 - 160UL	150	200	190	190	18000	13000	212	259	395	100	3089
D56ZOV181RA1R3							3	Z181	180	230	1.3	1.3	100	50	255	311	510	2	26
D58ZOV181RA02	X			X			5	Z181 - 02UL	180	230	11	11	800	600	255	311	510	5	87
D73ZOV181RA03	X		X	X			7	Z181 - 03UL	180	230	24	24	1750	1250	255	311	445	10	182
D68ZOV181RA03	X		X				8	Z181 - 03UL8	180	230	32	32	2400	1700	255	311	445	15	230
D61121ZOV181RA04	X		X	X			10	Z181 - 04UL	180	230	60	60	3500	2500	255	311	465	25	319
D62221ZOV181RA07	X		X	X			12	Z181 - 07UL	180	230	62	62	4500	3200	255	311	465	40	609
D69221ZOV181RA09	X		X	X			14	Z181 - 09UL	180	230	100	100	6000	5000	255	311	465	50	648
D63221ZOV181RA100	X						18	Z181 - 100UL	180	230	150	150	7500	6000	255	311	465	100	1145
D65221ZOV181RA20	X		X	X			20	Z181 - 20UL	180	230	190	190	10000	7000	255	311	465	100	1458
D66942ZOV181RA200	X		X				25	Z181 - 200UL	180	230	200	200	13000	9000	255	311	465	100	2648
D56ZOV211RA1R5							3	Z211	210	270	1.5	1.5	100	50	297	363	570	2	22
D58ZOV211RA07	X						5	Z211 - 07UL	210	270	13	13	800	600	297	363	545	5	74
D73ZOV211RA18	X		X	X			7	Z211 - 18UL	210	270	28	28	1750	1250	297	363	545	10	154
D61ZOV211RA30	X		X	X			10	Z211 - 30UL	210	270	58	58	3500	2500	297	363	545	25	271
D62ZOV211RA45	X		X	X			12	Z211 - 45UL	210	270	66	66	4500	3200	297	363	545	40	516
D69ZOV211RA65	X		X	X			14	Z211 - 65UL	210	270	120	120	6000	4500	297	363	545	50	550
D63ZOV211RA100	X		X	X			18	Z211 - 100UL	210	270	185	185	7500	6000	297	363	545	75	971
D65ZOV211RA110	X		X	X			20	Z211 - 110UL	210	270	230	230	10000	6500	297	363	545	100	1237
D66942ZOV211RA220	X		X				25	Z211 - 220UL	210	270	250	250	13000	9000	297	363	545	100	2247
D56ZOV231RA1R7							3	Z231	230	300	1.7	1.7	100	50	326	397	670	2	20
D58ZOV231RA08	X						5	Z231 - 08UL	230	300	16	16	800	600	326	397	595	5	68
D73ZOV231RA20	X		X	X			7	Z231 - 20UL	230	300	32	32	1750	1250	326	397	595	10	141
D68ZOV231RA20			X				8	Z231 - 20	230	300	42	42	2400	1700	326	397	595	15	179
D61ZOV231RA35	X		X	X			10	Z231 - 35UL	230	300	65	65	3500	2500	326	397	595	25	248
D62ZOV231RA50	X		X	X			12	Z231 - 50UL	230	300	70	70	4500	3200	326	397	595	40	473
D69ZOV231RA70	X		X	X			14	Z231 - 70UL	230	300	135	135	6000	4500	326	397	595	50	504
D63ZOV231RA80	X		X	X			18	Z231 - 80UL	230	300	215	215	7500	6000	326	397	595	100	890
D65ZOV231RA115	X		X	X			20	Z231 - 115UL	230	300	270	270	10000	6500	326	397	595	100	1134
D66942ZOV231RA230	X		X				25	Z231 - 230UL	230	300	280	280	13000	9000	326	397	595	100	2059

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

140VAC thru 230VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D56ZOV141RA1R1	0.197	0.208	0.322	0.160	0.040	0.053	0.030	0.169	0.040	0.020
D58ZOV141RA02	0.298	0.208	0.423	0.200	0.040	0.058	0.030	0.208	0.040	0.025
D73ZOV141RA03	0.354	0.208	0.479	0.200	0.040	0.059	0.030	0.209	0.040	0.025
D68ZOV141RA03	0.394	0.208	0.519	0.200	0.040	0.060	0.030	0.209	0.040	0.025
D6121ZOV141RA04	0.472	0.208	0.597	0.300	0.040	0.068	0.030	0.308	0.040	0.032
D7121ZOV141RA05	0.531	0.208	0.656	0.300	0.040	0.072	0.030	0.309	0.040	0.032
D6221ZOV141RA07	0.590	0.208	0.715	0.300	0.040	0.069	0.030	0.308	0.040	0.032
D6921ZOV141RA09	0.650	0.208	0.775	0.300	0.040	0.070	0.030	0.308	0.040	0.032
D6421ZOV141RA10	0.710	0.208	0.835	0.300	0.040	0.072	0.030	0.309	0.040	0.032
D6321ZOV141RA75	0.787	0.208	0.912	0.300	0.040	0.071	0.030	0.308	0.040	0.032
D6521ZOV141RA20	0.905	0.208	1.030	0.300	0.040	0.071	0.030	0.308	0.040	0.032
D6694ZOV141RA150	1.100	0.202	1.250	0.500	0.040	0.127	0.030	0.516	0.040	0.040
D56ZOV151RA1R2	0.197	0.212	0.322	0.160	0.040	0.055	0.030	0.169	0.040	0.020
D58ZOV151RA02	0.298	0.212	0.423	0.200	0.040	0.060	0.030	0.209	0.040	0.025
D73ZOV151RA03	0.354	0.212	0.479	0.200	0.040	0.061	0.030	0.209	0.040	0.025
D68ZOV151RA03	0.394	0.212	0.519	0.200	0.040	0.062	0.030	0.209	0.040	0.025
D6121ZOV151RA04	0.472	0.212	0.597	0.300	0.040	0.070	0.030	0.308	0.040	0.032
D7121ZOV151RA05	0.531	0.212	0.656	0.300	0.040	0.076	0.030	0.309	0.040	0.032
D6221ZOV151RA07	0.590	0.212	0.715	0.300	0.040	0.071	0.030	0.308	0.040	0.032
D6921ZOV151RA09	0.650	0.212	0.775	0.300	0.040	0.073	0.030	0.309	0.040	0.032
D6421ZOV151RA10	0.710	0.212	0.835	0.300	0.040	0.076	0.030	0.309	0.040	0.032
D6321ZOV151RA80	0.787	0.212	0.912	0.300	0.040	0.074	0.030	0.309	0.040	0.032
D6521ZOV151RA20	0.905	0.212	1.030	0.300	0.040	0.074	0.030	0.309	0.040	0.032
D6694ZOV151RA160	1.100	0.207	1.250	0.500	0.040	0.132	0.030	0.517	0.040	0.040
D56ZOV181RA1R3	0.197	0.223	0.322	0.160	0.040	0.061	0.030	0.171	0.040	0.020
D58ZOV181RA02	0.298	0.223	0.423	0.200	0.040	0.067	0.030	0.211	0.040	0.025
D73ZOV181RA03	0.354	0.223	0.479	0.200	0.040	0.068	0.030	0.211	0.040	0.025
D68ZOV181RA03	0.394	0.223	0.519	0.200	0.040	0.069	0.030	0.212	0.040	0.025
D6121ZOV181RA04	0.472	0.223	0.597	0.300	0.040	0.078	0.030	0.310	0.040	0.032
D6221ZOV181RA07	0.590	0.223	0.715	0.300	0.040	0.079	0.030	0.310	0.040	0.032
D6921ZOV181RA09	0.650	0.223	0.775	0.300	0.040	0.081	0.030	0.311	0.040	0.032
D6321ZOV181RA100	0.787	0.223	0.912	0.300	0.040	0.082	0.030	0.311	0.040	0.032
D6521ZOV181RA20	0.905	0.223	1.030	0.300	0.040	0.082	0.030	0.311	0.040	0.032
D6694ZOV181RA200	1.100	0.217	1.250	0.500	0.040	0.122	0.030	0.515	0.040	0.040
D56ZOV211RA1R5	0.197	0.220	0.322	0.160	0.040	0.069	0.030	0.174	0.040	0.020
D58ZOV211RA07	0.298	0.220	0.423	0.200	0.040	0.075	0.030	0.214	0.040	0.025
D73ZOV211RA18	0.354	0.236	0.479	0.200	0.040	0.076	0.030	0.214	0.040	0.025
D61ZOV211RA30	0.472	0.237	0.597	0.300	0.040	0.086	0.030	0.312	0.040	0.032
D62ZOV211RA45	0.590	0.234	0.715	0.300	0.040	0.087	0.030	0.312	0.040	0.032
D69ZOV211RA65	0.650	0.239	0.775	0.300	0.040	0.089	0.030	0.313	0.040	0.032
D63ZOV211RA100	0.812	0.234	0.937	0.300	0.040	0.090	0.030	0.313	0.040	0.032
D65ZOV211RA110	0.905	0.234	1.030	0.300	0.040	0.090	0.030	0.313	0.040	0.032
D6694ZOV211RA220	1.100	0.234	1.250	0.500	0.040	0.130	0.030	0.517	0.040	0.040
D56ZOV231RA1R7	0.197	0.229	0.322	0.160	0.040	0.073	0.030	0.176	0.040	0.020
D58ZOV231RA08	0.298	0.229	0.423	0.200	0.040	0.079	0.030	0.215	0.040	0.025
D73ZOV231RA20	0.354	0.242	0.479	0.200	0.040	0.081	0.030	0.216	0.040	0.025
D68ZOV231RA20	0.394	0.242	0.519	0.200	0.040	0.082	0.030	0.216	0.040	0.025
D61ZOV231RA35	0.472	0.242	0.597	0.300	0.040	0.091	0.030	0.313	0.040	0.032
D62ZOV231RA50	0.590	0.242	0.715	0.300	0.040	0.093	0.030	0.314	0.040	0.032
D69ZOV231RA70	0.650	0.242	0.775	0.300	0.040	0.095	0.030	0.315	0.040	0.032
D63ZOV231RA80	0.812	0.242	0.937	0.300	0.040	0.096	0.030	0.315	0.040	0.032
D65ZOV231RA115	0.905	0.242	1.030	0.300	0.040	0.096	0.030	0.315	0.040	0.032
D6694ZOV231RA230	1.100	0.230	1.250	0.500	0.040	0.136	0.030	0.518	0.040	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

STANDARD *SERIES*

SPECIFICATIONS

250VAC thru 390VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
D56ZOV251RA1R9							3	Z251	250	330	1.9	1.9	100	50	354	432	700	2	18
D58ZOV251RA08	X						5	Z251 - 08UL	250	330	17	17	800	600	354	432	675	5	62
D73ZOV251RA21	X		X	X			7	Z251 - 21UL	250	330	35	35	1750	1250	354	432	650	10	131
D68ZOV251RA21			X				8	Z251 - 21	250	330	45	45	2400	1700	354	432	650	15	165
D61ZOV251RA40	X		X	X			10	Z251 - 40UL	250	330	70	70	3500	2500	354	432	650	25	229
D62ZOV251RA55	X		X	X			12	Z251 - 55UL	250	330	80	80	4500	3200	354	432	650	40	437
D69ZOV251RA72	X		X	X			14	Z251 - 72UL	250	330	145	145	6000	4500	354	432	650	50	465
D63ZOV251RA90	X		X	X			18	Z251 - 90UL	250	330	240	240	7500	6000	354	432	650	75	822
D65ZOV251RA130	X		X	X			20	Z251 - 130UL	250	330	300	300	10000	6500	354	432	650	100	1047
D6694ZOV251RA260	X		X				25	Z251 - 260UL	250	330	315	315	13000	9000	354	432	650	100	1901
D56ZOV271RA2R0							3	Z271	270	360	2	2	100	50	382	466	740	2	17
D58ZOV271RA09	X						5	Z271 -09UL	270	360	20	20	800	600	382	466	740	5	58
D73ZOV271RA23	X		X	X			7	Z271 - 23UL	270	360	40	40	1750	1250	382	466	710	10	121
D68ZOV271RA23			X				8	Z271 - 23	270	360	52	52	2400	1700	382	466	710	15	153
D61ZOV271RA43	X		X	X			10	Z271 - 43UL	270	360	80	80	3500	2500	382	466	710	25	213
D62ZOV271RA60	X		X	X			12	Z271 - 60UL	270	360	91	91	4500	3200	382	466	710	40	406
D69ZOV271RA75	X		X	X			14	Z271 - 75UL	270	360	160	160	6000	4500	382	466	710	50	432
D63ZOV271RA100	X		X	X			18	Z271 - 100UL	270	360	260	260	7500	6000	382	466	710	75	763
D65ZOV271RA140	X		X	X			20	Z271 - 140UL	270	360	325	325	10000	6500	382	466	710	100	972
D6694ZOV271RA280	X		X				25	Z271 - 280UL	270	360	340	340	13000	9000	382	466	710	100	1765
D56ZOV301RA2R2							3	Z301	300	390	2.2	2.2	100	50	425	518	860	2	15
D58ZOV301RA10	X						5	Z301 -10UL	300	390	21	21	800	600	425	518	810	5	52
D73ZOV301RA25	X		X	X			7	Z301 - 25UL	300	390	42	42	1750	1250	425	518	790	10	108
D68ZOV301RA25			X				8	Z301 - 25	300	390	55	55	2400	1700	425	518	790	15	137
D61ZOV301RA45	X		X	X			10	Z301 - 45UL	300	390	85	85	3500	2500	425	518	790	25	190
D62ZOV301RA65	X		X	X			12	Z301 - 65UL	300	390	105	105	4500	3200	425	518	790	40	363
D69ZOV301RA80	X		X	X			14	Z301 - 80UL	300	390	175	175	6000	4500	425	518	790	50	386
D63ZOV301RA105	X		X	X			18	Z301 - 105UL	300	390	280	280	7500	6000	425	518	790	75	682
D65ZOV301RA150	X		X	X			20	Z301 - 150UL	300	390	350	350	10000	6500	425	518	790	100	869
D6694ZOV301RA300	X		X				25	Z301 - 300UL	300	390	360	360	13000	9000	425	518	790	100	1577
D56ZOV321RA2R4							3	Z321	320	420	2.4	2.4	100	50	453	553	860	2	14
D58ZOV321RA11	X						5	Z321 - 11UL	320	420	21	21	800	600	453	553	850	5	49
D73ZOV321RA27	X		X				7	Z321 - 27UL	320	420	46	46	1750	1250	453	553	850	10	102
D61ZOV321RA45	X		X	X			10	Z321 - 45UL	320	420	92	92	3500	2500	453	553	850	25	179
D62ZOV321RA70	X		X	X			12	Z321 - 70UL	320	420	140	140	4500	3200	453	553	850	40	341
D69ZOV321RA90	X		X	X			14	Z321 - 90UL	320	420	190	190	6000	4500	453	553	850	50	363
D63ZOV321RA110	X		X	X			18	Z321 - 110UL	320	420	310	310	7500	6000	453	553	850	75	641
D65ZOV321RA160	X		X	X			20	Z321 - 160UL	320	420	385	385	10000	6500	453	553	850	100	816
D6694ZOV321RA320	X		X				25	Z321 - 320UL	320	420	430	430	13000	9000	453	553	850	100	1483
D56ZOV361RA2R7							3	Z361	360	470	2.7	2.7	100	50	522	638	1020	2	12
D58ZOV361RA12	X						5	Z361 - 12UL	360	470	22	22	800	600	522	638	960	5	42
D73ZOV361RA28	X		X				7	Z361 - 28UL	360	470	47	47	1750	1250	522	638	960	10	88
D61ZOV361RA45	X		X	X			10	Z361 - 45UL	360	470	97	97	3500	2500	522	638	960	25	154
D62ZOV361RA70	X		X	X			12	Z361 - 70UL	360	470	145	145	4500	3200	522	638	960	40	294
D69ZOV361RA85	X		X	X			14	Z361 - 85UL	360	470	205	205	6000	4500	522	638	960	50	313
D63ZOV361RA110	X		X	X			18	Z361 - 110UL	360	470	320	320	7500	6000	522	638	960	75	553
D65ZOV361RA160	X		X	X			20	Z361 - 160UL	360	470	410	410	10000	6500	522	638	960	100	704
D6694ZOV361RA320	X		X				25	Z361 - 320UL	360	470	440	440	13000	9000	522	638	960	100	1278
D56ZOV391RA2R9							3	Z391	390	500	2.9	2.9	100	50	552	674	1090	2	12
D58ZOV391RA13	X						5	Z391 - 13UL	390	500	25	25	800	600	552	674	1040	5	40
D73ZOV391RA29	X		X				7	Z391 - 29UL	390	500	51	51	1750	1250	552	674	1040	10	83
D61ZOV391RA45	X		X	X			10	Z391 - 45UL	390	500	107	107	3500	2500	552	674	1025	25	146
D62ZOV391RA70	X		X	X			12	Z391 - 70UL	390	500	150	150	4500	3200	552	674	1025	40	278
D69ZOV391RA85	X		X	X			14	Z391 - 85UL	390	500	215	215	6000	4500	552	674	1025	50	297
D63ZOV391RA110	X		X	X			18	Z391 - 110UL	390	500	330	330	7500	6000	552	674	1025	75	524
D65ZOV391RA150	X		X	X			20	Z391 - 150UL	390	500	420	420	10000	6500	552	674	1025	100	667
D6694ZOV391RA320	X		X				25	Z391 - 320UL	390	500	460	460	13000	9000	552	674	1025	100	1211

NOTES:

Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.

Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE

B = cUL E =

C = CSA F =

250VAC thru 390VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D56ZOV251RA1R9	0.197	0.236	0.322	0.160	0.040	0.078	0.030	0.178	0.040	0.020
D58ZOV251RA08	0.298	0.236	0.423	0.200	0.040	0.084	0.030	0.217	0.040	0.025
D73ZOV251RA21	0.354	0.249	0.479	0.200	0.040	0.085	0.030	0.217	0.040	0.025
D68ZOV251RA21	0.394	0.249	0.519	0.200	0.040	0.086	0.030	0.218	0.040	0.025
D61ZOV251RA40	0.472	0.249	0.597	0.300	0.040	0.095	0.030	0.315	0.040	0.032
D62ZOV251RA55	0.590	0.249	0.715	0.300	0.040	0.098	0.030	0.316	0.040	0.032
D69ZOV251RA72	0.650	0.249	0.775	0.300	0.040	0.100	0.030	0.316	0.040	0.032
D63ZOV251RA90	0.812	0.249	0.937	0.300	0.040	0.101	0.030	0.317	0.040	0.032
D65ZOV251RA130	0.905	0.249	1.030	0.300	0.040	0.101	0.030	0.317	0.040	0.032
D6694ZOV251RA260	1.100	0.237	1.250	0.500	0.040	0.141	0.030	0.520	0.040	0.040
D56ZOV271RA2R0	0.197	0.245	0.322	0.160	0.040	0.082	0.030	0.180	0.040	0.020
D58ZOV271RA09	0.298	0.245	0.423	0.200	0.040	0.088	0.030	0.219	0.040	0.025
D73ZOV271RA23	0.354	0.257	0.479	0.200	0.040	0.090	0.030	0.219	0.040	0.025
D68ZOV271RA23	0.394	0.257	0.519	0.200	0.040	0.091	0.030	0.220	0.040	0.025
D61ZOV271RA43	0.472	0.257	0.597	0.300	0.040	0.100	0.030	0.316	0.040	0.032
D62ZOV271RA60	0.590	0.257	0.725	0.300	0.040	0.135	0.030	0.329	0.040	0.032
D69ZOV271RA75	0.650	0.257	0.775	0.300	0.040	0.137	0.030	0.330	0.040	0.032
D63ZOV271RA100	0.812	0.257	0.937	0.300	0.040	0.138	0.030	0.330	0.040	0.032
D65ZOV271RA140	0.905	0.257	1.030	0.300	0.040	0.138	0.030	0.330	0.040	0.032
D6694ZOV271RA280	1.100	0.244	1.250	0.500	0.040	0.146	0.030	0.521	0.040	0.040
D56ZOV301RA2R2	0.197	0.255	0.322	0.160	0.040	0.090	0.030	0.184	0.040	0.020
D58ZOV301RA10	0.298	0.255	0.423	0.200	0.040	0.096	0.030	0.222	0.040	0.025
D73ZOV301RA25	0.354	0.268	0.479	0.200	0.040	0.098	0.030	0.223	0.040	0.025
D68ZOV301RA25	0.394	0.268	0.519	0.200	0.040	0.099	0.030	0.223	0.040	0.025
D61ZOV301RA45	0.472	0.268	0.597	0.300	0.040	0.140	0.030	0.331	0.040	0.032
D62ZOV301RA65	0.590	0.268	0.715	0.300	0.040	0.143	0.030	0.332	0.040	0.032
D69ZOV301RA80	0.650	0.268	0.775	0.300	0.040	0.146	0.030	0.334	0.040	0.032
D63ZOV301RA105	0.812	0.268	0.937	0.300	0.040	0.147	0.030	0.334	0.040	0.032
D65ZOV301RA150	0.905	0.268	1.030	0.300	0.040	0.147	0.030	0.334	0.040	0.032
D6694ZOV301RA300	1.100	0.255	1.250	0.500	0.040	0.155	0.030	0.523	0.040	0.040
D56ZOV321RA2R4	0.197	0.264	0.322	0.160	0.040	0.095	0.030	0.186	0.040	0.020
D58ZOV321RA11	0.298	0.264	0.423	0.200	0.040	0.101	0.030	0.224	0.040	0.025
D73ZOV321RA27	0.354	0.272	0.479	0.200	0.040	0.103	0.030	0.225	0.040	0.025
D61ZOV321RA45	0.472	0.276	0.597	0.300	0.040	0.146	0.030	0.334	0.040	0.032
D62ZOV321RA70	0.590	0.276	0.715	0.300	0.040	0.149	0.030	0.335	0.040	0.032
D69ZOV321RA90	0.650	0.276	0.775	0.300	0.040	0.151	0.030	0.336	0.040	0.032
D63ZOV321RA110	0.812	0.276	0.937	0.300	0.040	0.153	0.030	0.337	0.040	0.032
D65ZOV321RA160	0.905	0.276	1.030	0.300	0.040	0.153	0.030	0.337	0.040	0.032
D6694ZOV321RA320	1.100	0.267	1.250	0.500	0.040	0.161	0.030	0.525	0.040	0.040
D56ZOV361RA2R7	0.197	0.272	0.322	0.160	0.040	0.106	0.030	0.192	0.040	0.020
D58ZOV361RA12	0.298	0.272	0.423	0.200	0.040	0.112	0.030	0.229	0.040	0.025
D73ZOV361RA28	0.354	0.285	0.479	0.200	0.040	0.115	0.030	0.231	0.040	0.025
D61ZOV361RA45	0.472	0.281	0.597	0.300	0.040	0.158	0.030	0.339	0.040	0.032
D62ZOV361RA70	0.590	0.286	0.715	0.300	0.040	0.161	0.030	0.340	0.040	0.032
D69ZOV361RA85	0.650	0.281	0.775	0.300	0.040	0.165	0.030	0.342	0.040	0.032
D63ZOV361RA110	0.812	0.276	0.937	0.300	0.040	0.167	0.030	0.343	0.040	0.032
D65ZOV361RA160	0.905	0.281	1.030	0.300	0.040	0.167	0.030	0.343	0.040	0.032
D6694ZOV361RA320	1.100	0.275	1.250	0.500	0.040	0.175	0.030	0.530	0.040	0.040
D56ZOV391RA2R9	0.197	0.275	0.322	0.160	0.040	0.111	0.030	0.195	0.040	0.020
D58ZOV391RA13	0.298	0.275	0.423	0.200	0.040	0.117	0.030	0.232	0.040	0.025
D73ZOV391RA29	0.354	0.290	0.479	0.200	0.040	0.120	0.030	0.233	0.040	0.025
D61ZOV391RA45	0.472	0.291	0.597	0.300	0.040	0.164	0.030	0.342	0.040	0.032
D62ZOV391RA70	0.590	0.290	0.715	0.300	0.040	0.167	0.030	0.343	0.040	0.032
D69ZOV391RA85	0.650	0.291	0.775	0.300	0.040	0.170	0.030	0.345	0.040	0.032
D63ZOV391RA110	0.812	0.276	0.937	0.300	0.040	0.172	0.030	0.346	0.040	0.032
D65ZOV391RA150	0.905	0.291	1.030	0.300	0.040	0.172	0.030	0.346	0.040	0.032
D6694ZOV391RA320	1.100	0.291	1.250	0.500	0.040	0.180	0.030	0.531	0.040	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

STANDARD *SERIES*

SPECIFICATIONS

420VAC thru 680VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
D56ZOV421RA3R2							3	Z421	420	560	3.2	3.2	100	50	594	725	1140	2	11
D58ZOV421RA14	X						5	Z421 - 14UL	420	560	26	26	800	600	594	725	1130	5	37
D73ZOV421RA30	X		X				7	Z421 - 30UL	420	560	57	57	1750	1250	594	725	1120	10	77
D61ZOV421RA45	X		X	X			10	Z421 - 45UL	420	560	110	110	3500	2500	594	725	1120	25	136
D62ZOV421RA70	X		X	X			12	Z421 - 70UL	420	560	156	156	4500	3200	594	725	1120	40	258
D69ZOV421RA90	X		X	X			14	Z421 - 90UL	420	560	225	225	6000	4500	594	725	1120	50	275
D63ZOV421RA110	X		X	X			18	Z421 - 110UL	420	560	340	340	7500	6000	594	725	1120	75	486
D65ZOV421RA160	X		X	X			20	Z421 - 160UL	420	560	430	430	10000	6500	594	725	1120	100	618
D6694ZOV421RA320	X		X				25	Z421 - 320UL	420	560	480	480	13000	9000	594	725	1120	100	1123
D58ZOV461RA17							5	Z461 - 17	460	615	25	25	800	600	651	795	1240	5	34
D61ZOV461RA50	X		X	X			10	Z461 - 50UL	460	615	115	115	3500	2500	651	795	1240	25	124
D62ZOV461RA75	X		X	X			12	Z461 - 75UL	460	615	162	162	4500	3200	651	795	1240	40	236
D69ZOV461RA100	X		X	X			14	Z461 - 100UL	460	615	230	230	6000	4500	651	795	1240	50	251
D63ZOV461RA120	X		X	X			18	Z461 - 120UL	460	615	360	360	7500	6000	651	795	1240	75	443
D65ZOV461RA175	X		X	X			20	Z461 - 175UL	460	615	450	450	10000	6500	651	795	1240	100	565
D6694ZOV461RA340	X		X				25	Z461 - 340UL	460	615	500	500	13000	9000	651	795	1240	100	1025
D56ZOV481RA3R6							3	Z481	480	640	3.6	3.6	100	50	679	829	1370	2	10
D61ZOV481RA50	X		X	X			10	Z481 - 50UL	480	640	120	120	3500	2500	679	829	1300	25	119
D62ZOV481RA80	X		X	X			12	Z481 - 80UL	480	640	167	167	4500	3200	679	829	1300	40	227
D69ZOV481RA105	X		X	X			14	Z481 - 105UL	480	640	235	235	6000	4500	679	829	1300	50	242
D63ZOV481RA130	X		X	X			18	Z481 - 130UL	480	640	365	365	7500	6000	679	829	1300	75	427
D65ZOV481RA180	X		X	X			20	Z481 - 180UL	480	640	460	460	10000	6500	679	829	1300	100	544
D6694ZOV481RA360	X		X				25	Z481 - 360UL	480	640	510	510	13000	9000	679	829	1300	100	989
D61ZOV511RA55	X		X	X			10	Z511 - 55UL	510	675	125	125	3500	2500	722	881	1350	25	112
D62ZOV511RA85	X		X	X			12	Z511 - 85UL	510	675	172	172	4500	3200	722	881	1350	40	213
D69ZOV511RA110	X		X	X			14	Z511 - 110UL	510	675	240	240	6000	4500	722	881	1350	50	227
D63ZOV511RA140	X		X	X			18	Z511 - 140UL	510	675	375	375	7500	6000	722	881	1350	75	401
D65ZOV511RA190	X		X	X			20	Z511 - 190UL	510	675	470	470	10000	6500	722	881	1350	100	510
D6694ZOV511RA380	X		X				25	Z511 - 380UL	510	675	525	525	13000	9000	722	881	1350	100	927
D61ZOV551RA60	X		X	X			10	Z551 - 60UL	550	700	130	130	3500	2500	778	950	1400	25	104
D62ZOV551RA90	X		X	X			12	Z551 - 90UL	550	700	192	192	4500	3200	778	950	1400	40	198
D69ZOV551RA115	X		X	X			14	Z551 - 115UL	550	700	255	255	6000	4500	778	950	1400	50	211
D63ZOV551RA145	X		X	X			18	Z551 - 145UL	550	700	405	405	7500	6000	778	950	1400	75	373
D65ZOV551RA200	X		X	X			20	Z551 - 200UL	550	700	510	510	10000	6500	778	950	1400	100	475
D6694ZOV551RA400	X		X				25	Z551 - 400UL	550	700	540	540	13000	9000	778	950	1400	100	862
D61ZOV581RA65	X		X	X			10	Z581 - 65UL	580	735	140	140	3500	2500	821	1002	1500	25	98
D62ZOV581RA95	X		X	X			12	Z581 - 95UL	580	735	202	202	4500	3200	821	1002	1500	40	187
D69ZOV581RA120	X		X	X			14	Z581 - 120UL	580	735	265	265	6000	4500	821	1002	1500	50	199
D63ZOV581RA160	X		X	X			18	Z581 - 160UL	580	735	425	425	7500	6000	821	1002	1500	75	352
D65ZOV581RA220	X		X	X			20	Z581 - 220UL	580	735	530	530	10000	6500	821	1002	1500	100	449
D6694ZOV581RA440	X		X				25	Z581 - 440UL	580	735	560	560	13000	9000	821	1002	1500	100	815
D61ZOV621RA65	X		X	X			10	Z621 - 65UL	620	800	145	145	3500	2500	877	1071	1650	25	92
D62ZOV621RA100	X		X	X			12	Z621 - 100UL	620	800	215	215	4500	3200	877	1071	1650	40	175
D69ZOV621RA130	X		X	X			14	Z621 - 130UL	620	800	290	290	6000	4500	877	1071	1650	50	186
D63ZOV621RA170	X		X	X			18	Z621 - 170UL	620	800	450	450	7500	6000	877	1071	1650	75	329
D65ZOV621RA230	X		X	X			20	Z621 - 230UL	620	800	565	565	10000	6500	877	1071	1650	100	419
D6694ZOV621RA460	X		X				25	Z621 - 460UL	620	800	600	600	13000	9000	877	1071	1650	100	761
D61ZOV681RA70	X		X	X			10	Z681 - 70UL	680	860	155	155	3500	2500	962	1175	1800	25	84
D62ZOV681RA105	X		X	X			12	Z681 - 105UL	680	860	232	232	4500	3200	962	1175	1800	40	160
D69ZOV681RA150	X		X	X			14	Z681 - 150UL	680	860	310	310	6000	4500	962	1175	1800	50	170
D63ZOV681RA200	X		X	X			18	Z681 - 200UL	680	860	500	500	7500	6000	962	1175	1800	75	300
D65ZOV681RA260	X		X	X			20	Z681 - 260UL	680	860	620	620	10000	6500	962	1175	1800	100	382
D6694ZOV681RA520	X		X				25	Z681 - 520UL	680	860	655	655	13000	9000	962	1175	1800	100	694

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

420VAC thru 680VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D56ZOV421RA3R2	0.197	0.313	0.322	0.160	0.040	0.118	0.030	0.199	0.040	0.020
D58ZOV421RA14	0.298	0.313	0.423	0.200	0.040	0.124	0.030	0.235	0.040	0.025
D73ZOV421RA30	0.354	0.296	0.479	0.200	0.040	0.127	0.030	0.237	0.040	0.025
D61ZOV421RA45	0.472	0.313	0.597	0.300	0.040	0.171	0.030	0.345	0.040	0.032
D62ZOV421RA70	0.590	0.313	0.715	0.300	0.040	0.175	0.030	0.347	0.040	0.032
D69ZOV421RA90	0.650	0.313	0.775	0.300	0.040	0.179	0.030	0.349	0.040	0.032
D63ZOV421RA110	0.812	0.313	0.937	0.300	0.040	0.181	0.030	0.350	0.040	0.032
D65ZOV421RA160	0.905	0.313	1.030	0.300	0.040	0.181	0.030	0.350	0.040	0.032
D6694ZOV421RA320	1.100	0.282	1.250	0.500	0.040	0.189	0.030	0.535	0.040	0.040
D58ZOV461RA17	0.298	0.313	0.423	0.200	0.040	0.134	0.030	0.241	0.040	0.025
D61ZOV461RA50	0.472	0.322	0.597	0.300	0.040	0.182	0.030	0.351	0.040	0.032
D62ZOV461RA75	0.590	0.324	0.715	0.300	0.040	0.186	0.030	0.353	0.040	0.032
D69ZOV461RA100	0.650	0.322	0.775	0.300	0.040	0.190	0.030	0.355	0.040	0.032
D63ZOV461RA120	0.812	0.324	0.937	0.300	0.040	0.192	0.030	0.356	0.040	0.032
D65ZOV461RA175	0.905	0.322	1.030	0.300	0.040	0.192	0.030	0.356	0.040	0.032
D6694ZOV461RA340	1.100	0.322	1.250	0.500	0.040	0.200	0.030	0.539	0.040	0.040
D56ZOV481RA3R6	0.197	0.329	0.322	0.160	0.040	0.131	0.030	0.207	0.040	0.020
D61ZOV481RA50	0.472	0.329	0.597	0.300	0.040	0.186	0.030	0.353	0.040	0.032
D62ZOV481RA80	0.590	0.336	0.715	0.300	0.040	0.190	0.030	0.355	0.040	0.032
D69ZOV481RA105	0.650	0.336	0.775	0.300	0.040	0.194	0.030	0.357	0.040	0.032
D63ZOV481RA130	0.812	0.336	0.937	0.300	0.040	0.197	0.030	0.359	0.040	0.032
D65ZOV481RA180	0.905	0.336	1.030	0.300	0.040	0.197	0.030	0.359	0.040	0.032
D6694ZOV481RA360	1.100	0.300	1.250	0.500	0.040	0.205	0.030	0.540	0.040	0.040
D61ZOV511RA55	0.472	0.347	0.597	0.300	0.040	0.194	0.030	0.357	0.040	0.032
D62ZOV511RA85	0.590	0.347	0.715	0.300	0.040	0.198	0.030	0.359	0.040	0.032
D69ZOV511RA110	0.650	0.347	0.775	0.300	0.040	0.203	0.030	0.362	0.040	0.032
D63ZOV511RA140	0.812	0.347	0.937	0.300	0.040	0.206	0.030	0.364	0.040	0.032
D65ZOV511RA190	0.905	0.347	1.030	0.300	0.040	0.206	0.030	0.364	0.040	0.032
D6694ZOV511RA380	1.100	0.310	1.250	0.500	0.040	0.214	0.030	0.544	0.040	0.040
D61ZOV551RA60	0.472	0.362	0.597	0.300	0.040	0.204	0.030	0.363	0.040	0.032
D62ZOV551RA90	0.590	0.362	0.715	0.300	0.040	0.209	0.030	0.366	0.040	0.032
D69ZOV551RA115	0.650	0.362	0.775	0.300	0.040	0.214	0.030	0.369	0.040	0.032
D63ZOV551RA145	0.812	0.362	0.937	0.300	0.040	0.216	0.030	0.370	0.040	0.032
D65ZOV551RA200	0.905	0.362	1.030	0.300	0.040	0.216	0.030	0.370	0.040	0.032
D6694ZOV551RA400	1.100	0.323	1.250	0.500	0.040	0.224	0.030	0.548	0.040	0.040
D61ZOV581RA65	0.472	0.373	0.597	0.300	0.040	0.212	0.030	0.367	0.040	0.032
D62ZOV581RA95	0.590	0.373	0.715	0.300	0.040	0.217	0.030	0.370	0.040	0.032
D69ZOV581RA120	0.650	0.373	0.775	0.300	0.040	0.222	0.030	0.373	0.040	0.032
D63ZOV581RA160	0.812	0.373	0.937	0.300	0.040	0.225	0.030	0.375	0.040	0.032
D65ZOV581RA220	0.905	0.373	1.030	0.300	0.040	0.225	0.030	0.375	0.040	0.032
D6694ZOV581RA440	1.100	0.332	1.250	0.500	0.040	0.233	0.030	0.552	0.040	0.040
D61ZOV621RA65	0.472	0.381	0.597	0.300	0.040	0.222	0.030	0.373	0.040	0.032
D62ZOV621RA100	0.590	0.385	0.715	0.300	0.040	0.228	0.030	0.377	0.040	0.032
D69ZOV621RA130	0.650	0.388	0.775	0.300	0.040	0.233	0.030	0.380	0.040	0.032
D63ZOV621RA170	0.812	0.388	0.937	0.300	0.040	0.236	0.030	0.382	0.040	0.032
D65ZOV621RA230	0.905	0.388	1.030	0.300	0.040	0.236	0.030	0.382	0.040	0.032
D6694ZOV621RA460	1.100	0.345	1.250	0.500	0.040	0.244	0.030	0.556	0.040	0.040
D61ZOV681RA70	0.472	0.405	0.597	0.300	0.040	0.238	0.030	0.383	0.040	0.032
D62ZOV681RA105	0.590	0.411	0.715	0.300	0.040	0.243	0.030	0.386	0.040	0.032
D69ZOV681RA150	0.650	0.411	0.775	0.300	0.040	0.250	0.030	0.391	0.040	0.032
D63ZOV681RA200	0.812	0.411	0.937	0.300	0.040	0.253	0.030	0.392	0.040	0.032
D65ZOV681RA260	0.905	0.411	1.030	0.300	0.040	0.253	0.030	0.392	0.040	0.032
D6694ZOV681RA520	1.100	0.369	1.250	0.500	0.040	0.261	0.030	0.564	0.040	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

STANDARD *SERIES*

SPECIFICATIONS

750VAC thru 1000VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec							1 V rms
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	1 (A)	2 (A)	Vmin (V)	Vmax (V)	(8 x 20μsec) (V)	(A)	@1kHz (pF)
D69ZOV751RA165	X		X	X			14	Z751 - 165UL	750	900	350	350	6000	4500	1062	1300	2100	50	151
D63ZOV751RA220	X		X	X			18	Z751 - 220UL	750	900	540	540	7500	6000	1062	1300	2100	75	267
D65ZOV751RA290	X		X	X			20	Z751 - 290UL	750	900	670	670	10000	6500	1062	1300	2100	100	340
D6694ZOV751RA560	X		X				25	Z751 - 560UL	750	900	700	700	13000	9000	1062	1300	2100	100	618
D69ZOV102RA220	X		X	X			14	Z102 - 220UL	1000	1200	510	510	6000	4500	1414	1728	2700	50	115
D63ZOV102RA280	X		X	X			18	Z102 - 280UL	1000	1200	690	690	7500	6000	1414	1728	2700	75	204
D65ZOV102RA360	X		X	X			20	Z102 - 360UL	1000	1200	860	860	10000	6500	1414	1728	2700	100	259
D6694ZOV102RA720	X		X				25	Z102 - 720UL	1000	1200	875	875	13000	9000	1414	1728	2700	100	471

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

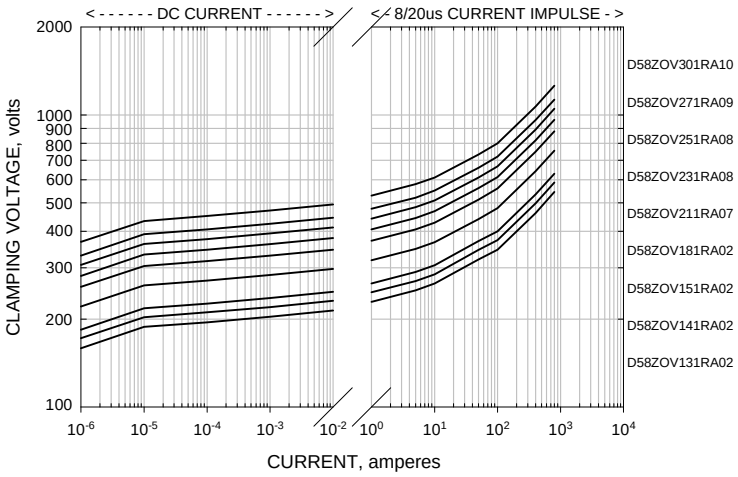
750VAC thru 1000VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D69ZOV751RA165	0.650	0.411	0.775	0.300	0.040	0.271	0.030	0.404	0.040	0.032
D63ZOV751RA220	0.812	0.437	0.937	0.300	0.040	0.275	0.030	0.407	0.040	0.032
D65ZOV751RA290	0.905	0.411	1.030	0.300	0.040	0.275	0.030	0.407	0.040	0.032
D6694ZOV751RA560	1.100	0.325	1.250	0.500	0.040	0.283	0.030	0.575	0.040	0.040
D69ZOV102RA220	0.650	0.531	0.775	0.300	0.040	0.338	0.030	0.452	0.040	0.032
D63ZOV102RA280	0.812	0.531	0.937	0.300	0.040	0.343	0.030	0.456	0.040	0.032
D65ZOV102RA360	0.905	0.531	1.030	0.300	0.040	0.343	0.030	0.456	0.040	0.032
D6694ZOV102RA720	1.100	0.435	1.250	0.500	0.040	0.351	0.030	0.611	0.040	0.040

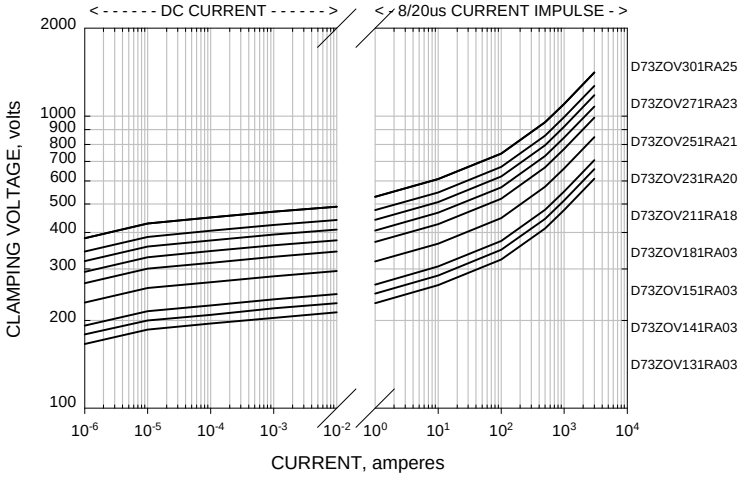
NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

STANDARD SERIES - TYPICAL VOLTAGE-CURRENT CURVES

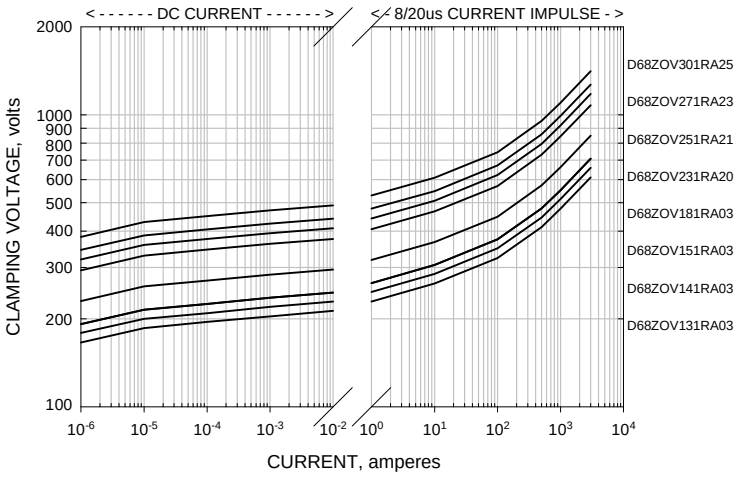
D58 (5mm) SERIES



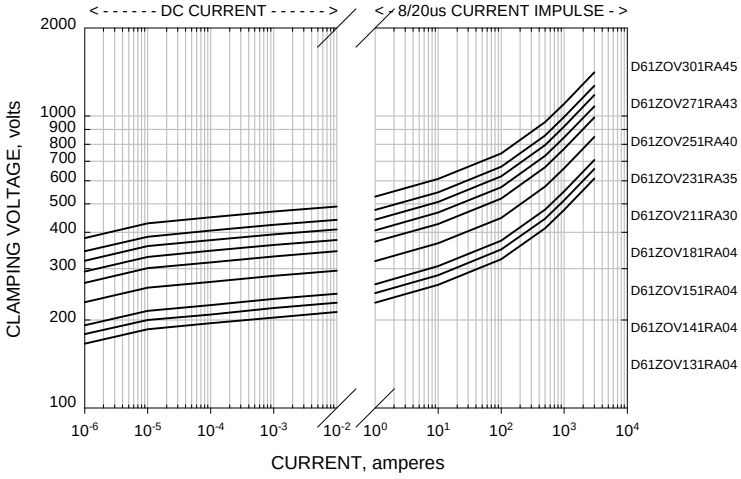
D73 (7mm) SERIES



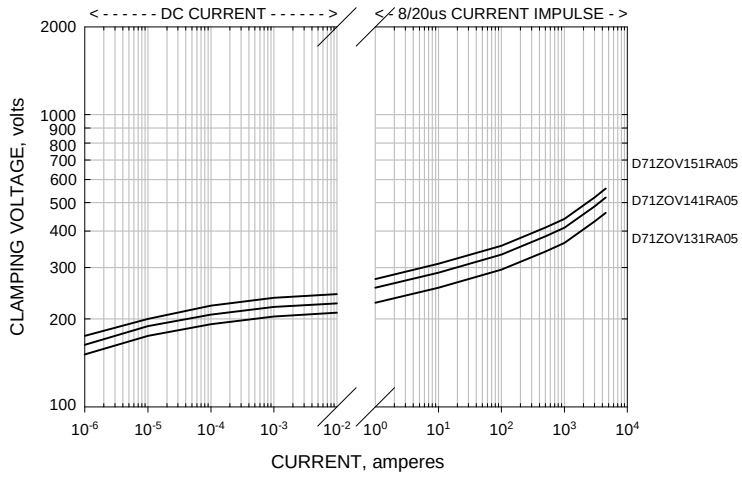
D68 (8mm) SERIES



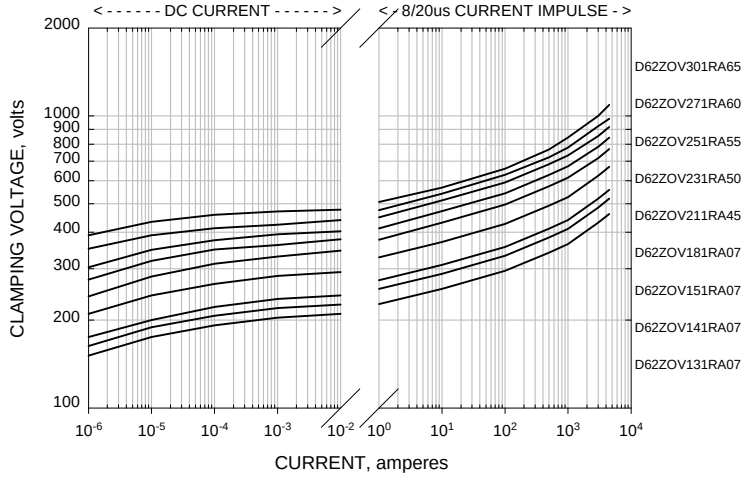
D61 (10mm) SERIES



D71 (11mm) SERIES



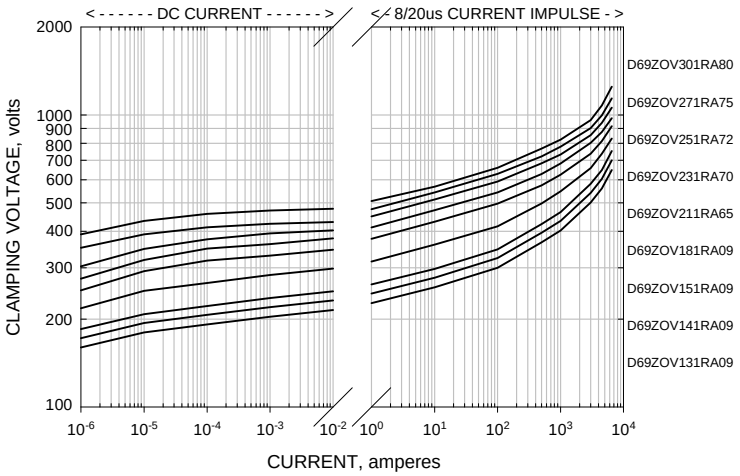
D62 (12mm) SERIES



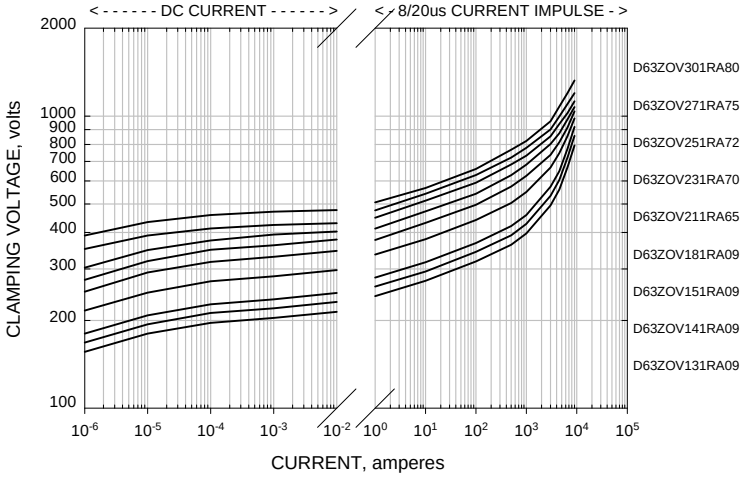
NOTE: For a more detailed V-I curve or for a voltage not listed on the graphs provided, please contact us.

STANDARD SERIES - TYPICAL VOLTAGE-CURRENT CURVES

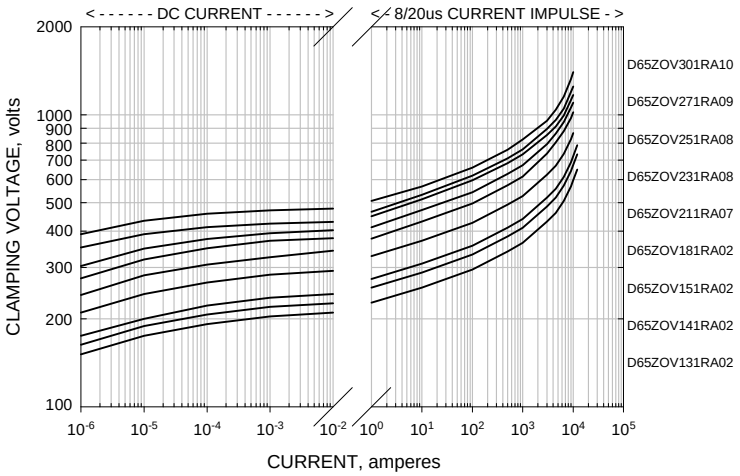
D69 (14mm) SERIES



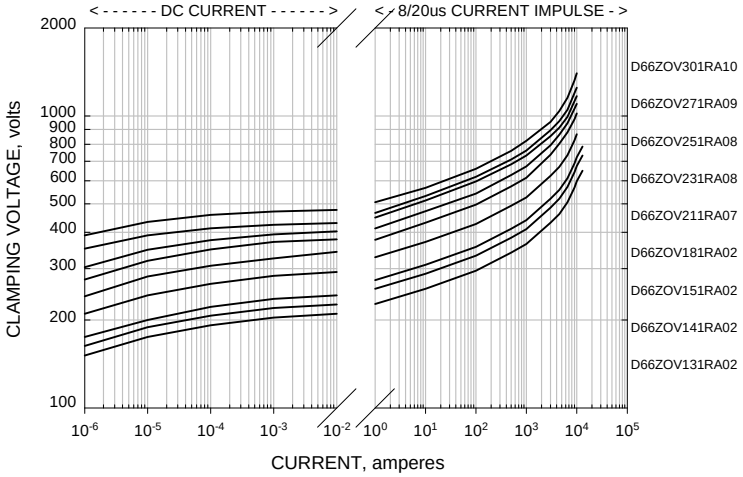
D63 (18mm) SERIES



D65 (20mm) SERIES

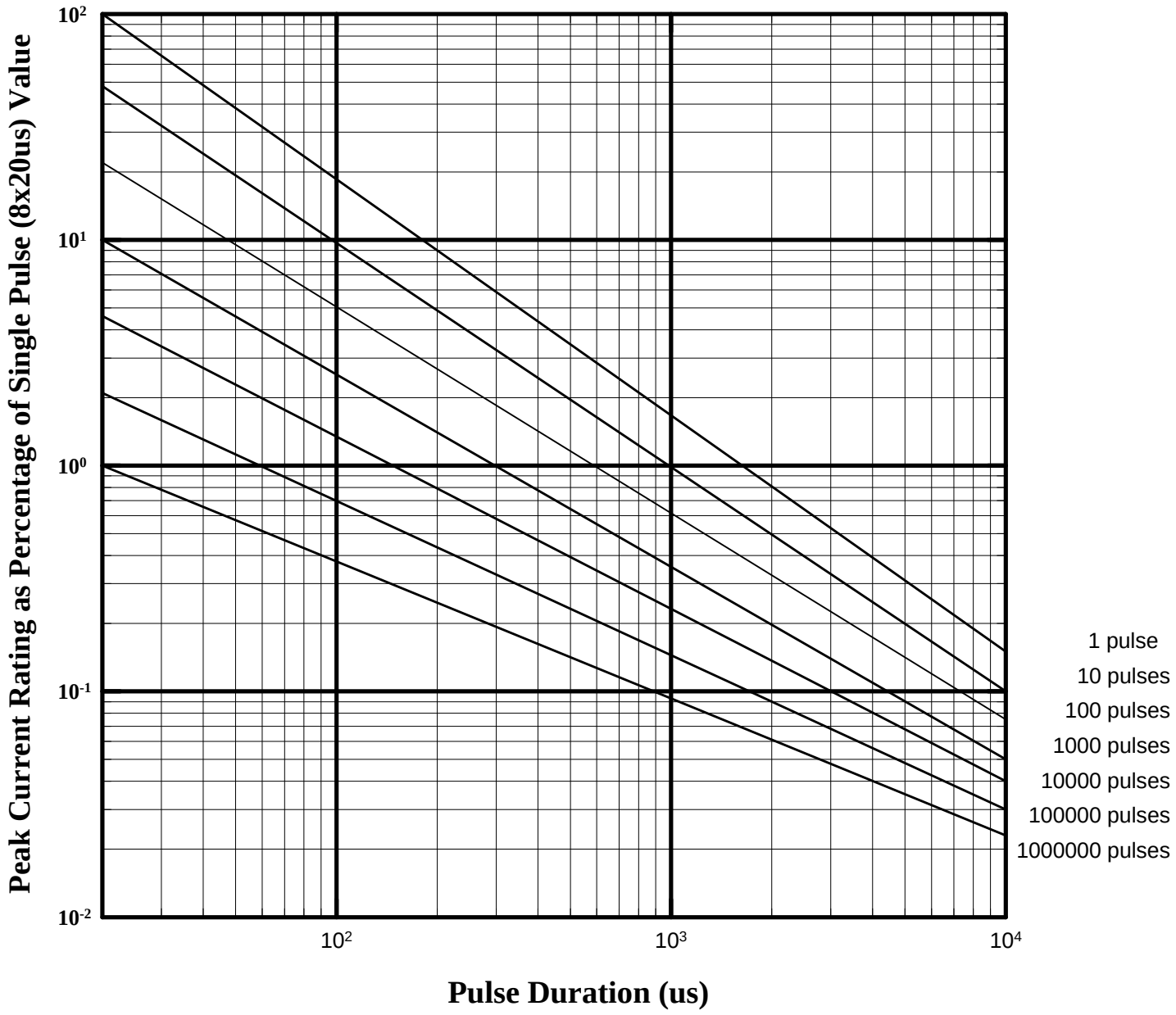


D66 (25mm) SERIES



NOTE: For a more detailed V-I curve or for a voltage not listed on the graphs provided, please contact us.

PEAK CURRENT PER PULSE vs. PULSE DURATION



HC SERIES

INTRODUCTION

The HC Series, or High Current Series, is our specialized line of round and square disc, radial-leaded varistors. These components consist of wire leads and have nominal disk diameters from 8mm to 25mm. They are available with maximum continuous operating voltages (MCOV) ranging from 130VAC to 550VAC.
The HC Series is designed for pulse repetition and/or higher surge current environments including requirements by many safety agency standards, such as UL943. Most sizes are available in Tape and Reel and ammo pack.

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our HC Series components by the Maida Style Number:

D 65 21 ZOV 131 HC

1. **Coating Designation**
   D – Standard Epoxy Coating
   P – Phenolic Coating
   R/S – Square Disc Epoxy Coating
   PR/PS – Square Disc Phenolic Coating
   Neither – Denote no conformal coating.

2. **Nominal Disk Diameter**

68 – 8mm	R61 – 9mm Square
61 – 10mm	R71 – 10mm Square
71 – 11mm	R62 – 11mm Square
62 – 12mm	R69 – 12mm Square
69 – 14mm	R64 – 14mm Square
79 – 15mm	R65 – 17mm Square
64 – 16mm	R80 – 20mm Square
63 – 18mm	S66 – 25mm Square
65 – 20mm	
66 – 25mm	

3. **Lead Configuration**
   (Refer to lead codes)

4. **Material Identifier**
   Zinc Oxide Varistor

5. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 131 is 130 VAC

6. **Special Instructions,** HC is standard

STANDARD MARKING

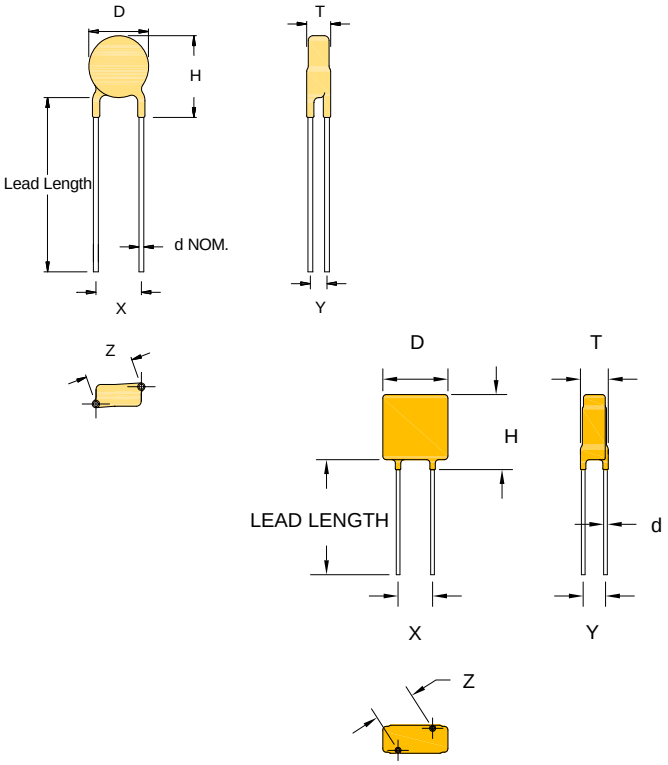
Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

Example 1:	**Example 2:**
MDC	**MDC**
20HC	**R65**
130V	**HZ131**

Where:
MDC - Company Initials
20 - Disc Diameter
HC - High Current
130V - AC Voltage rating (130VAC)

MDC - Company Initials
R65 – Square Disc Diameter
HZ – High Current
131 – AC Voltage rating (130VAC)

A manufacturing date code and/or special markings are available upon request.
Other safety agency designations are included where applicable.



HC SERIES

SPECIFICATIONS

130VAC thru 180VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms @1kHz
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
R61ZOV131HC	X	X					9	R61-HZ131	130	175	45	45	4500	3500	184	224	340	20	550
R71ZOV131HC	X	X					10	R71-HZ131	130	175	48	48	5200	3750	184	224	340	25	640
D71ZOV131HC	X	X					11	11HC130V	130	175	71	71	4700	3500	184	224	340	30	570
R62ZOV131HC	X	X					11	R62-HZ131	130	175	53	53	6500	5000	184	224	340	30	770
D62ZOV131HC	X	X					12	12HC130V	130	175	85	85	5600	4000	184	224	340	40	960
R69ZOV131HC	X	X					12	R69-HZ131	130	175	70	70	9000	7000	184	224	340	50	790
D69ZOV131HC	X	X					14	14HC130V	130	175	110	110	6500	5000	184	224	340	50	1040
R64ZOV131HC	X	X					14	R64-HZ131	130	175	100	100	10000	7000	184	224	340	50	1100
D79ZOV131HC	X	X					15	15HC130V	130	175	120	120	8200	6000	184	224	340	55	1210
D64ZOV131HC	X	X					16	16HC130V	130	175	145	145	10000	7500	184	224	340	60	1510
R65ZOV131HC	X	X					17	R65-HZ131	130	175	150	150	15000	12000	184	224	340	100	1800
D63ZOV131HC	X	X					18	18HC130V	130	175	200	200	12000	9000	184	224	340	80	1800
D65ZOV131HC	X	X					20	20HC130V	130	175	225	225	15000	12000	184	224	340	100	2310
R80ZOV131HC	X	X					20	R80-HZ131	130	175	160	160	17000	13000	184	224	340	100	2450
R66ZOV131HC	X	X					22	R66-HZ131	130	175	170	170	18000	14000	184	224	325	150	3200
D66ZOV131HC	X	X					25	HZ131-140UL	130	175	250	250	15000	12000	184	224	340	100	4000
S66ZOV131HC	X	X					25	S66-HZ131	130	175	235	235	22000	18000	184	224	325	200	4150
D71ZOV141HC	X	X					11	11HC140V	140	180	78	78	4700	3500	198	242	360	30	530
D62ZOV141HC	X	X					12	12HC140V	140	180	97	97	5600	4000	198	242	360	40	890
D69ZOV141HC	X	X					14	14HC140V	140	180	120	120	6500	5000	198	242	360	50	960
D79ZOV141HC	X	X					15	15HC140V	140	180	140	140	8200	6000	198	242	360	55	1120
D64ZOV141HC	X	X					16	16HC140V	140	180	155	155	10000	7500	198	242	360	60	1400
D63ZOV141HC	X	X					18	18HC140V	140	180	200	200	12000	9000	198	242	360	80	1680
D65ZOV141HC	X	X					20	20HC140V	140	180	255	255	15000	12000	198	242	360	100	2150
D66ZOV141HC	X	X					25	HZ141-150UL	140	180	270	270	15000	12000	198	242	360	100	3700
R61ZOV151HC	X	X					9	R61-HZ151	150	200	50	50	4500	3500	212	259	395	20	480
R71ZOV151HC	X	X					10	R71-HZ151	150	200	54	54	5200	3750	212	259	395	30	550
D71ZOV151HC	X	X					11	11HC150V	150	200	86	86	4700	3500	212	259	395	30	490
R62ZOV151HC	X	X					11	R62-HZ151	150	200	59	59	6500	5000	212	259	395	30	670
D62ZOV151HC	X	X					12	12HC150V	150	200	105	105	5600	4000	212	259	395	40	820
R69ZOV151HC	X	X					12	R69-HZ151	150	200	78	78	9000	7000	212	259	395	50	680
D69ZOV151HC	X	X					14	14HC150V	150	200	130	130	6500	5000	212	259	395	50	880
R64ZOV151HC	X	X					14	R64-HZ151	150	200	106	106	10000	7000	212	259	395	50	960
D79ZOV151HC	X	X					15	15HC150V	150	200	150	150	8200	6000	212	259	395	55	1030
D64ZOV151HC	X	X					16	16HC150V	150	200	175	175	10000	7500	212	259	395	60	1290
R65ZOV151HC	X	X					17	R65-HZ151	150	200	160	160	15000	12000	212	259	395	100	1600
D63ZOV151HC	X	X					18	18HC150V	150	200	200	200	12000	9000	212	259	395	80	1540
D65ZOV151HC	X	X					20	20HC150V	150	200	275	275	15000	12000	212	259	395	100	1970
R80ZOV151HC	X	X					20	R80-HZ151	150	200	170	170	17000	13000	212	259	395	100	2100
R66ZOV151HC	X	X					22	R66-HZ151	150	200	180	180	18000	14000	212	259	360	150	2800
D66ZOV151HC	X	X					25	HZ151-160UL	150	200	290	290	15000	12000	212	259	395	100	3500
S66ZOV151HC	X	X					25	S66-HZ151	150	200	240	240	22000	18000	212	259	360	200	3600
D68ZOV181HC	X	X					8	HZ181-03	180	230	55	55	2500	1750	255	311	465	15	250
R61ZOV181HC	X	X					9	R61-HZ181	180	230	60	60	4500	3500	255	311	465	20	400
D61ZOV181HC	X	X					10	HZ181-04	180	230	84	84	3500	2500	255	311	465	25	510
R71ZOV181HC	X	X					10	R71-HZ181	180	230	61	61	5200	3750	255	311	465	25	460
D71ZOV181HC	X	X					11	HZ181-05	180	230	92	92	4500	3500	255	311	465	30	700
R62ZOV181HC	X	X					11	R62-HZ181	180	230	62	62	6500	5000	255	311	465	30	560
D62ZOV181HC	X	X					12	HZ181-07UL	180	230	112	112	5200	3750	255	311	465	40	920
R69ZOV181HC	X	X					12	R69-HZ181	180	230	100	100	9000	7000	255	311	465	50	570
D69ZOV181HC	X	X					14	HZ181-09UL	180	230	140	140	6500	5000	255	311	465	50	880
R64ZOV181HC	X	X					14	R64-HZ181	180	230	145	145	10000	7000	255	311	465	50	800
D64ZOV181HC	X	X					16	HZ181-12UL	180	230	187	187	9000	7500	255	311	465	60	1180
R65ZOV181HC	X	X					17	R65-HZ181	180	230	190	190	15000	12000	255	311	465	100	1300
D63ZOV181HC	X	X					18	HZ181-100UL	180	230	252	252	10000	8000	255	311	465	80	1540
D65ZOV181HC	X	X					20	HZ181-20UL	180	230	293	293	13000	10000	255	311	465	100	1960
R80ZOV181HC	X	X					20	R80-HZ181	180	230	195	195	17000	13000	255	311	455	100	1800
R66ZOV181HC	X	X					22	R66-HZ181	180	230	200	200	18000	14000	255	311	455	150	2300
D66ZOV181HC	X	X					25	HZ181-200UL	180	230	300	300	15000	12000	255	311	465	100	2900
S66ZOV181HC	X	X					25	S66-HZ181	180	230	310	310	22000	18000	255	311	455	200	3000

NOTES:

Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.

Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE

B = cUL E =

C = CSA F =

130VAC thru 180VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
R61ZOV131HC	0.454	0.271	0.579	0.300	0.040	0.115	0.030	0.321	0.040	0.032
R71ZOV131HC	0.494	0.271	0.619	0.300	0.040	0.118	0.030	0.322	0.040	0.032
D71ZOV131HC	0.531	0.204	0.656	0.300	0.040	0.079	0.030	0.310	0.040	0.032
R62ZOV131HC	0.533	0.271	0.658	0.300	0.040	0.119	0.030	0.322	0.040	0.032
D62ZOV131HC	0.590	0.204	0.715	0.300	0.040	0.081	0.030	0.310	0.040	0.032
R69ZOV131HC	0.566	0.271	0.691	0.300	0.040	0.121	0.030	0.323	0.040	0.032
D69ZOV131HC	0.650	0.204	0.775	0.300	0.040	0.082	0.030	0.311	0.040	0.032
R64ZOV131HC	0.651	0.271	0.776	0.300	0.040	0.121	0.030	0.323	0.040	0.032
D79ZOV131HC	0.653	0.204	0.778	0.300	0.040	0.082	0.030	0.311	0.040	0.032
D64ZOV131HC	0.710	0.204	0.835	0.300	0.040	0.082	0.030	0.311	0.040	0.032
R65ZOV131HC	0.763	0.271	0.888	0.300	0.040	0.122	0.030	0.323	0.040	0.032
D63ZOV131HC	0.787	0.204	0.912	0.300	0.040	0.083	0.030	0.311	0.040	0.032
D65ZOV131HC	0.905	0.204	1.030	0.300	0.040	0.083	0.030	0.311	0.040	0.032
R80ZOV131HC	0.877	0.271	1.002	0.300	0.040	0.123	0.030	0.324	0.040	0.032
R66ZOV131HC	0.925	0.271	1.050	0.394	0.040	0.123	0.030	0.412	0.040	0.032
D66ZOV131HC	1.100	0.252	1.225	0.500	0.040	0.130	0.030	0.516	0.040	0.040
S66ZOV131HC	1.142	0.271	1.267	0.394	0.040	0.152	0.030	0.422	0.040	0.032
D71ZOV141HC	0.531	0.208	0.656	0.300	0.040	0.083	0.030	0.311	0.040	0.032
D62ZOV141HC	0.590	0.208	0.715	0.300	0.040	0.084	0.030	0.311	0.040	0.032
D69ZOV141HC	0.650	0.208	0.775	0.300	0.040	0.086	0.030	0.312	0.040	0.032
D79ZOV141HC	0.653	0.208	0.778	0.300	0.040	0.086	0.030	0.312	0.040	0.032
D64ZOV141HC	0.710	0.208	0.835	0.300	0.040	0.086	0.030	0.312	0.040	0.032
D63ZOV141HC	0.787	0.208	0.912	0.300	0.040	0.087	0.030	0.312	0.040	0.032
D65ZOV141HC	0.905	0.208	1.030	0.300	0.040	0.087	0.030	0.312	0.040	0.032
D66ZOV141HC	1.100	0.252	1.225	0.500	0.040	0.135	0.030	0.517	0.040	0.040
R61ZOV151HC	0.454	0.284	0.579	0.300	0.040	0.123	0.030	0.324	0.040	0.032
R71ZOV151HC	0.494	0.284	0.619	0.300	0.040	0.126	0.030	0.325	0.040	0.032
D71ZOV151HC	0.531	0.212	0.656	0.300	0.040	0.088	0.030	0.312	0.040	0.032
R62ZOV151HC	0.533	0.284	0.658	0.300	0.040	0.128	0.030	0.326	0.040	0.032
D62ZOV151HC	0.590	0.212	0.715	0.300	0.040	0.089	0.030	0.312	0.040	0.032
R69ZOV151HC	0.566	0.284	0.691	0.300	0.040	0.129	0.030	0.326	0.040	0.032
D69ZOV151HC	0.650	0.212	0.775	0.300	0.040	0.091	0.030	0.313	0.040	0.032
R64ZOV151HC	0.651	0.284	0.776	0.300	0.040	0.129	0.030	0.326	0.040	0.032
D79ZOV151HC	0.653	0.212	0.778	0.300	0.040	0.091	0.030	0.313	0.040	0.032
D64ZOV151HC	0.710	0.212	0.835	0.300	0.040	0.091	0.030	0.313	0.040	0.032
R65ZOV151HC	0.763	0.284	0.888	0.300	0.040	0.131	0.030	0.327	0.040	0.032
D63ZOV151HC	0.787	0.212	0.912	0.300	0.040	0.092	0.030	0.313	0.040	0.032
D65ZOV151HC	0.905	0.212	1.030	0.300	0.040	0.092	0.030	0.313	0.040	0.032
R80ZOV151HC	0.877	0.284	1.002	0.300	0.040	0.132	0.030	0.327	0.040	0.032
R66ZOV151HC	0.925	0.284	1.050	0.394	0.040	0.132	0.030	0.415	0.040	0.032
D66ZOV151HC	1.100	0.252	1.225	0.500	0.040	0.152	0.030	0.520	0.040	0.040
S66ZOV151HC	1.142	0.284	1.267	0.394	0.040	0.165	0.030	0.427	0.040	0.032
D68ZOV181HC	0.394	0.242	0.519	0.200	0.040	0.131	0.030	0.239	0.040	0.032
R61ZOV181HC	0.454	0.294	0.579	0.300	0.040	0.134	0.030	0.328	0.040	0.032
D61ZOV181HC	0.472	0.246	0.597	0.300	0.040	0.134	0.030	0.328	0.040	0.032
R71ZOV181HC	0.494	0.294	0.619	0.300	0.040	0.138	0.030	0.330	0.040	0.032
D71ZOV181HC	0.531	0.246	0.656	0.300	0.040	0.138	0.030	0.330	0.040	0.032
R62ZOV181HC	0.533	0.294	0.658	0.300	0.040	0.140	0.030	0.331	0.040	0.032
D62ZOV181HC	0.590	0.248	0.715	0.300	0.040	0.140	0.030	0.331	0.040	0.032
R69ZOV181HC	0.566	0.294	0.691	0.300	0.040	0.142	0.030	0.331	0.040	0.032
D69ZOV181HC	0.650	0.251	0.775	0.300	0.040	0.142	0.030	0.331	0.040	0.032
R64ZOV181HC	0.651	0.294	0.776	0.300	0.040	0.142	0.030	0.331	0.040	0.032
D64ZOV181HC	0.710	0.251	0.835	0.300	0.040	0.142	0.030	0.331	0.040	0.032
R65ZOV181HC	0.763	0.294	0.888	0.300	0.040	0.144	0.030	0.332	0.040	0.032
D63ZOV181HC	0.787	0.252	0.912	0.300	0.040	0.144	0.030	0.332	0.040	0.032
D65ZOV181HC	0.905	0.252	1.030	0.300	0.040	0.144	0.030	0.332	0.040	0.032
R80ZOV181HC	0.877	0.294	1.002	0.300	0.040	0.145	0.030	0.333	0.040	0.032
R66ZOV181HC	0.925	0.294	1.050	0.394	0.040	0.145	0.030	0.419	0.040	0.032
D66ZOV181HC	1.100	0.252	1.225	0.500	0.040	0.152	0.030	0.522	0.040	0.040
S66ZOV181HC	1.142	0.294	1.267	0.394	0.040	0.178	0.030	0.432	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HC SERIES

SPECIFICATIONS

210VAC thru 250VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2					1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	Vmin (V)	Vmax (V)	(8 x 20μsec) (V)	(A)	(pF)
D68ZOV211HC	X	X					8	HZ211-19	210	270	61	61	2500	1750	297	363	545	15	210
R61ZOV211HC	X	X					9	R61-HZ211	210	270	62	62	4500	3500	297	363	545	20	340
D61ZOV211HC	X	X					10	HZ211-30	210	270	88	88	3500	2500	297	363	545	25	440
R71ZOV211HC	X	X					10	R71-HZ211	210	270	65	65	5200	3750	297	363	545	25	400
D71ZOV211HC	X	X					11	HZ211-36	210	270	97	97	4500	3500	297	363	545	30	600
R62ZOV211HC	X	X					11	R62-HZ211	210	270	69	69	6500	5000	297	363	545	30	480
D62ZOV211HC	X	X					12	HZ211-45UL	210	270	118	118	5200	3750	297	363	545	40	780
R69ZOV211HC	X	X					12	R69-HZ211	210	270	120	120	9000	7000	297	363	545	50	490
D69ZOV211HC	X	X					14	HZ211-65UL	210	270	150	150	6500	5000	297	363	545	50	750
R64ZOV211HC	X	X					14	R64-HZ211	210	270	175	175	10000	7000	297	363	545	50	690
D64ZOV211HC	X	X					16	HZ211-85UL	210	270	199	199	9000	7500	297	363	545	60	1000
R65ZOV211HC	X	X					17	R65-HZ211	210	270	230	230	15000	12000	297	363	545	100	1100
D63ZOV211HC	X	X					18	HZ211-75UL	210	270	265	265	10000	8000	297	363	545	80	1300
D65ZOV211HC	X	X					20	HZ211-110UL	210	270	310	310	13000	10000	297	363	545	100	1660
R80ZOV211HC	X	X					20	R80-HZ211	210	270	240	240	17000	13000	297	363	545	100	1500
R66ZOV211HC	X	X					22	R66-HZ211	210	270	250	250	18000	14000	297	363	540	150	2000
D66ZOV211HC	X	X					25	HZ211-220UL	210	270	319	319	15000	12000	297	363	545	100	2470
S66ZOV211HC	X	X					25	S66-HZ211	210	270	420	420	22000	18000	297	363	540	200	2600
D68ZOV231HC	X	X					8	HZ231-20	230	300	66	66	2500	1750	326	397	595	15	190
R61ZOV231HC	X	X					9	R61-HZ231	230	300	65	65	4500	3500	326	397	595	20	310
D61ZOV231HC	X	X					10	HZ231-35	230	300	91	91	3500	2500	326	397	595	25	400
R71ZOV231HC	X	X					10	R71-HZ231	230	300	67	67	5200	3750	326	397	595	25	360
D71ZOV231HC	X	X					11	HZ231-42	230	300	101	101	4500	3500	326	397	595	30	550
R62ZOV231HC	X	X					11	R62-HZ231	230	300	70	70	6500	5000	326	397	595	30	440
D62ZOV231HC	X	X					12	HZ231-50UL	230	300	122	122	5200	3750	326	397	595	40	720
R69ZOV231HC	X	X					12	R69-HZ231	230	300	135	135	9000	7000	326	397	595	50	450
D69ZOV231HC	X	X					14	HZ231-70UL	230	300	155	155	6500	5000	326	397	595	50	680
R64ZOV231HC	X	X					14	R64-HZ231	230	300	205	205	10000	7000	326	397	595	50	630
D64ZOV231HC	X	X					16	HZ231-90UL	230	300	207	207	9000	7500	326	397	595	60	910
R65ZOV231HC	X	X					17	R65-HZ231	230	300	270	270	15000	12000	326	397	595	100	1000
D63ZOV231HC	X	X					18	HZ231-80UL	230	300	273	273	10000	8000	326	397	595	80	1200
D65ZOV231HC	X	X					20	HZ231-115UL	230	300	322	322	13000	10000	326	397	595	100	1520
R80ZOV231HC	X	X					20	R80-HZ231	230	300	275	275	17000	13000	326	397	595	100	1400
R66ZOV231HC	X	X					22	R66-HZ231	230	300	280	280	18000	14000	326	397	590	150	1800
D66ZOV231HC	X	X					25	HZ231-230UL	230	300	332	332	15000	12000	326	397	595	100	2260
S66ZOV231HC	X	X					25	S66-HZ231	230	300	490	490	22000	18000	326	397	590	200	2400
D68ZOV251HC	X	X					8	HZ251-21	250	330	70	70	2500	1750	354	432	650	15	180
R61ZOV251HC	X	X					9	R61-HZ251	250	330	70	70	4500	3500	354	432	650	20	290
D61ZOV251HC	X	X					10	HZ251-40	250	330	93	93	3500	2500	354	432	650	25	370
R71ZOV251HC	X	X					10	R71-HZ251	250	330	75	75	5200	3750	354	432	650	25	330
D71ZOV251HC	X	X					11	HZ251-48UL	250	330	105	105	4500	3500	354	432	650	30	510
R62ZOV251HC	X	X					11	R62-HZ251	250	330	80	80	6500	5000	354	432	650	30	400
D62ZOV251HC	X	X					12	HZ251-55UL	250	330	127	127	5200	3750	354	432	650	40	660
R69ZOV251HC	X	X					12	R69-HZ251	250	330	145	145	9000	7000	354	432	650	50	410
D69ZOV251HC	X	X					14	HZ251-72UL	250	330	160	160	6500	5000	354	432	650	50	630
R64ZOV251HC	X	X					14	R64-HZ251	250	330	225	225	10000	7000	354	432	650	50	580
D64ZOV251HC	X	X					16	HZ251-94UL	250	330	215	215	9000	7500	354	432	650	60	840
R65ZOV251HC	X	X					17	R65-HZ251	250	330	300	300	15000	12000	354	432	650	100	940
D63ZOV251HC	X	X					18	HZ251-90UL	250	330	281	281	10000	8000	354	432	650	80	1100
D65ZOV251HC	X	X					20	HZ251-130UL	250	330	334	334	13000	10000	354	432	650	100	1400
R80ZOV251HC	X	X					20	R80-HZ251	250	330	310	310	17000	13000	354	432	650	100	1270
R66ZOV251HC	X	X					22	R66-HZ251	250	330	315	315	18000	14000	354	432	620	150	1670
D66ZOV251HC	X	X					25	HZ251-260UL	250	300	345	345	15000	12000	354	432	650	100	2090
S66ZOV251HC	X	X					25	S66-HZ251	250	330	550	550	22000	18000	354	432	620	200	2150

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

210VAC thru 250VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D68ZOV211HC	0.394	0.254	0.519	0.200	0.040	0.143	0.030	0.245	0.040	0.032
R61ZOV211HC	0.454	0.309	0.579	0.300	0.040	0.147	0.030	0.334	0.040	0.032
D61ZOV211HC	0.472	0.258	0.597	0.300	0.040	0.147	0.030	0.334	0.040	0.032
R71ZOV211HC	0.494	0.309	0.619	0.300	0.040	0.151	0.030	0.335	0.040	0.032
D71ZOV211HC	0.531	0.259	0.656	0.300	0.040	0.151	0.030	0.335	0.040	0.032
R62ZOV211HC	0.533	0.309	0.658	0.300	0.040	0.153	0.030	0.336	0.040	0.032
D62ZOV211HC	0.590	0.261	0.715	0.300	0.040	0.153	0.030	0.336	0.040	0.032
R69ZOV211HC	0.566	0.309	0.691	0.300	0.040	0.156	0.030	0.338	0.040	0.032
D69ZOV211HC	0.650	0.266	0.775	0.300	0.040	0.156	0.030	0.338	0.040	0.032
R64ZOV211HC	0.651	0.309	0.776	0.300	0.040	0.156	0.030	0.338	0.040	0.032
D64ZOV211HC	0.710	0.266	0.835	0.300	0.040	0.156	0.030	0.338	0.040	0.032
R65ZOV211HC	0.763	0.309	0.888	0.300	0.040	0.158	0.030	0.339	0.040	0.032
D63ZOV211HC	0.787	0.266	0.912	0.300	0.040	0.158	0.030	0.339	0.040	0.032
D65ZOV211HC	0.905	0.266	1.030	0.300	0.040	0.158	0.030	0.339	0.040	0.032
R80ZOV211HC	0.877	0.309	1.002	0.300	0.040	0.160	0.030	0.340	0.040	0.032
R66ZOV211HC	0.925	0.309	1.050	0.394	0.040	0.160	0.030	0.425	0.040	0.032
D66ZOV211HC	1.100	0.266	1.225	0.500	0.040	0.166	0.030	0.526	0.040	0.040
S66ZOV211HC	1.142	0.309	1.267	0.394	0.040	0.193	0.030	0.438	0.040	0.032
D68ZOV231HC	0.394	0.261	0.519	0.200	0.040	0.150	0.030	0.250	0.040	0.032
R61ZOV231HC	0.454	0.318	0.579	0.300	0.040	0.154	0.030	0.337	0.040	0.032
D61ZOV231HC	0.472	0.266	0.597	0.300	0.040	0.154	0.030	0.337	0.040	0.032
R71ZOV231HC	0.494	0.318	0.619	0.300	0.040	0.159	0.030	0.339	0.040	0.032
D71ZOV231HC	0.531	0.267	0.656	0.300	0.040	0.159	0.030	0.339	0.040	0.032
R62ZOV231HC	0.533	0.318	0.658	0.300	0.040	0.161	0.030	0.340	0.040	0.032
D62ZOV231HC	0.590	0.269	0.715	0.300	0.040	0.161	0.030	0.340	0.040	0.032
R69ZOV231HC	0.566	0.318	0.691	0.300	0.040	0.164	0.030	0.341	0.040	0.032
D69ZOV231HC	0.650	0.272	0.775	0.300	0.040	0.164	0.030	0.341	0.040	0.032
R64ZOV231HC	0.651	0.318	0.776	0.300	0.040	0.164	0.030	0.341	0.040	0.032
D64ZOV231HC	0.710	0.272	0.835	0.300	0.040	0.164	0.030	0.341	0.040	0.032
R65ZOV231HC	0.763	0.318	0.888	0.300	0.040	0.167	0.030	0.343	0.040	0.032
D63ZOV231HC	0.787	0.275	0.912	0.300	0.040	0.167	0.030	0.343	0.040	0.032
D65ZOV231HC	0.905	0.275	1.030	0.300	0.040	0.167	0.030	0.343	0.040	0.032
R80ZOV231HC	0.877	0.318	1.002	0.300	0.040	0.168	0.030	0.343	0.040	0.032
R66ZOV231HC	0.925	0.318	1.050	0.394	0.040	0.168	0.030	0.428	0.040	0.032
D66ZOV231HC	1.100	0.275	1.225	0.500	0.040	0.175	0.030	0.529	0.040	0.040
S66ZOV231HC	1.142	0.318	1.267	0.394	0.040	0.202	0.030	0.442	0.040	0.032
D68ZOV251HC	0.394	0.269	0.519	0.200	0.040	0.158	0.030	0.254	0.040	0.032
R61ZOV251HC	0.454	0.328	0.579	0.300	0.040	0.162	0.030	0.340	0.040	0.032
D61ZOV251HC	0.472	0.273	0.597	0.300	0.040	0.162	0.030	0.340	0.040	0.032
R71ZOV251HC	0.494	0.328	0.619	0.300	0.040	0.167	0.030	0.343	0.040	0.032
D71ZOV251HC	0.531	0.275	0.656	0.300	0.040	0.167	0.030	0.343	0.040	0.032
R62ZOV251HC	0.533	0.328	0.658	0.300	0.040	0.170	0.030	0.344	0.040	0.032
D62ZOV251HC	0.590	0.278	0.715	0.300	0.040	0.170	0.030	0.344	0.040	0.032
R69ZOV251HC	0.566	0.328	0.691	0.300	0.040	0.173	0.030	0.346	0.040	0.032
D69ZOV251HC	0.650	0.281	0.775	0.300	0.040	0.173	0.030	0.346	0.040	0.032
R64ZOV251HC	0.651	0.328	0.776	0.300	0.040	0.173	0.030	0.346	0.040	0.032
D64ZOV251HC	0.710	0.281	0.835	0.300	0.040	0.173	0.030	0.346	0.040	0.032
R65ZOV251HC	0.763	0.328	0.888	0.300	0.040	0.176	0.030	0.347	0.040	0.032
D63ZOV251HC	0.787	0.283	0.912	0.300	0.040	0.176	0.030	0.347	0.040	0.032
D65ZOV251HC	0.905	0.283	1.030	0.300	0.040	0.176	0.030	0.347	0.040	0.032
R80ZOV251HC	0.877	0.328	1.002	0.300	0.040	0.178	0.030	0.348	0.040	0.032
R66ZOV251HC	0.925	0.328	1.050	0.394	0.040	0.178	0.030	0.432	0.040	0.032
D66ZOV251HC	1.100	0.283	1.225	0.500	0.040	0.184	0.030	0.532	0.040	0.040
S66ZOV251HC	1.142	0.328	1.267	0.394	0.040	0.212	0.030	0.447	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HC SERIES

SPECIFICATIONS

270VAC thru 320VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
D68ZOV271HC	X	X					8	HZ271-23UL	270	360	75	75	2500	1750	382	466	710	15	170
R61ZOV271HC	X	X					9	R61-HZ271	270	360	80	80	4500	3500	382	466	710	20	270
D61ZOV271HC	X	X					10	HZ271-43UL	270	360	96	96	3500	2500	382	466	710	25	340
R71ZOV271HC	X	X					10	R71-HZ271	270	360	85	85	5200	3750	382	466	710	25	310
D71ZOV271HC	X	X					11	HZ271-52UL	270	360	108	108	4500	3500	382	466	710	30	470
R62ZOV271HC	X	X					11	R62-HZ271	270	360	91	91	6500	5000	382	466	710	30	370
D62ZOV271HC	X	X					12	HZ271-60UL	270	360	131	131	5200	3750	382	466	710	40	620
R69ZOV271HC	X	X					12	R69-HZ271	270	360	160	160	9000	7000	382	466	710	50	380
D69ZOV271HC	X	X					14	HZ271-75UL	270	360	168	168	6500	5000	382	466	710	50	590
R64ZOV271HC	X	X					14	R64-HZ271	270	360	245	245	10000	7000	382	466	710	50	530
D64ZOV271HC	X	X					16	HZ271-97UL	270	360	222	222	9000	7500	382	466	710	60	780
R65ZOV271HC	X	X					17	R65-HZ271	270	360	325	325	15000	12000	382	466	710	100	880
D63ZOV271HC	X	X					18	HZ271-100UL	270	360	290	290	10000	8000	382	466	710	80	1030
D65ZOV271HC	X	X					20	HZ271-140UL	270	360	346	346	13000	10000	382	466	710	100	1310
R80ZOV271HC	X	X					20	R80-HZ271	270	360	335	335	17000	13000	382	466	680	100	1200
R66ZOV271HC	X	X					22	R66-HZ271	270	360	340	340	18000	14000	382	466	680	150	1550
D66ZOV271HC	X	X					25	HZ271-280UL	270	360	358	358	15000	12000	382	466	710	100	1940
S66ZOV271HC	X	X					25	S66-HZ271	270	360	595	595	22000	18000	382	466	680	200	2000
D68ZOV301HC	X	X					8	HZ301-25UL	300	390	82	82	2500	1750	425	518	790	15	150
R61ZOV301HC	X	X					9	R61-HZ301	300	390	85	85	4500	3500	425	518	790	20	240
D61ZOV301HC	X	X					10	HZ301-45UL	300	390	99	99	3500	2500	425	518	790	25	310
R71ZOV301HC	X	X					10	R71-HZ301	300	390	95	95	5200	3750	425	518	790	25	280
D71ZOV301HC	X	X					11	HZ301-53UL	300	390	114	114	4500	3500	425	518	790	30	420
R62ZOV301HC	X	X					11	R62-HZ301	300	390	105	105	6500	5000	425	518	790	30	330
D62ZOV301HC	X	X					12	HZ301-65UL	300	390	138	138	5200	3750	425	518	790	40	550
R69ZOV301HC	X	X					12	R69-HZ301	300	390	175	175	9000	7000	425	518	790	50	340
D69ZOV301HC	X	X					14	HZ301-76UL	300	390	177	177	6500	5000	425	518	790	50	520
R64ZOV301HC	X	X					14	R64-HZ301	300	390	265	265	10000	7000	425	518	790	50	480
D64ZOV301HC	X	X					16	HZ301-100UL	300	390	234	234	9000	7500	425	518	790	60	700
R65ZOV301HC	X	X					17	R65-HZ301	300	390	350	350	15000	12000	425	518	790	100	790
D63ZOV301HC	X	X					18	HZ301-105UL	300	390	302	302	10000	8000	425	518	790	80	920
D65ZOV301HC	X	X					20	HZ301-150UL	300	390	363	363	13000	10000	425	518	790	100	1170
R80ZOV301HC	X	X					20	R80-HZ301	300	390	355	355	17000	13000	425	518	790	100	1060
R66ZOV301HC	X	X					22	R66-HZ301	300	390	360	360	18000	14000	425	518	760	150	1400
D66ZOV301HC	X	X					25	HZ301-300UL	300	390	378	378	15000	12000	425	518	790	100	1730
S66ZOV301HC	X	X					25	S66-HZ301	300	390	640	640	22000	18000	425	518	760	200	1800
D68ZOV321HC	X	X					8	HZ321-26UL	320	420	86	86	2500	1750	453	553	850	15	140
R61ZOV321HC	X	X					9	R61-HZ321	320	420	92	92	4500	3500	453	553	850	20	220
D61ZOV321HC	X	X					10	HZ321-45UL	320	420	102	102	3500	2500	453	553	850	25	290
R71ZOV321HC	X	X					10	R71-HZ321	320	420	115	115	5200	3750	453	553	850	25	260
D71ZOV321HC	X	X					11	HZ321-54UL	320	420	117	117	4500	3500	453	553	850	30	400
R62ZOV321HC	X	X					11	R62-HZ321	320	420	140	140	6500	5000	453	553	850	30	310
D62ZOV321HC	X	X					12	HZ321-70UL	320	420	142	142	5200	3750	453	553	850	40	520
R69ZOV321HC	X	X					12	R69-HZ321	320	420	190	190	9000	7000	453	553	850	50	320
D69ZOV321HC	X	X					14	HZ321-80UL	320	420	183	183	6500	5000	453	553	850	50	490
R64ZOV321HC	X	X					14	R64-HZ321	320	420	285	285	10000	7000	453	553	850	50	450
D64ZOV321HC	X	X					16	HZ321-104UL	320	420	242	242	9000	7500	453	553	850	60	660
R65ZOV321HC	X	X					17	R65-HZ321	320	420	385	385	15000	12000	453	553	810	100	740
D63ZOV321HC	X	X					18	HZ321-110UL	320	420	310	310	10000	8000	453	553	850	80	860
D65ZOV321HC	X	X					20	HZ321-160UL	320	420	375	375	13000	10000	453	553	850	100	1100
R80ZOV321HC	X	X					20	R80-HZ321	320	420	410	410	17000	13000	453	553	810	100	1000
R66ZOV321HC	X	X					22	R66-HZ321	320	420	430	430	18000	14000	453	553	810	150	1300
D66ZOV321HC	X	X					25	HZ321-320UL	320	420	391	391	15000	12000	453	553	850	100	1630
S66ZOV321HC	X	X					25	S66-HZ321	320	420	700	700	22000	18000	453	553	810	200	1700

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

270VAC thru 320VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D68ZOV271HC	0.394	0.278	0.519	0.200	0.040	0.165	0.030	0.259	0.040	0.032
R61ZOV271HC	0.454	0.336	0.579	0.300	0.040	0.200	0.030	0.360	0.040	0.032
D61ZOV271HC	0.472	0.282	0.597	0.300	0.040	0.170	0.030	0.344	0.040	0.032
R71ZOV271HC	0.494	0.336	0.619	0.300	0.040	0.175	0.030	0.347	0.040	0.032
D71ZOV271HC	0.531	0.283	0.656	0.300	0.040	0.175	0.030	0.347	0.040	0.032
R62ZOV271HC	0.533	0.336	0.658	0.300	0.040	0.178	0.030	0.348	0.040	0.032
D62ZOV271HC	0.590	0.287	0.715	0.300	0.040	0.178	0.030	0.348	0.040	0.032
R69ZOV271HC	0.566	0.336	0.691	0.300	0.040	0.182	0.030	0.350	0.040	0.032
D69ZOV271HC	0.650	0.290	0.775	0.300	0.040	0.182	0.030	0.350	0.040	0.032
R64ZOV271HC	0.651	0.336	0.776	0.300	0.040	0.182	0.030	0.350	0.040	0.032
D64ZOV271HC	0.710	0.290	0.835	0.300	0.040	0.182	0.030	0.350	0.040	0.032
R65ZOV271HC	0.763	0.336	0.888	0.300	0.040	0.185	0.030	0.352	0.040	0.032
D63ZOV271HC	0.787	0.292	0.912	0.300	0.040	0.185	0.030	0.352	0.040	0.032
D65ZOV271HC	0.905	0.292	1.030	0.300	0.040	0.185	0.030	0.352	0.040	0.032
R80ZOV271HC	0.877	0.294	1.002	0.300	0.040	0.186	0.030	0.352	0.040	0.032
R66ZOV271HC	0.925	0.336	1.050	0.394	0.040	0.187	0.030	0.436	0.040	0.032
D66ZOV271HC	1.100	0.292	1.225	0.500	0.040	0.193	0.030	0.535	0.040	0.040
S66ZOV271HC	1.142	0.336	1.267	0.394	0.040	0.220	0.030	0.451	0.040	0.032
D68ZOV301HC	0.394	0.291	0.519	0.200	0.040	0.176	0.030	0.266	0.040	0.032
R61ZOV301HC	0.454	0.351	0.579	0.300	0.040	0.182	0.030	0.350	0.040	0.032
D61ZOV301HC	0.472	0.296	0.597	0.300	0.040	0.182	0.030	0.350	0.040	0.032
R71ZOV301HC	0.494	0.351	0.619	0.300	0.040	0.188	0.030	0.354	0.040	0.032
D71ZOV301HC	0.531	0.296	0.656	0.300	0.040	0.188	0.030	0.354	0.040	0.032
R62ZOV301HC	0.533	0.351	0.658	0.300	0.040	0.191	0.030	0.355	0.040	0.032
D62ZOV301HC	0.590	0.300	0.715	0.300	0.040	0.191	0.030	0.355	0.040	0.032
R69ZOV301HC	0.566	0.351	0.691	0.300	0.040	0.195	0.030	0.357	0.040	0.032
D69ZOV301HC	0.650	0.305	0.775	0.300	0.040	0.195	0.030	0.357	0.040	0.032
R64ZOV301HC	0.651	0.351	0.776	0.300	0.040	0.195	0.030	0.357	0.040	0.032
D64ZOV301HC	0.710	0.305	0.835	0.300	0.040	0.195	0.030	0.357	0.040	0.032
R65ZOV301HC	0.763	0.351	0.888	0.300	0.040	0.198	0.030	0.359	0.040	0.032
D63ZOV301HC	0.787	0.306	0.912	0.300	0.040	0.198	0.030	0.359	0.040	0.032
D65ZOV301HC	0.905	0.306	1.030	0.300	0.040	0.198	0.030	0.359	0.040	0.032
R80ZOV301HC	0.877	0.351	1.002	0.300	0.040	0.200	0.030	0.360	0.040	0.032
R66ZOV301HC	0.925	0.351	1.050	0.394	0.040	0.200	0.030	0.441	0.040	0.032
D66ZOV301HC	1.100	0.306	1.225	0.500	0.040	0.206	0.030	0.540	0.040	0.040
S66ZOV301HC	1.142	0.351	1.267	0.394	0.040	0.234	0.030	0.458	0.040	0.032
D68ZOV321HC	0.394	0.300	0.519	0.200	0.040	0.183	0.030	0.271	0.040	0.032
R61ZOV321HC	0.454	0.359	0.579	0.300	0.040	0.189	0.030	0.354	0.040	0.032
D61ZOV321HC	0.472	0.305	0.597	0.300	0.040	0.189	0.030	0.354	0.040	0.032
R71ZOV321HC	0.494	0.359	0.619	0.300	0.040	0.196	0.030	0.358	0.040	0.032
D71ZOV321HC	0.531	0.305	0.656	0.300	0.040	0.196	0.030	0.358	0.040	0.032
R62ZOV321HC	0.533	0.359	0.658	0.300	0.040	0.199	0.030	0.360	0.040	0.032
D62ZOV321HC	0.590	0.309	0.715	0.300	0.040	0.199	0.030	0.360	0.040	0.032
R69ZOV321HC	0.566	0.359	0.691	0.300	0.040	0.203	0.030	0.362	0.040	0.032
D69ZOV321HC	0.650	0.314	0.775	0.300	0.040	0.203	0.030	0.362	0.040	0.032
R64ZOV321HC	0.651	0.359	0.776	0.300	0.040	0.203	0.030	0.362	0.040	0.032
D64ZOV321HC	0.710	0.314	0.835	0.300	0.040	0.203	0.030	0.362	0.040	0.032
R65ZOV321HC	0.763	0.359	0.888	0.300	0.040	0.207	0.030	0.364	0.040	0.032
D63ZOV321HC	0.787	0.315	0.912	0.300	0.040	0.207	0.030	0.364	0.040	0.032
D65ZOV321HC	0.905	0.315	1.030	0.300	0.040	0.207	0.030	0.364	0.040	0.032
R80ZOV321HC	0.877	0.359	1.002	0.300	0.040	0.209	0.030	0.365	0.040	0.032
R66ZOV321HC	0.925	0.359	1.050	0.394	0.040	0.209	0.030	0.446	0.040	0.032
D66ZOV321HC	1.100	0.315	1.225	0.500	0.040	0.215	0.030	0.544	0.040	0.040
S66ZOV321HC	1.142	0.359	1.267	0.394	0.040	0.243	0.030	0.462	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HC SERIES

SPECIFICATIONS

360VAC thru 420VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2					1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	Vmin (V)	Vmax (V)	(8 x 20μsec) (V)	(A)	(pF)
D68ZOV361HC	X	X					8	HZ361-27UL	360	470	91	91	2500	1750	522	638	960	15	120
R61ZOV361HC	X	X					9	R61-HZ361	360	470	97	97	4500	3500	522	638	960	20	190
D61ZOV361HC	X	X					10	HZ361-45UL	360	470	107	107	3500	2500	522	638	960	25	250
R71ZOV361HC	X	X					10	R71-HZ361	360	470	120	120	5200	3750	522	638	960	25	220
D71ZOV361HC	X	X					11	HZ361-56UL	360	470	125	125	4500	3500	522	638	960	30	340
R62ZOV361HC	X	X					11	R62-HZ361	360	470	145	145	6500	5000	522	638	960	30	270
D62ZOV361HC	X	X					12	HZ361-70UL	360	470	150	150	5200	3750	522	638	960	40	450
R69ZOV361HC	X	X					12	R69-HZ361	360	470	205	205	9000	7000	522	638	960	50	280
D69ZOV361HC	X	X					14	HZ361-85UL	360	470	197	197	6500	5000	522	638	960	50	430
R64ZOV361HC	X	X					14	R64-HZ361	360	470	310	310	10000	7000	522	638	960	50	390
D64ZOV361HC	X	X					16	HZ361-110UL	360	470	258	258	9000	7500	522	638	960	60	570
R65ZOV361HC	X	X					17	R65-HZ361	360	470	410	410	15000	12000	522	638	932	100	640
D63ZOV361HC	X	X					18	HZ361-110UL	360	470	327	327	10000	8000	522	638	960	80	740
D65ZOV361HC	X	X					20	HZ361-160UL	360	470	398	398	13000	10000	522	638	960	100	950
R80ZOV361HC	X	X					20	R80-HZ361	360	470	425	425	17000	13000	522	638	932	100	860
R66ZOV361HC	X	X					22	R66-HZ361	360	470	440	440	18000	14000	522	638	932	150	1100
D66ZOV361HC	X	X					25	HZ361-320UL	360	470	417	417	15000	12000	522	638	960	100	1400
S66ZOV361HC	X	X					25	S66-HZ361	360	470	750	750	22000	18000	522	638	932	200	1460
D68ZOV391HC	X	X					8	HZ391-29UL	390	505	99	99	2500	1750	552	674	1025	15	110
R61ZOV391HC	X	X					9	R61-HZ391	390	500	107	107	4500	3500	552	674	1025	20	180
D61ZOV391HC	X	X					10	HZ391-45UL	390	505	110	110	3500	2500	552	674	1025	25	230
R71ZOV391HC	X	X					10	R71-HZ391	390	500	125	125	5200	3750	552	674	1025	25	210
D71ZOV391HC	X	X					11	HZ391-57UL	390	505	132	132	4500	3500	552	674	1025	30	320
R62ZOV391HC	X	X					11	R62-HZ391	390	500	150	150	6500	5000	552	674	1025	30	250
D62ZOV391HC	X	X					12	HZ391-70UL	390	505	157	157	5200	3750	552	674	1025	40	420
R69ZOV391HC	X	X					12	R69-HZ391	390	500	215	215	9000	7000	552	674	1025	50	260
D69ZOV391HC	X	X					14	HZ391-90UL	390	505	205	205	6500	5000	552	674	1025	50	400
R64ZOV391HC	X	X					14	R64-HZ391	390	500	320	320	10000	7000	552	674	1025	50	370
D64ZOV391HC	X	X					16	HZ391-117UL	390	505	274	274	8000	6500	552	674	1025	60	530
R65ZOV391HC	X	X					17	R65-HZ391	390	500	420	420	15000	12000	552	674	1025	100	600
D63ZOV391HC	X	X					18	HZ391-110UL	390	505	339	339	9000	7000	552	674	1025	80	700
D65ZOV391HC	X	X					20	HZ391-150UL	390	505	416	416	10000	8000	552	674	1025	100	880
R80ZOV391HC	X	X					20	R80-HZ391	390	500	440	440	17000	13000	552	674	1025	100	820
R66ZOV391HC	X	X					22	R66-HZ391	390	500	460	460	18000	14000	552	674	1025	150	1070
D66ZOV391HC	X	X					25	HZ391-320UL	390	505	436	436	13000	10000	552	674	1025	100	1310
S66ZOV391HC	X	X					25	S66-HZ391	390	500	770	770	22000	18000	552	674	1025	200	1400
D68ZOV421HC	X	X					8	HZ421-32UL	420	560	105	105	2500	1750	594	725	1120	15	100
R61ZOV421HC	X	X					9	R61-HZ421	420	560	110	110	4500	3500	594	725	1120	20	170
D61ZOV421HC	X	X					10	HZ421-45UL	420	560	114	114	3500	2500	594	725	1120	25	220
R71ZOV421HC	X	X					10	R71-HZ421	420	560	135	135	5200	3750	594	725	1120	25	200
D71ZOV421HC	X	X					11	HZ421-58UL	420	560	136	136	4500	3500	594	725	1120	30	300
R62ZOV421HC	X	X					11	R62-HZ421	420	560	156	156	6500	5000	594	725	1120	30	240
D62ZOV421HC	X	X					12	HZ421-70UL	420	560	164	164	5200	3750	594	725	1120	40	390
R69ZOV421HC	X	X					12	R69-HZ421	420	560	225	225	9000	7000	594	725	1120	50	240
D69ZOV421HC	X	X					14	HZ421-95UL	420	560	215	215	6500	5000	594	725	1120	50	370
R64ZOV421HC	X	X					14	R64-HZ421	420	560	330	330	10000	7000	594	725	1120	50	340
D64ZOV421HC	X	X					16	HZ421-124UL	420	560	282	282	8000	6500	594	725	1120	60	500
R65ZOV421HC	X	X					17	R65-HZ421	420	560	430	430	15000	12000	594	725	1060	100	560
D63ZOV421HC	X	X					18	HZ421-110UL	420	560	351	351	9000	7000	594	725	1120	80	650
D65ZOV421HC	X	X					20	HZ421-160UL	420	560	434	434	10000	8000	594	725	1120	100	830
R80ZOV421HC	X	X					20	R80-HZ421	420	560	455	455	17000	13000	594	725	1060	100	760
R66ZOV421HC	X	X					22	R66-HZ421	420	560	480	480	18000	14000	594	725	1060	150	1000
D66ZOV421HC	X	X					25	HZ421-320UL	420	560	456	456	13000	10000	594	725	1120	100	1230
S66ZOV421HC	X	X					25	S66-HZ421	420	560	780	780	22000	18000	594	725	1060	200	1300

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

360VAC thru 420VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
D68ZOV361HC	0.394	0.318	0.519	0.200	0.040	0.202	0.030	0.284	0.040	0.032
R61ZOV361HC	0.454	0.383	0.579	0.300	0.040	0.209	0.030	0.365	0.040	0.032
D61ZOV361HC	0.472	0.324	0.597	0.300	0.040	0.209	0.030	0.365	0.040	0.032
R71ZOV361HC	0.494	0.383	0.619	0.300	0.040	0.217	0.030	0.370	0.040	0.032
D71ZOV361HC	0.531	0.325	0.656	0.300	0.040	0.217	0.030	0.370	0.040	0.032
R62ZOV361HC	0.533	0.383	0.658	0.300	0.040	0.221	0.030	0.372	0.040	0.032
D62ZOV361HC	0.590	0.329	0.715	0.300	0.040	0.221	0.030	0.372	0.040	0.032
R69ZOV361HC	0.566	0.383	0.691	0.300	0.040	0.225	0.030	0.375	0.040	0.032
D69ZOV361HC	0.650	0.335	0.775	0.300	0.040	0.225	0.030	0.375	0.040	0.032
R64ZOV361HC	0.651	0.383	0.776	0.300	0.040	0.225	0.030	0.375	0.040	0.032
D64ZOV361HC	0.710	0.335	0.835	0.300	0.040	0.225	0.030	0.375	0.040	0.032
R65ZOV361HC	0.763	0.383	0.888	0.300	0.040	0.230	0.030	0.378	0.040	0.032
D63ZOV361HC	0.787	0.338	0.912	0.300	0.040	0.230	0.030	0.378	0.040	0.032
D65ZOV361HC	0.905	0.338	1.030	0.300	0.040	0.230	0.030	0.378	0.040	0.032
R80ZOV361HC	0.877	0.383	1.002	0.300	0.040	0.232	0.030	0.379	0.040	0.032
R66ZOV361HC	0.925	0.383	1.050	0.394	0.040	0.232	0.030	0.457	0.040	0.032
D66ZOV361HC	1.100	0.338	1.225	0.500	0.040	0.238	0.030	0.553	0.040	0.040
S66ZOV361HC	1.142	0.383	1.267	0.394	0.040	0.267	0.030	0.475	0.040	0.032
D68ZOV391HC	0.394	0.326	0.519	0.200	0.040	0.210	0.030	0.290	0.040	0.032
R61ZOV391HC	0.454	0.392	0.579	0.300	0.040	0.217	0.030	0.370	0.040	0.032
D61ZOV391HC	0.472	0.332	0.597	0.300	0.040	0.217	0.030	0.370	0.040	0.032
R71ZOV391HC	0.494	0.392	0.619	0.300	0.040	0.225	0.030	0.375	0.040	0.032
D71ZOV391HC	0.531	0.335	0.656	0.300	0.040	0.225	0.030	0.375	0.040	0.032
R62ZOV391HC	0.533	0.392	0.658	0.300	0.040	0.229	0.030	0.377	0.040	0.032
D62ZOV391HC	0.590	0.340	0.715	0.300	0.040	0.229	0.030	0.377	0.040	0.032
R69ZOV391HC	0.566	0.392	0.691	0.300	0.040	0.234	0.030	0.380	0.040	0.032
D69ZOV391HC	0.650	0.344	0.775	0.300	0.040	0.234	0.030	0.380	0.040	0.032
R64ZOV391HC	0.651	0.392	0.776	0.300	0.040	0.234	0.030	0.380	0.040	0.032
D64ZOV391HC	0.710	0.344	0.835	0.300	0.040	0.234	0.030	0.380	0.040	0.032
R65ZOV391HC	0.763	0.392	0.888	0.300	0.040	0.239	0.030	0.383	0.040	0.032
D63ZOV391HC	0.787	0.349	0.912	0.300	0.040	0.239	0.030	0.383	0.040	0.032
D65ZOV391HC	0.905	0.349	1.030	0.300	0.040	0.239	0.030	0.383	0.040	0.032
R80ZOV391HC	0.877	0.392	1.002	0.300	0.040	0.241	0.030	0.384	0.040	0.032
R66ZOV391HC	0.925	0.392	1.050	0.394	0.040	0.241	0.030	0.461	0.040	0.032
D66ZOV391HC	1.100	0.349	1.225	0.500	0.040	0.247	0.030	0.557	0.040	0.040
S66ZOV391HC	1.142	0.392	1.267	0.394	0.040	0.276	0.030	0.481	0.040	0.032
D68ZOV421HC	0.394	0.336	0.519	0.200	0.040	0.221	0.030	0.298	0.040	0.032
R61ZOV421HC	0.454	0.406	0.579	0.300	0.040	0.229	0.030	0.377	0.040	0.032
D61ZOV421HC	0.472	0.344	0.597	0.300	0.040	0.229	0.030	0.377	0.040	0.032
R71ZOV421HC	0.494	0.406	0.619	0.300	0.040	0.237	0.030	0.382	0.040	0.032
D71ZOV421HC	0.531	0.344	0.656	0.300	0.040	0.237	0.030	0.382	0.040	0.032
R62ZOV421HC	0.533	0.406	0.658	0.300	0.040	0.242	0.030	0.385	0.040	0.032
D62ZOV421HC	0.590	0.350	0.715	0.300	0.040	0.242	0.030	0.385	0.040	0.032
R69ZOV421HC	0.566	0.406	0.691	0.300	0.040	0.247	0.030	0.388	0.040	0.032
D69ZOV421HC	0.650	0.355	0.775	0.300	0.040	0.247	0.030	0.388	0.040	0.032
R64ZOV421HC	0.651	0.406	0.776	0.300	0.040	0.247	0.030	0.388	0.040	0.032
D64ZOV421HC	0.710	0.355	0.835	0.300	0.040	0.247	0.030	0.388	0.040	0.032
R65ZOV421HC	0.763	0.406	0.888	0.300	0.040	0.252	0.030	0.391	0.040	0.032
D63ZOV421HC	0.787	0.361	0.912	0.300	0.040	0.252	0.030	0.391	0.040	0.032
D65ZOV421HC	0.905	0.361	1.030	0.300	0.040	0.252	0.030	0.391	0.040	0.032
R80ZOV421HC	0.877	0.406	1.002	0.300	0.040	0.255	0.030	0.393	0.040	0.032
R66ZOV421HC	0.925	0.406	1.050	0.394	0.040	0.255	0.030	0.469	0.040	0.032
D66ZOV421HC	1.100	0.361	1.225	0.500	0.040	0.263	0.030	0.564	0.040	0.040
S66ZOV421HC	1.142	0.406	1.267	0.394	0.040	0.290	0.030	0.489	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HC SERIES

SPECIFICATIONS

460VAC thru 510VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms @1kHz
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
R61ZOV461HC	X	X					9	R61-HZ461	460	615	115	115	4500	3500	651	795	1240	20	160
D61ZOV461HC	X	X					10	HZ461-50UL	460	615	119	119	3500	2500	651	795	1240	25	200
R71ZOV461HC	X	X					10	R71-HZ461	460	615	140	140	5200	3750	651	795	1240	25	180
D71ZOV461HC	X	X					11	HZ461-62UL	460	615	143	143	4500	3500	651	795	1240	30	270
R62ZOV461HC	X	X					11	R62-HZ461	460	615	162	162	6500	5000	651	795	1240	30	220
D62ZOV461HC	X	X					12	HZ461-75UL	460	615	172	172	5200	3750	651	795	1240	40	360
R69ZOV461HC	X	X					12	R69-HZ461	460	615	230	230	9000	7000	651	795	1240	50	220
D69ZOV461HC	X	X					14	HZ461-100UL	460	615	227	227	6500	5000	651	795	1240	50	340
R64ZOV461HC	X	X					14	R64-HZ461	460	615	340	340	10000	7000	651	795	1240	50	310
D64ZOV461HC	X	X					16	HZ461-130UL	460	615	297	297	8000	6500	651	795	1240	60	460
R65ZOV461HC	X	X					17	R65-HZ461	460	615	450	450	15000	12000	651	795	1240	100	510
D63ZOV461HC	X	X					18	HZ461-120UL	460	615	368	368	9000	7000	651	795	1240	80	600
D65ZOV461HC	X	X					20	HZ461-175UL	460	615	457	457	10000	8000	651	795	1240	100	760
R80ZOV461HC	X	X					20	R80-HZ461	460	615	475	475	17000	13000	651	795	1240	100	690
R66ZOV461HC	X	X					22	R66-HZ461	460	615	500	500	18000	14000	651	795	1120	150	900
D66ZOV461HC	X	X					25	HZ461-340UL	460	615	482	482	13000	10000	651	795	1240	100	1130
S66ZOV461HC	X	X					25	S66-HZ461	460	615	825	825	22000	18000	651	795	1120	200	1170
R61ZOV481HC	X	X					9	R61-HZ481	480	640	120	120	4500	3500	679	829	1300	20	150
D61ZOV481HC	X	X					10	HZ481-50UL	480	640	121	121	3500	2500	679	829	1300	25	190
R71ZOV481HC	X	X					10	R71-HZ481	480	640	145	145	5200	3750	679	829	1300	25	170
D71ZOV481HC	X	X					11	HZ481-63UL	480	640	147	147	4500	3500	679	829	1300	30	260
R62ZOV481HC	X	X					11	R62-HZ481	480	640	167	167	6500	5000	679	829	1300	30	210
D62ZOV481HC	X	X					12	HZ481-80UL	480	640	176	176	5200	3750	679	829	1300	40	350
R69ZOV481HC	X	X					12	R69-HZ481	480	640	235	235	9000	7000	679	829	1300	50	210
D69ZOV481HC	X	X					14	HZ481-105UL	480	640	233	233	6500	5000	679	829	1300	50	330
R64ZOV481HC	X	X					14	R64-HZ481	480	640	350	350	10000	7000	679	829	1300	50	300
D64ZOV481HC	X	X					16	HZ481-136UL	480	640	305	305	8000	6500	679	829	1300	60	440
R65ZOV481HC	X	X					17	R65-HZ481	480	640	460	460	15000	12000	679	829	1300	100	490
D63ZOV481HC	X	X					18	HZ481-130UL	480	640	376	376	9000	7000	679	829	1300	80	570
D65ZOV481HC	X	X					20	HZ481-180UL	480	640	469	469	10000	8000	679	829	1300	100	730
R80ZOV481HC	X	X					20	R80-HZ481	480	640	480	480	17000	13000	679	829	1300	100	660
R66ZOV481HC	X	X					22	R66-HZ481	480	640	510	510	18000	14000	679	829	1160	150	870
D66ZOV481HC	X	X					25	HZ481-360UL	480	640	495	495	13000	10000	679	829	1300	100	1090
S66ZOV481HC	X	X					25	S66-HZ481	480	640	840	840	22000	18000	679	829	1160	200	1120
R61ZOV511HC	X	X					9	R61-HZ511	510	675	125	125	4500	3500	722	881	1350	20	140
D61ZOV511HC	X	X					10	HZ511-55UL	510	675	125	125	3500	2500	722	881	1350	25	180
R71ZOV511HC	X	X					10	R71-HZ511	510	675	150	150	5200	3750	722	881	1350	25	160
D71ZOV511HC	X	X					11	HZ511-66UL	510	675	153	153	4500	3500	722	881	1350	30	240
R62ZOV511HC	X	X					11	R62-HZ511	510	675	172	172	6500	5000	722	881	1350	30	200
D62ZOV511HC	X	X					12	HZ511-85UL	510	675	183	183	5200	3750	722	881	1350	40	320
R69ZOV511HC	X	X					12	R69-HZ511	510	675	240	240	9000	7000	722	881	1350	50	200
D69ZOV511HC	X	X					14	HZ511-110UL	510	675	242	242	6500	5000	722	881	1350	50	310
R64ZOV511HC	X	X					14	R64-HZ511	510	675	355	355	10000	7000	722	881	1350	50	280
D64ZOV511HC	X	X					16	HZ511-143UL	510	675	317	317	8000	6500	722	881	1350	60	410
R65ZOV511HC	X	X					17	R65-HZ511	510	675	470	470	15000	12000	722	881	1350	100	460
D63ZOV511HC	X	X					18	HZ511-140UL	510	675	389	389	9000	7000	722	881	1350	80	540
D65ZOV511HC	X	X					20	HZ511-190UL	510	675	487	487	10000	8000	722	881	1350	100	690
R80ZOV511HC	X	X					20	R80-HZ511	510	675	500	500	17000	13000	722	881	1350	100	620
R66ZOV511HC	X	X					22	R66-HZ511	510	675	525	525	18000	14000	722	881	1280	150	820
D66ZOV511HC	X	X					25	HZ511-380UL	510	675	514	514	13000	10000	722	881	1350	100	1020
S66ZOV511HC	X	X					25	S66-HZ511	510	675	860	860	22000	18000	722	881	1280	200	1060

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

460VAC thru 510VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
R61ZOV461HC	0.454	0.425	0.579	0.300	0.040	0.245	0.030	0.387	0.040	0.032
D61ZOV461HC	0.472	0.354	0.597	0.300	0.040	0.245	0.030	0.387	0.040	0.032
R71ZOV461HC	0.494	0.425	0.619	0.300	0.040	0.254	0.030	0.393	0.040	0.032
D71ZOV461HC	0.531	0.354	0.656	0.300	0.040	0.254	0.030	0.393	0.040	0.032
R62ZOV461HC	0.533	0.425	0.658	0.300	0.040	0.259	0.030	0.396	0.040	0.032
D62ZOV461HC	0.590	0.367	0.715	0.300	0.040	0.259	0.030	0.396	0.040	0.032
R69ZOV461HC	0.566	0.425	0.691	0.300	0.040	0.265	0.030	0.400	0.040	0.032
D69ZOV461HC	0.650	0.372	0.775	0.300	0.040	0.265	0.030	0.400	0.040	0.032
R64ZOV461HC	0.651	0.425	0.776	0.300	0.040	0.265	0.030	0.400	0.040	0.032
D64ZOV461HC	0.710	0.372	0.835	0.300	0.040	0.265	0.030	0.400	0.040	0.032
R65ZOV461HC	0.763	0.425	0.888	0.300	0.040	0.271	0.030	0.404	0.040	0.032
D63ZOV461HC	0.787	0.380	0.912	0.300	0.040	0.271	0.030	0.404	0.040	0.032
D65ZOV461HC	0.905	0.380	1.030	0.300	0.040	0.271	0.030	0.404	0.040	0.032
R80ZOV461HC	0.877	0.425	1.002	0.300	0.040	0.274	0.030	0.406	0.040	0.032
R66ZOV461HC	0.925	0.425	1.050	0.394	0.040	0.274	0.030	0.479	0.040	0.032
D66ZOV461HC	1.100	0.380	1.225	0.500	0.040	0.279	0.030	0.572	0.040	0.040
S66ZOV461HC	1.142	0.425	1.267	0.394	0.040	0.309	0.030	0.500	0.040	0.032
R61ZOV481HC	0.454	0.434	0.579	0.300	0.040	0.253	0.030	0.392	0.040	0.032
D61ZOV481HC	0.472	0.372	0.597	0.300	0.040	0.252	0.030	0.391	0.040	0.032
R71ZOV481HC	0.494	0.434	0.619	0.300	0.040	0.262	0.030	0.398	0.040	0.032
D71ZOV481HC	0.531	0.372	0.656	0.300	0.040	0.261	0.030	0.397	0.040	0.032
R62ZOV481HC	0.533	0.434	0.658	0.300	0.040	0.268	0.030	0.402	0.040	0.032
D62ZOV481HC	0.590	0.378	0.715	0.300	0.040	0.267	0.030	0.401	0.040	0.032
R69ZOV481HC	0.566	0.434	0.691	0.300	0.040	0.273	0.030	0.405	0.040	0.032
D69ZOV481HC	0.650	0.384	0.775	0.300	0.040	0.272	0.030	0.404	0.040	0.032
R64ZOV481HC	0.651	0.434	0.776	0.300	0.040	0.273	0.030	0.405	0.040	0.032
D64ZOV481HC	0.710	0.384	0.835	0.300	0.040	0.272	0.030	0.404	0.040	0.032
R65ZOV481HC	0.763	0.434	0.888	0.300	0.040	0.279	0.030	0.409	0.040	0.032
D63ZOV481HC	0.787	0.389	0.912	0.300	0.040	0.278	0.030	0.409	0.040	0.032
D65ZOV481HC	0.905	0.389	1.030	0.300	0.040	0.278	0.030	0.409	0.040	0.032
R80ZOV481HC	0.877	0.434	1.002	0.300	0.040	0.283	0.030	0.412	0.040	0.032
R66ZOV481HC	0.925	0.434	1.050	0.394	0.040	0.283	0.030	0.485	0.040	0.032
D66ZOV481HC	1.100	0.389	1.225	0.500	0.040	0.286	0.030	0.576	0.040	0.040
S66ZOV481HC	1.142	0.434	1.267	0.394	0.040	0.318	0.030	0.506	0.040	0.032
R61ZOV511HC	0.454	0.447	0.579	0.300	0.040	0.275	0.030	0.406	0.040	0.032
D61ZOV511HC	0.472	0.386	0.597	0.300	0.040	0.264	0.030	0.399	0.040	0.032
R71ZOV511HC	0.494	0.447	0.619	0.300	0.040	0.275	0.030	0.406	0.040	0.032
D71ZOV511HC	0.531	0.386	0.656	0.300	0.040	0.275	0.030	0.406	0.040	0.032
R62ZOV511HC	0.533	0.447	0.658	0.300	0.040	0.280	0.030	0.410	0.040	0.032
D62ZOV511HC	0.590	0.392	0.715	0.300	0.040	0.280	0.030	0.410	0.040	0.032
R69ZOV511HC	0.566	0.447	0.691	0.300	0.040	0.286	0.030	0.414	0.040	0.032
D69ZOV511HC	0.650	0.399	0.775	0.300	0.040	0.286	0.030	0.414	0.040	0.032
R64ZOV511HC	0.651	0.447	0.776	0.300	0.040	0.286	0.030	0.414	0.040	0.032
D64ZOV511HC	0.710	0.399	0.835	0.300	0.040	0.286	0.030	0.414	0.040	0.032
R65ZOV511HC	0.763	0.447	0.888	0.300	0.040	0.293	0.030	0.419	0.040	0.032
D63ZOV511HC	0.787	0.404	0.912	0.300	0.040	0.293	0.030	0.419	0.040	0.032
D65ZOV511HC	0.905	0.404	1.030	0.300	0.040	0.293	0.030	0.419	0.040	0.032
R80ZOV511HC	0.877	0.447	1.002	0.300	0.040	0.296	0.030	0.421	0.040	0.032
R66ZOV511HC	0.925	0.447	1.050	0.394	0.040	0.296	0.030	0.492	0.040	0.032
D66ZOV511HC	1.100	0.404	1.225	0.500	0.040	0.301	0.030	0.583	0.040	0.040
S66ZOV511HC	1.142	0.447	1.267	0.394	0.040	0.331	0.030	0.514	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HC SERIES

SPECIFICATIONS

550VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
R61ZOV551HC	X	X					9	R61-HZ551	550	700	130	130	4500	3500	778	950	1400	20	130
D61ZOV551HC	X	X					10	HZ551-60UL	550	700	130	130	3500	2500	778	950	1400	25	170
R71ZOV551HC	X	X					10	R71-HZ551	550	700	160	160	5200	3750	778	950	1400	25	150
D71ZOV551HC	X	X					11	HZ551-72UL	550	700	160	160	4500	3500	778	950	1400	30	230
R62ZOV551HC	X	X					11	R62-HZ551	550	700	192	192	6500	5000	778	950	1400	30	180
D62ZOV551HC	X	X					12	HZ551-90UL	550	700	192	192	5200	3750	778	950	1400	40	300
R69ZOV551HC	X	X					12	R69-HZ551	550	700	255	255	9000	7000	778	950	1400	50	190
D69ZOV551HC	X	X					14	HZ551-115UL	550	700	255	255	6500	5000	778	950	1400	50	290
R64ZOV551HC	X	X					14	R64-HZ551	550	700	385	385	10000	7000	778	950	1400	50	260
D64ZOV551HC	X	X					16	HZ551-150UL	550	700	333	333	8000	6500	778	950	1400	60	380
R65ZOV551HC	X	X					17	R65-HZ551	550	700	510	510	15000	12000	778	950	1400	100	430
D63ZOV551HC	X	X					18	HZ551-145UL	550	700	405	405	9000	7000	778	950	1400	80	500
D65ZOV551HC	X	X					20	HZ551-200UL	550	700	510	510	10000	8000	778	950	1400	100	640
R80ZOV551HC	X	X					20	R80-HZ551	550	700	525	525	17000	13000	778	950	1400	100	580
R66ZOV551HC	X	X					22	R66-HZ551	550	700	540	540	18000	14000	778	950	1360	150	760
D66ZOV551HC	X	X					25	HZ551-400UL	550	700	540	540	13000	10000	778	950	1400	100	950
S66ZOV551HC	X	X					25	S66-HZ551	550	700	930	930	22000	18000	778	950	1360	200	990

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

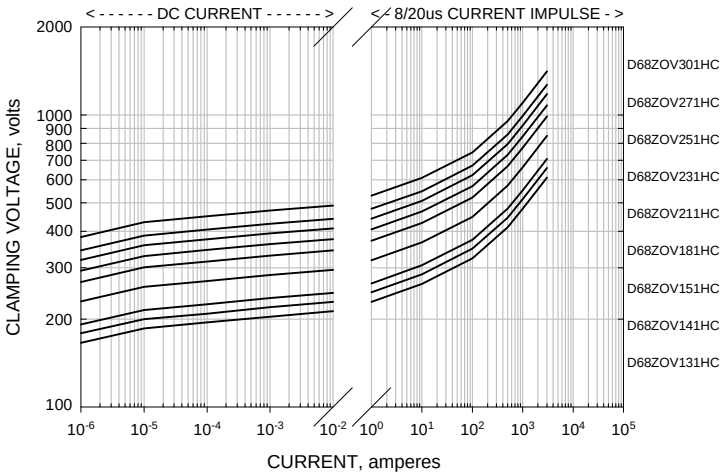
550VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
R61ZOV551HC	0.454	0.465	0.579	0.300	0.040	0.290	0.030	0.417	0.040	0.032
D61ZOV551HC	0.472	0.402	0.597	0.300	0.040	0.279	0.030	0.409	0.040	0.032
R71ZOV551HC	0.494	0.465	0.619	0.300	0.040	0.290	0.030	0.417	0.040	0.032
D71ZOV551HC	0.531	0.402	0.656	0.300	0.040	0.290	0.030	0.417	0.040	0.032
R62ZOV551HC	0.533	0.465	0.658	0.300	0.040	0.296	0.030	0.421	0.040	0.032
D62ZOV551HC	0.590	0.410	0.715	0.300	0.040	0.296	0.030	0.421	0.040	0.032
R69ZOV551HC	0.566	0.465	0.691	0.300	0.040	0.303	0.030	0.426	0.040	0.032
D69ZOV551HC	0.650	0.417	0.775	0.300	0.040	0.303	0.030	0.426	0.040	0.032
R64ZOV551HC	0.651	0.465	0.776	0.300	0.040	0.303	0.030	0.426	0.040	0.032
D64ZOV551HC	0.710	0.417	0.835	0.300	0.040	0.303	0.030	0.426	0.040	0.032
R65ZOV551HC	0.763	0.465	0.888	0.300	0.040	0.310	0.030	0.431	0.040	0.032
D63ZOV551HC	0.787	0.420	0.912	0.300	0.040	0.310	0.030	0.431	0.040	0.032
D65ZOV551HC	0.905	0.420	1.030	0.300	0.040	0.310	0.030	0.431	0.040	0.032
R80ZOV551HC	0.877	0.465	1.002	0.300	0.040	0.313	0.030	0.433	0.040	0.032
R66ZOV551HC	0.925	0.465	1.050	0.394	0.040	0.313	0.030	0.503	0.040	0.032
D66ZOV551HC	1.100	0.420	1.225	0.500	0.040	0.318	0.030	0.592	0.040	0.040
S66ZOV551HC	1.142	0.465	1.267	0.394	0.040	0.349	0.030	0.526	0.040	0.032

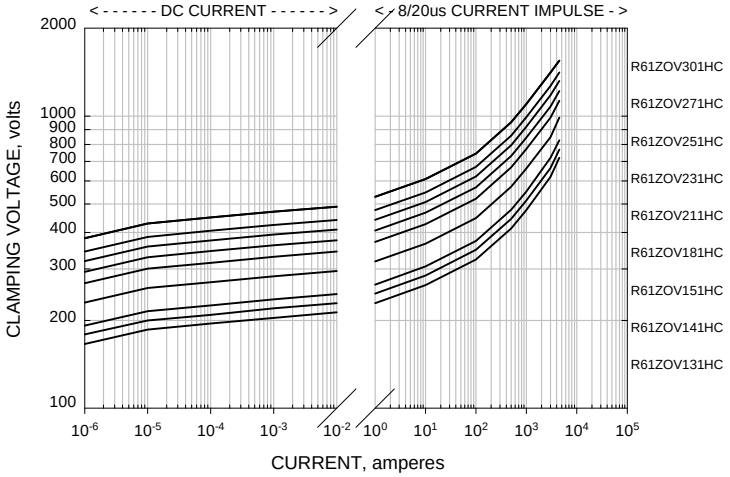
NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HC SERIES - TYPICAL VOLTAGE-CURRENT CURVES

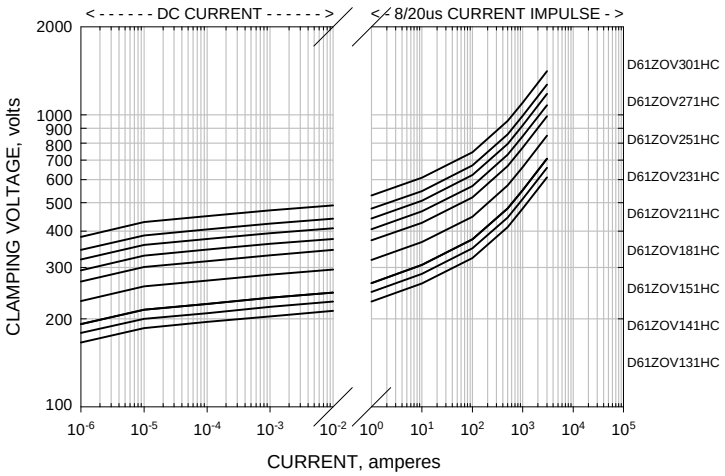
D68 (8mm) SERIES



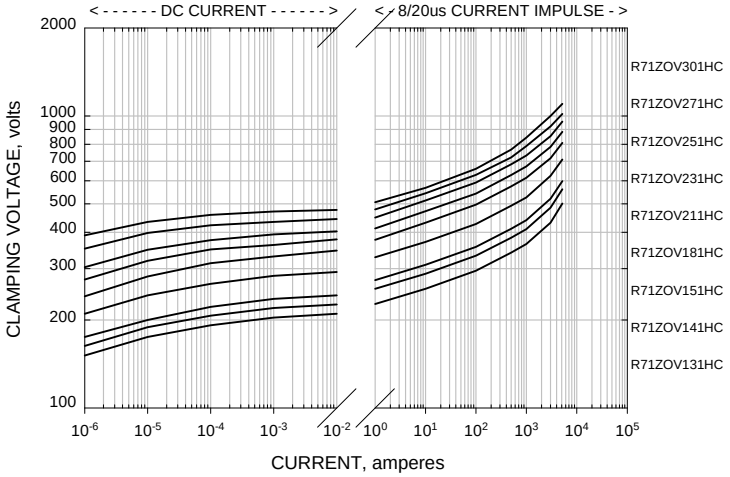
R61 (9mm SQUARE) SERIES



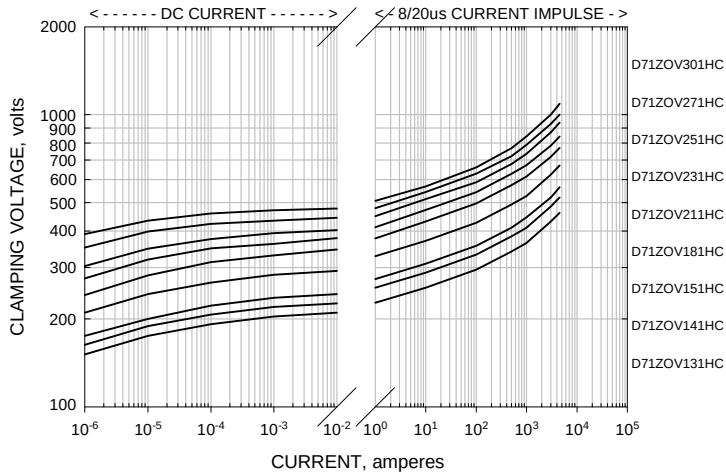
D61 (10mm) SERIES



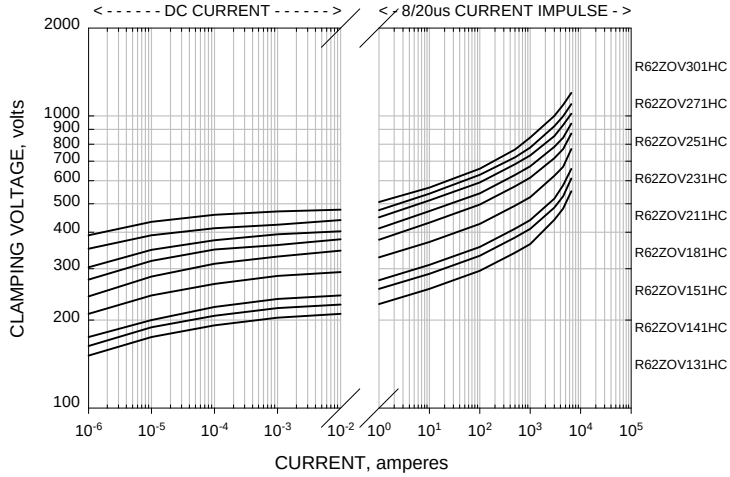
R71 (10mm SQUARE) SERIES



D71 (11mm) SERIES



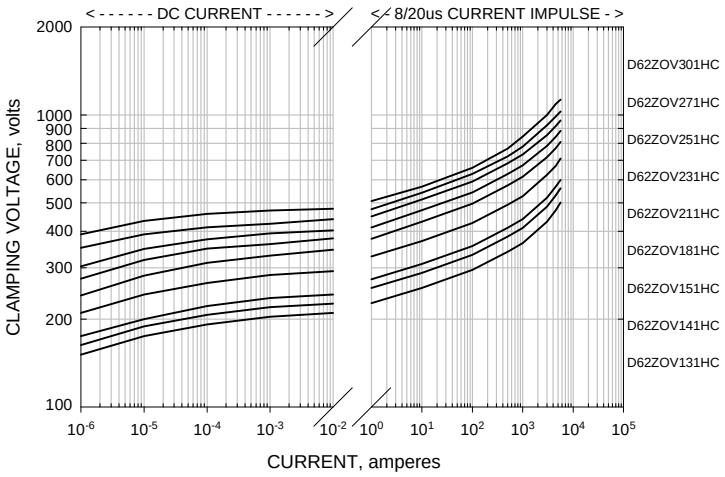
R62 (11mm SQUARE) SERIES



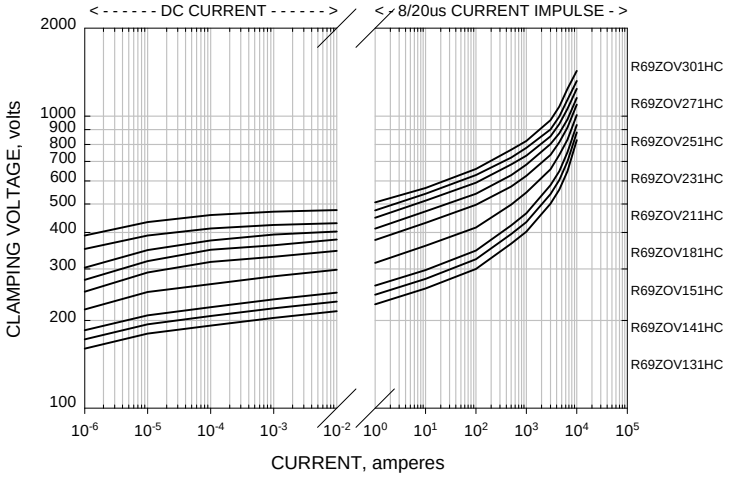
NOTE: For a more detailed V-I curve or for a voltage not listed on the graphs provided, please contact us.

HC SERIES - TYPICAL VOLTAGE-CURRENT CURVES

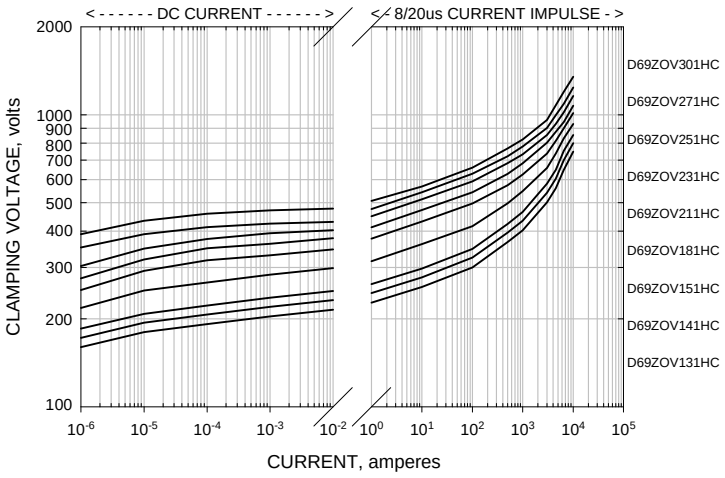
D62 (12mm) SERIES



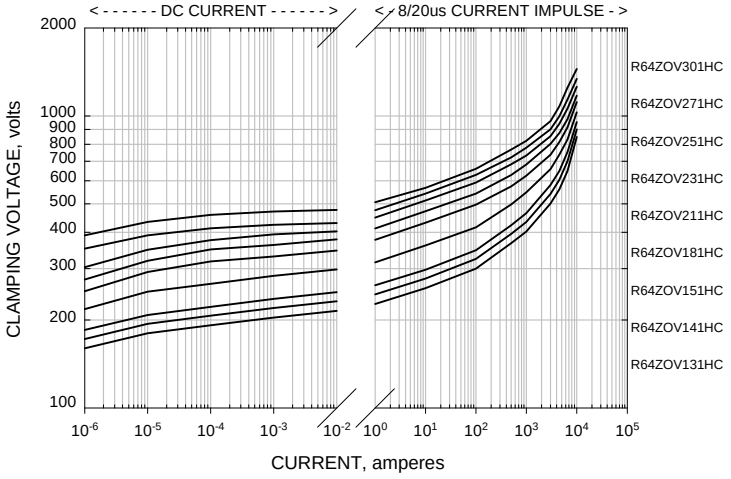
R69 (12mm SQUARE) SERIES



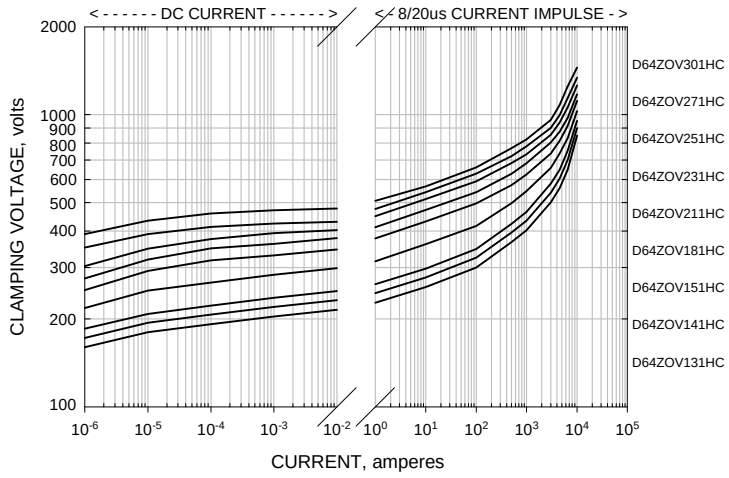
D69 (14mm) SERIES



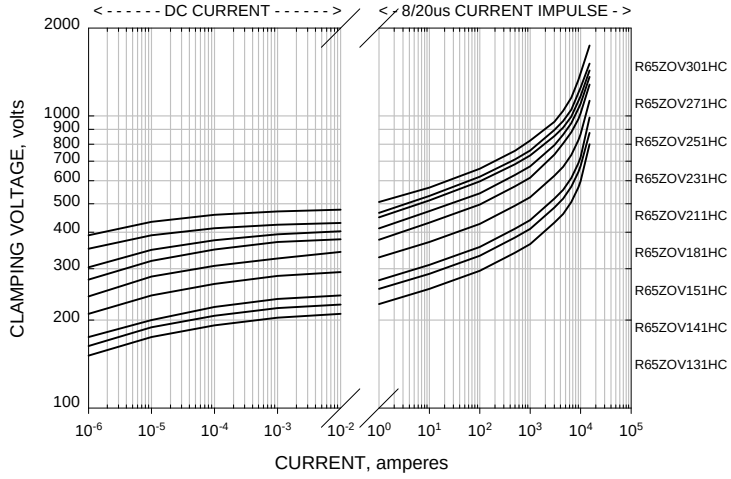
R64 (14mm SQUARE) SERIES



D64 (16mm) SERIES



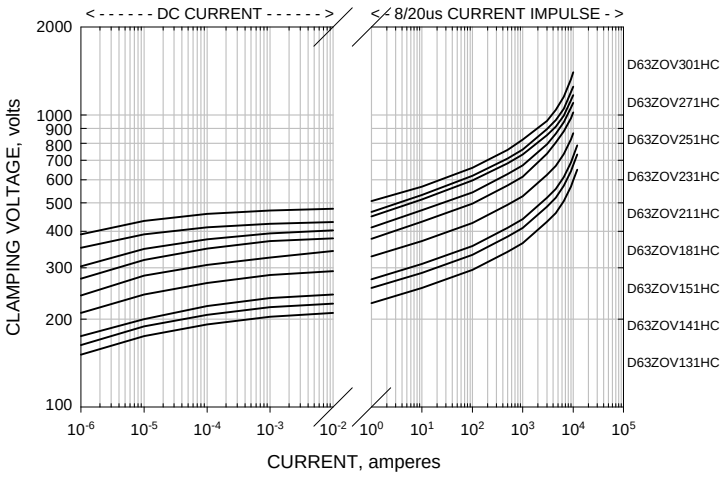
R65 (17mm SQUARE) SERIES



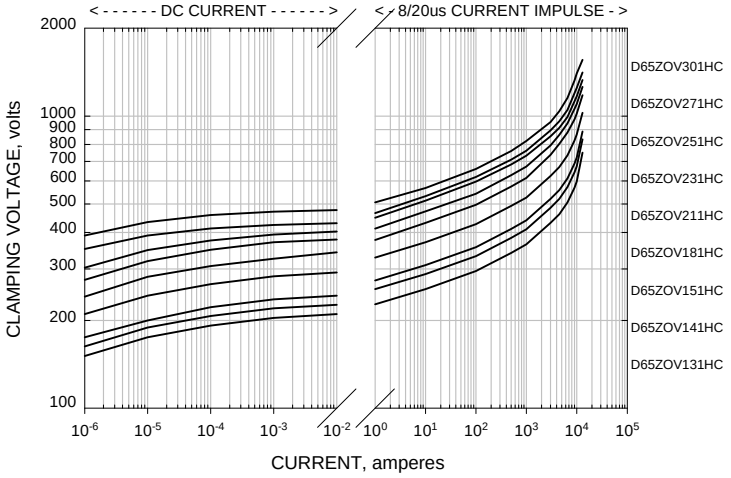
NOTE: For a more detailed V-I curve or for a voltage not listed on the graphs provided, please contact us.

HC SERIES - TYPICAL VOLTAGE-CURRENT CURVES

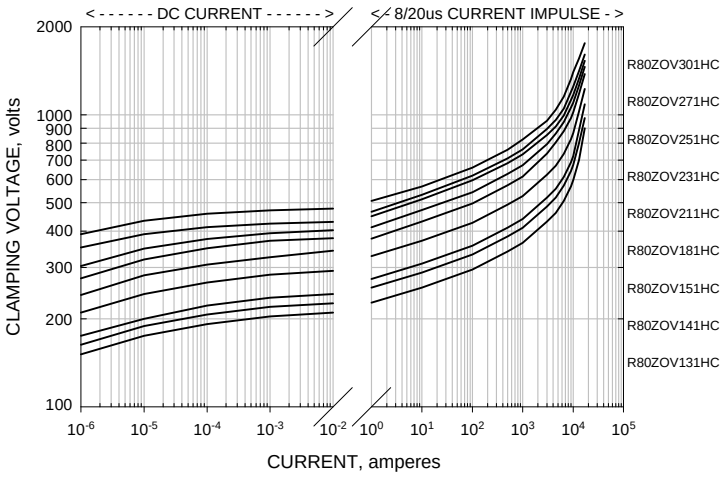
D63 (18mm) SERIES



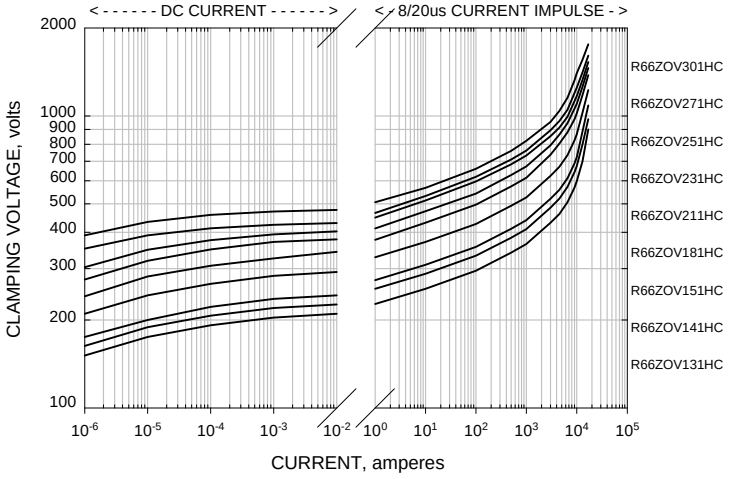
D65 (20mm) SERIES



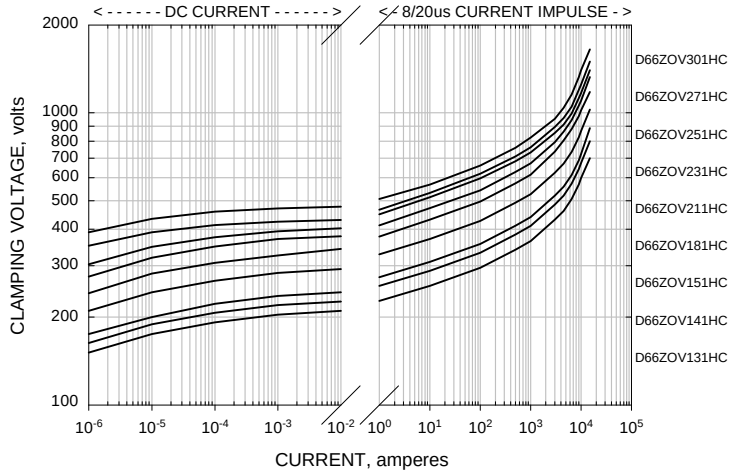
R80 (20mm SQUARE) SERIES



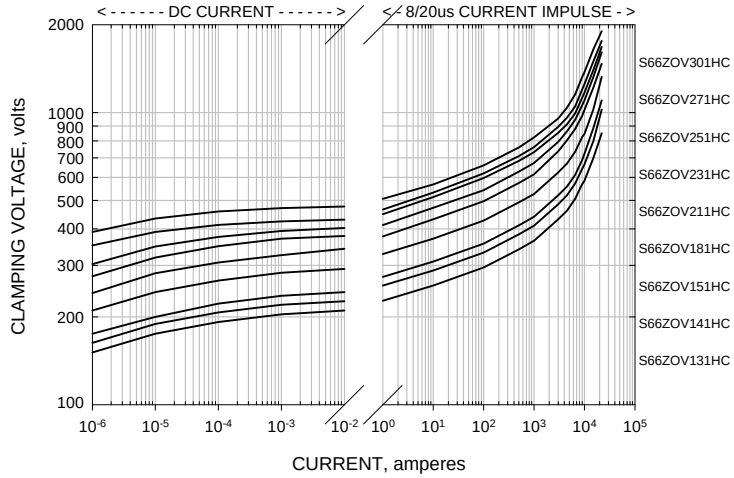
R66 (22mm SQUARE) SERIES



D66 (25mm) SERIES



S66 (25mm SQUARE) SERIES



NOTE: For a more detailed V-I curve or for a voltage not listed on the graphs provided, please contact us.

LOW PROFILE SERIES

INTRODUCTION

The Low Profile Series compliments our Standard Series as our square disc, radial-leaded varistors. These components consist of wire leads and have nominal disk diameters from 12mm to 25mm. They are available with maximum continuous operating voltages (MCOV) ranging from 130VAC to 1000VAC.
The Low Profile Series are designed to fit into spaces that Standard Series electrically equivalents are unable to fit. Most sizes are available in Tape and Reel and ammo pack.

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our Low Profile Series components by the Maida Style Number:

R 65 21 ZOV 131 RA 150

1. **Coating Designation**
   R – Standard Epoxy Coating
   S – Standard Epoxy Coating, 25mm
   PR/PS – Square Disc Phenolic Coating
   Neither – Denote no conformal coating.
2. **Nominal Disk Diameter**
   R69 – 12mm Square
   R65 – 17mm Square
   R66 – 22mm Square
   S66 – 25mm Square
3. **Lead Configuration**
   (Refer to lead codes)
4. **Material Identifier**
   Zinc Oxide Varistor
5. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 131 is 130 VAC
6. **Special Instructions,** RA is standard
7. **Rating Code,** up to four numbers

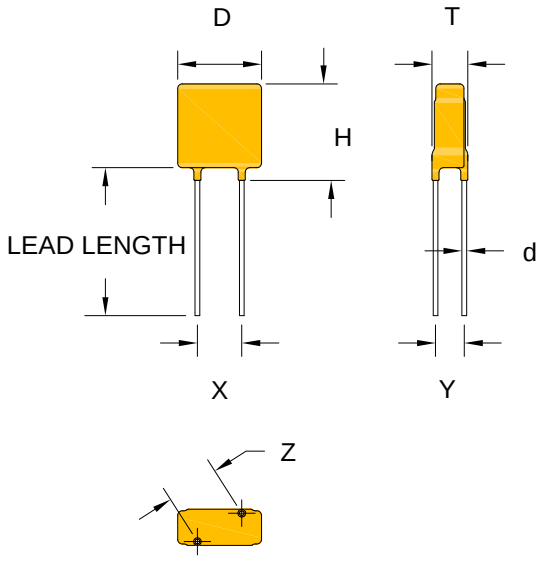
STANDARD MARKING

Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

Example:
MDC
R65
131UL

Where:
MDC - Company Initials
R65 – Square Disc Diameter
131 – AC Voltage rating (130VAC)
UL - UL recognition, if applicable

A manufacturing date code and/or special markings are available upon request.
Other safety agency designations are included where applicable.



LOW PROFILE ***SERIES***

SPECIFICATIONS

130VAC thru 390VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
R6921ZOV131RA70	X		X				12	R69-131	130	175	70	70	6500	5000	184	224	340	50	780
R6521ZOV131RA150	X		X				17	R65-131UL	130	175	150	150	12000	9000	184	224	340	100	1770
R6678ZOV131RA170	X		X				22	R66-131UL	130	175	170	170	18000	15000	184	224	325	150	3280
S6678ZOV131RA235	X		X				25	S66-131UL	130	175	235	235	22000	18000	184	224	325	200	5000
R6921ZOV141RA78	X		X				12	R69-141	140	180	78	78	6500	5000	198	242	360	50	700
R6521ZOV141RA160	X		X				17	R65-141UL	140	180	160	160	12000	9000	198	242	360	100	1600
R6678ZOV141RA180	X		X				22	R66-141UL	140	180	180	180	18000	15000	198	242	345	150	2990
S6678ZOV141RA240	X		X				25	S66-141UL	140	180	240	240	22000	18000	198	242	345	200	4700
R6921ZOV151RA84	X		X				12	R69-151	150	200	84	84	6500	5000	212	259	395	50	650
R6521ZOV151RA170	X		X				17	R65-151UL	150	200	170	170	12000	9000	212	259	395	100	1480
R6678ZOV151RA190	X		X				22	R66-151UL	150	200	190	190	18000	15000	212	259	360	150	2740
S6678ZOV151RA250	X		X				25	S66-151UL	150	200	250	250	22000	18000	212	259	360	200	4300
R6921ZOV181RA100	X		X				12	R69-181	180	230	100	100	6000	4500	255	311	465	50	560
R6521ZOV181RA190	X		X				17	R65-181UL	180	230	190	190	10000	7000	255	311	465	100	1270
R6678ZOV181RA200	X		X				22	R66-181UL	180	230	200	200	15000	12000	255	311	455	150	2350
S6678ZOV181RA310	X		X				25	S66-181UL	180	230	310	310	18000	15000	255	311	455	200	3210
R69ZOV211RA120	X		X				12	R69-211	210	270	120	120	6000	4500	297	363	540	50	480
R65ZOV211RA230	X		X				17	R65-211UL	210	270	230	230	10000	7000	297	363	540	100	1080
R6678ZOV211RA250	X		X				22	R66-211UL	210	270	250	250	15000	12000	297	363	540	150	1990
S6678ZOV211RA340	X		X				25	S66-211UL	210	270	420	420	18000	15000	297	363	540	200	2720
R69ZOV231RA135	X		X				12	R69-231	230	300	135	135	6000	4500	326	397	595	50	440
R65ZOV231RA270	X		X				17	R65-231UL	230	300	270	270	10000	7000	326	397	595	100	1000
R6678ZOV231RA280	X		X				22	R66-231UL	230	300	280	280	15000	12000	326	397	590	150	1820
S6678ZOV231RA360	X		X				25	S66-231UL	230	300	490	490	18000	15000	326	397	590	200	2500
R69ZOV251RA145	X		X				12	R69-251	250	330	145	145	6000	4500	354	432	650	50	400
R65ZOV251RA300	X		X				17	R65-251UL	250	330	300	300	10000	7000	354	432	650	100	910
R6678ZOV251RA315	X		X				22	R66-251UL	250	330	315	315	15000	12000	354	432	620	150	1680
S6678ZOV251RA400	X		X				25	S66-251UL	250	330	550	550	18000	15000	354	432	620	200	2300
R69ZOV271RA160	X		X				12	R69-271	270	360	160	160	6000	4500	382	466	710	50	370
R65ZOV271RA325	X		X				17	R65-271UL	270	360	325	325	10000	7000	382	466	710	100	850
R6678ZOV271RA340	X		X				22	R66-271UL	270	360	340	340	15000	12000	382	466	680	150	1560
S6678ZOV271RA430	X		X				25	S66-271UL	270	360	595	595	18000	15000	382	466	680	200	2140
R69ZOV301RA175	X		X				12	R69-301	300	390	175	175	6000	4500	425	518	790	50	330
R65ZOV301RA350	X		X				17	R65-301UL	300	390	350	350	10000	7000	425	518	760	100	760
R6678ZOV301RA360	X		X				22	R66-301UL	300	390	360	360	13000	10000	425	518	760	150	1400
S6678ZOV301RA460	X		X				25	S66-301UL	300	390	640	640	15000	12000	425	518	760	200	1910
R69ZOV321RA190	X		X				12	R69-321	320	420	190	190	6000	4500	453	553	850	50	310
R65ZOV321RA385	X		X				17	R65-321UL	320	420	385	385	10000	7000	453	553	810	100	710
R6678ZOV321RA430	X		X				22	R66-321UL	320	420	430	430	13000	10000	453	553	810	150	1310
S6678ZOV321RA510	X		X				25	S66-321UL	320	420	700	700	15000	12000	453	553	810	200	1800
R69ZOV361RA205	X		X				12	R69-361	360	470	205	205	6000	4500	522	638	960	50	270
R65ZOV361RA410	X		X				17	R65-361UL	360	470	410	410	10000	7000	522	638	930	100	610
R6678ZOV361RA440	X		X				22	R66-361UL	360	470	440	440	13000	10000	522	638	930	150	1130
S6678ZOV361RA560	X		X				25	S66-361UL	360	470	750	750	15000	12000	522	638	930	200	1550
R69ZOV391RA215	X		X				12	R69-391UL	390	505	215	215	6000	4500	552	674	1025	50	260
R65ZOV391RA420	X		X				17	R65-391UL	390	505	420	420	10000	7000	552	674	1025	100	580
R6678ZOV391RA460	X		X				22	R66-391UL	390	505	460	460	13000	10000	552	674	1025	150	1070
S6678ZOV391RA590	X		X				25	S66-391UL	390	505	770	770	15000	12000	552	674	1025	200	1470

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

130VAC thru 390VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
R6921ZOV131RA70	0.566	0.248	0.691	0.300	0.040	0.067	0.030	0.307	0.040	0.032
R6521ZOV131RA150	0.763	0.248	0.888	0.300	0.040	0.067	0.030	0.307	0.040	0.032
R6678ZOV131RA170	0.925	0.248	1.050	0.394	0.040	0.131	0.030	0.415	0.040	0.032
S6678ZOV131RA235	1.142	0.248	1.267	0.394	0.040	0.148	0.030	0.420	0.040	0.032
R6921ZOV141RA78	0.566	0.252	0.691	0.300	0.040	0.070	0.030	0.308	0.040	0.032
R6521ZOV141RA160	0.763	0.252	0.888	0.300	0.040	0.070	0.030	0.308	0.040	0.032
R6678ZOV141RA180	0.925	0.252	1.050	0.394	0.040	0.135	0.030	0.416	0.040	0.032
S6678ZOV141RA240	1.142	0.252	1.267	0.394	0.040	0.152	0.030	0.422	0.040	0.032
R6921ZOV151RA84	0.566	0.257	0.691	0.300	0.040	0.074	0.030	0.308	0.040	0.032
R6521ZOV151RA170	0.763	0.257	0.888	0.300	0.040	0.074	0.030	0.308	0.040	0.032
R6678ZOV151RA190	0.925	0.257	1.050	0.394	0.040	0.138	0.030	0.417	0.040	0.032
S6678ZOV151RA250	1.142	0.257	1.267	0.394	0.040	0.157	0.030	0.424	0.040	0.032
R6921ZOV181RA100	0.566	0.267	0.691	0.300	0.040	0.081	0.030	0.310	0.040	0.032
R6521ZOV181RA190	0.763	0.267	0.888	0.300	0.040	0.081	0.030	0.310	0.040	0.032
R6678ZOV181RA200	0.925	0.267	1.050	0.394	0.040	0.146	0.030	0.420	0.040	0.032
S6678ZOV181RA310	1.142	0.267	1.267	0.394	0.040	0.146	0.030	0.420	0.040	0.032
R69ZOV211RA120	0.566	0.275	0.691	0.300	0.040	0.089	0.030	0.312	0.040	0.032
R65ZOV211RA230	0.763	0.275	0.888	0.300	0.040	0.089	0.030	0.312	0.040	0.032
R6678ZOV211RA250	0.925	0.275	1.050	0.394	0.040	0.154	0.030	0.423	0.040	0.032
S6678ZOV211RA340	1.142	0.275	1.267	0.394	0.040	0.154	0.030	0.423	0.040	0.032
R69ZOV231RA135	0.566	0.280	0.691	0.300	0.040	0.095	0.030	0.314	0.040	0.032
R65ZOV231RA270	0.763	0.280	0.888	0.300	0.040	0.095	0.030	0.314	0.040	0.032
R6678ZOV231RA280	0.925	0.280	1.050	0.394	0.040	0.160	0.030	0.425	0.040	0.032
S6678ZOV231RA360	1.142	0.280	1.267	0.394	0.040	0.160	0.030	0.425	0.040	0.032
R69ZOV251RA145	0.566	0.287	0.691	0.300	0.040	0.100	0.030	0.316	0.040	0.032
R65ZOV251RA300	0.763	0.287	0.888	0.300	0.040	0.100	0.030	0.316	0.040	0.032
R6678ZOV251RA315	0.925	0.287	1.050	0.394	0.040	0.165	0.030	0.427	0.040	0.032
S6678ZOV251RA400	1.142	0.287	1.267	0.394	0.040	0.165	0.030	0.427	0.040	0.032
R69ZOV271RA160	0.566	0.294	0.691	0.300	0.040	0.105	0.030	0.317	0.040	0.032
R65ZOV271RA325	0.763	0.294	0.888	0.300	0.040	0.105	0.030	0.317	0.040	0.032
R6678ZOV271RA340	0.925	0.294	1.050	0.394	0.040	0.170	0.030	0.429	0.040	0.032
S6678ZOV271RA430	1.142	0.294	1.267	0.394	0.040	0.170	0.030	0.429	0.040	0.032
R69ZOV301RA175	0.566	0.268	0.691	0.300	0.040	0.146	0.030	0.333	0.040	0.032
R65ZOV301RA350	0.763	0.305	0.888	0.300	0.040	0.146	0.030	0.320	0.040	0.032
R6678ZOV301RA360	0.925	0.305	1.050	0.394	0.040	0.179	0.030	0.432	0.040	0.032
S6678ZOV301RA460	1.142	0.305	1.267	0.394	0.040	0.179	0.030	0.432	0.040	0.032
R69ZOV321RA190	0.566	0.310	0.691	0.300	0.040	0.151	0.030	0.335	0.040	0.032
R65ZOV321RA385	0.763	0.310	0.888	0.300	0.040	0.151	0.030	0.335	0.040	0.032
R6678ZOV321RA430	0.925	0.310	1.050	0.394	0.040	0.184	0.030	0.434	0.040	0.032
S6678ZOV321RA510	1.142	0.310	1.267	0.394	0.040	0.184	0.030	0.434	0.040	0.032
R69ZOV361RA205	0.566	0.318	0.691	0.300	0.040	0.165	0.030	0.342	0.040	0.032
R65ZOV361RA410	0.763	0.318	0.888	0.300	0.040	0.165	0.030	0.342	0.040	0.032
R6678ZOV361RA440	0.925	0.318	1.050	0.394	0.040	0.199	0.030	0.441	0.040	0.032
S6678ZOV361RA560	1.142	0.318	1.267	0.394	0.040	0.199	0.030	0.441	0.040	0.032
R69ZOV391RA215	0.566	0.325	0.691	0.300	0.040	0.170	0.030	0.344	0.040	0.032
R65ZOV391RA420	0.763	0.325	0.888	0.300	0.040	0.170	0.030	0.344	0.040	0.032
R6678ZOV391RA460	0.925	0.325	1.050	0.394	0.040	0.204	0.030	0.443	0.040	0.032
S6678ZOV391RA590	1.142	0.325	1.267	0.394	0.040	0.204	0.030	0.443	0.040	0.032

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

LOW PROFILE *SERIES*

SPECIFICATIONS

420VAC thru 1000VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
R69ZOV421RA225	X		X				12	R69-421UL	420	560	225	225	6000	4500	594	725	1120	50	240
R65ZOV421RA430	X		X				17	R65-421UL	420	560	430	430	10000	7000	594	725	1060	100	540
R6678ZOV421RA480	X		X				22	R66-421UL	420	560	480	480	13000	10000	594	725	1060	150	1000
S6678ZOV421RA610	X		X				25	S66-421UL	420	560	780	780	15000	12000	594	725	1060	200	1360
R69ZOV461RA230	X		X				12	R69-461UL	460	615	230	230	6000	4500	651	795	1240	50	220
R65ZOV461RA450	X		X				17	R65-461UL	460	615	450	450	10000	7000	651	795	1120	100	500
R6678ZOV461RA500	X		X				22	R66-461UL	460	615	500	500	13000	10000	651	795	1120	150	910
S6678ZOV461RA640	X		X				25	S66-461UL	460	615	825	825	15000	12000	651	795	1120	200	1240
R69ZOV481RA235	X		X				12	R69-481UL	480	640	235	235	6000	4500	679	829	1300	50	210
R65ZOV481RA460	X		X				17	R65-481UL	480	640	460	460	10000	7000	679	829	1160	100	470
R6678ZOV481RA510	X		X				22	R66-481UL	480	640	510	510	13000	10000	679	829	1160	150	880
S6678ZOV481RA650	X		X				25	S66-481UL	480	640	840	840	15000	12000	679	829	1160	200	1200
R69ZOV511RA240	X		X				12	R69-511UL	510	675	240	240	6000	4500	722	881	1350	50	200
R65ZOV511RA470	X		X				17	R65-511UL	510	675	470	470	10000	7000	722	881	1280	100	440
R6678ZOV511RA525	X		X				22	R66-511UL	510	675	525	525	13000	10000	722	881	1280	150	820
S6678ZOV511RA675	X		X				25	S66-511UL	510	675	860	860	15000	12000	722	881	1280	200	1120
R69ZOV551RA255	X		X				12	R69-551UL	550	700	255	255	6000	4500	778	950	1400	50	180
R65ZOV551RA510	X		X				17	R65-551UL	550	700	510	510	10000	7000	778	950	1360	100	410
R6678ZOV551RA540	X		X				22	R66-551UL	550	700	540	540	13000	10000	778	950	1360	150	760
S6678ZOV551RA690	X		X				25	S66-551UL	550	700	930	930	15000	12000	778	950	1360	200	1050
R69ZOV581RA265	X		X				12	R69-581UL	580	735	265	265	6000	4500	821	1002	1500	50	170
R65ZOV581RA530	X		X				17	R65-581UL	580	735	530	530	10000	7000	821	1002	1430	100	390
R6678ZOV581RA560	X		X				22	R66-581UL	580	735	560	560	13000	10000	821	1002	1430	150	720
S6678ZOV581RA720	X		X				25	S66-581UL	580	735	970	970	15000	12000	821	1002	1430	200	990
R69ZOV621RA290	X		X				12	R69-621UL	620	800	290	290	6000	4500	877	1071	1650	50	160
R65ZOV621RA565	X		X				17	R65-621UL	620	800	565	565	10000	7000	877	1071	1540	100	360
R6678ZOV621RA600	X		X				22	R66-621UL	620	800	600	600	13000	10000	877	1071	1540	150	670
S6678ZOV621RA770	X		X				25	S66-621UL	620	800	1030	1030	15000	12000	877	1071	1540	200	920
R69ZOV681RA310	X		X				12	R69-681UL	680	860	310	310	6000	4500	962	1175	1800	50	150
R65ZOV681RA620	X		X				17	R65-681UL	680	860	620	620	10000	7000	962	1175	1700	100	330
R6678ZOV681RA655	X		X				22	R66-681UL	680	860	655	655	13000	10000	962	1175	1700	150	620
S6678ZOV681RA840	X		X				25	S66-681UL	680	860	1100	1100	15000	12000	962	1175	1700	200	840
R69ZOV751RA350	X		X				12	R69-751UL	750	900	350	350	6000	4500	1062	1300	2100	50	130
R65ZOV751RA670	X		X				17	R65-751UL	750	900	670	670	10000	7000	1062	1300	1880	100	300
R6678ZOV751RA700	X		X				22	R66-751UL	750	900	700	700	13000	10000	1062	1300	1880	150	550
S6678ZOV751RA900	X		X				25	S66-751UL	750	900	1250	1250	15000	12000	1062	1300	1880	200	750
R69ZOV102RA510	X		X				12	R69-102UL	1000	1200	510	510	6000	4500	1414	1728	2700	50	100
R65ZOV102RA860	X		X				17	R65-102UL	1000	1200	860	860	10000	7000	1414	1728	2500	100	230
R6678ZOV102RA875	X		X				22	R66-102UL	1000	1200	875	875	13000	10000	1414	1728	2500	150	420
S6678ZOV102RA1100	X		X				25	S66-102UL	1000	1200	1500	1500	15000	12000	1414	1728	2500	200	570

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

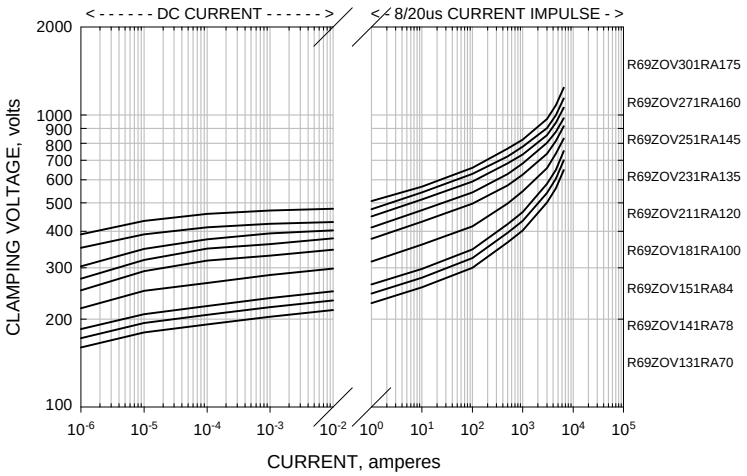
420VAC thru 1000VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
R69ZOV421RA225	0.566	0.332	0.691	0.300	0.040	0.179	0.030	0.349	0.040	0.032
R65ZOV421RA430	0.763	0.332	0.888	0.300	0.040	0.179	0.030	0.349	0.040	0.032
R6678ZOV421RA480	0.925	0.332	1.050	0.394	0.040	0.213	0.030	0.447	0.040	0.032
S6678ZOV421RA610	1.142	0.332	1.267	0.394	0.040	0.213	0.030	0.447	0.040	0.032
R69ZOV461RA230	0.566	0.344	0.691	0.300	0.040	0.190	0.030	0.355	0.040	0.032
R65ZOV461RA450	0.763	0.344	0.888	0.300	0.040	0.190	0.030	0.355	0.040	0.032
R6678ZOV461RA500	0.925	0.344	1.050	0.394	0.040	0.224	0.030	0.453	0.040	0.032
S6678ZOV461RA640	1.142	0.344	1.267	0.394	0.040	0.224	0.030	0.453	0.040	0.032
R69ZOV481RA235	0.566	0.350	0.691	0.300	0.040	0.194	0.030	0.357	0.040	0.032
R65ZOV481RA460	0.763	0.350	0.888	0.300	0.040	0.194	0.030	0.357	0.040	0.032
R6678ZOV481RA510	0.925	0.350	1.050	0.394	0.040	0.229	0.030	0.455	0.040	0.032
S6678ZOV481RA650	1.142	0.350	1.267	0.394	0.040	0.229	0.030	0.455	0.040	0.032
R69ZOV511RA240	0.566	0.360	0.691	0.300	0.040	0.203	0.030	0.362	0.040	0.032
R65ZOV511RA470	0.763	0.360	0.888	0.300	0.040	0.203	0.030	0.362	0.040	0.032
R6678ZOV511RA525	0.925	0.360	1.050	0.394	0.040	0.238	0.030	0.460	0.040	0.032
S6678ZOV511RA675	1.142	0.360	1.267	0.394	0.040	0.238	0.030	0.460	0.040	0.032
R69ZOV551RA255	0.566	0.373	0.691	0.300	0.040	0.214	0.030	0.368	0.040	0.032
R65ZOV551RA510	0.763	0.373	0.888	0.300	0.040	0.214	0.030	0.368	0.040	0.032
R6678ZOV551RA540	0.925	0.373	1.050	0.394	0.040	0.248	0.030	0.465	0.040	0.032
S6678ZOV551RA690	1.142	0.373	1.267	0.394	0.040	0.248	0.030	0.465	0.040	0.032
R69ZOV581RA265	0.566	0.382	0.691	0.300	0.040	0.222	0.030	0.373	0.040	0.032
R65ZOV581RA530	0.763	0.382	0.888	0.300	0.040	0.222	0.030	0.373	0.040	0.032
R6678ZOV581RA560	0.925	0.382	1.050	0.394	0.040	0.257	0.030	0.470	0.040	0.032
S6678ZOV581RA720	1.142	0.382	1.267	0.394	0.040	0.257	0.030	0.470	0.040	0.032
R69ZOV621RA290	0.566	0.395	0.691	0.300	0.040	0.233	0.030	0.379	0.040	0.032
R65ZOV621RA565	0.763	0.395	0.888	0.300	0.040	0.233	0.030	0.379	0.040	0.032
R6678ZOV621RA600	0.925	0.395	1.050	0.394	0.040	0.268	0.030	0.476	0.040	0.032
S6678ZOV621RA770	1.142	0.395	1.267	0.394	0.040	0.268	0.030	0.476	0.040	0.032
R69ZOV681RA310	0.566	0.414	0.691	0.300	0.040	0.250	0.030	0.390	0.040	0.032
R65ZOV681RA620	0.763	0.414	0.888	0.300	0.040	0.250	0.030	0.390	0.040	0.032
R6678ZOV681RA655	0.925	0.414	1.050	0.394	0.040	0.285	0.030	0.486	0.040	0.032
S6678ZOV681RA840	1.142	0.414	1.267	0.394	0.040	0.285	0.030	0.486	0.040	0.032
R69ZOV751RA350	0.566	0.460	0.691	0.300	0.040	0.273	0.030	0.405	0.040	0.032
R65ZOV751RA670	0.763	0.460	0.888	0.300	0.040	0.273	0.030	0.405	0.040	0.032
R6678ZOV751RA700	0.925	0.460	1.050	0.394	0.040	0.308	0.030	0.500	0.040	0.032
S6678ZOV751RA900	1.142	0.460	1.267	0.394	0.040	0.308	0.030	0.500	0.040	0.032
R69ZOV102RA510	0.566	0.514	0.691	0.300	0.040	0.338	0.030	0.451	0.040	0.032
R65ZOV102RA860	0.763	0.514	0.888	0.300	0.040	0.338	0.030	0.451	0.040	0.032
R6678ZOV102RA875	0.925	0.514	1.050	0.394	0.040	0.375	0.030	0.543	0.040	0.032
S6678ZOV102RA1100	1.142	0.514	1.267	0.394	0.040	0.375	0.030	0.543	0.040	0.032

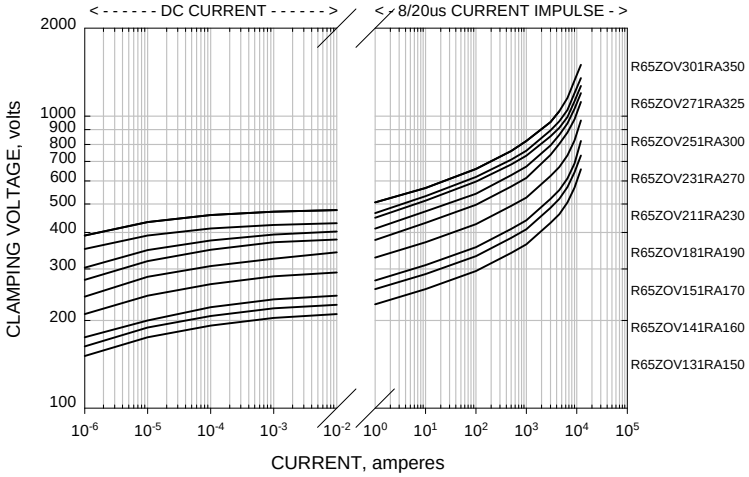
NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

LOW PROFILE SERIES - TYPICAL VOLTAGE-CURRENT CURVES

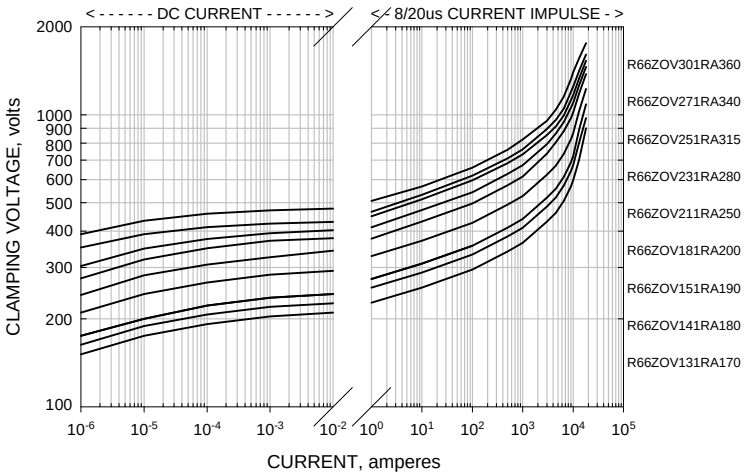
R69 (12mm SQUARE) SERIES



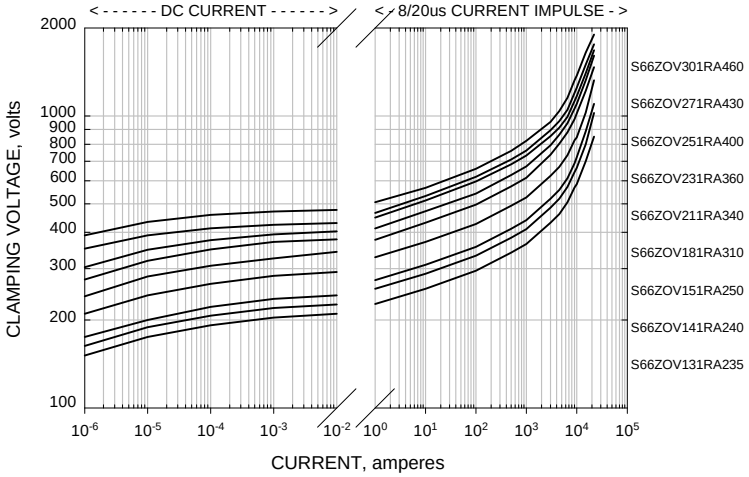
R65 (17mm SQUARE) SERIES



R66 (22mm SQUARE) SERIES



S66 (25mm SQUARE) SERIES



NOTE: For a more detailed V-I curve or for a voltage not listed on the graphs provided, please contact us.

THERMALLY PROTECTED SERIES

INTRODUCTION

The Thermally Protected Series is designed for safe disconnection of the varistor from the circuit due to abnormal operating conditions. These components consist of 2 or 3 leaded wire leads, a thermal disconnect, and have nominal diameters of 14mm, 20mm, and 25mm. Voltage ranges from 60VAC-750VAC with peak surge currents of 4.5kA/6kA (14mm), 10kA (20mm), and 18kA (25mm).

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our Thermally Protected Series components by the Maida Style Number:

14 FN 201 K

1. **Nominal Disk Diameter**
   14 – 14mm
   20 – 20mm
   25 – 25mm
2. **Lead Configuration**
   FN – 2 leaded
   FM – 3 leaded, fused on center lead
   FE – 3 leaded, fused on outer lead
3. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 201 is 200 VDC
4. **Varistor Voltage Range Tolerance**

STANDARD MARKING

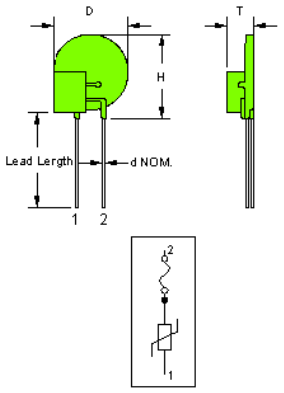
Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

Example:
MDC
FV
14N201

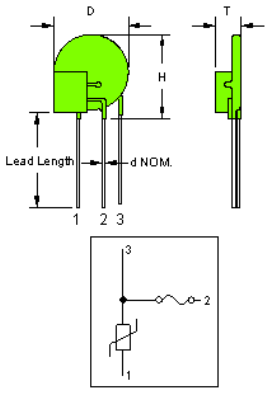
Where:
MDC - Company Initials
FV - Fail safe Varistor
14 - Diameter
N - Series Designation (FN, FM, FE)
201 - Nominal DC Voltage Rating (200VDC)

A manufacturing date code and/or special markings are available upon request.
Other safety agency designations are included where applicable.

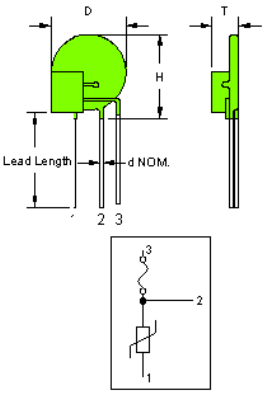
FN Type



FM Type



FE Type



THERMALLY PROTECTED ***SERIES***

SPECIFICATIONS

50VAC thru 140VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2					1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	Vmin (V)	Vmax (V)	(8 x 20μsec) (V)	(A)	(pF)
14FE820K	X						14	MDC-FV-14E820K	50	65	27	27	4500	2500	74	90	135	50	2400
14FM820K	X						14	MDC-FV-14M820K	50	65	27	27	4500	2500	74	90	135	50	2400
14FN820K	X						14	MDC-FV-14N820K	50	65	27	27	4500	2500	74	90	135	50	2400
20FE820K	X						20	MDC-FV-20E820K	50	65	56	56	10000	6500	74	90	135	100	4900
20FM820K	X						20	MDC-FV-20M820K	50	65	56	56	10000	6500	74	90	135	100	4900
20FN820K	X						20	MDC-FV-20N820K	50	65	56	56	10000	6500	74	90	135	100	4900
14FE101K	X						14	MDC-FV-14E101K	60	85	33	33	4500	2500	90	110	165	50	2000
14FM101K	X						14	MDC-FV-14M101K	60	85	33	33	4500	2500	90	110	165	50	2000
14FN101K	X						14	MDC-FV-14N101K	60	85	33	33	4500	2500	90	110	165	50	2000
20FE101K	X						20	MDC-FV-20E101K	60	85	70	70	10000	6500	90	110	165	100	4000
20FM101K	X						20	MDC-FV-20M101K	60	85	70	70	10000	6500	90	110	165	100	4000
20FN101K	X						20	MDC-FV-20N101K	60	85	70	70	10000	6500	90	110	165	100	4000
14FE121K	X						14	MDC-FV-14E121K	75	100	40	40	4500	2500	108	132	200	50	1700
14FM121K	X						14	MDC-FV-14M121K	75	100	40	40	4500	2500	108	132	200	50	1700
14FN121K	X						14	MDC-FV-14N121K	75	100	40	40	4500	2500	108	132	200	50	1700
20FE121K	X						20	MDC-FV-20E121K	75	100	85	85	10000	6500	108	132	200	100	3300
20FM121K	X						20	MDC-FV-20M121K	75	100	85	85	10000	6500	108	132	200	100	3300
20FN121K	X						20	MDC-FV-20N121K	75	100	85	85	10000	6500	108	132	200	100	3300
14FE151K	X						14	MDC-FV-14E151K	95	125	50	50	6000	4500	135	165	250	50	1300
14FM151K	X						14	MDC-FV-14M151K	95	125	50	50	6000	4500	135	165	250	50	1300
14FN151K	X						14	MDC-FV-14N151K	95	125	50	50	6000	4500	135	165	250	50	1300
20FE151K	X						20	MDC-FV-20E151K	95	125	100	100	10000	6000	135	165	250	100	2700
20FM151K	X						20	MDC-FV-20M151K	95	125	100	100	10000	6000	135	165	250	100	2700
20FN151K	X						20	MDC-FV-20N151K	95	125	100	100	10000	6000	135	165	250	100	2700
25FE151K	X						25	MDC-FV-25E151K	95	125	160	160	15000	12000	135	165	250	150	4300
25FM151K	X						25	MDC-FV-25M151K	95	125	160	160	15000	12000	135	165	250	150	4300
25FN151K	X						25	MDC-FV-25N151K	95	125	160	160	15000	12000	135	165	250	150	4300
14FE181K	X						14	MDC-FV-14E181K	115	150	58	58	6000	4500	162	198	300	50	1100
14FM181K	X						14	MDC-FV-14M181K	115	150	58	58	6000	4500	162	198	300	50	1100
14FN181K	X						14	MDC-FV-14N181K	115	150	58	58	6000	4500	162	198	300	50	1100
20FE181K	X						20	MDC-FV-20E181K	115	150	110	110	10000	6000	162	198	300	100	2200
20FM181K	X						20	MDC-FV-20M181K	115	150	110	110	10000	6000	162	198	300	100	2200
20FN181K	X						20	MDC-FV-20N181K	115	150	110	110	10000	6000	162	198	300	100	2200
25FE181K	X						25	MDC-FV-25E181K	115	150	175	175	15000	12000	162	198	300	150	3500
25FM181K	X						25	MDC-FV-25M181K	115	150	175	175	15000	12000	162	198	300	150	3500
25FN181K	X						25	MDC-FV-25N181K	115	150	175	175	15000	12000	162	198	300	150	3500
14FE201K	X						14	MDC-FV-14E201K	130	170	70	70	6000	4500	185	225	340	50	1000
14FM201K	X						14	MDC-FV-14M201K	130	170	70	70	6000	4500	185	225	340	50	1000
14FN201K	X						14	MDC-FV-14N201K	130	170	70	70	6000	4500	185	225	340	50	1000
20FE201K	X						20	MDC-FV-20E201K	130	170	140	140	10000	6000	185	225	340	100	2000
20FM201K	X						20	MDC-FV-20M201K	130	170	140	140	10000	6000	185	225	340	100	2000
20FN201K	X						20	MDC-FV-20N201K	130	170	140	140	10000	6000	185	225	340	100	2000
25FE201K	X						25	MDC-FV-25E201K	130	170	210	210	15000	12000	185	225	340	150	3200
25FM201K	X						25	MDC-FV-25M201K	130	170	210	210	15000	12000	185	225	340	150	3200
25FN201K	X						25	MDC-FV-25N201K	130	170	210	210	15000	12000	185	225	340	150	3200
14FE221K	X						14	MDC-FV-14E221K	140	180	78	78	6000	4500	198	242	360	50	900
14FM221K	X						14	MDC-FV-14M221K	140	180	78	78	6000	4500	198	242	360	50	900
14FN221K	X						14	MDC-FV-14N221K	140	180	78	78	6000	4500	198	242	360	50	900
20FE221K	X						20	MDC-FV-20E221K	140	180	155	155	10000	6000	198	242	360	100	1800
20FM221K	X						20	MDC-FV-20M221K	140	180	155	155	10000	6000	198	242	360	100	1800
20FN221K	X						20	MDC-FV-20N221K	140	180	155	155	10000	6000	198	242	360	100	1800
25FE221K	X						25	MDC-FV-25E221K	140	180	230	230	15000	12000	198	242	360	150	2900
25FM221K	X						25	MDC-FV-25M221K	140	180	230	230	15000	12000	198	242	360	150	2900
25FN221K	X						25	MDC-FV-25N221K	140	180	230	230	15000	12000	198	242	360	150	2900

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

50VAC thru 140VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
14FE820K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM820K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN820K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE820K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM820K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN820K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
14FE101K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM101K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN101K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE101K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM101K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN101K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
14FE121K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM121K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN121K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE121K	0.945	0.386	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FM121K	0.945	0.386	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FN121K	0.945	0.386	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
14FE151K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM151K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN151K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE151K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM151K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN151K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE151K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM151K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN151K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE181K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM181K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN181K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE181K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM181K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN181K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE181K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM181K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN181K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE201K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM201K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN201K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE201K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM201K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN201K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE201K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM201K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN201K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE221K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM221K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN221K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE221K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM221K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN221K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE221K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM221K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN221K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

THERMALLY PROTECTED ***SERIES***

SPECIFICATIONS

150VAC thru 250VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
14FE241K	X						14	MDC-FV-14E241K	150	200	85	85	6000	4500	216	264	395	50	830
14FM241K	X						14	MDC-FV-14M241K	150	200	85	85	6000	4500	216	264	395	50	830
14FN241K	X						14	MDC-FV-14N241K	150	200	85	85	6000	4500	216	264	395	50	830
20FE241K	X						20	MDC-FV-20E241K	150	200	170	170	10000	6000	216	264	395	100	1650
20FM241K	X						20	MDC-FV-20M241K	150	200	170	170	10000	6000	216	264	395	100	1650
20FN241K	X						20	MDC-FV-20N241K	150	200	170	170	10000	6000	216	264	395	100	1650
25FE241K	X						25	MDC-FV-25E241K	150	200	255	255	15000	12000	216	264	395	150	2650
25FM241K	X						25	MDC-FV-25M241K	150	200	255	255	15000	12000	216	264	395	150	2650
25FN241K	X						25	MDC-FV-25N241K	150	200	255	255	15000	12000	216	264	395	150	2650
14FE271K	X						14	MDC-FV-14E271K	175	225	100	100	6000	4500	243	297	455	50	740
14FM271K	X						14	MDC-FV-14M271K	175	225	100	100	6000	4500	243	297	455	50	740
14FN271K	X						14	MDC-FV-14N271K	175	225	100	100	6000	4500	243	297	455	50	740
20FE271K	X						20	MDC-FV-20E271K	175	225	190	190	10000	6000	243	297	455	100	1500
20FM271K	X						20	MDC-FV-20M271K	175	225	190	190	10000	6000	243	297	455	100	1500
20FN271K	X						20	MDC-FV-20N271K	175	225	190	190	10000	6000	243	297	455	100	1500
25FE271K	X						25	MDC-FV-25E271K	175	225	285	285	15000	12000	243	297	455	150	2400
25FM271K	X						25	MDC-FV-25M271K	175	225	285	285	15000	12000	243	297	455	150	2400
25FN271K	X						25	MDC-FV-25N271K	175	225	285	285	15000	12000	243	297	455	150	2400
14FE301K	X						14	MDC-FV-14E301K	190	250	107	107	6000	4500	270	330	500	50	670
14FM301K	X						14	MDC-FV-14M301K	190	250	107	107	6000	4500	270	330	500	50	670
14FN301K	X						14	MDC-FV-14N301K	190	250	107	107	6000	4500	270	330	500	50	670
20FE301K	X						20	MDC-FV-20E301K	190	250	205	205	10000	6000	270	330	500	100	1300
20FM301K	X						20	MDC-FV-20M301K	190	250	205	205	10000	6000	270	330	500	100	1300
20FN301K	X						20	MDC-FV-20N301K	190	250	205	205	10000	6000	270	330	500	100	1300
25FE301K	X						25	MDC-FV-25E301K	190	250	310	310	15000	12000	270	330	500	150	2100
25FM301K	X						25	MDC-FV-25M301K	190	250	310	310	15000	12000	270	330	500	150	2100
25FN301K	X						25	MDC-FV-25N301K	190	250	310	310	15000	12000	270	330	500	150	2100
14FE331K	X						14	MDC-FV-14E331K	210	275	115	115	6000	4500	297	363	550	50	610
14FM331K	X						14	MDC-FV-14M331K	210	275	115	115	6000	4500	297	363	550	50	610
14FN331K	X						14	MDC-FV-14N331K	210	275	115	115	6000	4500	297	363	550	50	610
20FE331K	X						20	MDC-FV-20E331K	210	275	215	215	10000	6000	297	363	550	100	1200
20FM331K	X						20	MDC-FV-20M331K	210	275	215	215	10000	6000	297	363	550	100	1200
20FN331K	X						20	MDC-FV-20N331K	210	275	215	215	10000	6000	297	363	550	100	1200
25FE331K	X						25	MDC-FV-25E331K	210	275	325	325	15000	12000	297	363	550	150	1900
25FM331K	X						25	MDC-FV-25M331K	210	275	325	325	15000	12000	297	363	550	150	1900
25FN331K	X						25	MDC-FV-25N331K	210	275	325	325	15000	12000	297	363	550	150	1900
14FE361K	X						14	MDC-FV-14E361K	230	300	125	125	6000	4500	324	396	595	50	560
14FM361K	X						14	MDC-FV-14M361K	230	300	125	125	6000	4500	324	396	595	50	560
14FN361K	X						14	MDC-FV-14N361K	230	300	125	125	6000	4500	324	396	595	50	560
20FE361K	X						20	MDC-FV-20E361K	230	300	225	225	10000	6000	324	396	595	100	1100
20FM361K	X						20	MDC-FV-20M361K	230	300	225	225	10000	6000	324	396	595	100	1100
20FN361K	X						20	MDC-FV-20N361K	230	300	225	225	10000	6000	324	396	595	100	1100
25FE361K	X						25	MDC-FV-25E361K	230	300	340	340	15000	12000	324	396	595	150	1750
25FM361K	X						25	MDC-FV-25M361K	230	300	340	340	15000	12000	324	396	595	150	1750
25FN361K	X						25	MDC-FV-25N361K	230	300	340	340	15000	12000	324	396	595	150	1750
14FE391K	X						14	MDC-FV-14E391K	250	320	140	140	6000	4500	351	429	650	50	510
14FM391K	X						14	MDC-FV-14M391K	250	320	140	140	6000	4500	351	429	650	50	510
14FN391K	X						14	MDC-FV-14N391K	250	320	140	140	6000	4500	351	429	650	50	510
20FE391K	X						20	MDC-FV-20E391K	250	320	240	240	10000	6000	351	429	650	100	1000
20FM391K	X						20	MDC-FV-20M391K	250	320	240	240	10000	6000	351	429	650	100	1000
20FN391K	X						20	MDC-FV-20N391K	250	320	240	240	10000	6000	351	429	650	100	1000
25FE391K	X						25	MDC-FV-25E391K	250	320	360	360	15000	12000	351	429	650	150	1600
25FM391K	X						25	MDC-FV-25M391K	250	320	360	360	15000	12000	351	429	650	150	1600
25FN391K	X						25	MDC-FV-25N391K	250	320	360	360	15000	12000	351	429	650	150	1600

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

150VAC thru 250VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
14FE241K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM241K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN241K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE241K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM241K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN241K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE241K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM241K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN241K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE271K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM271K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN271K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE271K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM271K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN271K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE271K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM271K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN271K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE301K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM301K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN301K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE301K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM301K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN301K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE301K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM301K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN301K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE331K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM331K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN331K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE331K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM331K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN331K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE331K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM331K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN331K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE361K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM361K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN361K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE361K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM361K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN361K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE361K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM361K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN361K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE391K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FM391K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
14FN391K	0.748	0.386	0.827	0.295	0.039	0.150	0.030	0.295	0.039	0.032
20FE391K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FM391K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
20FN391K	0.945	0.386	1.024	0.295	0.039	0.150	0.030	0.295	0.039	0.040
25FE391K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM391K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN391K	1.142	0.465	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

THERMALLY PROTECTED ***SERIES***

SPECIFICATIONS

275VAC thru 420VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
14FE431K	X						14	MDC-FV-14E431K	275	350	155	155	6000	4500	387	473	710	50	460
14FM431K	X						14	MDC-FV-14M431K	275	350	155	155	6000	4500	387	473	710	50	460
14FN431K	X						14	MDC-FV-14N431K	275	350	155	155	6000	4500	387	473	710	50	460
20FE431K	X						20	MDC-FV-20E431K	275	350	270	270	10000	6000	387	473	710	100	930
20FM431K	X						20	MDC-FV-20M431K	275	350	270	270	10000	6000	387	473	710	100	930
20FN431K	X						20	MDC-FV-20N431K	275	350	270	270	10000	6000	387	473	710	100	930
25FE431K	X						25	MDC-FV-25E431K	275	350	440	440	15000	12000	387	473	710	150	1500
25FM431K	X						25	MDC-FV-25M431K	275	350	440	440	15000	12000	387	473	710	150	1500
25FN431K	X						25	MDC-FV-25N431K	275	350	440	440	15000	12000	387	473	710	150	1500
14FE471K	X						14	MDC-FV-14E471K	300	385	175	175	6000	4500	423	517	775	50	430
14FM471K	X						14	MDC-FV-14M471K	300	385	175	175	6000	4500	423	517	775	50	430
14FN471K	X						14	MDC-FV-14N471K	300	385	175	175	6000	4500	423	517	775	50	430
20FE471K	X						20	MDC-FV-20E471K	300	385	350	350	10000	6000	423	517	775	100	850
20FM471K	X						20	MDC-FV-20M471K	300	385	350	350	10000	6000	423	517	775	100	850
20FN471K	X						20	MDC-FV-20N471K	300	385	350	350	10000	6000	423	517	775	100	850
25FE471K	X						25	MDC-FV-25E471K	300	385	490	490	15000	12000	423	517	775	150	1400
25FM471K	X						25	MDC-FV-25M471K	300	385	490	490	15000	12000	423	517	775	150	1400
25FN471K	X						25	MDC-FV-25N471K	300	385	490	490	15000	12000	423	517	775	150	1400
14FE511K	X						14	MDC-FV-14E511K	320	415	190	190	6000	4500	459	561	845	50	390
14FM511K	X						14	MDC-FV-14M511K	320	415	190	190	6000	4500	459	561	845	50	390
14FN511K	X						14	MDC-FV-14N511K	320	415	190	190	6000	4500	459	561	845	50	390
20FE511K	X						20	MDC-FV-20E511K	320	415	380	380	10000	6000	459	561	845	100	780
20FM511K	X						20	MDC-FV-20M511K	320	415	380	380	10000	6000	459	561	845	100	780
20FN511K	X						20	MDC-FV-20N511K	320	415	380	380	10000	6000	459	561	845	100	780
25FE511K	X						25	MDC-FV-25E511K	320	415	530	530	15000	12000	459	561	845	150	1250
25FM511K	X						25	MDC-FV-25M511K	320	415	530	530	15000	12000	459	561	845	150	1250
25FN511K	X						25	MDC-FV-25N511K	320	415	530	530	15000	12000	459	561	845	150	1250
14FE561K	X						14	MDC-FV-14E561K	350	460	200	200	6000	4500	504	616	925	50	360
14FM561K	X						14	MDC-FV-14M561K	350	460	200	200	6000	4500	504	616	925	50	360
14FN561K	X						14	MDC-FV-14N561K	350	460	200	200	6000	4500	504	616	925	50	360
20FE561K	X						20	MDC-FV-20E561K	350	460	400	400	10000	6000	504	616	925	100	710
20FM561K	X						20	MDC-FV-20M561K	350	460	400	400	10000	6000	504	616	925	100	710
20FN561K	X						20	MDC-FV-20N561K	350	460	400	400	10000	6000	504	616	925	100	710
25FE561K	X						25	MDC-FV-25E561K	350	460	560	560	15000	12000	504	616	925	150	1150
25FM561K	X						25	MDC-FV-25M561K	350	460	560	560	15000	12000	504	616	925	150	1150
25FN561K	X						25	MDC-FV-25N561K	350	460	560	560	15000	12000	504	616	925	150	1150
14FE621K	X						14	MDC-FV-14E621K	385	505	210	210	6000	4500	558	682	1025	50	320
14FM621K	X						14	MDC-FV-14M621K	385	505	210	210	6000	4500	558	682	1025	50	320
14FN621K	X						14	MDC-FV-14N621K	385	505	210	210	6000	4500	558	682	1025	50	320
20FE621K	X						20	MDC-FV-20E621K	385	505	425	425	10000	6000	558	682	1025	100	650
20FM621K	X						20	MDC-FV-20M621K	385	505	425	425	10000	6000	558	682	1025	100	650
20FN621K	X						20	MDC-FV-20N621K	385	505	425	425	10000	6000	558	682	1025	100	650
25FE621K	X						25	MDC-FV-25E621K	385	505	590	590	15000	12000	558	682	1025	150	1050
25FM621K	X						25	MDC-FV-25M621K	385	505	590	590	15000	12000	558	682	1025	150	1050
25FN621K	X						25	MDC-FV-25N621K	385	505	590	590	15000	12000	558	682	1025	150	1050
14FE681K	X						14	MDC-FV-14E681K	420	560	220	220	6000	4500	612	748	1120	50	290
14FM681K	X						14	MDC-FV-14M681K	420	560	220	220	6000	4500	612	748	1120	50	290
14FN681K	X						14	MDC-FV-14N681K	420	560	220	220	6000	4500	612	748	1120	50	290
20FE681K	X						20	MDC-FV-20E681K	420	560	455	455	10000	6000	612	748	1120	100	600
20FM681K	X						20	MDC-FV-20M681K	420	560	455	455	10000	6000	612	748	1120	100	600
20FN681K	X						20	MDC-FV-20N681K	420	560	455	455	10000	6000	612	748	1120	100	600
25FE681K	X						25	MDC-FV-25E681K	420	560	620	620	15000	12000	612	748	1120	150	950
25FM681K	X						25	MDC-FV-25M681K	420	560	620	620	15000	12000	612	748	1120	150	950
25FN681K	X						25	MDC-FV-25N681K	420	560	620	620	15000	12000	612	748	1120	150	950

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

275VAC thru 420VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
14FE431K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FM431K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FN431K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
20FE431K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FM431K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FN431K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
25FE431K	1.142	0.531	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FM431K	1.142	0.531	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
25FN431K	1.142	0.531	1.260	0.492	0.039	0.150	0.030	0.492	0.039	0.040
14FE471K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FM471K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FN471K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
20FE471K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FM471K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FN471K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
25FE471K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FM471K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FN471K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
14FE511K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FM511K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FN511K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
20FE511K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FM511K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FN511K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
25FE511K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FM511K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FN511K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
14FE561K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FM561K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FN561K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
20FE561K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FM561K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FN561K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
25FE561K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FM561K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FN561K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
14FE621K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FM621K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
14FN621K	0.748	0.453	0.827	0.295	0.039	0.217	0.030	0.295	0.039	0.032
20FE621K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FM621K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
20FN621K	0.945	0.453	1.024	0.295	0.039	0.217	0.030	0.295	0.039	0.040
25FE621K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FM621K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
25FN621K	1.142	0.531	1.260	0.492	0.039	0.217	0.030	0.492	0.039	0.040
14FE681K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FM681K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FN681K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
20FE681K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FM681K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FN681K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
25FE681K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FM681K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FN681K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

THERMALLY PROTECTED ***SERIES***

SPECIFICATIONS

460VAC thru 680VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
14FE751K							14	MDC-FV-14E751K	460	615	225	225	6000	4500	675	825	1240	50	270
14FM751K							14	MDC-FV-14M751K	460	615	225	225	6000	4500	675	825	1240	50	270
14FN751K							14	MDC-FV-14N751K	460	615	225	225	6000	4500	675	825	1240	50	270
20FE751K							20	MDC-FV-20E751K	460	615	455	455	10000	6000	675	825	1240	100	530
20FM751K							20	MDC-FV-20M751K	460	615	455	455	10000	6000	675	825	1240	100	530
20FN751K							20	MDC-FV-20N751K	460	615	455	455	10000	6000	675	825	1240	100	530
25FE751K							25	MDC-FV-25E751K	460	615	630	630	15000	12000	675	825	1240	150	850
25FM751K							25	MDC-FV-25M751K	460	615	630	630	15000	12000	675	825	1240	150	850
25FN751K							25	MDC-FV-25N751K	460	615	630	630	15000	12000	675	825	1240	150	850
14FE781K							14	MDC-FV-14E781K	485	640	240	240	6000	4500	702	858	1290	50	260
14FM781K							14	MDC-FV-14M781K	485	640	240	240	6000	4500	702	858	1290	50	260
14FN781K							14	MDC-FV-14N781K	485	640	240	240	6000	4500	702	858	1290	50	260
20FE781K							20	MDC-FV-20E781K	485	640	455	455	10000	6000	702	858	1290	100	510
20FM781K							20	MDC-FV-20M781K	485	640	455	455	10000	6000	702	858	1290	100	510
20FN781K							20	MDC-FV-20N781K	485	640	455	455	10000	6000	702	858	1290	100	510
25FE781K							25	MDC-FV-25E781K	485	640	675	675	15000	12000	702	858	1290	150	800
25FM781K							25	MDC-FV-25M781K	485	640	675	675	15000	12000	702	858	1290	150	800
25FN781K							25	MDC-FV-25N781K	485	640	675	675	15000	12000	702	858	1290	150	800
14FE821K							14	MDC-FV-14E821K	510	670	245	245	6000	4500	738	902	1355	50	240
14FM821K							14	MDC-FV-14M821K	510	670	245	245	6000	4500	738	902	1355	50	240
14FN821K							14	MDC-FV-14N821K	510	670	245	245	6000	4500	738	902	1355	50	240
20FE821K							20	MDC-FV-20E821K	510	670	475	475	10000	6000	738	902	1355	100	500
20FM821K							20	MDC-FV-20M821K	510	670	475	475	10000	6000	738	902	1355	100	500
20FN821K							20	MDC-FV-20N821K	510	670	475	475	10000	6000	738	902	1355	100	500
25FE821K							25	MDC-FV-25E821K	510	670	690	690	15000	12000	738	902	1355	150	750
25FM821K							25	MDC-FV-25M821K	510	670	690	690	15000	12000	738	902	1355	150	750
25FN821K							25	MDC-FV-25N821K	510	670	690	690	15000	12000	738	902	1355	150	750
14FE911K							14	MDC-FV-14E911K	550	745	255	255	6000	4500	819	1001	1500	50	220
14FM911K							14	MDC-FV-14M911K	550	745	255	255	6000	4500	819	1001	1500	50	220
14FN911K							14	MDC-FV-14N911K	550	745	255	255	6000	4500	819	1001	1500	50	220
20FE911K							20	MDC-FV-20E911K	550	745	500	500	10000	6000	819	1001	1500	100	440
20FM911K							20	MDC-FV-20M911K	550	745	500	500	10000	6000	819	1001	1500	100	440
20FN911K							20	MDC-FV-20N911K	550	745	500	500	10000	6000	819	1001	1500	100	440
25FE911K							25	MDC-FV-25E911K	550	745	715	715	15000	12000	819	1001	1500	150	700
25FM911K							25	MDC-FV-25M911K	550	745	715	715	15000	12000	819	1001	1500	150	700
25FN911K							25	MDC-FV-25N911K	550	745	715	715	15000	12000	819	1001	1500	150	700
14FE102K							14	MDC-FV-14E102K	625	825	280	280	6000	4500	900	1100	1650	50	200
14FM102K							14	MDC-FV-14M102K	625	825	280	280	6000	4500	900	1100	1650	50	200
14FN102K							14	MDC-FV-14N102K	625	825	280	280	6000	4500	900	1100	1650	50	200
20FE102K							20	MDC-FV-20E102K	625	825	560	560	10000	6000	900	1100	1650	100	400
20FM102K							20	MDC-FV-20M102K	625	825	560	560	10000	6000	900	1100	1650	100	400
20FN102K							20	MDC-FV-20N102K	625	825	560	560	10000	6000	900	1100	1650	100	400
25FE102K							25	MDC-FV-25E102K	625	825	750	750	15000	12000	900	1100	1650	150	650
25FM102K							25	MDC-FV-25M102K	625	825	750	750	15000	12000	900	1100	1650	150	650
25FN102K							25	MDC-FV-25N102K	625	825	750	750	15000	12000	900	1100	1650	150	650
14FE112K							14	MDC-FV-14E112K	680	895	310	310	6000	4500	990	1210	1815	50	180
14FM112K							14	MDC-FV-14M112K	680	895	310	310	6000	4500	990	1210	1815	50	180
14FN112K							14	MDC-FV-14N112K	680	895	310	310	6000	4500	990	1210	1815	50	180
20FE112K							20	MDC-FV-20E112K	680	895	610	610	10000	6000	990	1210	1815	100	360
20FM112K							20	MDC-FV-20M112K	680	895	610	610	10000	6000	990	1210	1815	100	360
20FN112K							20	MDC-FV-20N112K	680	895	610	610	10000	6000	990	1210	1815	100	360
25FE112K							25	MDC-FV-25E112K	680	895	780	780	15000	12000	990	1210	1815	150	600
25FM112K							25	MDC-FV-25M112K	680	895	780	780	15000	12000	990	1210	1815	150	600
25FN112K							25	MDC-FV-25N112K	680	895	780	780	15000	12000	990	1210	1815	150	600

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

460VAC thru 680VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
14FE751K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FM751K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FN751K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
20FE751K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FM751K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FN751K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
25FE751K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FM751K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FN751K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
14FE781K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FM781K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FN781K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
20FE781K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FM781K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FN781K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
25FE781K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FM781K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FN781K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
14FE821K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FM821K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FN821K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
20FE821K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FM821K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FN821K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
25FE821K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FM821K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FN821K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
14FE911K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FM911K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
14FN911K	0.748	0.543	0.827	0.295	0.039	0.307	0.030	0.295	0.039	0.032
20FE911K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FM911K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
20FN911K	0.945	0.543	1.024	0.295	0.039	0.307	0.030	0.295	0.039	0.040
25FE911K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FM911K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
25FN911K	1.142	0.622	1.260	0.492	0.039	0.307	0.030	0.492	0.039	0.040
14FE102K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
14FM102K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
14FN102K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
20FE102K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FM102K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FN102K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
25FE102K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
25FM102K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
25FN102K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
14FE112K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
14FM112K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
14FN112K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
20FE112K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FM112K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FN112K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
25FE112K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
25FM112K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
25FN112K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

THERMALLY PROTECTED ***SERIES***

SPECIFICATIONS

750VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
14FE122K							14	MDC-FV-14E122K	750	990	310	310	6000	4500	1080	1320	1980	50	150
14FM122K							14	MDC-FV-14M122K	750	990	310	310	6000	4500	1080	1320	1980	50	150
14FN122K							14	MDC-FV-14N122K	750	990	310	310	6000	4500	1080	1320	1980	50	150
20FE122K							20	MDC-FV-20E122K	750	990	650	650	10000	6000	1080	1320	1980	100	320
20FM122K							20	MDC-FV-20M122K	750	990	650	650	10000	6000	1080	1320	1980	100	320
20FN122K							20	MDC-FV-20N122K	750	990	650	650	10000	6000	1080	1320	1980	100	320
25FE122K							25	MDC-FV-25E122K	750	990	840	840	15000	12000	1080	1320	1980	150	550
25FM122K							25	MDC-FV-25M122K	750	990	840	840	15000	12000	1080	1320	1980	150	550
25FN122K							25	MDC-FV-25N122K	750	990	840	840	15000	12000	1080	1320	1980	150	550

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

750VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
14FE122K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
14FM122K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
14FN122K	0.748	0.630	0.827	0.295	0.039	0.394	0.030	0.295	0.039	0.032
20FE122K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FM122K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
20FN122K	0.945	0.630	1.024	0.295	0.039	0.394	0.030	0.295	0.039	0.040
25FE122K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
25FM122K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040
25FN122K	1.142	0.709	1.260	0.492	0.039	0.394	0.030	0.492	0.039	0.040

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

THERMALLY PROTECTED HIGH ENERGY (TPHE) SERIES

INTRODUCTION

The Thermally Protected High Energy, TPHE, Series is designed for safe disconnection of the Varistor from the circuit due to abnormal operating conditions. The TPHE Series is designed to withstand the rigors of UL1449 4th Edition Type 1 and Type 2 applications while still meeting the requirements of typical High Energy Varistor applications.
The FSS design is for new and existing applications requiring high current surge capabilities, with integrated thermal protection accommodating form, and fit allowing for a drop in replacement for existing product offerings.
The FSD design is also for new and existing applications. It is packaged in a DIN-RAIL mounting configuration. The FSD design is available with 1, 2, 3, and 4 pole configurations for Delta and Wye connections.
The FSP design is similar to the FSS. It utilizes a smaller package to accommodate lower profile applications.

Current ranges: I_N – (10kA, and 20kA)
I_{MAX} – (25kA, and 50kA)

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our Thermally Protected Series components by the Maida Style Number:

FSS ZOV 151 R

1. **Nominal Disk Diameter**
   FSD – 34mm Square DIN-RAIL
   FSS – 34mm Square
   FSP – 25mm Square
2. **Material**
   ZOV – Zinc Oxide Varistor
3. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 151 is 150 VAC
4. **Special Instructions**
   R is standard

STANDARD MARKING

Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

Example:
MDC
FSS
151

Where:
MDC – Company initials/Logo
FS - Fail Safe
S - 34 mm
151 - AC Voltage Rating (150VAC)

A manufacturing date code and/or special markings are available upon request. Other safety agency designations are included where applicable.

The FSP, FSS and FSD TPHE Designs

THERMALLY PROTECTED HIGH ENERGY (TPHE) SERIES

SPECIFICATIONS

THROUGH HOLE VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	MCOV	Peak Current (8x20us)		VPR	SCCR	Thermal Properties		UL SPD Type
										# of pulses				Operating Temp	Flame Rating	
	A	B	C	D	E	F	(mm)		(AC)	1 (kA)	15 (I_N) (kA)	(V)	(kA)	(°C)	(UL 94)	
FSPZOV151R	X	X					25	MDC-FSP-151	150	25	10	600	200	-40 to 80	V0	2CA
FSPZOV181R	X	X					25	MDC-FSP-181	180	25	10	800	200	-40 to 80	V0	2CA
FSPZOV321R	X	X					25	MDC-FSP-321	320	25	10	1000	200	-40 to 80	V0	2CA
FSPZOV421R	X	X					25	MDC-FSP-421	420	25	10	1200	200	-40 to 80	V0	2CA
FSPZOV551R	X	X					25	MDC-FSP-551	550	25	10	1800	200	-40 to 80	V0	2CA
FSPZOV681R	X	X					25	MDC-FSP-681	690	25	10	2000	200	-40 to 80	V0	2CA
FSSZOV151CR	X	X					34	MDC-FSS-151C	150	50	20	600	200	-40 to 85	V0	2CA
FSSZOV151R	X						34	MDC-FSS-151	150	50	20	600	200	-40 to 85	V0	1CA
FSSZOV181CR	X	X					34	MDC-FSS-181	180	50	20	600	200	-40 to 85	V0	2CA
FSSZOV181R	X						34	MDC-FSS-181	180	50	20	600	200	-40 to 85	V0	1CA
FSSZOV271CAR	X	X					34	MDC-FSS-271CA	275	50	20	800	200	-40 to 85	V0	2CA
FSSZOV271AR	X						34	MDC-FSS-275A	275	50	20	800	200	-40 to 85	V0	1CA
FSSZOV321CR	X	X					34	MDC-FSS-321CR	275	50	20	1000	200	-40 to 85	V0	2CA
FSSZOV321R	X						34	MDC-FSS-321	320	50	20	1000	200	-40 to 85	V0	1CA
FSSZOV421CR	X	X					34	MDC-FSS-421CR	420	50	20	1500	200	-40 to 85	V0	2CA
FSSZOV421R	X						34	MDC-FSS-421	420	50	20	1500	200	-40 to 85	V0	1CA
FSSZOV551CR	X	X					34	MDC-FSS-551CR	550	50	20	1500	200	40 to 85	V0	2CA
FSSZOV551R	X						34	MDC-FSS-551	550	50	20	1500	200	-40 to 85	V0	1CA
FSSZOV681CR	X	X					34	MDC-FSS-681CR	690	50	20	2000	200	-40 to 85	V0	2CA
FSSZOV681R	X						34	MDC-FSS-681	690	50	20	2000	200	-40 to 85	V0	1CA

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

THERMALLY PROTECTED HIGH ENERGY (TPHE) SERIES

SPECIFICATIONS

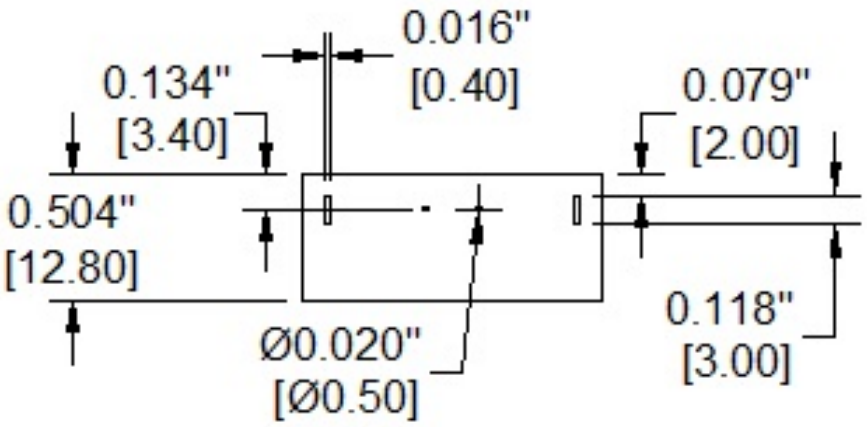
DIN-RAIL VARISTORS

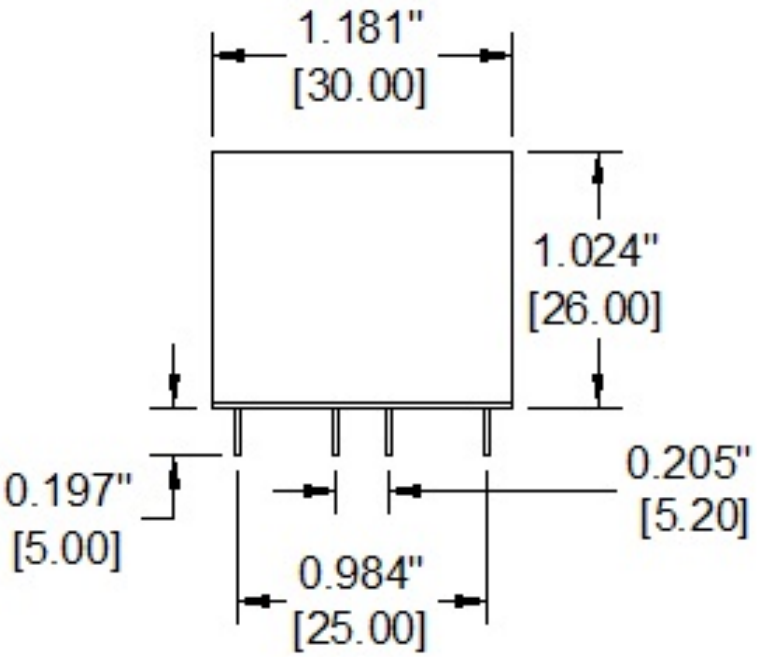
Maida Style Number	Recognitions To Safety Agency Standards						# of Poles	Minimum Marking	Nominal Voltage	MCOV				Peak Current (8x20us)		MLV				SCCR	Operating Temp.	UL SPD Type
										(VAC)				# of pulses		(V)						
	A	B	C	D	E	F			(VAC)	L-L	L-N	L-G	N-G	1 (kA)	15 (I_N) (kA)	L-L	L-N	L-G	N-G	(kA)	(°C)	
FSDZOV151-R	X	X					1	MDC-FSD-151	120	150	-	-	-	50	20	1560	-	-	-	-	-40 to 85	4CA
FSDZOV151-2R	X	X					2	MDC-FSD-151-2R	120	-	150	150	150	50	20	-	3120	1560	1560	-	-40 to 85	4CA
FSDZOV151-3R	X	X					3	MDC-FSD-151-3R	208/120	300	-	150	-	50	20	3120	-	1560	-	-	-40 to 85	4CA
FSDZOV151-3NR	X	X					3	MDC-FSD-151-3N	208/120	300	150	150	48	50	20	3120	1560	2730	1170	-	-40 to 85	4CA
FSDZOV151-4R	X	X					4	MDC-FSD-151-4R	208/120	300	150	150	150	50	20	3120	3120	1560	1560	-	-40 to 85	4CA
FSDZOV151-NR	X	X					2	MDC-FSD-151-N	120	-	150	150	48	50	20	-	1560	2730	1170	-	-40 to 85	4CA
FSDZOV181-R	X	X					1	MDC-FSD-181	120	180	-	-	-	50	20	1570	-	-	-	-	-40 to 85	4CA
FSDZOV181-2R	X	X					2	MDC-FSD-181-2R	120	-	180	180	180	50	20	-	3140	1570	1570	-	-40 to 85	4CA
FSDZOV181-3R	X	X					3	MDC-FSD-181-3R	208/120	360	-	180	-	50	20	3140	-	1570	-	-	-40 to 85	4CA
FSDZOV181-3NR	X	X					3	MDC-FSD-181-3N	208/120	360	180	180	48	50	20	3140	1570	2740	1170	-	-40 to 85	4CA
FSDZOV181-4R	X	X					4	MDC-FSD-181-4R	208/120	360	180	180	180	50	20	3140	3140	1570	1570	-	-40 to 85	4CA
FSDZOV181-NR	X	X					2	MDC-FSD-181-N	120	-	180	180	48	50	20	-	1570	2740	1170	-	-40 to 85	4CA
FSDZOV271-R	X	X					1	MDC-FSD-271	240	275	-	-	-	50	20	1830	-	-	-	-	-40 to 85	4CA
FSDZOV271-2R	X	X					2	MDC-FSD-271-2R	240	-	275	275	275	50	20	-	3660	1830	1830	-	-40 to 85	4CA
FSDZOV271-3R	X	X					3	MDC-FSD-271-3R	415/240	550	-	275	-	50	20	3660	-	1830	-	-	-40 to 85	4CA
FSDZOV271-3NR	X	X					3	MDC-FSD-271-3N	415/240	550	275	275	48	50	20	3660	1830	3460	1630	-	-40 to 85	4CA
FSDZOV271-4R	X	X					4	MDC-FSD-271-4R	415/240	550	275	275	275	50	20	3660	3660	1830	1830	-	-40 to 85	4CA
FSDZOV271-NR	X	X					2	MDC-FSD-271-N	240	-	275	275	48	50	20	-	1830	3460	1630	-	-40 to 85	4CA
FSDZOV321-R	X	X					1	MDC-FSD-321	277	320	-	-	-	50	20	1890	-	-	-	-	-40 to 85	4CA
FSDZOV321-2R	X	X					2	MDC-FSD-321-2R	277	-	320	320	320	50	20	-	3780	1890	1890	-	-40 to 85	4CA
FSDZOV321-3R	X	X					3	MDC-FSD-321-3R	480/277	640	-	320	-	50	20	3780	-	1890	-	-	-40 to 85	4CA
FSDZOV321-4R	X	X					4	MDC-FSD-321-4R	480/277	640	320	320	320	50	20	3780	3780	1890	1890	-	-40 to 85	4CA
FSDZOV321-NR	X	X					2	MDC-FSD-321-N	277	-	320	320	48	50	20	-	1890	3520	1630	-	-40 to 85	4CA
FSDZOV421-R	X	X					1	MDC-FSD-421	347	420	-	-	-	50	20	2180	-	-	-	-	-40 to 85	4CA
FSDZOV421-2R	X	X					2	MDC-FSD-421-2R	347	-	420	420	420	50	20	-	4360	2180	2180	-	-40 to 85	4CA
FSDZOV421-3R	X	X					3	MDC-FSD-421-3R	600/347	840	-	420	-	50	20	4360	-	2180	-	-	-40 to 85	4CA
FSDZOV421-3NR	X	X					3	MDC-FSD-421-3N	600/347	840	420	420	48	50	20	4360	2180	3810	1630	-	-40 to 85	4CA
FSDZOV421-4R	X	X					4	MDC-FSD-421-4R	600/347	840	420	420	420	50	20	4360	4360	2180	2180	-	-40 to 85	4CA
FSDZOV421-NR	X	X					2	MDC-FSD-421-N	347	-	420	420	48	50	20	-	2180	3900	1630	-	-40 to 85	4CA
FSDZOV551-R	X	X					1	MDC-FSD-551	480	550	-	-	-	50	20	2550	-	-	-	-	-40 to 85	4CA
FSDZOV551-2R	X	X					2	MDC-FSD-551-2R	480	-	1000	550	550	50	20	-	5100	2550	2550	-	-40 to 85	4CA
FSDZOV551-3R	X	X					3	MDC-FSD-551-3R	600/347	1000	-	550	-	50	20	5240	-	2550	-	-	-40 to 85	4CA
FSDZOV551-4R	X	X					4	MDC-FSD-551-4R	600/347	1000	550	550	550	50	20	5240	5240	2550	2550	-	-40 to 85	4CA
FSDZOV681-R	X	X					1	MDC-FSD-681	600	690	-	-	-	50	20	2990	-	-	-	-	-40 to 85	4CA
FSDZOV681-2R	X	X					2	MDC-FSD-681-2R	600	-	690	690	690	50	20	-	5980	2990	2990	-	-40 to 85	4CA
FSDZOV681-3R	X	X					3	MDC-FSD-681-3R	600/347	1000	-	690	-	50	20	5980	-	2990	-	-	-40 to 85	4CA
FSDZOV681-4R	X	X					4	MDC-FSD-681-4R	600/347	1000	690	690	690	50	20	5980	5980	2990	2990	-	-40 to 85	4CA

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

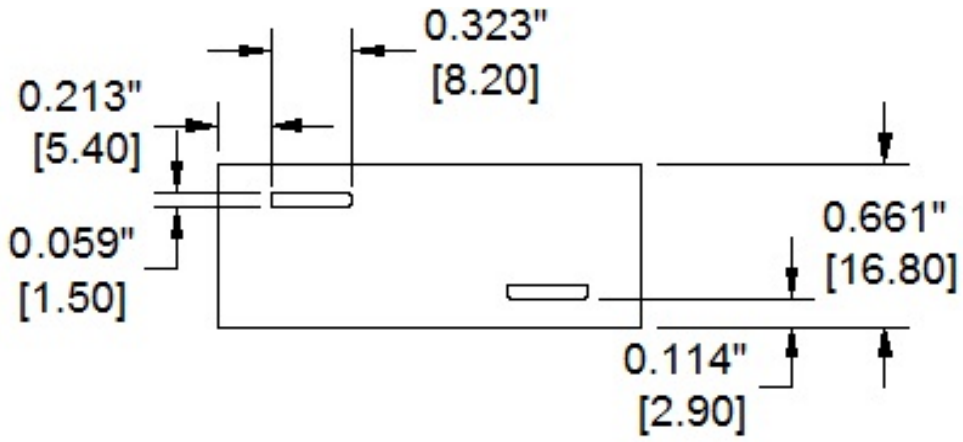
A = UL1449 D = VDE
B = cUL E =
C = CSA F =

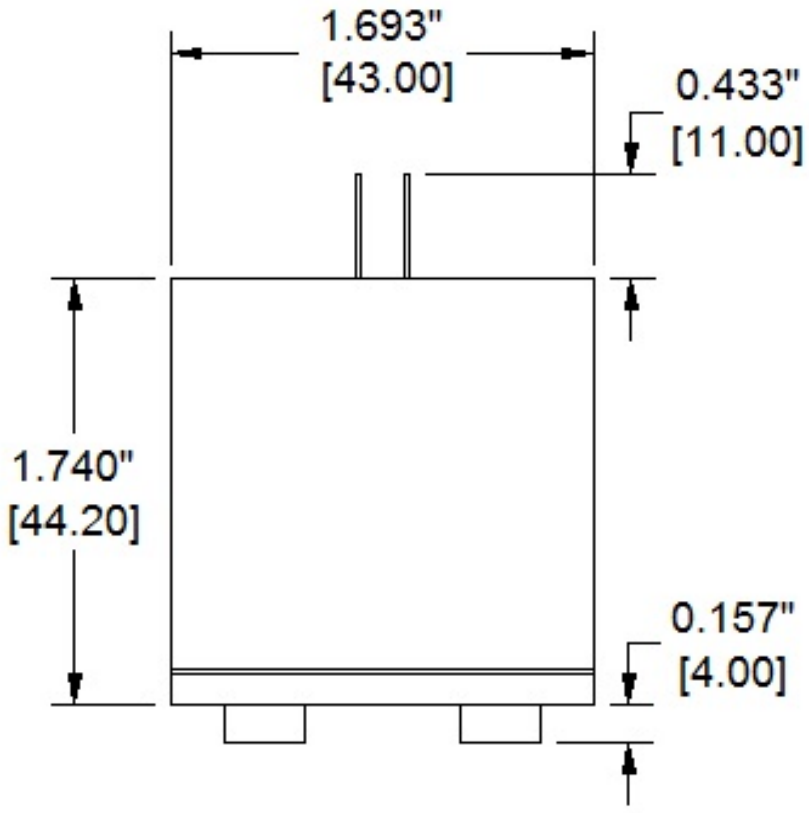
FSP Dimensions



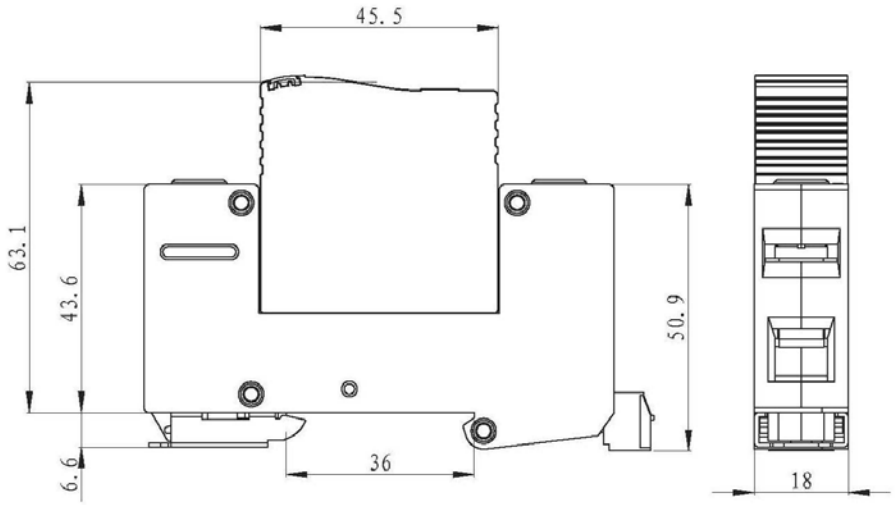


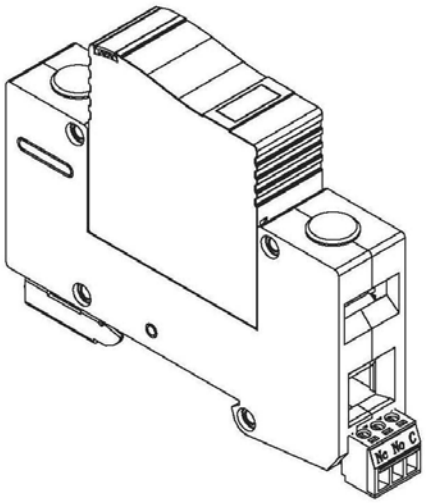
FSS Dimensions

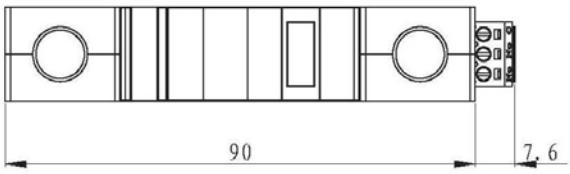


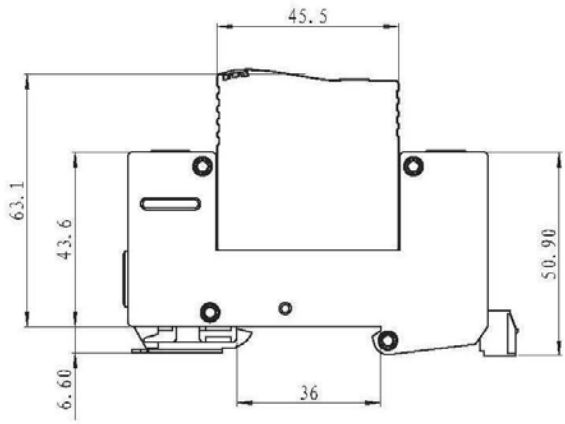


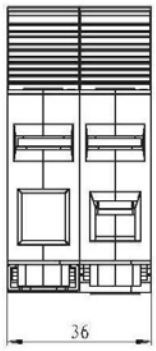
FSD Dimensions

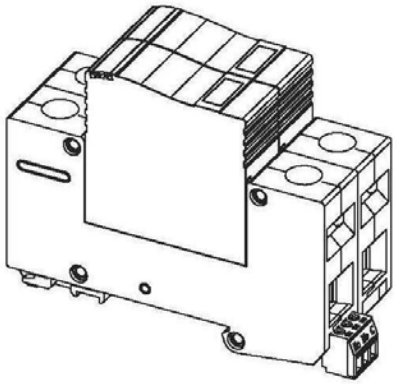


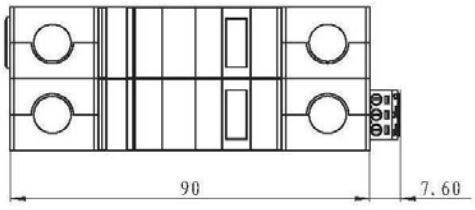




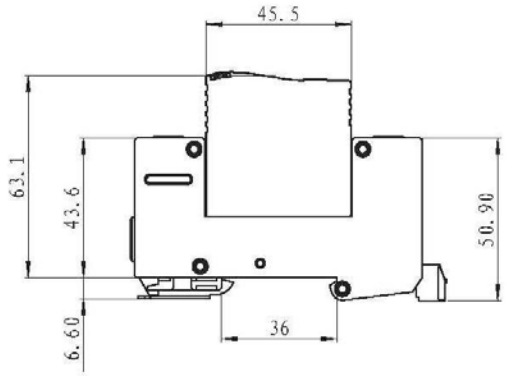


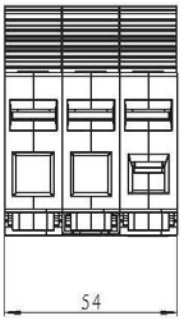


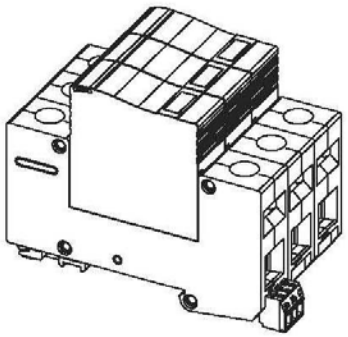


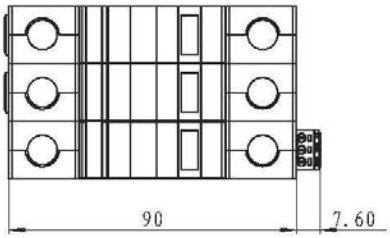


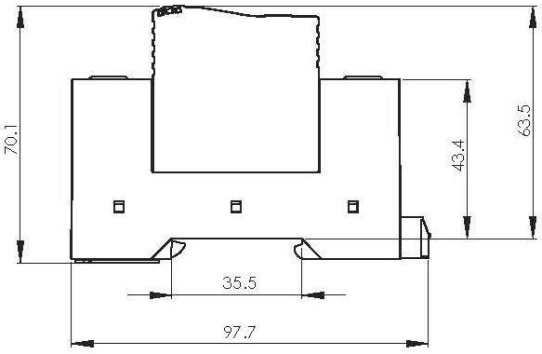
FSD Dimensions (cont.)

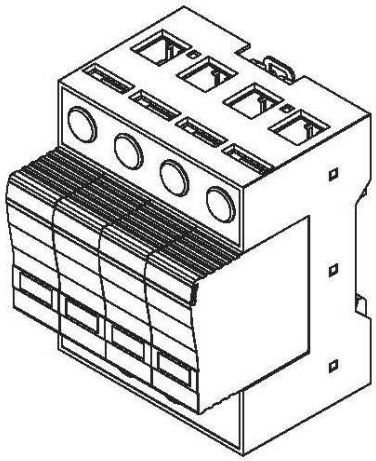


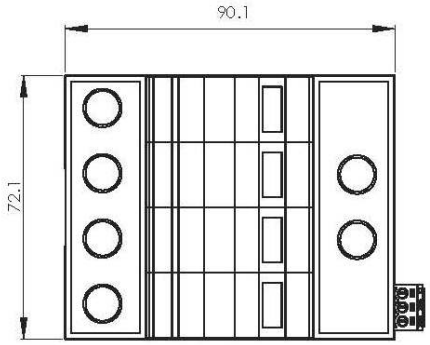


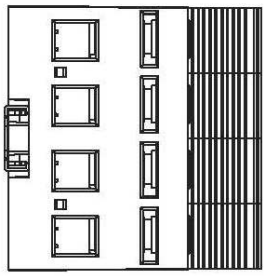












INTRODUCTION

The High Energy Series is our large tab-leaded and wire-leaded varistors. They are available in round and square shapes. These varistors are available in 25mm, 32mm, 34mm, 40mm, and 53mm configurations including single and dual discs. They are available with maximum continuous operating voltages (MCOV) ranging from 130VAC to 1000VAC (up to 1500VAC upon request).
The High Energy Series is designed for pulse repetition and/or very large surge current environments. Numerous tab forms are available for all sizes.

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our High Energy Series components by the Maida Style Number:

D 78 80 ZOV 131 RA 210

1. **Coating Designation**
   D – Standard Epoxy Coating
   P – Phenolic Coating
   S – Square Disc Epoxy Coating
   PS – Square Disc Phenolic Coating
   Neither – Denote no conformal coating.
2. **Nominal Disk Diameter**
   S66 – 25mm Square
   78 – 32mm
   S75 – 34mm Square
   75 – 40mm
   77 – 53mm
3. **Lead Configuration**
   (Refer to lead codes)
4. **Material Identifier**
   Zinc Oxide Varistor
5. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 131 is 130 VAC
6. **Special Instructions,** RA is standard
7. **Rating Code,** up to four numbers

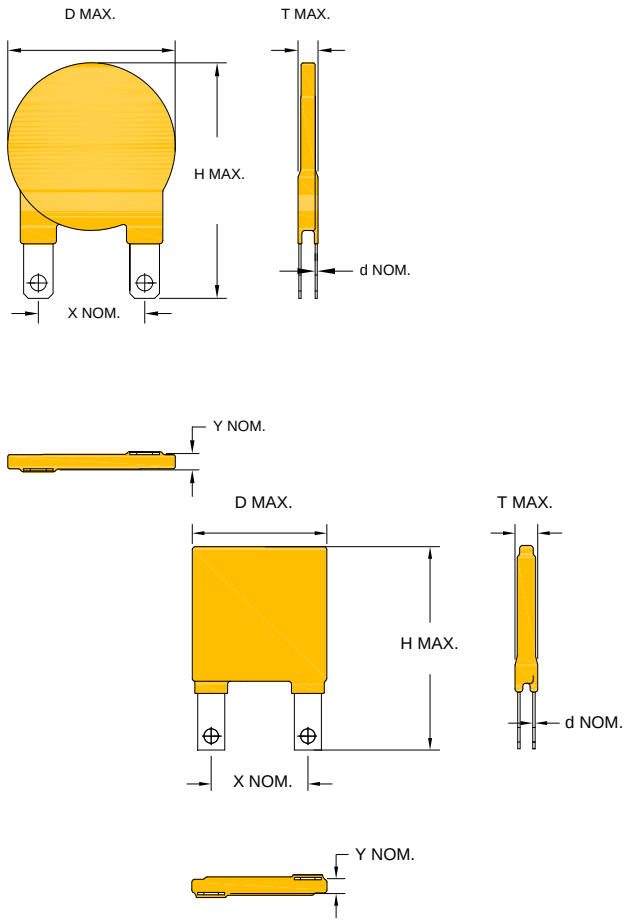
STANDARD MARKING

Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

Example
MDC
Z131
210UL

Where:
MDC - Company Initials
Z - Zinc Oxide Varistor
131 - AC Voltage rating (130VAC)
210 - Rating code
UL - UL recognition, if applicable

A manufacturing date code and/or special markings are available upon request.
Other safety agency designations are included where applicable.



HIGH ENERGY ***SERIES***

SPECIFICATIONS

130VAC thru 320VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
S6680ZOV131RA180	X		X				25	C5S-131UL	130	175	180	180	20000	14000	184	224	340	100	5000
D7880ZOV131RA210	X		X				32	Z131-210UL	130	175	210	210	25000	20000	184	224	340	200	5400
S7580ZOV131RA310	X		X				34	D4S-131UL	130	175	310	310	40000	32000	184	224	340	300	8100
D7580ZOV131RA310	X		X				40	Z131-310UL	130	175	310	310	40000	32000	184	224	340	300	7600
D7780ZOV131RA490	X		X				53	Z131-490UL	130	175	490	490	70000	56000	184	224	340	500	15000
S6680ZOV141RA190	X		X				25	C5S-141UL	140	180	190	190	20000	14000	198	242	360	100	4700
D7880ZOV141RA225	X		X				32	Z141-225UL	140	180	225	225	25000	20000	198	242	360	200	5000
S7580ZOV141RA330	X		X				34	D4S-141UL	140	180	330	330	40000	32000	198	242	360	300	7500
D7580ZOV141RA330	X		X				40	Z141-330UL	140	180	330	330	40000	32000	198	242	360	300	7100
D7780ZOV141RA530	X		X				53	Z141-530UL	140	180	530	530	70000	56000	198	242	360	500	14000
S6680ZOV151RA200	X		X				25	C5S-151UL	150	200	200	200	20000	14000	212	259	395	100	4300
D7880ZOV151RA240	X		X				32	Z151-240UL	150	200	240	240	25000	20000	212	259	395	200	4600
S7580ZOV151RA360	X		X				34	D4S-151UL	150	200	360	360	40000	32000	212	259	395	300	6900
D7580ZOV151RA360	X		X				40	Z151-360UL	150	200	360	360	40000	32000	212	259	395	300	6500
D7780ZOV151RA570	X		X				53	Z151-570UL	150	200	570	570	70000	56000	212	259	395	500	13000
S6680ZOV181RA250	X		X				25	C5S-181UL	180	230	250	250	20000	14000	255	311	465	100	3200
D7880ZOV181RA250	X		X				32	Z181-250UL	180	230	250	250	25000	20000	255	311	465	200	2900
S7580ZOV181RA390	X		X				34	D4S-181UL	180	230	390	390	40000	32000	255	311	465	300	5600
D7580ZOV181RA390	X		X				40	Z181-390UL	180	230	390	390	40000	32000	255	311	465	300	4000
D7780ZOV181RA630	X		X				53	Z181-630UL	180	230	630	630	70000	56000	255	311	465	500	6300
S6680ZOV211RA270	X		X				25	C5S-211UL	210	270	270	270	20000	14000	297	363	640	100	2700
D7880ZOV211RA360	X						32	Z211-360UL	210	270	360	360	25000	20000	297	363	640	200	2500
S7580ZOV211RA430	X		X				34	D4S-211UL	210	270	430	430	40000	32000	297	363	640	300	4800
D7580ZOV211RA430	X						40	Z211-430UL	210	270	430	430	40000	32000	297	363	640	300	3400
D7780ZOV211RA700	X						53	Z211-700UL	210	270	700	700	70000	56000	297	363	640	500	5400
S6680ZOV231RA290	X		X				25	C5S-231UL	230	300	290	290	20000	14000	326	397	595	100	2500
D7880ZOV231RA300	X		X				32	Z231-300UL	230	300	300	300	25000	20000	326	397	595	200	2300
S7580ZOV231RA460	X		X				34	D4S-231UL	230	300	460	460	40000	32000	326	397	595	300	4400
D7580ZOV231RA460	X		X				40	Z231-460UL	230	300	460	460	40000	32000	326	397	595	300	3100
D7780ZOV231RA730	X		X				53	Z231-730UL	230	300	730	730	70000	56000	326	397	595	500	4900
S6680ZOV251RA310	X		X				25	C5S-251UL	250	330	330	330	20000	14000	354	432	650	100	2300
D7880ZOV251RA330	X		X				32	Z251-330UL	250	330	360	330	25000	20000	354	432	650	200	2500
S7580ZOV251RA490	X		X				34	D4S-251UL	250	330	490	490	40000	32000	354	432	650	300	4100
D7580ZOV251RA490	X		X				40	Z251-490UL	250	330	490	490	40000	32000	354	432	650	300	2900
D7780ZOV251RA800	X		X				53	Z251-800UL	250	330	880	880	70000	56000	354	432	650	500	4600
S6680ZOV271RA330	X		X				25	C5S-271UL	270	360	340	340	20000	14000	382	466	710	100	2100
D7880ZOV271RA360	X		X				32	Z271-360UL	270	360	360	360	25000	20000	382	466	710	200	2000
S7580ZOV271RA550	X		X				34	D4S-271UL	270	360	550	550	40000	32000	382	466	710	300	3800
D7580ZOV271RA550	X		X				40	Z271-550UL	270	360	550	550	40000	32000	382	466	710	300	2700
D7780ZOV271RA860	X		X				53	Z271-860UL	270	360	950	950	70000	56000	382	466	710	500	4200
S6680ZOV301RA350	X		X				25	C5S-301UL	300	390	350	350	20000	14000	425	518	790	100	1900
D7880ZOV301RA380	X		X				32	Z301-380UL	300	390	380	380	25000	20000	425	518	790	200	1700
S7580ZOV301RA600	X		X				34	D4S-301UL	300	390	600	600	40000	32000	425	518	790	300	3400
D7580ZOV301RA600	X		X				40	Z301-600UL	300	390	600	600	40000	32000	425	518	790	300	2400
D7780ZOV301RA940	X		X				53	Z301-940UL	300	390	1000	1000	70000	56000	425	518	790	500	3800
S6680ZOV321RA360	X		X				25	C5S-321UL	320	420	360	360	20000	14000	453	553	850	100	1800
D7880ZOV321RA430	X		X				32	Z321-430UL	320	420	430	430	25000	20000	453	553	850	200	1600
S7580ZOV321RA640	X		X				34	D4S-321UL	320	420	640	640	40000	32000	453	553	850	300	3200
D7580ZOV321RA640	X		X				40	Z321-640UL	320	420	640	640	40000	32000	453	553	850	300	2200
D7780ZOV321RA1000	X		X				53	Z321-1000UL	320	420	1100	1100	70000	52000	453	553	850	500	3600

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

130VAC thru 320VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
S6680ZOV131RA180	1.142	0.248	1.970	1.000	0.020	0.122	0.040	N/A	N/A	0.020
D7880ZOV131RA210	1.575	0.248	2.213	1.000	0.020	0.122	0.040	N/A	N/A	0.020
S7580ZOV131RA310	1.476	0.248	2.225	1.000	0.020	0.122	0.040	N/A	N/A	0.020
D7580ZOV131RA310	1.890	0.248	2.370	1.000	0.020	0.122	0.040	N/A	N/A	0.020
D7780ZOV131RA490	2.400	0.248	3.075	1.000	0.020	0.125	0.040	N/A	N/A	0.020
S6680ZOV141RA190	1.142	0.252	1.970	1.000	0.020	0.126	0.040	N/A	N/A	0.020
D7880ZOV141RA225	1.575	0.252	2.213	1.000	0.020	0.126	0.040	N/A	N/A	0.020
S7580ZOV141RA330	1.476	0.252	2.225	1.000	0.020	0.126	0.040	N/A	N/A	0.020
D7580ZOV141RA330	1.890	0.252	2.370	1.000	0.020	0.126	0.040	N/A	N/A	0.020
D7780ZOV141RA530	2.400	0.252	3.075	1.000	0.020	0.129	0.040	N/A	N/A	0.020
S6680ZOV151RA200	1.142	0.257	1.970	1.000	0.020	0.131	0.040	N/A	N/A	0.020
D7880ZOV151RA240	1.575	0.257	2.213	1.000	0.020	0.131	0.040	N/A	N/A	0.020
S7580ZOV151RA360	1.476	0.257	2.225	1.000	0.020	0.132	0.040	N/A	N/A	0.020
D7580ZOV151RA360	1.890	0.257	2.370	1.000	0.020	0.132	0.040	N/A	N/A	0.020
D7780ZOV151RA570	2.400	0.257	3.075	1.000	0.020	0.135	0.040	N/A	N/A	0.020
S6680ZOV181RA250	1.142	0.267	1.970	1.000	0.020	0.120	0.040	N/A	N/A	0.020
D7880ZOV181RA250	1.575	0.267	2.213	1.000	0.020	0.120	0.040	N/A	N/A	0.020
S7580ZOV181RA390	1.476	0.267	2.225	1.000	0.020	0.120	0.040	N/A	N/A	0.020
D7580ZOV181RA390	1.890	0.267	2.370	1.000	0.020	0.120	0.040	N/A	N/A	0.020
D7780ZOV181RA630	2.400	0.267	3.075	1.000	0.020	0.122	0.040	N/A	N/A	0.020
S6680ZOV211RA270	1.142	0.275	1.970	1.000	0.020	0.128	0.040	N/A	N/A	0.020
D7880ZOV211RA360	1.575	0.275	2.213	1.000	0.020	0.128	0.040	N/A	N/A	0.020
S7580ZOV211RA430	1.476	0.275	2.225	1.000	0.020	0.129	0.040	N/A	N/A	0.020
D7580ZOV211RA430	1.890	0.275	2.370	1.000	0.020	0.129	0.040	N/A	N/A	0.020
D7780ZOV211RA700	2.400	0.275	3.075	1.000	0.020	0.132	0.040	N/A	N/A	0.020
S6680ZOV231RA290	1.142	0.280	1.970	1.000	0.020	0.134	0.040	N/A	N/A	0.020
D7880ZOV231RA300	1.575	0.280	2.213	1.000	0.020	0.134	0.040	N/A	N/A	0.020
S7580ZOV231RA460	1.476	0.280	2.225	1.000	0.020	0.135	0.040	N/A	N/A	0.020
D7580ZOV231RA460	1.890	0.280	2.370	1.000	0.020	0.135	0.040	N/A	N/A	0.020
D7780ZOV231RA730	2.400	0.280	3.075	1.000	0.020	0.137	0.040	N/A	N/A	0.020
S6680ZOV251RA310	1.142	0.287	1.970	1.000	0.020	0.139	0.040	N/A	N/A	0.020
D7880ZOV251RA330	1.575	0.287	2.213	1.000	0.020	0.139	0.040	N/A	N/A	0.020
S7580ZOV251RA490	1.476	0.287	2.225	1.000	0.020	0.140	0.040	N/A	N/A	0.020
D7580ZOV251RA490	1.890	0.287	2.370	1.000	0.020	0.140	0.040	N/A	N/A	0.020
D7780ZOV251RA800	2.400	0.287	3.075	1.000	0.020	0.143	0.040	N/A	N/A	0.020
S6680ZOV271RA330	1.142	0.294	1.970	1.000	0.020	0.144	0.040	N/A	N/A	0.020
D7880ZOV271RA360	1.575	0.294	2.213	1.000	0.020	0.144	0.040	N/A	N/A	0.020
S7580ZOV271RA550	1.476	0.294	2.225	1.000	0.020	0.146	0.040	N/A	N/A	0.020
D7580ZOV271RA550	1.890	0.294	2.370	1.000	0.020	0.146	0.040	N/A	N/A	0.020
D7780ZOV271RA860	2.400	0.294	3.075	1.000	0.020	0.149	0.040	N/A	N/A	0.020
S6680ZOV301RA350	1.142	0.305	1.970	1.000	0.020	0.153	0.040	N/A	N/A	0.020
D7880ZOV301RA380	1.575	0.305	2.213	1.000	0.020	0.153	0.040	N/A	N/A	0.020
S7580ZOV301RA600	1.476	0.305	2.225	1.000	0.020	0.155	0.040	N/A	N/A	0.020
D7580ZOV301RA600	1.890	0.305	2.370	1.000	0.020	0.155	0.040	N/A	N/A	0.020
D7780ZOV301RA940	2.400	0.305	3.075	1.000	0.020	0.158	0.040	N/A	N/A	0.020
S6680ZOV321RA360	1.142	0.310	1.970	1.000	0.020	0.158	0.040	N/A	N/A	0.020
D7880ZOV321RA430	1.575	0.312	2.213	1.000	0.020	0.159	0.040	N/A	N/A	0.020
S7580ZOV321RA640	1.476	0.312	2.225	1.000	0.020	0.160	0.040	N/A	N/A	0.020
D7580ZOV321RA640	1.890	0.312	2.370	1.000	0.020	0.161	0.040	N/A	N/A	0.020
D7780ZOV321RA1000	2.400	0.312	3.075	1.000	0.020	0.161	0.040	N/A	N/A	0.020

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HIGH ENERGY ***SERIES***

SPECIFICATIONS

340VAC thru 620VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2					1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	Vmin (V)	Vmax (V)	(8 x 20μsec) (V)	(8 x 20μsec) (A)	(pF)
S6680ZOV341RA365	X						25	C5S-340UL	340	440	365	365	20000	14000	480	587	910	100	1700
D7880ZOV341RA500	X						32	Z341-500UL	340	440	500	500	25000	20000	480	587	910	200	1550
S7580ZOV341RA685	X						34	D4S-341UL	340	440	685	685	40000	32000	480	587	910	300	2200
D7580ZOV341RA685	X						40	Z341-685UL	340	440	685	685	40000	32000	480	587	910	300	2100
D7780ZOV341RA1140	X						53	Z341-1140UL	340	440	1140	1140	70000	56000	480	587	910	500	3400
S6680ZOV361RA370	X		X				25	C5S-361UL	360	470	370	370	20000	14000	522	638	960	100	1500
D7880ZOV361RA530	X						32	Z361-530UL	360	470	530	530	25000	20000	522	638	960	200	1400
S7580ZOV361RA710	X		X				34	D4S-361UL	360	470	710	710	40000	32000	522	638	960	300	2800
D7580ZOV361RA710	X						40	Z361-710UL	360	470	710	710	40000	32000	522	638	960	300	1900
D7780ZOV361RA1180	X						53	Z361-1180UL	360	470	1180	1180	70000	56000	522	638	960	500	3200
S6680ZOV391RA380	X		X				25	C5S-391UL	390	505	380	380	20000	14000	552	674	1025	100	1500
D7880ZOV391RA550	X		X				32	Z391-550UL	390	505	550	550	25000	20000	552	674	1025	200	1300
S7580ZOV391RA800	X		X				34	D4S-391UL	390	505	800	800	40000	32000	552	674	1025	300	2600
D7580ZOV391RA800	X		X				40	Z391-800UL	390	505	800	800	40000	32000	552	674	1025	300	1800
D7780ZOV391RA1200	X		X				53	Z391-1200UL	390	505	1200	1200	70000	52000	552	674	1025	500	3000
S6680ZOV421RA390	X		X				25	C5S-421UL	420	560	390	390	20000	14000	594	725	1120	100	1400
D7880ZOV421RA600	X		X				32	Z421-600UL	420	560	600	600	25000	20000	594	725	1120	200	1300
S7580ZOV421RA910	X		X				34	D4S-421UL	420	560	910	910	40000	32000	594	725	1120	300	2400
D7580ZOV421RA910	X		X				40	Z421-910UL	420	560	910	910	40000	32000	594	725	1120	300	1700
D7780ZOV421RA1500	X		X				53	Z421-1500UL	420	560	1500	1500	70000	52000	594	725	1120	500	2800
S6680ZOV461RA430	X		X				25	C5S-461UL	460	615	430	430	20000	14000	651	795	1240	100	1200
D7880ZOV461RA520	X		X				32	Z461-520UL	460	615	520	520	25000	20000	651	795	1240	200	1100
S7580ZOV461RA780	X		X				34	D4S-461UL	460	615	920	920	40000	32000	651	795	1240	300	2200
D7580ZOV461RA780	X		X				40	Z461-780UL	460	615	780	780	40000	32000	651	795	1240	300	1500
D7780ZOV461RA1200	X		X				53	Z461-1200UL	460	615	1600	1600	70000	52000	651	795	1240	500	2500
S6680ZOV481RA440	X		X				25	C5S-481UL	480	640	440	440	20000	14000	679	829	1300	100	1200
D7880ZOV481RA550	X		X				32	Z481-550UL	480	640	550	550	25000	20000	679	829	1300	200	1100
S7580ZOV481RA820	X		X				34	D4S-481UL	480	640	930	930	40000	32000	679	829	1300	300	2100
D7580ZOV481RA820	X		X				40	Z481-820UL	480	640	820	820	40000	32000	679	829	1300	300	1500
D7780ZOV481RA1250	X		X				53	Z481-1250UL	480	640	1600	1600	70000	52000	679	829	1300	500	2400
S6680ZOV511RA450	X		X				25	C5S-511UL	510	675	450	450	20000	14000	722	881	1350	100	1100
D7880ZOV511RA580	X		X				32	Z511-580UL	510	675	580	580	25000	20000	722	881	1350	200	1000
S7580ZOV511RA900	X		X				34	D4S-511UL	510	675	940	940	40000	32000	722	881	1350	300	2000
D7580ZOV511RA900	X		X				40	Z511-900UL	510	675	900	900	40000	32000	722	881	1350	300	1400
D7780ZOV511RA1400	X		X				53	Z511-1400UL	510	675	1800	1800	70000	52000	722	881	1350	500	2300
S6680ZOV551RA480	X		X				25	C5S-551UL	550	700	480	480	20000	14000	778	950	1400	100	1000
D7880ZOV551RA620	X		X				32	Z551-620UL	550	700	620	620	25000	20000	778	950	1400	200	950
S7580ZOV551RA960	X		X				34	D4S-551UL	550	700	960	960	40000	32000	778	950	1400	300	1800
D7580ZOV551RA960	X		X				40	Z551-960UL	550	700	960	960	40000	32000	778	950	1400	300	1300
D7780ZOV551RA1500	X		X				53	Z551-1500UL	550	700	2000	2000	70000	52000	778	950	1400	500	2100
S6680ZOV581RA520	X		X				25	C5S-581UL	580	735	520	520	20000	14000	821	1002	1500	100	990
D7880ZOV581RA650	X		X				32	Z581-650UL	580	735	650	650	25000	20000	821	1002	1500	200	900
S7580ZOV581RA1000	X		X				34	D4S-581UL	580	735	1000	1000	40000	32000	821	1002	1500	300	1700
D7580ZOV581RA1000	X		X				40	Z581-1000UL	580	735	1000	1000	40000	32000	821	1002	1500	300	1200
D7780ZOV581RA1580	X		X				53	Z581-1580UL	580	735	2100	2100	70000	52000	821	1002	1500	500	2000
S6680ZOV621RA550	X		X				25	C5S-621UL	620	800	550	550	20000	14000	877	1071	1650	100	920
D7880ZOV621RA680	X		X				32	Z621-680UL	620	800	680	680	25000	20000	877	1071	1650	200	840
S7580ZOV621RA1040	X		X				34	D4S-621UL	620	800	1040	1040	40000	32000	877	1071	1650	300	1600
D7580ZOV621RA1040	X		X				40	Z621-1040UL	620	800	1040	1040	40000	32000	877	1071	1650	300	1100
D7780ZOV621RA1750	X		X				53	Z621-1750UL	620	800	2200	2200	70000	52000	877	1071	1650	500	1900

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

340VAC thru 620VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
S6680ZOV341RA365	1.142	0.312	1.970	1.000	0.020	0.164	0.040	N/A	N/A	0.020
D7880ZOV341RA500	1.575	0.312	2.213	1.000	0.020	0.164	0.040	N/A	N/A	0.020
S7580ZOV341RA685	1.476	0.312	2.225	1.000	0.020	0.167	0.040	N/A	N/A	0.020
D7580ZOV341RA685	1.890	0.312	2.370	1.000	0.020	0.167	0.040	N/A	N/A	0.020
D7780ZOV341RA1140	2.400	0.312	3.075	1.000	0.020	0.167	0.040	N/A	N/A	0.020
S6680ZOV361RA370	1.142	0.318	1.970	1.000	0.020	0.173	0.040	N/A	N/A	0.020
D7880ZOV361RA530	1.575	0.318	2.213	1.000	0.020	0.173	0.040	N/A	N/A	0.020
S7580ZOV361RA710	1.476	0.318	2.225	1.000	0.020	0.175	0.040	N/A	N/A	0.020
D7580ZOV361RA710	1.890	0.318	2.370	1.000	0.020	0.175	0.040	N/A	N/A	0.020
D7780ZOV361RA1180	2.400	0.318	3.075	1.000	0.020	0.175	0.040	N/A	N/A	0.020
S6680ZOV391RA380	1.142	0.325	1.970	1.000	0.020	0.178	0.040	N/A	N/A	0.020
D7880ZOV391RA550	1.575	0.312	2.213	1.000	0.020	0.178	0.040	N/A	N/A	0.020
S7580ZOV391RA800	1.476	0.312	2.225	1.000	0.020	0.180	0.040	N/A	N/A	0.020
D7580ZOV391RA800	1.890	0.312	2.370	1.000	0.020	0.180	0.040	N/A	N/A	0.020
D7780ZOV391RA1200	2.400	0.312	3.075	1.000	0.020	0.181	0.040	N/A	N/A	0.020
S6680ZOV421RA390	1.142	0.332	1.970	1.000	0.020	0.187	0.040	N/A	N/A	0.020
D7880ZOV421RA600	1.575	0.332	2.213	1.000	0.020	0.187	0.040	N/A	N/A	0.020
S7580ZOV421RA910	1.476	0.332	2.225	1.000	0.020	0.189	0.040	N/A	N/A	0.020
D7580ZOV421RA910	1.890	0.332	2.370	1.000	0.020	0.189	0.040	N/A	N/A	0.020
D7780ZOV421RA1500	2.400	0.332	3.075	1.000	0.020	0.190	0.040	N/A	N/A	0.020
S6680ZOV461RA430	1.142	0.344	1.970	1.000	0.020	0.198	0.040	N/A	N/A	0.020
D7880ZOV461RA520	1.575	0.344	2.213	1.000	0.020	0.198	0.040	N/A	N/A	0.020
S7580ZOV461RA780	1.476	0.344	2.225	1.000	0.020	0.200	0.040	N/A	N/A	0.020
D7580ZOV461RA780	1.890	0.344	2.370	1.000	0.020	0.200	0.040	N/A	N/A	0.020
D7780ZOV461RA1200	2.400	0.344	3.075	1.000	0.020	0.201	0.040	N/A	N/A	0.020
S6680ZOV481RA440	1.142	0.350	1.970	1.000	0.020	0.203	0.040	N/A	N/A	0.020
D7880ZOV481RA550	1.575	0.350	2.213	1.000	0.020	0.203	0.040	N/A	N/A	0.020
S7580ZOV481RA820	1.476	0.350	2.225	1.000	0.020	0.205	0.040	N/A	N/A	0.020
D7580ZOV481RA820	1.890	0.350	2.370	1.000	0.020	0.205	0.040	N/A	N/A	0.020
D7780ZOV481RA1250	2.400	0.350	3.075	1.000	0.020	0.206	0.040	N/A	N/A	0.020
S6680ZOV511RA450	1.142	0.360	1.970	1.000	0.020	0.212	0.040	N/A	N/A	0.020
D7880ZOV511RA580	1.575	0.360	2.213	1.000	0.020	0.212	0.040	N/A	N/A	0.020
S7580ZOV511RA900	1.476	0.360	2.225	1.000	0.020	0.214	0.040	N/A	N/A	0.020
D7580ZOV511RA900	1.890	0.360	2.370	1.000	0.020	0.214	0.040	N/A	N/A	0.020
D7780ZOV511RA1400	2.400	0.360	3.075	1.000	0.020	0.215	0.040	N/A	N/A	0.020
S6680ZOV551RA480	1.142	0.373	1.970	1.000	0.020	0.222	0.040	N/A	N/A	0.020
D7880ZOV551RA620	1.575	0.373	2.213	1.000	0.020	0.222	0.040	N/A	N/A	0.020
S7580ZOV551RA960	1.476	0.373	2.225	1.000	0.020	0.225	0.040	N/A	N/A	0.020
D7580ZOV551RA960	1.890	0.373	2.370	1.000	0.020	0.225	0.040	N/A	N/A	0.020
D7780ZOV551RA1500	2.400	0.373	3.075	1.000	0.020	0.226	0.040	N/A	N/A	0.020
S6680ZOV581RA520	1.142	0.382	1.970	1.000	0.020	0.231	0.040	N/A	N/A	0.020
D7880ZOV581RA650	1.575	0.382	2.213	1.000	0.020	0.231	0.040	N/A	N/A	0.020
S7580ZOV581RA1000	1.476	0.382	2.225	1.000	0.020	0.234	0.040	N/A	N/A	0.020
D7580ZOV581RA1000	1.890	0.382	2.370	1.000	0.020	0.234	0.040	N/A	N/A	0.020
D7780ZOV581RA1580	2.400	0.382	3.075	1.000	0.020	0.235	0.040	N/A	N/A	0.020
S6680ZOV621RA550	1.142	0.395	1.970	1.000	0.020	0.242	0.040	N/A	N/A	0.020
D7880ZOV621RA680	1.575	0.395	2.213	1.000	0.020	0.242	0.040	N/A	N/A	0.020
S7580ZOV621RA1040	1.476	0.395	2.225	1.000	0.020	0.245	0.040	N/A	N/A	0.020
D7580ZOV621RA1040	1.890	0.395	2.370	1.000	0.020	0.245	0.040	N/A	N/A	0.020
D7780ZOV621RA1750	2.400	0.395	3.075	1.000	0.020	0.247	0.040	N/A	N/A	0.020

NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

HIGH ENERGY ***SERIES***

SPECIFICATIONS

680VAC thru 1000VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
S6680ZOV681RA620	X		X				25	C5S-681UL	680	860	620	620	20000	14000	962	1175	1800	100	840
D7880ZOV681RA760	X		X				32	Z681-760UL	680	860	760	760	25000	20000	962	1175	1800	200	770
S7580ZOV681RA1100	X		X				34	D4S-681UL	680	860	1100	1100	40000	32000	962	1175	1800	300	1500
D7580ZOV681RA1100	X		X				40	Z681-1100UL	680	860	1100	1100	40000	32000	962	1175	1800	300	1000
D7780ZOV681RA1800	X		X				53	Z681-1800UL	680	860	2500	2500	70000	52000	962	1175	1800	500	1700
S6680ZOV751RA670	X		X				25	C5S-751UL	750	970	670	670	20000	14000	1062	1300	2100	100	750
D7880ZOV751RA800	X		X				32	Z751-800UL	750	970	800	800	25000	20000	1062	1300	2100	200	680
S7580ZOV751RA1200	X		X				34	D4S-751UL	750	970	1200	1200	40000	32000	1062	1300	2100	300	1300
D7580ZOV751RA1200	X		X				40	Z751-1200UL	750	970	1200	1200	40000	32000	1062	1300	2100	300	940
D7780ZOV751RA2000	X		X				53	Z751-2000UL	750	970	2600	2600	70000	52000	1062	1300	2100	500	1500
S6680ZOV881RA780	X		X				25	C5S-881UL	880	1150	780	780	20000	14000	1245	1520	2290	100	650
D7880ZOV881RA850	X		X				32	Z881-850UL	880	1150	850	850	25000	20000	1245	1520	2290	200	590
S7580ZOV881RA1300	X		X				34	D4S-881UL	880	1150	1300	1300	40000	32000	1245	1520	2290	300	1100
D7580ZOV881RA1300	X		X				40	Z881-1300UL	880	1150	1300	1300	40000	32000	1245	1520	2290	300	810
D7780ZOV881RA2500	X		X				53	Z881-2500UL	880	1150	3200	3200	70000	52000	1245	1520	2290	500	1300
S6680ZOV102RA860	X		X				25	C5S-102UL	1000	1200	860	860	20000	14000	1414	1728	2700	100	570
D7880ZOV102RA900	X						32	Z102-900UL	1000	1200	900	900	25000	20000	1414	1728	2700	200	520
S7580ZOV102RA1400	X		X				34	D4S-102UL	1000	1200	1400	1400	40000	32000	1414	1728	2700	300	1000
D7580ZOV102RA1400	X						40	Z102-1400UL	1000	1200	1400	1400	40000	32000	1414	1728	2700	300	710
D7780ZOV102RA3000	X						53	Z102-3000UL	1000	1200	3200	3200	70000	52000	1414	1728	2700	500	1200

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

680VAC thru 1000VAC VARISTORS

Maida Style Number	MAX. Diameter (D) (in)	MAX. Thickness (T) (in)	MAX. Height (H) (in)	Typical X Dimension (in)	Typical X Tolerance (in)	Typical Y Dimension (in)	Typical Y Tolerance (in)	Typical Z Dimension (in)	Typical Z Tolerance (in)	Typical Wire Diameter (d) (in)
S6680ZOV681RA620	1.142	0.414	1.970	1.000	0.020	0.259	0.040	N/A	N/A	0.020
D7880ZOV681RA760	1.575	0.414	2.213	1.000	0.020	0.259	0.040	N/A	N/A	0.020
S7580ZOV681RA1100	1.476	0.414	2.225	1.000	0.020	0.262	0.040	N/A	N/A	0.020
D7580ZOV681RA1100	1.890	0.414	2.370	1.000	0.020	0.262	0.040	N/A	N/A	0.020
D7780ZOV681RA1800	2.400	0.414	3.075	1.000	0.020	0.264	0.040	N/A	N/A	0.020
S6680ZOV751RA670	1.142	0.460	1.970	1.000	0.020	0.282	0.040	N/A	N/A	0.020
D7880ZOV751RA800	1.575	0.460	2.213	1.000	0.020	0.281	0.040	N/A	N/A	0.020
S7580ZOV751RA1200	1.476	0.460	2.225	1.000	0.020	0.286	0.040	N/A	N/A	0.020
D7580ZOV751RA1200	1.890	0.460	2.370	1.000	0.020	0.284	0.040	N/A	N/A	0.020
D7780ZOV751RA2000	2.400	0.460	3.075	1.000	0.020	0.286	0.040	N/A	N/A	0.020
S6680ZOV881RA780	1.142	0.476	1.970	1.000	0.020	0.314	0.040	N/A	N/A	0.020
D7880ZOV881RA850	1.575	0.476	2.213	1.000	0.020	0.314	0.040	N/A	N/A	0.020
S7580ZOV881RA1300	1.476	0.476	2.225	1.000	0.020	0.319	0.040	N/A	N/A	0.020
D7580ZOV881RA1300	1.890	0.476	2.370	1.000	0.020	0.319	0.040	N/A	N/A	0.020
D7780ZOV881RA2500	2.400	0.476	3.075	1.000	0.020	0.321	0.040	N/A	N/A	0.020
S6680ZOV102RA860	1.142	0.514	1.970	1.000	0.020	0.349	0.040	N/A	N/A	0.020
D7880ZOV102RA900	1.575	0.514	2.213	1.000	0.020	0.349	0.040	N/A	N/A	0.020
S7580ZOV102RA1400	1.476	0.514	2.225	1.000	0.020	0.354	0.040	N/A	N/A	0.020
D7580ZOV102RA1400	1.890	0.514	2.370	1.000	0.020	0.354	0.040	N/A	N/A	0.020
D7780ZOV102RA3000	2.400	0.514	3.075	1.000	0.020	0.356	0.040	N/A	N/A	0.020

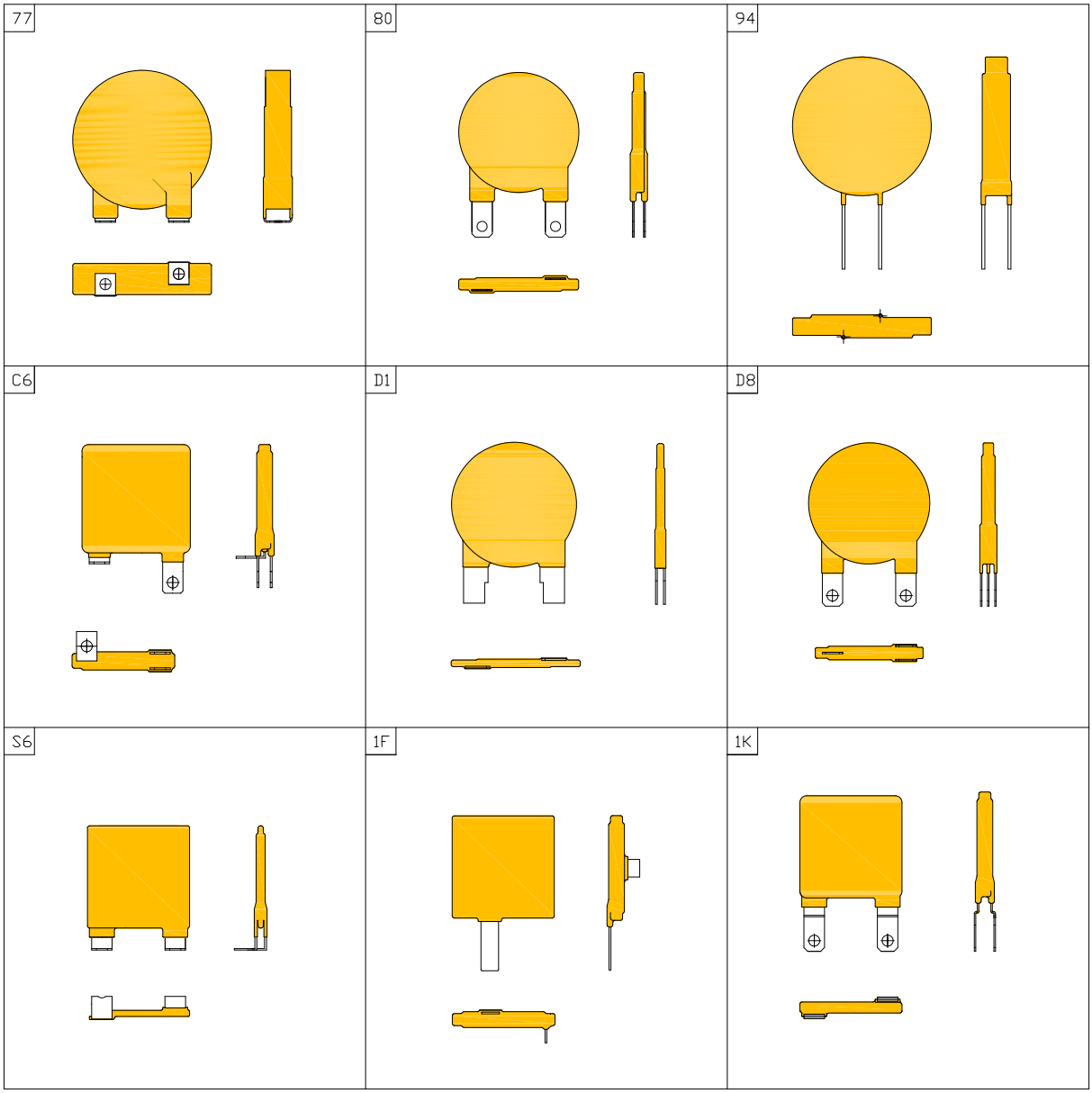
NOTE: Alternate dimensional specifications, including lead styles, for any part listed may be available upon request. Please contact us for any inquiries.

LEAD CODES

The Maida Development Company prides itself on its ability to manufacture tab leaded devices to meet almost every request of its customers. The following table depicts common varieties of leads that are presently supplied. It should be noted that the dimensions (such as the X, height, tab lead length, epoxy “pant leg”, tab configurations, etc.) can be modified on any the items shown to meet almost any request. Maida is also capable of supplying the various tab lead forms in either right-hand or left-hand configurations.

For any inquiries regarding specific lead forms please contact us.

NOTE: Any tab lead configuration can be obtained on either round or square varistors.



ENCAPSULATED MOV SERIES

INTRODUCTION

The Encapsulated MOV Series is ideal for SMT processing and Pick and Place assembly. Its low profile package offers space savings compared to leaded devices. These encapsulated components can withstand higher surge energies (up to 1200A) than MLVs. They are available in standard EIA sizes of 2825 and 4032 packages. The construction is RoHS compliant and the coating is UL94-V0 rated. They are available with maximum continuous operating voltages (MCOV) ranging from 11VAC to 680VAC.

STYLE DESIGNATION

The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our Encapsulated MOV Series components by the Maida Style Number:

4S 2N ZOV 131 RA 14

1. **Package Description**
   2S – 2825
   4S – 4032
2. **Lead Configuration**
   2N – J Lead
   2P – L Lead
4. **Material Identifier**
   Zinc Oxide Varistor
5. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 131 is 130 VAC
6. **Special Instructions,** RA is standard
7. **Rating Code,** up to 2 numbers

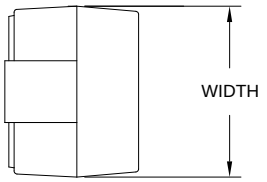
STANDARD MARKING

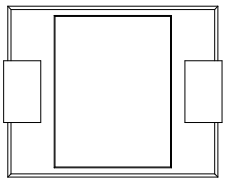
Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

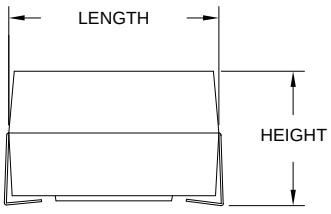
Example
MDC
4S131UL

Where:
MDC - Company Initials
4S - Package Description
131 - AC Voltage rating (130VAC)
UL - UL recognition, if applicable

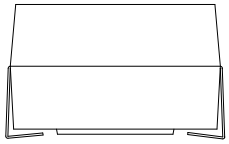
A manufacturing date code and/or special markings may be available upon request.
Other safety agency designations are included where applicable.



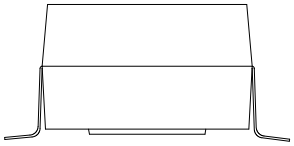




2N - J Lead Style



2P - L Lead Style



ENCAPSULATED MOV ***SERIES***

SPECIFICATIONS

11VAC thru 270VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
2S2NZOV110RA00	X	X					5	2S110	11	14	0.6	0.6	250	125	16	20	40	1	2200
4S2NZOV110RA01	X	X					7	4S110	11	14	1.1	1.1	500	250	16	20	36	2	3500
2S2NZOV140RA00	X	X					5	2S140	14	18	0.7	0.7	250	125	20	24	48	1	2000
4S2NZOV140RA01	X	X					7	4S140	14	18	1.3	1.3	500	250	20	24	43	2	2800
2S2NZOV170RA00	X	X					5	2S170	17	22	0.9	0.9	250	125	24	30	60	1	1600
4S2NZOV170RA01	X	X					7	4S170	17	22	1.6	1.6	500	250	24	30	53	2	2000
2S2NZOV200RA00	X	X					5	2S200	20	26	1.1	1.1	250	125	30	36	73	1	1700
4S2NZOV200RA01	X	X					7	4S200	20	26	2	2	500	250	30	36	65	2	3600
2S2NZOV250RA01	X	X					5	2S250	25	31	1.2	1.2	250	125	35	43	86	1	1400
4S2NZOV250RA02	X	X					7	4S250	25	31	2.4	2.4	500	250	35	43	77	2	3060
2S2NZOV300RA01	X	X					5	2S300	30	38	1.5	1.5	250	125	42	52	99	1	1175
4S2NZOV300RA02	X	X					7	4S300	30	38	2.8	2.8	500	250	42	52	93	2	2540
2S2NZOV350RA01	X	X					5	2S350	35	45	1.8	1.8	250	125	50	62	117	1	990
4S2NZOV350RA02	X	X					7	4S350	35	45	3.4	3.4	500	250	50	62	110	2	2130
2S2NZOV400RA01	X	X					5	2S400	40	56	2.2	2.2	250	125	61	75	138	1	440
4S2NZOV400RA03	X	X					7	4S400	40	56	5.2	5.2	500	250	61	75	135	2	945
2S2NZOV500RA01	X	X					5	2S500	50	66	3.5	3.5	800	600	74	90	163	5	360
4S2NZOV500RA02	X	X					7	4S500	50	66	7	7	1750	1250	74	90	157	10	770
2S2NZOV600RA01	X	X					5	2S600	60	81	4.5	4.5	800	600	90	110	190	5	300
4S2NZOV600RA02	X	X					7	4S600	60	81	9	9	1750	1250	90	110	180	10	630
2S2NZOV750RA01	X	X					5	2S750	75	102	5.5	5.5	800	600	108	132	220	5	250
4S2NZOV750RA02	X	X					7	4S750	75	102	11	11	1750	1250	108	132	220	10	520
2S2NZOV950RA01	X	X					5	2S950	95	127	6.6	6.6	800	600	135	165	240	5	200
4S2NZOV950RA02	X	X					7	4S950	95	127	13	13	1750	1250	135	165	255	10	420
2S2NZOV121RA02	X	X					5	2S121	120	160	8	8	800	600	170	207	310	5	120
4S2NZOV121RA03	X	X					7	4S121	120	160	16	16	1750	1250	170	207	320	10	250
2S2NZOV131RA02	X	X					5	2S131	130	175	8.5	8.5	800	600	184	224	350	5	120
4S2NZOV131RA03	X	X					7	4S131	130	175	17.5	17.5	1750	1250	184	224	340	10	250
2S2NZOV141RA02	X	X					5	2S141	140	180	9	9	800	600	198	242	380	5	110
4S2NZOV141RA03	X	X					7	4S141	140	180	20	20	1750	1250	198	242	360	10	230
2S2NZOV151RA02	X	X					5	2S151	150	200	10.5	10.5	800	600	212	259	430	5	100
4S2NZOV151RA03	X	X					7	4S151	150	200	21	21	1750	1250	212	259	395	10	210
2S2NZOV181RA02	X	X					5	2S181	180	230	11	11	800	600	255	311	510	5	90
4S2NZOV181RA03	X	X					7	4S181	180	230	24	24	1750	1250	255	311	445	10	180
2S2NZOV211RA07	X	X					5	2S211	210	270	13	13	800	600	297	363	545	5	74
4S2NZOV211RA18	X	X					7	4S211	210	270	28	28	1750	1250	297	363	545	10	150
2S2NZOV231RA08	X	X					5	2S231	230	300	16	16	800	600	326	397	595	5	68
4S2NZOV231RA20	X	X					7	4S231	230	300	32	32	1750	1250	326	397	595	10	140
2S2NZOV251RA08	X	X					5	2S251	250	330	17	17	800	600	354	432	675	5	62
4S2NZOV251RA21	X	X					7	4S251	250	330	35	35	1750	1250	354	432	650	10	130
2S2NZOV271RA09	X	X					5	2S271	270	360	20	20	800	600	382	466	740	5	58
4S2NZOV271RA23	X	X					7	4S271	270	360	40	40	1750	1250	382	466	710	10	120

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

11VAC thru 270VAC VARISTORS

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
2S2NZOV110RA00	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV110RA01	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV140RA00	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV140RA01	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV170RA00	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV170RA01	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV200RA00	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV200RA01	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV250RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV250RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV300RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV300RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV350RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV350RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV400RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV400RA03	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV500RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV500RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV600RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV600RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV750RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV750RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV950RA01	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV950RA02	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV121RA02	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV121RA03	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV131RA02	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV131RA03	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV141RA02	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV141RA03	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV151RA02	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV151RA03	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV181RA02	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV181RA03	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV211RA07	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV211RA18	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV231RA08	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV231RA20	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV251RA08	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV251RA21	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV271RA09	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV271RA23	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118

ENCAPSULATED MOV ***SERIES***

SPECIFICATIONS

300VAC thru 680VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
2S2NZOV301RA10	X	X					5	2S301	300	390	21	21	800	600	425	518	810	5	52
4S2NZOV301RA25	X	X					7	4S301	300	390	42	42	1750	1250	425	518	790	10	110
2S2NZOV321RA11	X	X					5	2S321	320	420	21	21	800	600	453	553	850	5	49
4S2NZOV321RA27	X	X					7	4S321	320	420	46	46	1750	1250	453	553	850	10	100
2S2NZOV361RA12	X	X					5	2S361	360	470	22	22	800	600	522	638	960	5	42
4S2NZOV361RA28	X	X					7	4S361	360	470	47	47	1750	1250	522	638	960	10	88
2S2NZOV391RA13	X	X					5	2S391	390	500	25	25	800	600	552	674	1040	5	40
4S2NZOV391RA29	X	X					7	4S391	390	500	51	51	1750	1250	552	674	1040	10	83
2S2NZOV421RA14	X	X					5	2S421	420	560	26	26	800	600	594	725	1130	5	37
4S2NZOV421RA30	X	X					7	4S421	420	560	57	57	1750	1250	594	725	1120	10	77
2S2NZOV461RA17	X	X					5	2S461	460	615	25	25	800	600	651	795	1240	5	34
4S2NZOV461RA33	X	X					7	4S461	460	615	65	65	1750	1250	651	795	1240	10	72
2S2NZOV481RA18	X	X					5	2S481	480	640	26	26	800	600	679	829	1260	5	33
4S2NZOV481RA35	X	X					7	4S481	480	640	66	66	1750	1250	679	829	1300	10	70
4S2NZOV511RA42	X	X					7	4S511	510	675	42	42	1750	1250	722	881	1350	10	62
4S2NZOV551RA43	X	X					7	4S551	550	700	43	43	1750	1250	778	950	1400	10	72
4S2NZOV581RA38	X	X					7	4S581	580	725	78	78	1750	1250	821	1002	1500	10	58
4S2NZOV621RA40	X	X					7	4S621	620	800	82	82	1750	1250	877	1071	1650	10	55
4S2NZOV681RA42	X	X					7	4S681	680	860	88	88	1750	1250	962	1175	1800	10	50

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

300VAC thru 680VAC VARISTORS

Maida Style Number	Length (L) (in)	Length (L) (in)	Thickness (W) (in)	Thickness (W) (in)	Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
2S2NZOV301RA10	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV301RA25	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV321RA11	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV321RA27	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV361RA12	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV361RA28	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV391RA13	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV391RA29	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV421RA14	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV421RA30	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV461RA17	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV461RA33	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
2S2NZOV481RA18	0.280	0.010	0.250	0.010	0.158	0.331	0.138	0.110	0.098
4S2NZOV481RA35	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
4S2NZOV511RA42	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
4S2NZOV551RA43	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
4S2NZOV581RA38	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
4S2NZOV621RA40	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118
4S2NZOV681RA42	0.402	0.010	0.327	0.010	0.256	0.476	0.138	0.110	0.118

INTRODUCTION

The SMT Series, designed for surface mount applications, are small varistors manufactured in a leadless monoblock form. The SMT Series varistors have significantly lower profiles than our radial-leaded devices, thus reducing PC board design requirements. They are available with maximum continuous operating voltages (MCOV) ranging from 10VAC to 600VAC.
SMT Series are typically packaged in Tape and Reel packaging. To order in an alternate packaging scheme, please see the order code below or contact us.

STYLE DESIGNATION

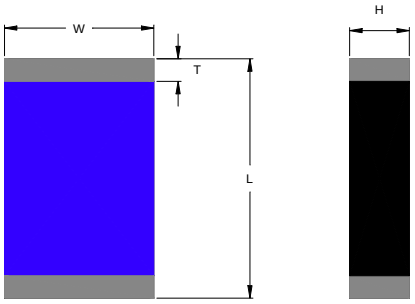
The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our SMT Series components by the Maida Style Number:

8 S 17 SM 131 T6

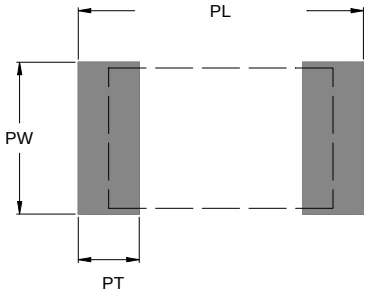
1. **Package Description**
   8 – Rectangular Block
2. **Size Designation**
   S – 0.320” x 0.200” (3220)
4. **Configuration**
   17 – No leads
5. **Part Identifier**
   SM – Surface Mount
6. **AC Voltage Rating**
   Two significant figures plus number of zeroes that follow, i.e. 131 is 130 VAC
7. **Packaging Code**
   T6 – Tape and Reel
   B – Bulk

STANDARD MARKING

The SMT Series currently do not have markings. Special marking may be available upon request.



Land Pad Layout



SPECIFICATIONS

11VAC thru 300VAC VARISTORS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(mm)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
8S17SM100	X						N/A	N/A	10	14	0.8	0.8	250	125	14.4	21.6	42	5	2000
8S17SM140	X						N/A	N/A	14	18	0.8	0.8	250	125	18.7	26.0	47	5	1600
8S17SM170	X						N/A	N/A	17	22	1	1	250	125	23.0	31.1	57	5	1300
8S17SM200	X						N/A	N/A	20	26	1.2	1.2	250	125	29.5	36.5	68	5	1100
8S17SM250	X						N/A	N/A	25	31	1.5	1.5	250	125	35	43	79	5	900
8S17SM300	X						N/A	N/A	30	38	1.8	1.8	250	125	42	52	92	5	800
8S17SM350	X						N/A	N/A	35	45	2.3	2.3	250	125	50	62	107	5	700
8S17SM400	X						N/A	N/A	40	56	3	3	250	125	61	75	127	5	600
8S17SM500	X						N/A	N/A	50	66	4	4	500	350	74	91	135	10	500
8S17SM600	X						N/A	N/A	60	81	5	5	500	350	90	110	165	10	400
8S17SM750	X						N/A	N/A	75	102	6	6	500	350	108	132	200	10	300
8S17SM950	X						N/A	N/A	95	127	8	8	500	350	135	165	250	10	250
8S17SM121	X						N/A	N/A	120	160	10	10	500	350	170	207	295	10	200
8S17SM131	X						N/A	N/A	130	175	11	11	500	350	184	228	340	10	180
8S17SM141	X						N/A	N/A	140	180	12	12	500	350	198	242	360	10	160
8S17SM151	X						N/A	N/A	150	200	13	13	500	350	212	268	395	10	150
8S17SM181	X						N/A	N/A	180	230	14	14	500	350	255	311	445	10	120
8S17SM231	X						N/A	N/A	230	300	20	20	500	350	324	396	595	10	100
8S17SM251	X						N/A	N/A	250	330	21	21	500	350	354	429	650	10	90
8S17SM271	X						N/A	N/A	270	360	23	23	500	350	382	466	710	10	80
8S17SM301	X						N/A	N/A	300	390	25	25	500	350	425	518	790	10	70

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449
B = cUL
C = CSA
D = VDE
E =
F =

11VAC thru 300VAC VARISTORS

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
8S17SM100	0.320	0.012	0.200	0.012	0.036	0.402	0.217	0.087	N/A
8S17SM140	0.320	0.012	0.200	0.012	0.044	0.402	0.217	0.087	N/A
8S17SM170	0.320	0.012	0.200	0.012	0.054	0.402	0.217	0.087	N/A
8S17SM200	0.320	0.012	0.200	0.012	0.033	0.402	0.217	0.087	N/A
8S17SM250	0.320	0.012	0.200	0.012	0.039	0.402	0.217	0.087	N/A
8S17SM300	0.320	0.012	0.200	0.012	0.047	0.402	0.217	0.087	N/A
8S17SM350	0.320	0.012	0.200	0.012	0.056	0.402	0.217	0.087	N/A
8S17SM400	0.320	0.012	0.200	0.012	0.034	0.402	0.217	0.087	N/A
8S17SM500	0.320	0.012	0.200	0.012	0.039	0.402	0.217	0.087	N/A
8S17SM600	0.320	0.012	0.200	0.012	0.026	0.402	0.217	0.087	N/A
8S17SM750	0.320	0.012	0.200	0.012	0.032	0.402	0.217	0.087	N/A
8S17SM950	0.320	0.012	0.200	0.012	0.039	0.402	0.217	0.087	N/A
8S17SM121	0.320	0.012	0.200	0.012	0.030	0.402	0.217	0.087	N/A
8S17SM131	0.320	0.012	0.200	0.012	0.034	0.402	0.217	0.087	N/A
8S17SM141	0.320	0.012	0.200	0.012	0.036	0.402	0.217	0.087	N/A
8S17SM151	0.320	0.012	0.200	0.012	0.039	0.402	0.217	0.087	N/A
8S17SM181	0.320	0.012	0.200	0.012	0.042	0.402	0.217	0.087	N/A
8S17SM231	0.320	0.012	0.200	0.012	0.059	0.402	0.217	0.087	N/A
8S17SM251	0.320	0.012	0.200	0.012	0.064	0.402	0.217	0.087	N/A
8S17SM271	0.320	0.012	0.200	0.012	0.070	0.402	0.217	0.087	N/A
8S17SM301	0.320	0.012	0.200	0.012	0.077	0.402	0.217	0.087	N/A

INTRODUCTION

The MLV Series, designed for surface mount applications, are small multilayer varistors. They are available in standard EIA sizes of 0402, 0603, 0805, 1206, 1210, 1812 and 2220 packages. The MLV Series have 5 different sub-series:
EV Series - This is our lowest capacitance MLV series. Typically these are used in ESD and data line protection.
SV Series – This is our standard MLV series. They provide good high current pulse protection with moderate capacitance.
TV Series – This is our low capacitance MLV series, similar to the SV Series. This series should be selected when the SV series capacitance is too high.
PV Series – This is our power MLV series. They can protect against higher surge currents than the SV Series.
AV Series – This is our array series. They are designed for multiple I/O connections in a single package.
The MLV Series of varistors are designed to provide transient, surge, and ESD (Electrostatic Discharge) protection for a wide variety of applications.

STYLE DESIGNATION

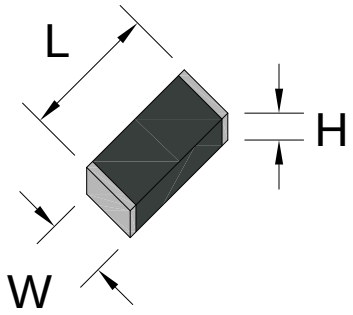
The Maida Style Number is the typical means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.
The following example is the standard part numbering system when ordering our MLV Series components by the Maida Style Number:

EV 18 N 0603 L 120 R

1. **Series Designation**
2. **DC Voltage Rating (VDC)**
3. **End Termination Type**
   N – Tin (Sn) plated Nickel (Ni)
4. **Chip size**
   As defined by EIA standards
5. **Special Capacitance Designation**
   L – Low Capacitance
7. **Nominal Capacitance (pF)**
   Two significant figures plus number of zeroes that follow, i.e. 120 is 12 pF
8. **Packaging Code**
   B – Bulk
   R – Tape & Reel

STANDARD MARKING

The MLV Series currently do not have markings.



EV SERIES for ESD PROTECTION

Level 4 ESD protection to 8kV direct, 15kV air discharge

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		@1kHz
	A	B	C	D	E	F	(EIA)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
EV5N0402L1R0							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	1
EV5N0402L3R0							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	3
EV5N0402L5R0							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	5
EV5N0402L100							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	10
EV5N0402L150							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	15
EV5N0402L220							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	22
EV5N0402L330							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	33
EV5N0402L470							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	47
EV5N0402L680							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	68
EV5N0402L820							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	82
EV5N0402L101							0402	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	100
EV9N0402L220							0402	N/A	6.5	9	N/A	N/A	N/A	N/A	11	17	35	10	22
EV18N0402L5R0							0402	N/A	14	18	N/A	N/A	N/A	N/A	46	60	110	10	5
EV18N0402L100							0402	N/A	14	18	N/A	N/A	N/A	N/A	46	60	110	10	10
EV18N0402L220							0402	N/A	14	18	N/A	N/A	N/A	N/A	46	60	110	10	22
EV42N0402L3R0							0402	N/A	38	42	N/A	N/A	N/A	N/A	46	75	135	10	3
EV5N0603L1R0							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	1
EV5N0603L3R0							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	3
EV5N0603L5R0							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	5
EV5N0603L100							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	10
EV5N0603L150							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	15
EV5N0603L220							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	22
EV5N0603L330							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	33
EV5N0603L470							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	47
EV5N0603L680							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	68
EV5N0603L820							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	82
EV5N0603L101							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	100
EV5N0603L151							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	150
EV5N0603L221							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	220
EV5N0603L331							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	330
EV5N0603L471							0603	N/A	4	5	N/A	N/A	N/A	N/A	7.6	12	25	10	470
EV9N0603L5R0							0603	N/A	6.5	9	N/A	N/A	N/A	N/A	11	17	35	10	5
EV9N0603L220							0603	N/A	6.5	9	N/A	N/A	N/A	N/A	11	17	35	10	22
EV18N0603L5R0							0603	N/A	14	18	N/A	N/A	N/A	N/A	46	60	110	10	10
EV18N0603L120							0603	N/A	14	18	N/A	N/A	N/A	N/A	46	60	110	10	12
EV18N0603L220							0603	N/A	14	18	N/A	N/A	N/A	N/A	46	60	110	10	22
EV26N0603L220							0603	N/A	20	26	N/A	N/A	N/A	N/A	28	35	58	10	22
EV30N0603L040							0603	N/A	25	30	N/A	N/A	N/A	N/A	38	46	65	10	40
EV42N0603L150							0603	N/A	38	42	N/A	N/A	N/A	N/A	46	60	110	10	15

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

EV SERIES for ESD PROTECTION

Level 4 ESD protection to 8kV direct, 15kV air discharge

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
EV5N0402L1R0	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L3R0	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L5R0	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L100	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L150	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L220	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L330	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L470	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L680	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L820	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0402L101	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV9N0402L220	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV18N0402L5R0	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV18N0402L100	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV18N0402L220	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV42N0402L3R0	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
EV5N0603L1R0	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L3R0	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L5R0	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L100	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L150	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L220	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L330	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L470	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L680	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L820	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L101	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L151	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L221	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L331	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV5N0603L471	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV9N0603L5R0	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV9N0603L220	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV18N0603L5R0	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV18N0603L120	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV18N0603L220	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV26N0603L220	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV30N0603L040	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
EV42N0603L150	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A

SV SERIES

Standard MLV

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(EIA)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
SV5R5N0402271							0402	N/A	4	5.5	0.1	0.1	20	20	6.9	9.3	19	1	270
SV9N0402131							0402	N/A	6.5	9	0.1	0.1	20	20	11.3	15.2	32	1	130
SV11N0402121							0402	N/A	8	11	0.1	0.1	20	20	12.7	17.3	33	1	120
SV11N0402400							0402	N/A	8	11	0.1	0.1	10	10	12.7	17.3	33	1	40
SV14N0603900							0402	N/A	11	14	0.1	0.1	20	20	16.2	19.8	38	1	90
SV14N0603330							0402	N/A	11	14	0.1	0.1	10	10	16.2	19.8	42	1	33
SV18N0603850							0402	N/A	14	18	0.1	0.1	20	20	19.8	24.2	45	1	85
SV3R5N0603181							0603	N/A	2.5	3.3	0.1	0.1	20	20	4.4	6.6	13	1	180
SV5R5N0603271							0603	N/A	4	5.5	0.1	0.1	30	30	6.9	9.3	16	1	270
SV8N0603141							0603	N/A	6	8	0.1	0.1	30	30	8.8	13.2	29	1	140
SV9N0603211							0603	N/A	7	9	0.1	0.1	30	30	10	15	27	1	210
SV11N0603201							0603	N/A	8	11	0.1	0.1	30	30	13	18	27	1	200
SV14N0603101							0603	N/A	11	14	0.1	0.1	30	30	16.2	19.8	35	1	100
SV14N0603151							0603	N/A	11	14	0.1	0.1	30	30	16.2	19.8	35	1	150
SV18N0603131							0603	N/A	14	18	0.1	0.1	30	30	19.8	24.2	40	1	130
SV26N0603101							0603	N/A	20	26	0.1	0.1	30	30	27.9	34.1	58	1	100
SV30N0603040							0603	N/A	25	30	0.1	0.1	30	30	38	46	65	1	40
SV39N0603030							0603	N/A	30	39	0.1	0.1	30	30	42	52	80	1	30
SV5R5N0805102							0805	N/A	4	5.5	0.3	0.3	120	120	6.9	9.3	15	2	1000
SV9N0805641							0805	N/A	6.5	9	0.3	0.3	120	120	11.3	15.2	24	2	640
SV11N0805581							0805	N/A	8	11	0.3	0.3	120	120	13	18	27	2	580
SV14N0805501							0805	N/A	10	14	0.3	0.3	120	120	17.5	23.7	30	2	500
SV18N0805401							0805	N/A	14	18	0.3	0.3	120	120	23	30	40	2	400
SV22N0805361							0805	N/A	17	22	0.3	0.3	120	120	28	34	50	2	360
SV26N0805281							0805	N/A	20	26	0.3	0.3	120	120	33	40	58	2	280
SV30N0805201							0805	N/A	25	30	0.3	0.3	120	120	38	46	65	2	200
SV39N0805151							0805	N/A	30	39	0.3	0.3	120	120	42	52	80	2	150
SV5R5N1206312							1206	N/A	4	5.5	0.4	0.4	100	100	7.5	10.5	20	10	3100
SV9N1206222							1206	N/A	6.5	9	0.4	0.4	150	150	11.3	15.2	25	10	2200
SV14N1206172							1206	N/A	10	14	0.4	0.4	150	150	17.5	23.7	30	10	1700
SV18N1206102							1206	N/A	14	18	0.4	0.4	150	150	23	30	40	10	1000
SV26N1206941							1206	N/A	20	26	0.4	0.4	150	150	33	40	58	10	940
SV30N1206891							1206	N/A	25	30	0.4	0.4	150	150	38	46	66	10	890
SV42N1206641							1206	N/A	30	42	0.4	0.4	150	150	46	60	180	10	640
SV48N1206601							1206	N/A	40	48	0.4	0.4	150	150	55	66	100	10	600
SV56N1206181							1206	N/A	40	56	0.4	0.4	150	150	63	77	120	10	180
SV18N1210172							1210	N/A	14	18	0.9	0.9	220	220	23	30	40	10	1700
SV26N1210122							1210	N/A	20	26	0.9	0.9	220	220	33	40	58	10	1200
SV30N1210901							1210	N/A	25	30	0.9	0.9	220	220	38	46	66	10	900
SV38N1210781							1210	N/A	30	38	0.9	0.9	250	250	42.3	51.7	77	10	780
SV48N1210451							1210	N/A	40	48	0.9	0.9	250	250	55	66	100	10	450
SV60N1210601							1210	N/A	50	60	0.9	0.9	250	250	69	83	120	10	600

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

SV SERIES

Standard MLV

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
SV5R5N0402271	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV9N0402131	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV11N0402121	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV11N0402400	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV14N0603900	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV14N0603330	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV18N0603850	0.039	0.004	0.020	0.004	0.020	0.088	0.028	0.035	N/A
SV3R5N0603181	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV5R5N0603271	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV8N0603141	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV9N0603211	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV11N0603201	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV14N0603101	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV14N0603151	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV18N0603131	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV26N0603101	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV30N0603040	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV39N0603030	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
SV5R5N0805102	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV9N0805641	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV11N0805581	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV14N0805501	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV18N0805401	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV22N0805361	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV26N0805281	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV30N0805201	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV39N0805151	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
SV5R5N1206312	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV9N1206222	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV14N1206172	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV18N1206102	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV26N1206941	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV30N1206891	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV42N1206641	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV48N1206601	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV56N1206181	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
SV18N1210172	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
SV26N1210122	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
SV30N1210901	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
SV38N1210781	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
SV48N1210451	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
SV60N1210601	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A

TV SERIES

Low Capacitance MLV

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(EIA)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
TV5R5N0603							0603	N/A	4	5.5	0.05	0.05	20	20	6.9	9.3	20	1	210
TV9N0603							0603	N/A	6.5	9	0.05	0.05	20	20	11	15	25	1	180
TV11N0603							0603	N/A	8	11	0.05	0.05	20	20	13	17	30	1	170
TV14N0603							0603	N/A	10	14	0.05	0.05	25	25	16.5	20.5	35	1	150
TV18N0603							0603	N/A	14	18	0.05	0.05	25	25	22	27	45	1	120
TV22N0603							0603	N/A	17	22	0.05	0.05	30	30	26	32	50	1	90
TV26N0603							0603	N/A	20	26	0.05	0.05	30	30	32	38	60	1	60
TV5R5N0805							0805	N/A	4	5.5	0.1	0.1	40	40	6.9	9.3	15	2	510
TV9N0805							0805	N/A	6.5	9	0.15	0.15	40	40	11.3	15.2	20	2	320
TV11N0805							0805	N/A	8	11	0.15	0.15	40	40	13	17	25	2	290
TV14N0805							0805	N/A	10	14	0.15	0.15	40	40	17.5	23.7	30	2	250
TV18N0805							0805	N/A	14	18	0.15	0.15	40	40	23	30	40	2	200
TV22N0805							0805	N/A	17	22	0.15	0.15	40	40	28	34	50	2	180
TV26N0805							0805	N/A	20	26	0.15	0.15	40	40	33	40	60	2	100

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

TV SERIES

Low Capacitance MLV

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
TV5R5N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV9N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV11N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV14N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV18N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV22N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV26N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
TV5R5N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
TV9N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
TV11N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
TV14N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
TV18N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
TV22N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
TV26N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A

PV SERIES

Power MLV

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses						1 V rms @1kHz
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		
	A	B	C	D	E	F	(EIA)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
PV5R5N0603							0603	N/A	4	5.5	0.15	0.15	40	40	6.9	9.3	15.5	2	800
PV14N0603							0603	N/A	10	14	0.15	0.15	40	40	17.5	23.7	30	2	450
PV18N0603							0603	N/A	14	18	0.15	0.15	40	40	23	30	40	2	380
PV22N0603							0603	N/A	17	22	0.15	0.15	40	40	28	34	58	2	290
PV5R5N0805							0805	N/A	4	5.5	0.4	0.4	120	120	6.9	9.3	15.5	5	1530
PV14N0805							0805	N/A	10	14	0.4	0.4	150	150	16.5	20.5	30	5	750
PV18N0805							0805	N/A	14	18	0.4	0.4	150	150	23	30	40	5	640
PV22N0805							0805	N/A	17	22	0.4	0.4	150	150	28	34	50	5	540
PV26N0805							0805	N/A	20	26	0.4	0.4	150	150	33	40	58	5	480
PV30N0805							0805	N/A	25	30	0.4	0.4	150	150	38	46	65	5	250
PV3R5N1206							1206	N/A	2.5	3.3	0.7	0.7	150	150	4.4	6.6	13	10	7400
PV5R5N1206							1206	N/A	4	5.5	0.7	0.7	150	150	6.9	9.3	15.5	10	4800
PV14N1206							1206	N/A	10	14	0.7	0.7	200	200	17.5	23.7	30	10	2200
PV18N1206							1206	N/A	14	18	0.7	0.7	200	200	23	30	40	10	1700
PV26N1206							1206	N/A	20	26	0.7	0.7	200	200	33	40	58	10	1550
PV30N1206							1206	N/A	25	30	0.7	0.7	200	200	38	46	66	10	1430
PV48N1206							1206	N/A	40	48	0.7	0.7	200	200	55	66	100	10	1070
PV18N1210							1210	N/A	14	18	1.5	1.5	500	500	23	30	40	10	2680
PV26N1210							1210	N/A	20	26	1.5	1.5	300	300	33	40	58	10	2100
PV30N1210							1210	N/A	25	30	1.5	1.5	250	250	38	46	66	10	1900
PV48N1210							1210	N/A	40	48	1.5	1.5	250	250	55	66	100	10	1600
PV60N1210							1210	N/A	50	60	1.5	1.5	250	250	69	83	140	10	1230
PV85N1210							1210	N/A	67	85	1.5	1.5	250	250	98	118	160	10	590
PV18N1812							1812	N/A	14	18	2.5	2.5	500	500	23	30	40	10	3800
PV26N1812							1812	N/A	20	26	3.0	3.0	500	500	33	40	58	10	2950
PV30N1812							1812	N/A	25	30	3.7	3.7	500	500	38	46	66	10	2820
PV48N1812							1812	N/A	40	48	4.0	4.0	400	400	55	66	100	10	2740
PV60N1812							1812	N/A	50	60	4.5	4.5	400	400	69	83	140	10	2220
PV85N1812							1812	N/A	67	85	5.8	5.8	400	400	98	118	160	10	1400
PV5R5N2220							2220	N/A	4	5.5	2	2	1000	1000	6.9	9.3	15.5	10	15000
PV14N2220							2220	N/A	10	14	2.5	2.5	1200	1200	17.5	23.7	30	10	9600
PV18N2220							2220	N/A	14	18	3	3	1200	1200	23	30	40	10	6400
PV26N2220							2220	N/A	20	26	5	5	1200	1200	33	40	58	10	6200
PV30N2220							2220	N/A	25	30	6	6	1200	1200	38	46	66	10	5700
PV38N2220							2220	N/A	30	38	6	6	1200	1200	42	52	77	10	5500
PV48N2220							2220	N/A	40	48	8	8	1200	1200	55	66	100	10	5200

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

PV SERIES

Power MLV

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
PV5R5N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
PV14N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
PV18N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
PV22N0603	0.063	0.006	0.032	0.006	0.035	0.110	0.380	0.040	N/A
PV5R5N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
PV14N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
PV18N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
PV22N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
PV26N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
PV30N0805	0.079	0.008	0.049	0.008	0.043	0.125	0.600	0.045	N/A
PV3R5N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV5R5N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV14N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV18N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV26N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV30N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV48N1206	0.126	0.012	0.063	0.012	0.067	0.175	0.068	0.065	N/A
PV18N1210	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
PV26N1210	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
PV30N1210	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
PV48N1210	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
PV60N1210	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
PV85N1210	0.126	0.012	0.098	0.012	0.071	0.175	0.110	0.065	N/A
PV18N1812	0.177	0.014	0.126	0.012	0.079	0.230	0.135	0.075	N/A
PV26N1812	0.177	0.014	0.126	0.012	0.079	0.230	0.135	0.075	N/A
PV30N1812	0.177	0.014	0.126	0.012	0.079	0.230	0.135	0.075	N/A
PV48N1812	0.177	0.014	0.126	0.012	0.079	0.230	0.135	0.075	N/A
PV60N1812	0.177	0.014	0.126	0.012	0.079	0.230	0.135	0.075	N/A
PV85N1812	0.177	0.014	0.126	0.012	0.079	0.230	0.135	0.075	N/A
PV5R5N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A
PV14N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A
PV18N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A
PV26N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A
PV30N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A
PV38N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A
PV48N2220	0.224	0.014	0.197	0.014	0.098	0.275	0.225	0.085	N/A

SPECIFICATIONS

AV SERIES

Array series for mulitple ESD protection

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient								
									Applied Voltage		Energy		Peak Current 8 x 20 μsec # Pulses		Varistor Voltage @1 mA DC		Max Clamping Voltage (@Test Current)		Typical Cap.
											10 x 1000 μsec	8 x 20 μsec	1	2	Vmin	Vmax	(8 x 20μsec)		1 V rms @1kHz
	A	B	C	D	E	F	(EIA)		(AC)	(DC)	(J)	(J)	(A)	(A)	(V)	(V)	(V)	(A)	(pF)
AV40805N5R5100							0805	N/A	4	5.5	0.01	0.01	5	5	9.6	14.4	34	1	10
AV40805N5R5330							0805	N/A	4	5.5	0.01	0.01	10	10	9.6	14.4	28	1	33
AV40805N5R5500							0805	N/A	4	5.5	0.01	0.01	10	10	9.6	14.4	27	1	50
AV40805N18150							0805	N/A	14	18	0.01	0.01	5	5	25	31	58	1	15
AV41206N18040							1206	N/A	14	<18	N/A	N/A	120	120	22	31	48	1	40
AV41206N18120							1206	N/A	14	<18	N/A	N/A	150	150	22	31	45	1	120

NOTES:
Appendix A lists the single-pulse peak current and energy ratings on file with the Safety Agencies.
Maximum transient rating specified in this table are valid. They may differ from those shown in Appendix A.

A = UL1449 D = VDE
B = cUL E =
C = CSA F =

AV SERIES

Array series for mulitple ESD protection

Maida Style Number	Length (L) (in)	Length Tolerance (L) (in)	Width (W) (in)	Width Tolerance (W) (in)	MAX. Height (H) (in)	Land Pad Length (PL) (in)	Land Pad Width (PW) (in)	Land Pad Thickness (PT) (in)	Typical Wire Diameter (d) (in)
AV40805N5R5100	0.079	0.008	0.049	0.008	0.043	(1)	(1)	(1)	N/A
AV40805N5R5330	0.079	0.008	0.049	0.008	0.043	(1)	(1)	(1)	N/A
AV40805N5R5500	0.079	0.008	0.049	0.008	0.043	(1)	(1)	(1)	N/A
AV40805N18150	0.079	0.008	0.049	0.008	0.043	(1)	(1)	(1)	N/A
AV41206N18040	0.126	0.012	0.063	0.012	0.067	(1)	(1)	(1)	N/A
AV41206N18120	0.126	0.012	0.063	0.012	0.067	(1)	(1)	(1)	N/A

(1) : Please contact Maida for details.

MPD SERIES

INTRODUCTION

The MPD Series is a modular surge protective device, featuring an IP65 enclosure rating, and is used for transient overvoltage protection. The MPD Series utilizes thermal protection in conjunction with metal oxide varistors to provide a protection package for use in many applications such as commercial and residential indoor/outdoor LED lighting fixtures. The MPD Series can be connected in series or parallel, is RoHS compliant, and has a LED operational indicator. The MPD Series is available with a 277VAC MCOV.

KEY FEATURES

- **UL1449 - Type 4CA**
- **Thermally Protected**
- **Series/Parallel Connectivity**
- **Operational indicator**
- **In: 10kA, Imax: 20kA (@ 8/20us)**
- **IP65 enclosure rating**

TYPICAL APPLICATIONS

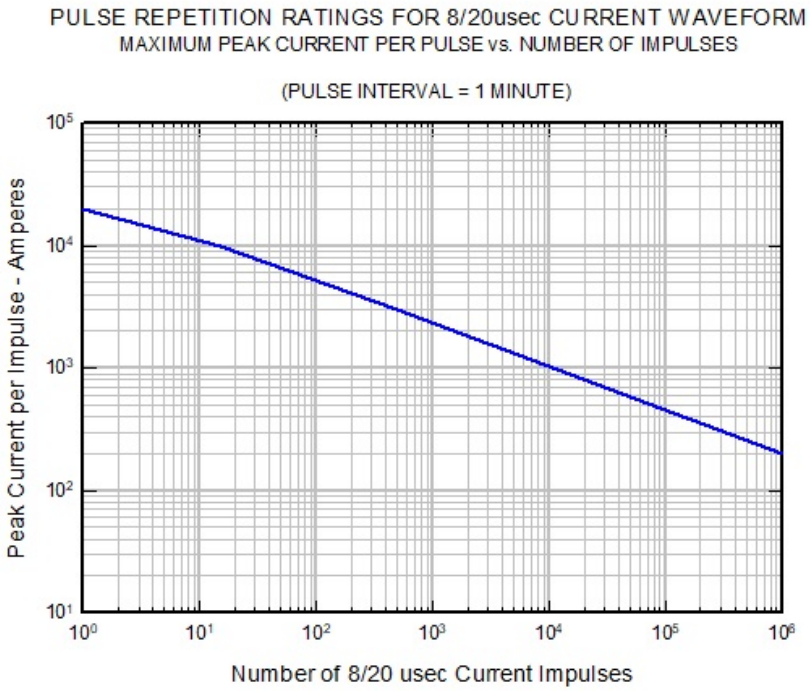
- **LED Street Lighting**
- **Traffic Lighting**
- **Roadway Lighting**
- **Parking/Garage Lighting**
- **Indoor/Outdoor LED Lighting Fixture**
- **AC Power Systems requiring thermal protection**
- **Digital Signs**

SAFETY AGENCY APPROVALS

- **UL1449 (E321173)**
- **cUL (E321173)**

SPECIFICATIONS

Maida Style Number	Maximum Continuous Operating Voltage (MCOV)	Peak Current (8 x 20 us)		Measured Limiting Voltage (MLV)	Rated Current	Response Time	Degree of Enclosure Protection
		In	Imax	L-N	Ir		
	(VAC)	(kA)	(kA)	(V)	(A)	(ns)	
MPD10K27720KLFFx	277	10	20	1910	7	< 100	IP65



STYLE DESIGNATION

The Maida Style Number is the typical means to identify our devices when ordered. The style number identifies several parameters that are important for the characteristics of the device. An alternative ordering method, if known, is by our Item Number.

The following example is the standard part numbering system when ordering our MPD Series components by the Maida Style Number:

MPD 10K 277 20K L FF x

Maida Protective Device

Nominal Discharge Current (I_N)
10K – 10kA

Operating Voltage
277 – 277VAC MCOV

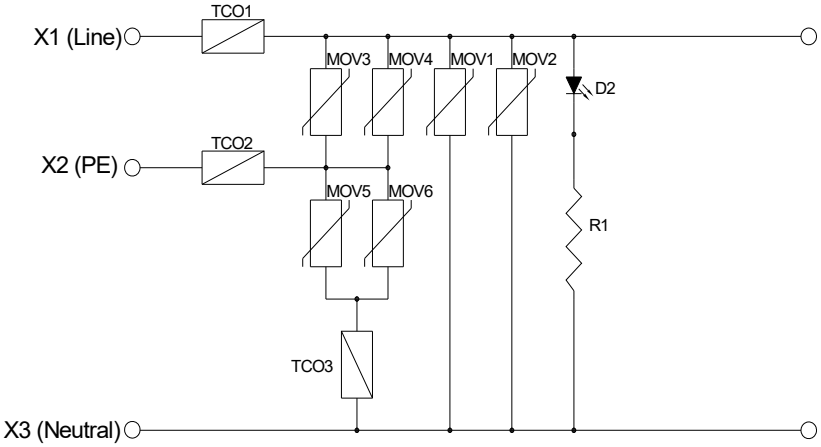
Peak Current Rating (I_{MAX})
20K – 20kA

Status Indicator
L – Light indicator

Protective Disconnect Method
FF – Fail Off

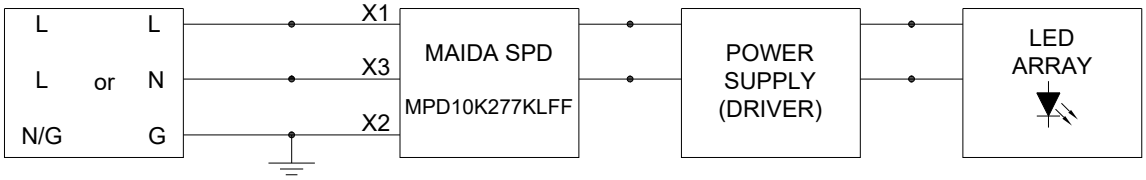
Enclosure Style
G – IP65 Single Grommet
x – Additional Options Possible

SCHEMATIC
(Patent Pending)

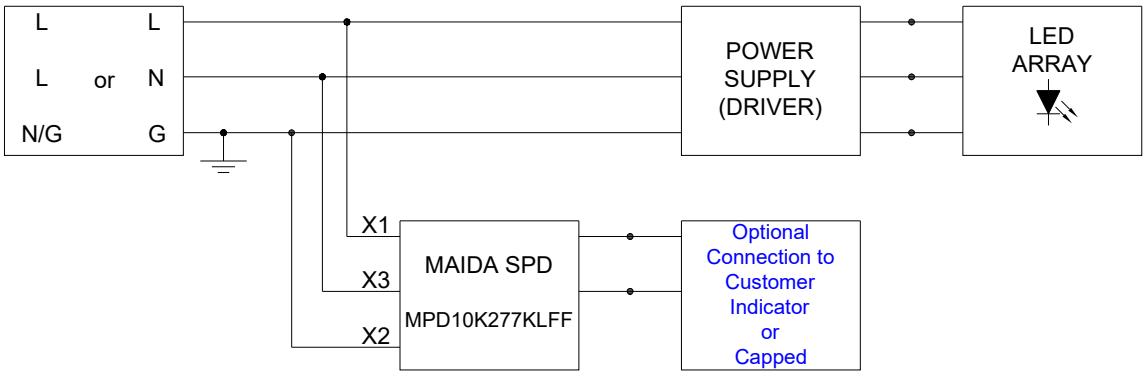


TYPICAL INSTALLATION

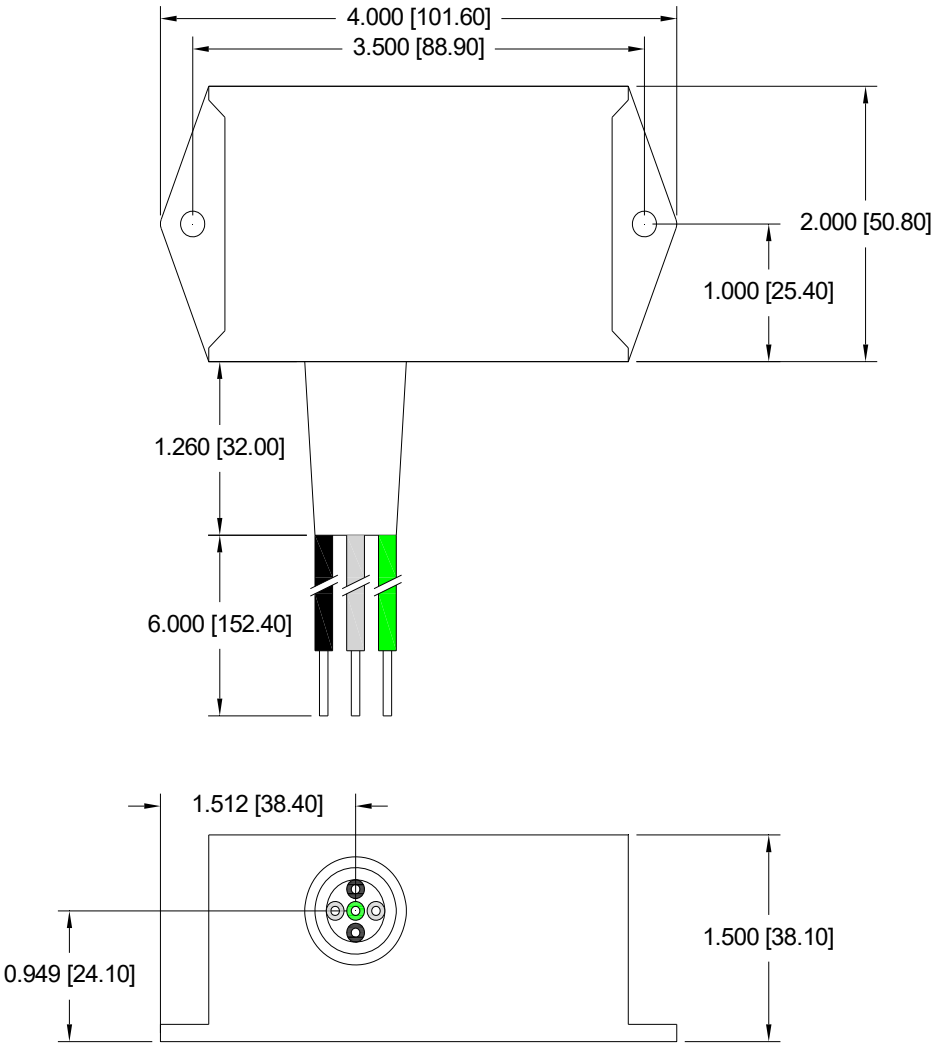
Series Connection

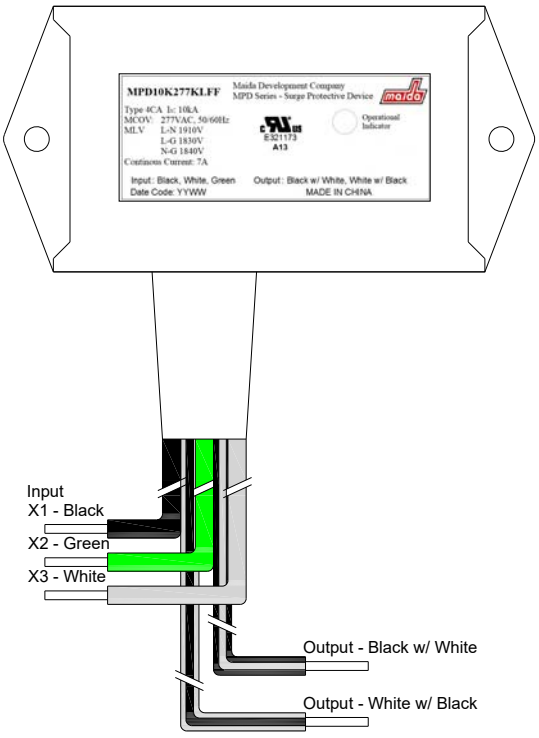


Parallel Connection



DIMENSIONS





Dimensions are in inches [mm]

APPENDIX A

Appendix A lists the single-pulse peak current and energy ratings with the Safety Agencies. Maximum transient rating specified in each Series tables are valid. NOTE: These values may differ from those shown in Appendix A.

Appendix A

Single Pulse Peak Current Ratings

per Safety Agency Certification Testing

Voltage Range	CSA Disk Series Designation											
	D56	D58	D73	D68	D61	D71	D62	D69	D64	D63	D65	D66
(VAC)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
120-150	n/a	n/a	1200	1200	2500	2500	3500	4500	4500	5500	6500	13000
180-300	n/a	n/a	1200	1200	2500	n/a	3500	4500	4500	5500	6500	13000
320-600	n/a	n/a	1200	1200	2500	n/a	3500	4500	4500	5500	6500	13000
620-1000	n/a	n/a	n/a	n/a	2500	n/a	n/a	4500	4500	5500	6500	13000

Voltage Range	CSA Disk Series Designation							
	S66	D78	S75	D75	D77		R69	R65	R66
(VAC)	(A)	(A)	(A)	(A)	(A)		(A)	(A)	(A)
120-150	22000	25000	40000	40000	70000		6500	12000	18000
180-270	18000	25000	40000	40000	70000		6000	10000	15000
300-1000	15000	25000	40000	40000	70000		6000	10000	13000

Voltage Range	VDE Disk Series Designation											
	D56	D58	D73	D68	D61	D71	D62	D69	D64	D63	D65	D66
(VAC)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
120-180	n/a	400	1200	n/a	2000	2500	3500	4500	n/a	5500	6500	n/a
210-680	n/a	n/a	n/a	n/a	2000	n/a	3500	4500	n/a	5500	6500	n/a
750-1000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4500	n/a	5500	6500	n/a

Single Pulse (10x1000us current waveform) Energy Ratings

for Safety Agency Certification Testing

Voltage Range	VDE Disk Series Designation											
	D56	D58	D73	D68	D61	D71	D62	D69	D64	D63	D65	D66
(VAC)	(J)	(J)	(J)	(J)	(J)	(J)	(J)	(J)	(J)	(J)	(J)	(J)
11	n/a	0.3	0.8	n/a	1.5	n/a	n/a	3.5	n/a	n/a	10	n/a
14	n/a	0.4	0.9	n/a	2	n/a	n/a	4	n/a	n/a	13	n/a
17	n/a	0.5	1	n/a	2.5	n/a	n/a	5	n/a	n/a	15	n/a
20	n/a	0.6	1.2	n/a	3	n/a	n/a	6	n/a	n/a	20	n/a
25	n/a	0.8	1.5	n/a	3.5	n/a	n/a	7	n/a	n/a	24	n/a
30	n/a	1	1.8	n/a	4.5	n/a	n/a	8.5	n/a	n/a	30	n/a
35	n/a	1	2.2	n/a	5.5	n/a	n/a	10	n/a	n/a	35	n/a
40	n/a	1.2	3	n/a	6.5	n/a	n/a	12	n/a	n/a	40	n/a
50	n/a	2	4	n/a	6	8	10	15	n/a	n/a	42	n/a
60	n/a	2	5	n/a	7	9	11	20	n/a	n/a	45	n/a
75	n/a	2.5	6	n/a	8	10	13	22	n/a	n/a	55	n/a
95	n/a	3	8	n/a	10	13	17	30	n/a	n/a	65	n/a
120	n/a	3.5	10	n/a	13	18	n/a	35	n/a	n/a	65	n/a
130	n/a	4	11	n/a	14	20	24	38	n/a	70	70	n/a
140	n/a	4.5	12	n/a	16	22	26	42	n/a	75	75	n/a
150	n/a	5	13	n/a	17	23	28	45	n/a	80	80	n/a
180	n/a	6	15	n/a	20	n/a	30	55	n/a	65	100	n/a
210	n/a	n/a	n/a	n/a	n/a	n/a	35	n/a	n/a	n/a	n/a	n/a
230	n/a	7.5	20	n/a	35	n/a	50	70	n/a	80	115	n/a
250	n/a	8	21	n/a	40	n/a	66	72	n/a	90	130	n/a
270	n/a	9	23	n/a	43	n/a	60	75	n/a	100	140	n/a
300	n/a	10	25	n/a	45	n/a	65	80	n/a	105	150	n/a
320	n/a	n/a	n/a	n/a	45	n/a	70	90	n/a	110	160	n/a
360	n/a	n/a	n/a	n/a	45	n/a	n/a	85	n/a	n/a	n/a	n/a
390	n/a	n/a	n/a	n/a	45	n/a	n/a	85	n/a	n/a	150	n/a
400	n/a	n/a	n/a	n/a	n/a	n/a	n/a	85	n/a	n/a	n/a	n/a
420	n/a	n/a	n/a	n/a	50	n/a	70	90	n/a	145	160	n/a
460	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100	n/a	n/a	175	n/a
480	n/a	n/a	n/a	n/a	50	n/a	80	105	n/a	110	180	n/a
510	n/a	n/a	n/a	n/a	55	n/a	85	110	n/a	130	190	n/a
550	n/a	n/a	n/a	n/a	60	n/a	90	115	n/a	145	200	n/a
580	n/a	n/a	n/a	n/a	65	n/a	95	120	n/a	160	220	n/a
620	n/a	n/a	n/a	n/a	65	n/a	100	130	n/a	170	230	n/a
680	n/a	n/a	n/a	n/a	70	n/a	105	150	n/a	200	260	n/a

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