

## INTRODUCTION

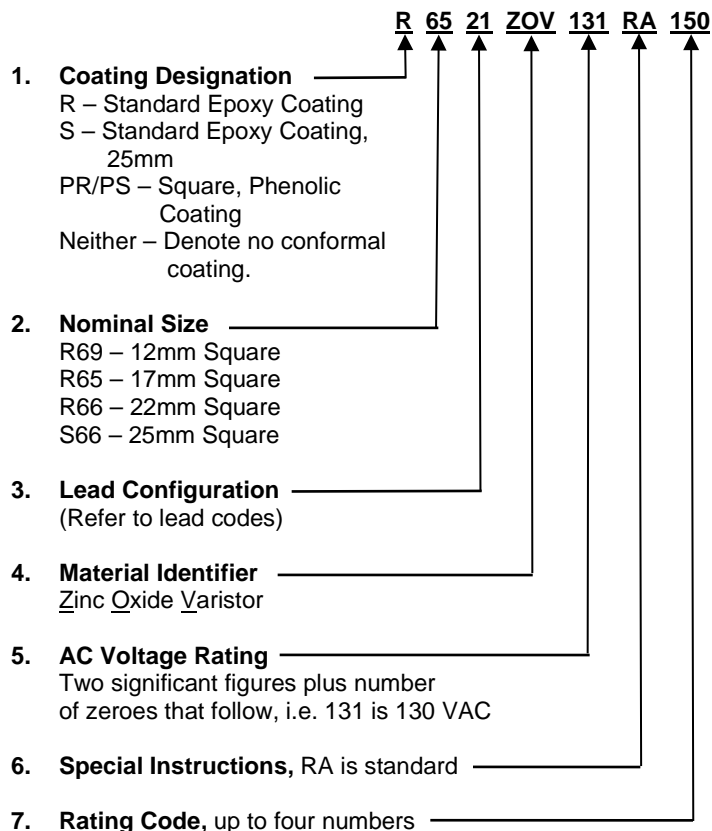
The Low Profile Series compliments our Standard Series as our square, radial-leaded varistors. These components consist of wire leads and have nominal sizes from 12mm to 25mm. They are available with maximum continuous operating voltages (MCOV) ranging from 130VAC to 1000VAC.

The Low Profile Series are designed to fit into spaces that Standard Series electrically equivalent 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:



### STANDARD MARKING

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

Example:

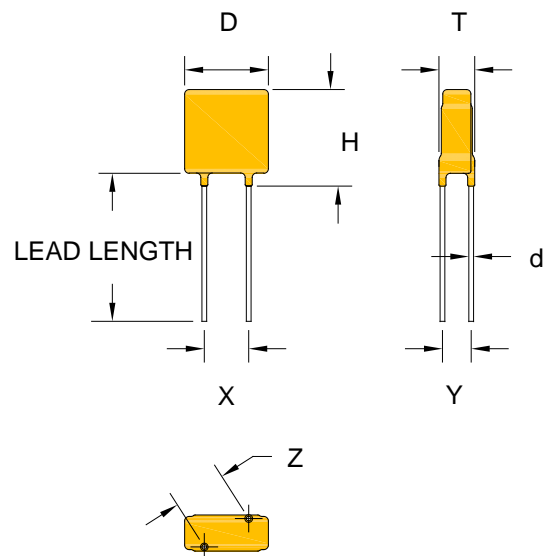
MDC  
 R65  
 131UL

Where:

MDC - Company Initials  
 R65 – Square Size  
 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

# ELECTRICAL SPECIFICATIONS

Maida Style Number	Recognitions To Safety Agency Standards A B C D E F						Nominal Size (mm)	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @1 mA DC (V) (V)		Max Clamping Voltage (@ Test Current) (V) (A)		Typical Cap. 1 V rms @1kHz (pF)
											Energy		Peak Current 8 x 20 μsec # Pulses						
									Applied Voltage (AC) (DC)		10 x 1000 μsec	8 x 20 μsec	1	2					
											(J)	(J)	(A)	(A)					
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
R692OV211RA120	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
R692OV231RA135	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
R692OV251RA145	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
R692OV271RA160	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
R692OV301RA175	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
R692OV321RA190	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
R692OV361RA205	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
R692OV391RA215	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
R692OV421RA225	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
R692OV461RA230	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
R692OV481RA235	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
R692OV511RA240	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
R692OV551RA255	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

# LOW PROFILE SERIES

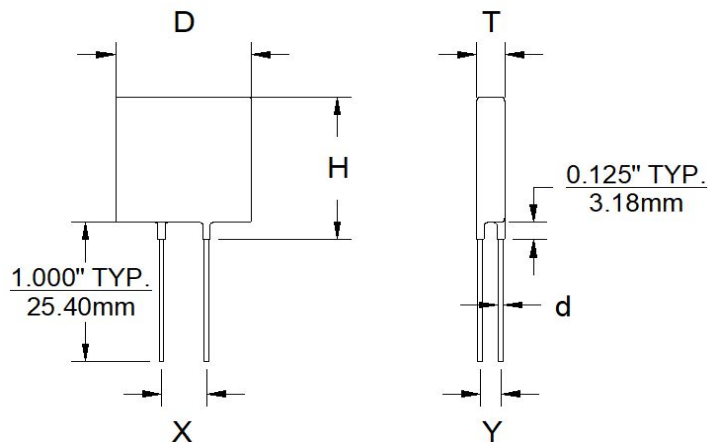
# ELECTRICAL SPECIFICATIONS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size (mm)	Minimum Marking	Maximum Ratings						Electrical Characteristics						
									Applied Voltage		Transient				Varistor Voltage @ 1 mA DC		Max Clamping Voltage (@ Test Current)		Typical Cap.		
											Energy		Peak Current								
											10 x 1000 $\mu$ sec	8 x 20 $\mu$ sec	8 x 20 $\mu$ sec								1 V rms @ 1kHz
											# Pulses	1	2								
A	B	C	D	E	F	(AC)	(DC)	(J)	(J)	(A)	(A)	Vmin	Vmax	(V)	(A)	(pF)					
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		

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

# LOW PROFILE SERIES

## MECHANICAL SPECIFICATIONS



### Square

Dimension	12mm	17mm	22mm	25mm
<b>MAX. D</b>	0.566"	0.763"	0.925"	1.142"
<b>MAX. T</b>	0.248" - 0.514"	0.248" - 0.514"	0.248" - 0.514"	0.248" - 0.514"
<b>MAX. H</b>	0.691"	0.888"	1.050"	1.267"
<b>TYP. X</b>	0.300"	0.300"	0.394"	0.394"
<b>TYP. d</b>	0.032"	0.032"	0.032"	0.032"

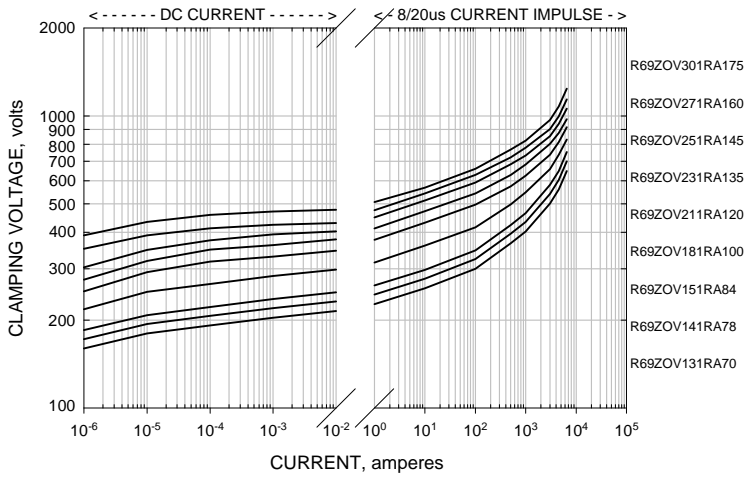
### NOTES:

1. Alternate dimensional specifications, including lead styles, for any part listed may be available upon request.
2. Specifications are subject to change. Contact Maida for specific datasheet for exact dimensions.

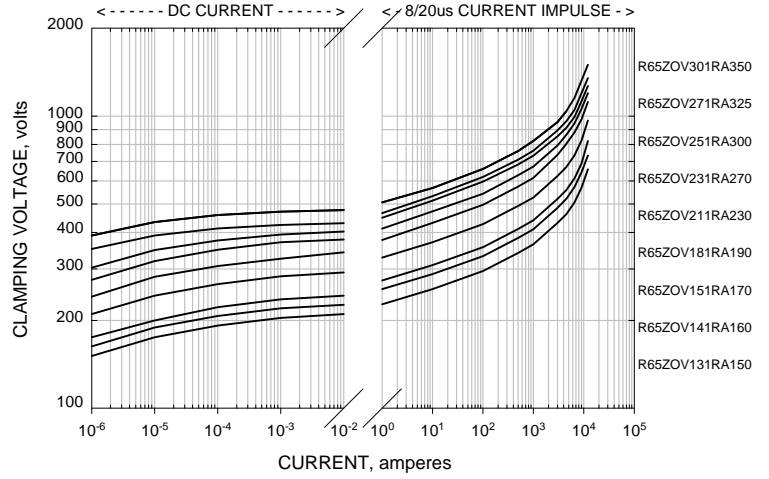


# LOW PROFILE SERIES - TYPICAL VOLTAGE-CURRENT CURVES

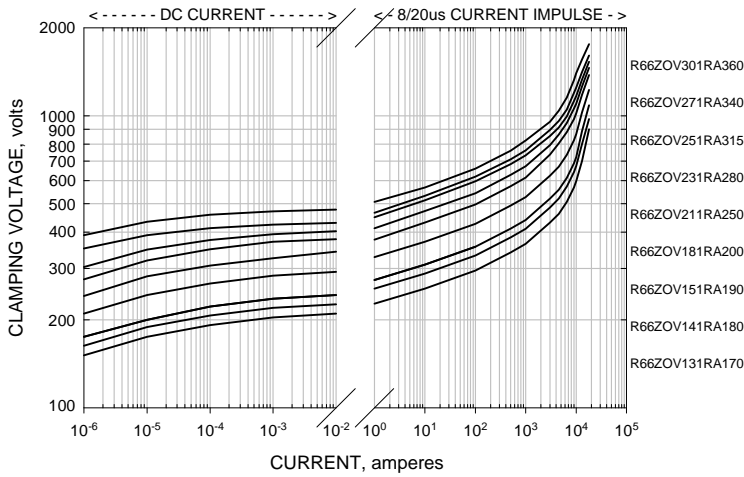
### R69 (12mm SQUARE) SERIES



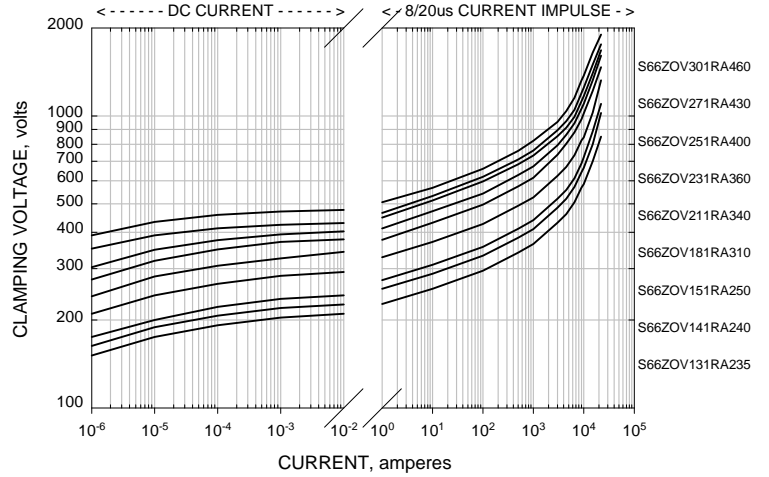
### R65 (17mm SQUARE) SERIES



### 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.



## 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, Y, 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 MOV's 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 SMD Series, 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

