

## INTRODUCTION

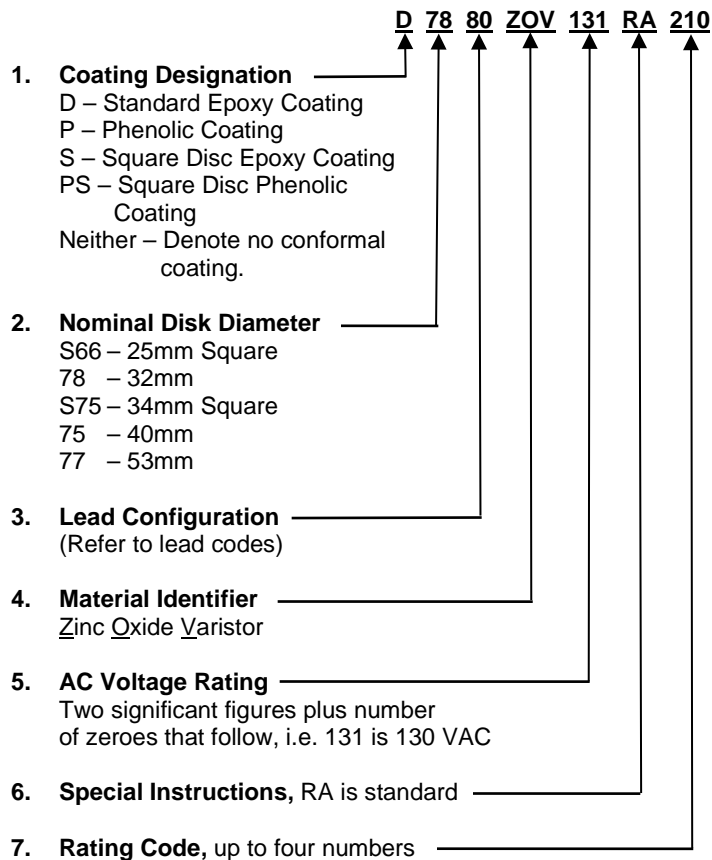
The High Energy Series is our large tab-leaded and wire-leaded varistors. They are available in round and square shapes. These varistors are available in 25mm, 32mm, 34mm, 40mm, and 53mm configurations including single and dual discs. They are available with maximum continuous operating voltages (MCOV) 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, with limited wire leaded options.

### 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:



### 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

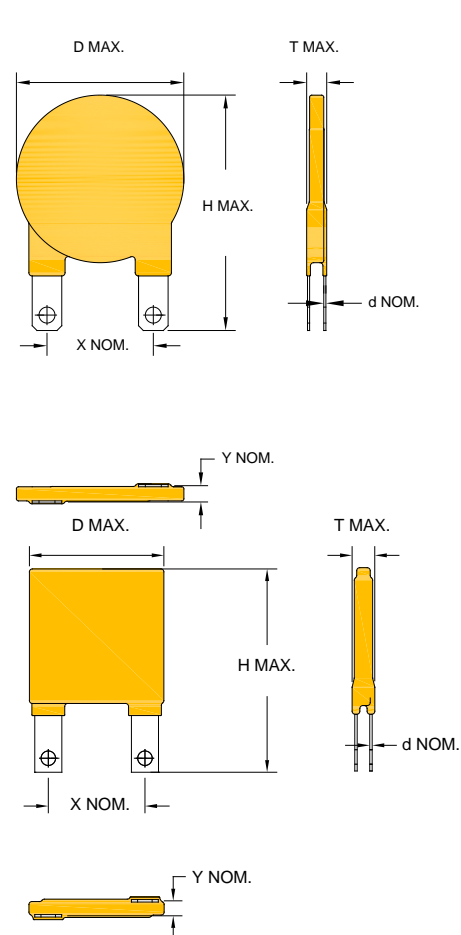
131 - AC Voltage rating (130VAC)

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

# ELECTRICAL SPECIFICATIONS

Maida Style Number	Recognitions To Safety Agency Standards						Nominal Size (mm)	Minimum Marking	Maximum Ratings						Electrical Characteristics				
									Continuous		Transient				Varistor Voltage @ 1 mA DC		Max Clamping Voltage (@ Test Current)		Typical Cap. 1 V rms @ 1kHz
											Applied Voltage	Energy		Peak Current					
	(AC)	(DC)	10 x 1000 $\mu$ sec	8 x 20 $\mu$ sec	# Pulses		Vmin (V)	Vmax (V)	(8 x 20 $\mu$ sec)			(pF)							
			(J)	(J)	(A)	(A)													
	S6680ZOV131RA180	X	X					25	C5S-131UL	130	175	180	180	20000	14000	184	224	340	100
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	X					40	Z211-430UL	210	270	430	430	40000	32000	297	363	640	300	3400
D7780ZOV211RA700	X	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	X				25	C5S-251UL	250	330	330	330	20000	14000	354	432	650	100	2300
D7880ZOV251RA330	X	X	X				32	Z251-330UL	250	330	360	360	25000	20000	354	432	650	200	2500
S7580ZOV251RA490	X	X	X				34	D4S-251UL	250	330	490	490	40000	32000	354	432	650	300	4100
D7580ZOV251RA490	X	X	X				40	Z251-490UL	250	330	490	490	40000	32000	354	432	650	300	2900
D7780ZOV251RA800	X	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
S6680ZOV341RA365	X	X					25	C5S-340UL	340	440	365	365	20000	14000	480	587	910	100	1700
D7880ZOV341RA500	X	X					32	Z341-500UL	340	440	500	500	25000	20000	480	587	910	200	1550
S7580ZOV341RA685	X	X					34	D4S-341UL	340	440	685	685	40000	32000	480	587	910	300	2200
D7580ZOV341RA685	X	X					40	Z341-685UL	340	440	685	685	40000	32000	480	587	910	300	2100
D7780ZOV341RA1140	X	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	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	X					40	Z361-710UL	360	470	710	710	40000	32000	522	638	960	300	1900
D7780ZOV361RA1180	X	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

# HIGH ENERGY SERIES

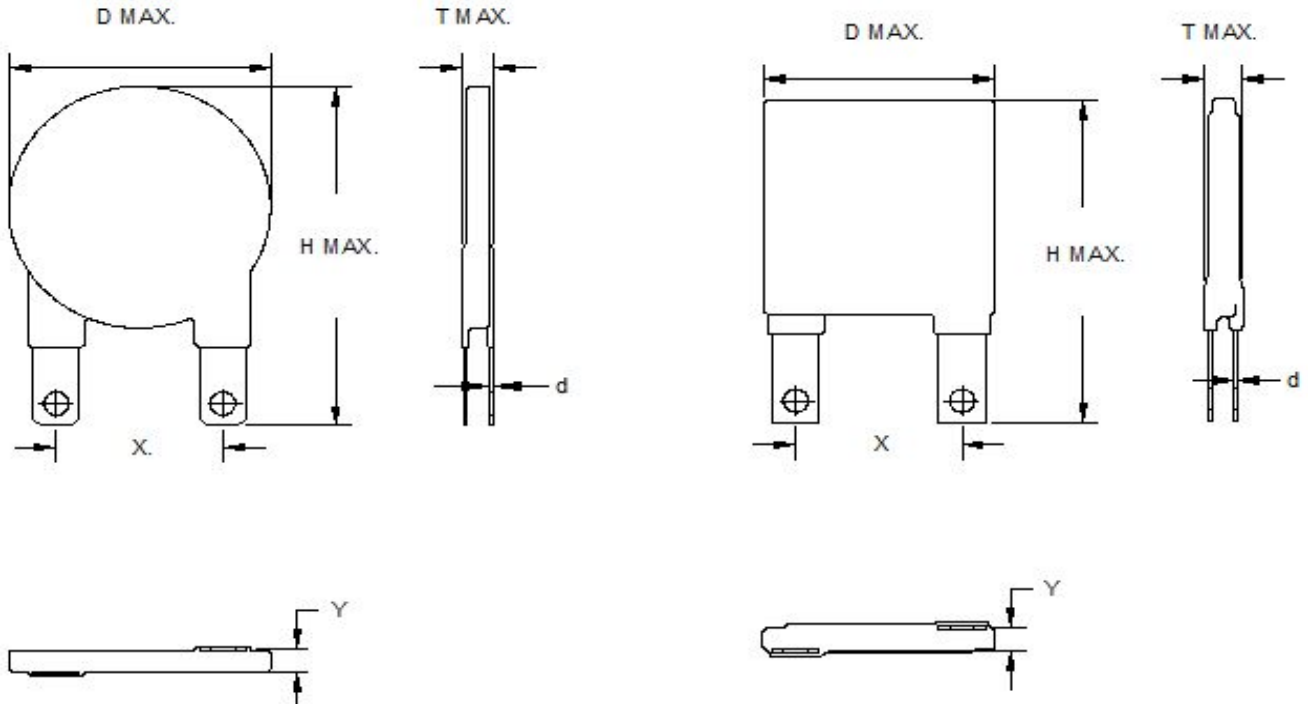
# ELECTRICAL SPECIFICATIONS

Maida Style Number	Recognitions To Safety Agency Standards					Nominal Size (mm)	Minimum Marking	Maximum Ratings						Electrical Characteristics							
								Applied Voltage		Energy		Transient		Peak Current 8 x 20 $\mu$ sec # Pulses		Varistor Voltage @ 1 mA DC		Max Clamping Voltage (@ Test Current)		Typical Cap. 1 V rms @ 1kHz	
												10 x 1000 $\mu$ sec	8 x 20 $\mu$ sec								1
										(AC)	(DC)	(J)	(J)	(A)	(A)	Vmin	Vmax	(V)	(A)	(pF)	
								A	B	C	D	E	F	(mm)							
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		
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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		
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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		
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	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	X					40	Z102-1400UL	1000	1200	1400	1400	40000	32000	1414	1728	2700	300	710		
D7780ZOV102RA3000	X	X					53	Z102-3000UL	1000	1200	3200	3200	70000	52000	1414	1728	2700	500	1200		

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

# HE SERIES

## MECHANICAL SPECIFICATIONS



Dimension	Round				Square	
	25mm	32mm	40mm	53mm	25mm	34mm
<b>MAX. D</b>	1.142"	0.354"	0.394"	0.472"	1.142"	1.476"
<b>MAX. T</b>	0.248" - 0.514"	0.248" - 0.514"	0.248" - 0.514"	0.248" - 0.514"	0.248" - 0.514"	0.248" - 0.514"
<b>MAX. H</b>	1.970"	2.213"	2.370"	3.075"	1.970"	2.225"
<b>TYP. X</b>	1.000"	1.000"	1.000"	1.000"	1.000"	1.000"
<b>TYP. d</b>	0.020"	0.020"	0.020"	0.020"	0.020"	0.020"

### NOTES:

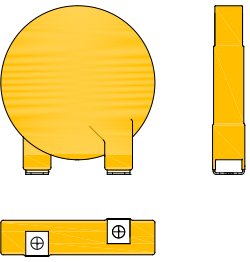
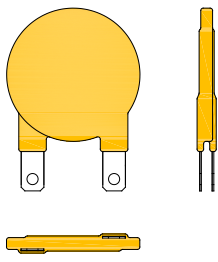
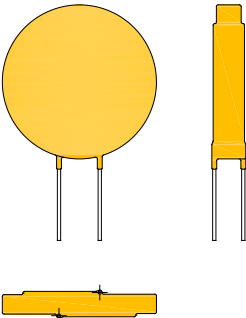
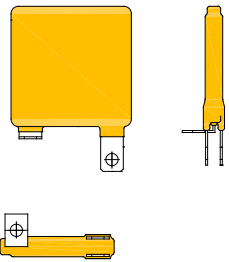
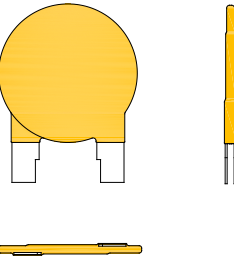
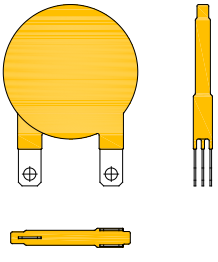
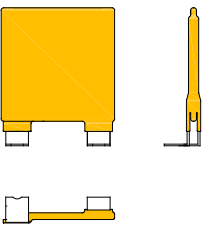
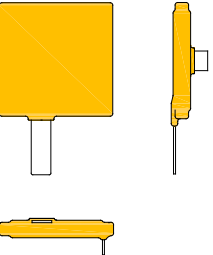
1. Alternate dimensional specifications, including lead styles, for any part listed may be available upon request.
2. Specifications are subject to change. Contact Maida for specific datasheet for exact dimensions.

## TAB 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.

<p>77</p> 	<p>80</p> 	<p>94</p> 
<p>C6</p> 	<p>D1</p> 	<p>D8</p> 
<p>S6</p> 	<p>1F</p> 	<p>1K</p> 