



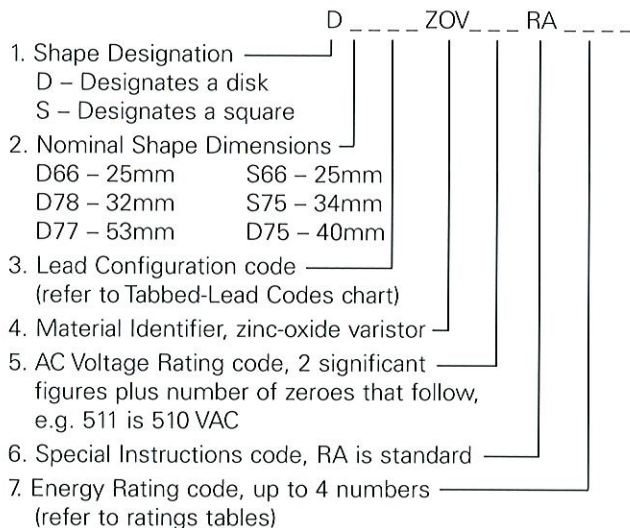
### High Energy Series

The High Energy Series, large tab-leaded varistors, are designed to handle extremely high peak currents and have the ability to absorb large amounts of energy. They are available in round and square shapes to allow mounting in various spaces. They are also available in "dual" configurations that allow the user to apply these parts in series or parallel circuit topologies.

These varistors are available in 32mm, 40mm, and 53mm single-disk configurations; 25mm and 34mm single-square configurations; 40mm dual-disk configuration; and 25mm and 34mm dual-square configurations. Several styles of tabbed-leads are available to accommodate various mounting schemes. The voltages for which these components are available, range from 130VAC to 1000VAC.

### Style Designation

The Maida Style number is the primary means to identify our components when ordered. The style number identifies several parameters that are important for the characteristics of the device. Observe the following part numbering system when ordering our components:



An example of a typical Maida style number is D7780ZOV151RA570. This style number displays a nominal disk size of 53mm, a standard lead code showing straight tabbed-leads, a maximum AC continuous operating voltage of 150 VAC.

### Standard Marking

Minimum marking information shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials "MDC" or the company logo. The abbreviated style designation is dependent upon the configuration of the component. In other words, the abbreviation for the disk shaped components will be different than for the square shaped components. The marking will include a "2X" if the component has a dual configuration.

An example for a disk component,

MDC  
2XZ511  
110UL

Where:

- 2X – Dual configuration
- Z – Represents "ZOV"
- 511 – AC voltage rating code
- 110 – Energy rating code
- UL – UL recognition if applicable

An example for a square component,

MDC  
C5S  
151UL

Where:

- C5 – Represents 25mm nominal ceramic size
- S – Designates square
- 151 – AC voltage rating code
- UL – UL recognition if applicable

The codes for the square components are based on the following number system:

- A – 0
- B – 1
- C – 2
- D – 3
- E – 4
- F – 5

Consequently, the "C5" designation in the above example represents the number 25.

A manufacturing date code is available upon request. Other safety agency designations are included if applicable.

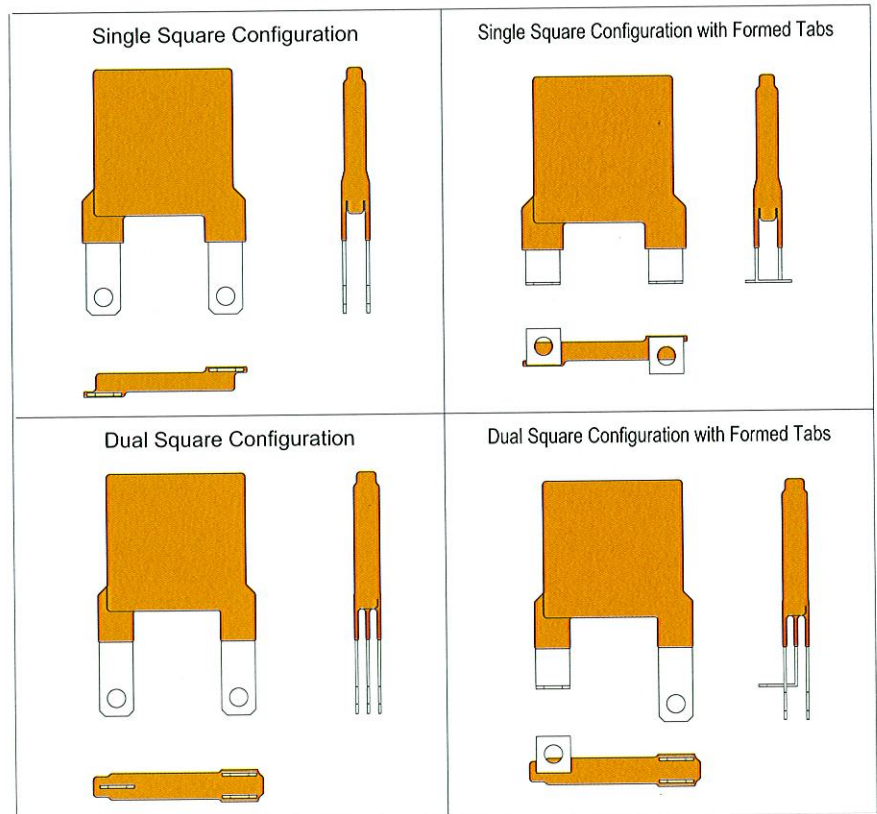
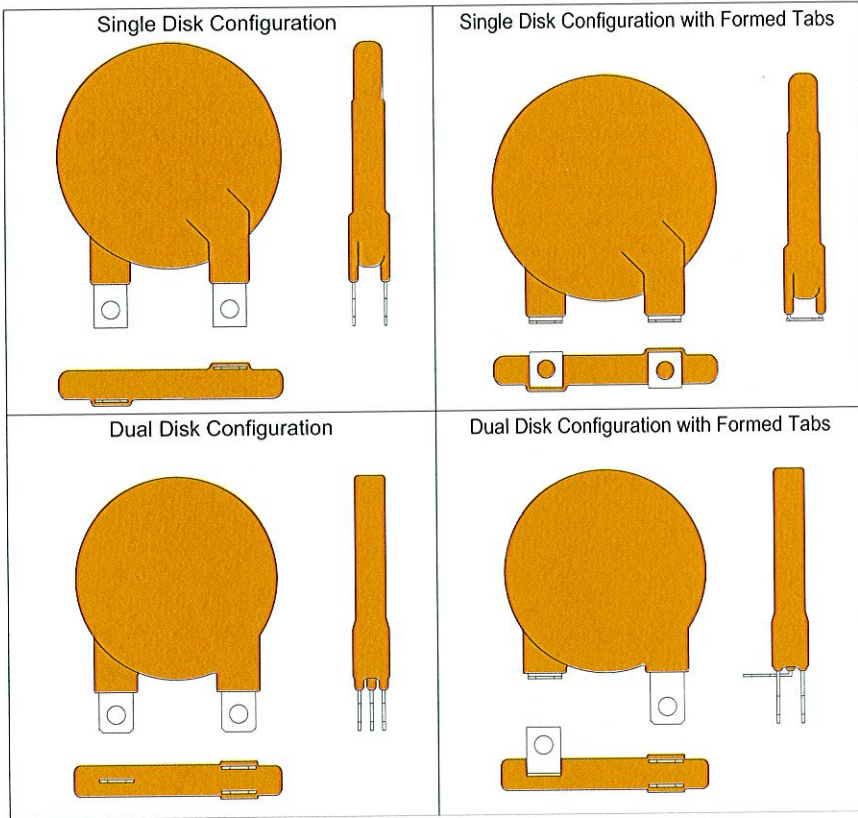
### How to Order the High Energy Series

The following specifications tables provide a way to match the Maida style number to a varistor that provides the necessary specifications for a specific application. Once the general style number is obtained, it will be necessary to determine the required lead configuration. Refer to the tabbed-lead codes and apply the required code to the Maida style number when ordering. Custom lead configurations are available. Contact our engineering department for additional information.

**For more information call us at (757) 723-0785.**

# HIGH ENERGY SERIES

## CONFIGURATIONS



### 32mm Single – Disk Configuration

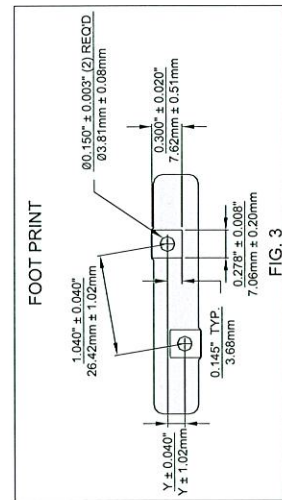
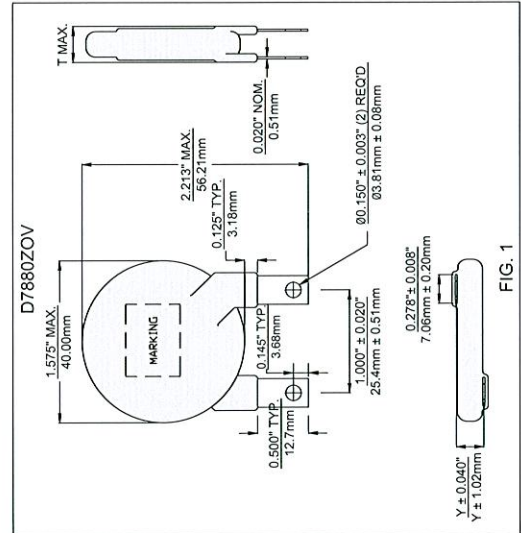
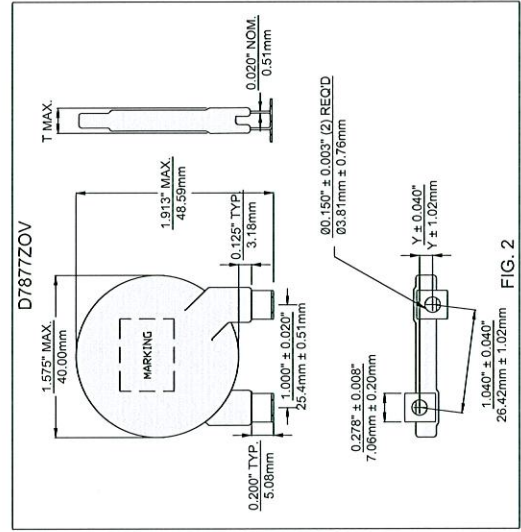
Maida Style Number	Recognitions To Safety Agency Standards	Minimum Marking	Maximum Ratings				Electrical Characteristics				Mechanical Dimensions										
			Continuous		Transient		Applied Voltage	Varistor Voltage @ 1mA DC	Max Clamping Voltage (@ Test Current)	Typical Cap @ 1kHz	Y +/- 0.040"		T MAX.								
			(AC)	(DC)	Energy 10x1000 μsec	Peak Current 8x20 μsec # Pulses					Vmin (V)	Vmax (V)	IN	MM	IN	MM					
			A	B	C	D	E	F	1	(A)	(A)	FIG. 1	FIG. 2	FIG. 2							
D78_ZOV131RA210	X	X	X	X	X	Z131-210UL	130	175	210	25000	184	224	340	200	4700	0.100	2.54	0.184	4.67	0.248	6.30
D78_ZOV141RA225	X	X	X	X	X	Z141-225UL	140	180	225	25000	198	242	360	200	4300	0.110	2.79	0.180	4.57	0.252	6.40
D78_ZOV151RA240	X	X	X	X	X	Z151-240UL	150	200	240	25000	212	259	395	200	4000	0.110	2.79	0.176	4.47	0.257	6.53
D78_ZOV181RA250	X	X	X	X	X	Z181-250UL	180	230	250	25000	255	311	465	200	3500	0.110	2.79	0.171	4.34	0.267	6.78
D78_ZOV231RA300	X	X	X	X	X	Z231-300UL	230	300	300	25000	326	397	595	200	2800	0.130	3.30	0.155	3.94	0.280	7.11
D78_ZOV251RA330	X	X	X	X	X	Z251-330UL	250	330	330	25000	354	432	650	200	2500	0.140	3.56	0.149	3.78	0.287	7.29
D78_ZOV271RA360	X	X	X	X	X	Z271-360UL	270	360	360	25000	382	466	710	200	2000	0.140	3.56	0.142	3.61	0.294	7.47
D78_ZOV301RA380	X	X	X	X	X	Z301-380UL	300	390	380	25000	425	518	790	200	2000	0.150	3.81	0.135	3.43	0.305	7.75
D78_ZOV321RA430	X	X	X	X	X	Z321-430UL	320	420	430	25000	453	553	850	200	1900	0.150	3.81	0.131	3.33	0.312	7.92
D78_ZOV391RA550	X	X	X	X	X	Z391-550UL	390	505	550	25000	552	674	1025	200	1600	0.170	4.32	0.117	2.97	0.312	7.92
D78_ZOV421RA600	X	X	X	X	X	Z421-600UL	420	560	600	25000	594	725	1120	200	1500	0.180	4.57	0.107	2.72	0.332	8.43
D78_ZOV461RA520	X	X	X	X	X	Z461-520UL	460	615	520	25000	651	795	1240	200	1400	0.190	4.83	0.095	2.41	0.344	8.74
D78_ZOV481RA550	X	X	X	X	X	Z481-550UL	480	640	550	25000	679	829	1300	200	1300	0.190	4.83	0.090	2.29	0.350	8.89
D78_ZOV511RA580	X	X	X	X	X	Z511-580UL	510	675	580	25000	722	881	1350	200	1200	0.200	5.08	0.083	2.11	0.360	9.14
D78_ZOV551RA620	X	X	X	X	X	Z551-620UL	550	700	620	25000	778	950	1400	200	1150	0.220	5.59	0.068	1.73	0.373	9.47
D78_ZOV581RA650	X	X	X	X	X	Z581-650UL	580	735	650	25000	821	1002	1500	200	1100	0.220	5.59	0.060	1.52	0.382	9.70
D78_ZOV621RA680	X	X	X	X	X	Z621-680UL	620	800	680	25000	877	1071	1650	200	1000	0.230	5.84	0.053	1.35	0.395	10
D78_ZOV681RA760	X	X	X	X	X	Z681-760UL	680	860	760	25000	962	1175	1800	200	900	0.250	6.35	0.037	0.94	0.414	10.5
D78_ZOV751RA800	X	X	X	X	X	Z751-800UL	750	970	800	25000	1062	1300	2100	200	800	0.280	7.11	0.010	0.25	0.460	11.7
D78_ZOV881RA850	X	X	X	X	X	Z881-850UL	880	1150	850	25000	1245	1520	2290	200	680	0.320	8.13	0.035	0.89	0.476	12.1
D78_ZOV102RA900	X	X	X	X	X	Z102-900UL	1000	1200	900	25000	1414	1728	2700	200	600	0.370	9.40	0.080	2.03	0.512	13.1

**NOTES:**

- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (80) in blanks to indicate STRAIGHT tabs or (77) to indicate FORMED FOOT (i.e. D7880ZOV131RA210 or D7877ZOV131RA210)

\* Footprint configuration converts to Fig. 3.



Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.

### 40mm Single – Disk Configuration

Maida Style Number	Recognitions To Safety Agency Standards			Minimum Marking			Maximum Ratings			Electrical Characteristics			Mechanical Dimensions							
							Continuous	Transient	Peak Current	Varistor Voltage @ 1mA DC	Max Clamping Voltage (@ Test Current)	Typical Cap @ 1kHz	Y +/- 0.040"		D7580		D7577		T MAX.	
													Applied Voltage	Energy	Energy	Vmin	Vmax	V	(A)	10x1000 $\mu$ sec
D75 ZOV131RA310	X	X	X	Z131 - 310UL	130	175	310	40000	184	224	340	300	10000	0.100	2.54	0.184	4.67	0.248	6.30	
D75 ZOV141RA330	X	X	X	Z141 - 330UL	140	180	330	40000	198	242	360	300	9000	0.110	2.79	0.180	4.57	0.252	6.40	
D75 ZOV151RA360	X	X	X	Z151 - 360UL	150	200	360	40000	212	259	395	300	8000	0.110	2.79	0.176	4.47	0.257	6.53	
D75 ZOV181RA390	X	X	X	Z181 - 390UL	180	230	390	40000	255	311	465	300	7100	0.110	2.79	0.171	4.34	0.267	6.78	
D75 ZOV231RA480	X	X	X	Z231 - 460UL	230	300	460	40000	326	397	595	300	5600	0.130	3.30	0.155	3.94	0.280	7.11	
D75 ZOV251RA500	X	X	X	Z251 - 490UL	250	330	490	40000	354	432	650	300	5000	0.140	3.56	0.149	3.78	0.287	7.29	
D75 ZOV271RA550	X	X	X	Z271 - 550UL	270	360	550	40000	382	466	710	300	4500	0.140	3.56	0.142	3.61	0.294	7.47	
D75 ZOV301RA600	X	X	X	Z301 - 600UL	300	390	600	40000	425	518	790	300	4000	0.150	3.81	0.135	3.43	0.305	7.75	
D75 ZOV321RA640	X	X	X	Z321 - 640UL	320	420	640	40000	453	553	850	300	3800	0.150	3.81	0.131	3.33	0.312	7.92	
D75 ZOV391RA800	X	X	X	Z391 - 800UL	390	505	800	40000	552	674	1025	300	3300	0.170	4.32	0.117	2.97	0.312	7.92	
D75 ZOV421RA910	X	X	X	Z421 - 910UL	420	560	910	40000	594	725	1120	300	3000	0.180	4.57	0.107	2.72	0.332	8.43	
D75 ZOV461RA780	X	X	X	Z461 - 780UL	460	615	780	40000	651	795	1240	300	2600	0.190	4.83	0.095	2.41	0.344	8.74	
D75 ZOV481RA820	X	X	X	Z481 - 820UL	480	640	820	40000	679	829	1300	300	2700	0.190	4.83	0.090	2.29	0.350	8.89	
D75 ZOV511RA900	X	X	X	Z511 - 900UL	510	675	900	40000	722	881	1350	300	2500	0.200	5.08	0.083	2.11	0.360	9.14	
D75 ZOV551RA960	X	X	X	Z551 - 960UL	550	700	960	40000	778	950	1400	300	2300	0.220	5.59	0.068	1.73	0.373	9.47	
D75 ZOV581RA1000	X	X	X	Z581 - 1000UL	580	735	1000	40000	821	1002	1500	300	2200	0.220	5.59	0.063	1.52	0.382	9.70	
D75 ZOV621RA1040	X	X	X	Z621 - 1040UL	620	800	1040	40000	877	1071	1650	300	2100	0.230	5.84	0.050	1.35	0.395	10	
D75 ZOV681RA1100	X	X	X	Z681 - 1100UL	680	860	1100	40000	962	1175	1800	300	2000	0.250	6.35	0.037	0.94	0.414	10.5	
D75 ZOV751RA1200	X	X	X	Z751 - 1200UL	750	970	1200	40000	1065	1300	2100	300	1800	0.280	7.11	0.010	0.25	0.460	11.7	
D75 ZOV881RA1300	X	X	X	Z881 - 1300UL	880	1150	1300	40000	1242	1520	2290	300	1500	0.320	8.13	0.035	0.89	0.476	12.1	
D75 ZOV102RA1400	X	X	X	Z102 - 1400UL	1000	1200	1400	40000	1414	1728	2700	300	1300	0.370	9.40	0.080	2.03	0.512	13.1	

**NOTES:**

- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (80) in blanks to indicate STRAIGHT tabs or (77) to indicate FORMED FOOT (i.e. D7580ZOV131RA310 or D7577ZOV131RA310)

\* Footprint configuration converts to Fig. 3.

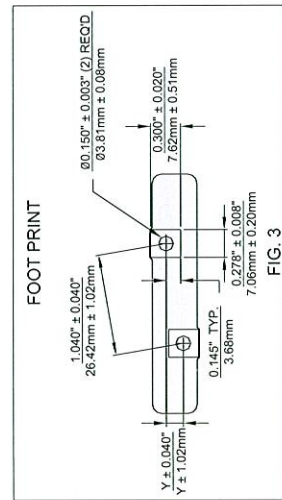


FIG. 3

Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.

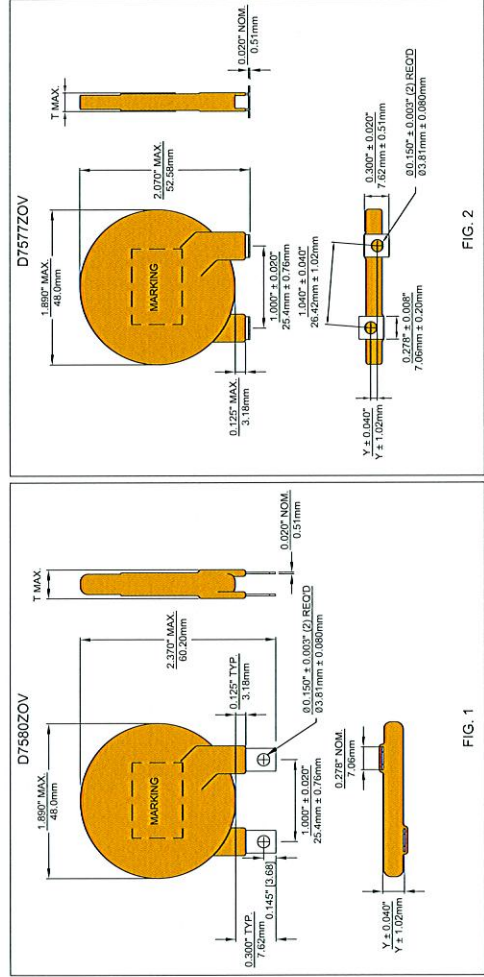


FIG. 1

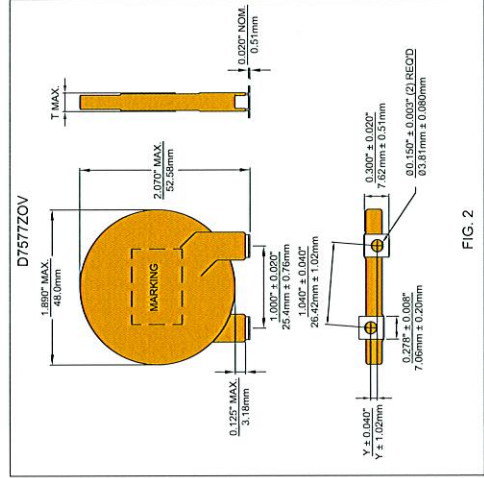


FIG. 2

### 40mm Dual – Disk Configuration

Maida Style Number	Recognitions To Safety Agency Standards	Maximum Ratings										Electrical Characteristics						Mechanical Dimensions											
		All measurements in reference to center lead for each disk in assembly										Continuous			Transient			Typical Cap			Y $\pm$ 0.040°			T MAX.					
		Applied Voltage		Energy		Peak Current		Varistor Voltage @ 1mA DC		Max Clamping Voltage (@ Test Current)		1 V rms @ 1kHz		Vmax		Vmin		Vmax		Vmin		IN		IN		IN		IN	
		(AC)	(DC)	$\mu$ sec	10x1000	8x20 $\mu$ sec	#Pulses	(A)	(A)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	(V)	
D75_ZOV131RA310	X	A	B	C	D	E	F	130	175	310	40000	184	224	340	300	10000	0.162	4.11	0.162	4.11	0.312	7.92							
D75_ZOV141RA330	X							140	180	330	40000	198	242	360	300	9000	0.170	4.32	0.170	4.32	0.320	8.13							
D75_ZOV151RA360	X							150	200	360	40000	212	259	395	300	8000	0.178	4.52	0.178	4.52	0.327	8.31							
D75_ZOV181RA390	X							180	230	390	40000	255	311	465	300	7100	0.188	4.77	0.188	4.77	0.337	8.56							
D75_ZOV231RA460	X							230	300	460	40000	326	397	595	300	5600	0.220	5.59	0.220	5.59	0.350	8.89							
D75_ZOV251RA490	X							250	330	490	40000	354	432	650	300	5000	0.232	5.89	0.232	5.89	0.357	9.07							
D75_ZOV271RA550	X							270	360	550	40000	382	466	710	300	4500	0.246	6.25	0.246	6.25	0.370	9.40							
D75_ZOV301RA600	X							300	390	600	40000	425	518	790	300	4000	0.260	6.60	0.260	6.60	0.378	9.60							
D75_ZOV321RA640	X							320	420	640	40000	453	553	850	300	3800	0.268	6.81	0.268	6.81	0.382	9.70							

**NOTES:**

- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (D8) in blanks to indicate STRAIGHT tabs or (C6) to indicate FORMED FOOT (i.e. D75D8ZOV131RA310 or D75C6ZOV131RA310)

"W" Dimension in figures is 1/2 of "Y" DIMENSION.

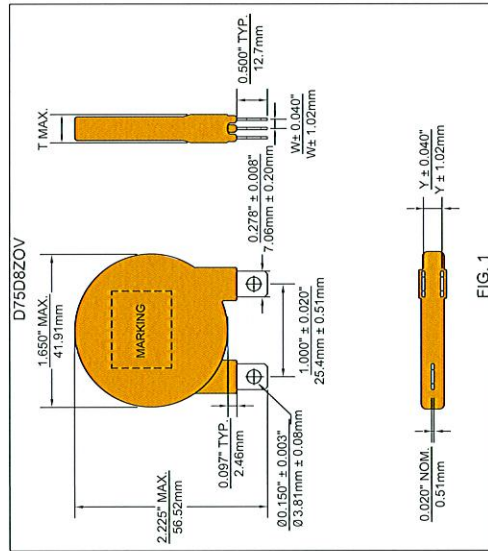


FIG. 1

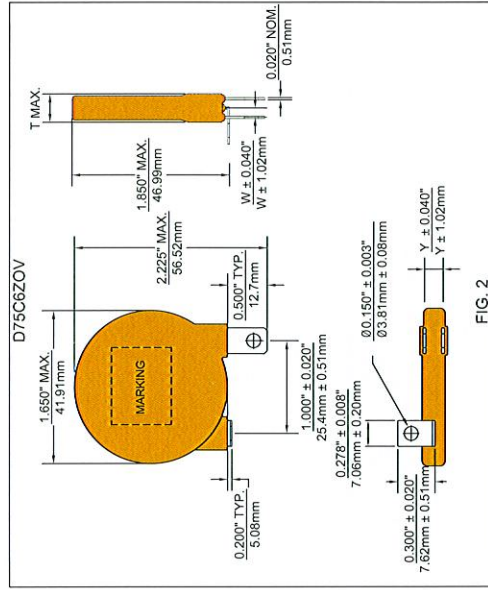


FIG. 2

Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.

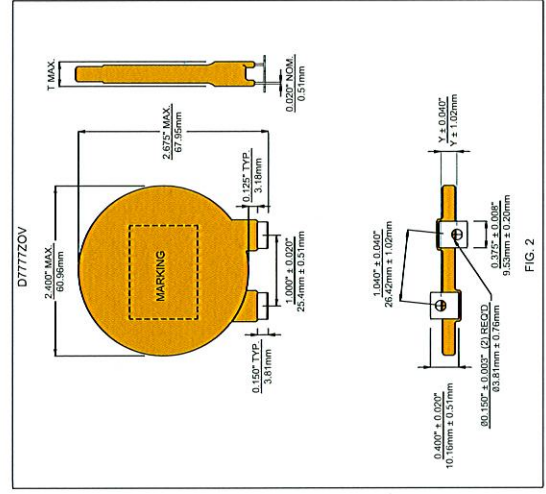
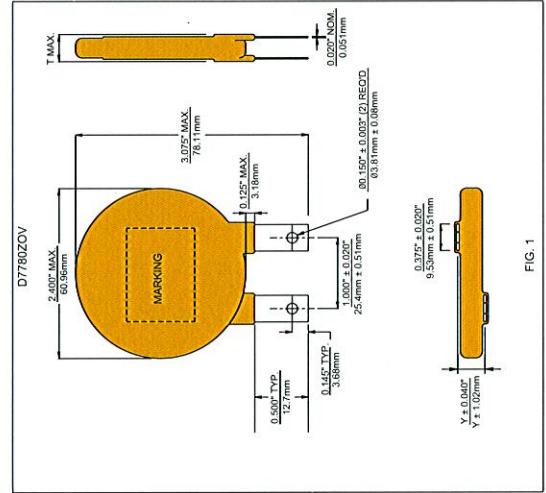
### 53mm Single – Disk Configuration

Maida Style Number	Recognitions To Safety Agency Standards		Minimum Marking		Maximum Ratings				Electrical Characteristics				Mechanical Dimensions						
					Continuous		Transient		Applied Voltage (DC)	Energy 10x1000 $\mu$ sec	Peak Current 8x20 $\mu$ sec #Pulses	Varistor Voltage @ 1mA DC	Max Clamping Voltage (@ Test Current)	Typical Cap @ 1kHz	Y +/- 0.040"		T MAX.		
					(AC)	(DC)	(J)	(A)							(V)	(V)	(A)	(V)	(V)
D77 ZOV131RA490	X	X	X	Z131 - 490UL	130	175	490	70000	184	224	340	500	18000	0.100	2.54	0.384	9.75	0.248	6.30
D77 ZOV141RA530	X	X	X	Z141 - 530UL	140	180	530	70000	198	242	360	500	16000	0.110	2.79	0.380	9.65	0.252	6.40
D77 ZOV151RA570	X	X	X	Z151 - 570UL	150	200	570	70000	212	259	395	500	14000	0.110	2.79	0.376	9.55	0.257	6.53
D77 ZOV181RA630	X	X	X	Z181 - 630UL	180	230	630	70000	255	311	465	500	12500	0.110	2.79	0.371	9.42	0.267	6.78
D77 ZOV231RA730	X	X	X	Z231 - 730UL	230	300	730	70000	326	397	595	500	10000	0.130	3.30	0.355	9.02	0.280	7.11
D77 ZOV251RA800	X	X	X	Z251 - 800UL	250	330	880	70000	354	432	650	500	8800	0.140	3.56	0.349	8.86	0.287	7.29
D77 ZOV271RA860	X	X	X	Z271 - 860UL	270	360	950	70000	382	466	710	500	8000	0.140	3.56	0.342	8.69	0.294	7.47
D77 ZOV301RA940	X	X	X	Z301 - 940UL	300	390	1000	70000	425	518	790	500	7200	0.150	3.81	0.335	8.51	0.305	7.75
D77 ZOV321RA1000	X	X	X	Z321 - 1000UL	320	420	1100	70000	453	553	850	500	6600	0.150	3.81	0.331	8.41	0.312	7.92
D77 ZOV391RA1200	X	X	X	Z391 - 1200UL	390	505	1200	70000	552	674	1025	500	6200	0.170	4.32	0.317	8.05	0.312	7.92
D77 ZOV421RA1500	X	X	X	Z421 - 1500UL	420	560	1500	70000	594	725	1120	500	5300	0.180	4.57	0.307	7.80	0.332	8.43
D77 ZOV461RA1200	X	X	X	Z461 - 1200UL	460	615	1600	70000	651	795	1240	500	5000	0.190	4.83	0.295	7.49	0.344	8.74
D77 ZOV481RA1250	X	X	X	Z481 - 1250UL	480	640	1600	70000	679	821	1300	500	4800	0.190	4.83	0.290	7.37	0.350	8.89
D77 ZOV511RA1400	X	X	X	Z511 - 1400UL	510	675	1800	70000	722	881	1350	500	4400	0.200	5.08	0.283	7.19	0.360	9.14
D77 ZOV551RA1500	X	X	X	Z551 - 1500UL	550	700	2000	70000	778	950	1400	500	4100	0.220	5.59	0.268	6.81	0.373	9.47
D77 ZOV581RA1580	X	X	X	Z581 - 1580UL	580	735	2100	70000	821	1002	1500	500	4000	0.220	5.59	0.260	6.63	0.382	9.70
D77 ZOV621RA1750	X	X	X	Z621 - 1750UL	620	800	2200	70000	877	1071	1650	500	3700	0.230	5.84	0.253	6.43	0.395	10.03
D77 ZOV681RA1800	X	X	X	Z681 - 1800UL	680	860	2500	70000	962	1175	1800	500	3300	0.250	6.35	0.237	6.02	0.414	10.52
D77 ZOV751RA2000	X	X	X	Z751 - 2000UL	750	970	2800	70000	1062	1300	2100	500	3100	0.280	7.11	0.210	5.33	0.460	11.68
D77 ZOV881RA2500	X	X	X	Z881 - 2500UL	880	1150	3200	70000	1245	1520	2290	500	2400	0.320	8.13	0.165	4.19	0.476	12.09
D77 ZOV102RA3000	X	X	X	Z102 - 3000UL	1000	1200	3200	70000	1414	1728	2700	500	2100	0.370	9.40	0.120	3.05	0.514	13.06

**NOTES:**

- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (80) in blanks to indicate STRAIGHT tabs or (77) to indicate FORMED FOOT (i.e. D7780ZOV131RA490 or D7777ZOV131RA490)



*Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.*

### 25mm Single – Square Configuration

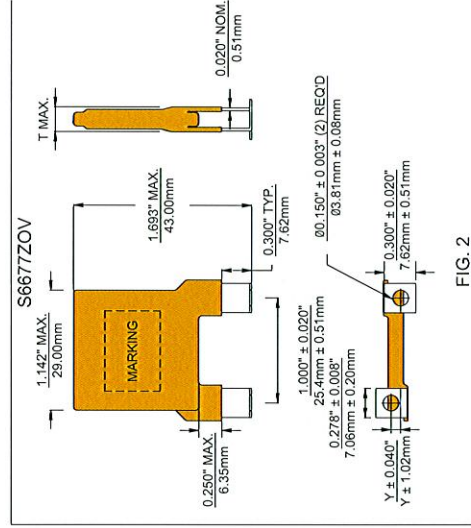
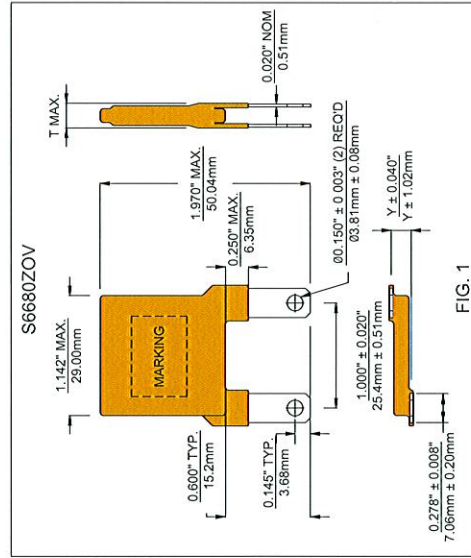
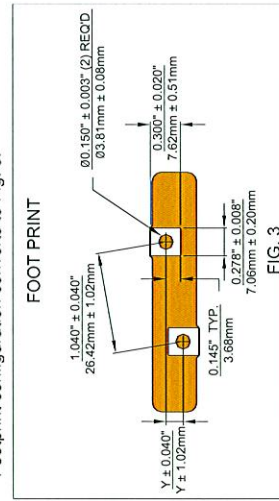
Maidle Style Number	Recognitions To Safety Agency Standards		Minimum Marking		Maximum Ratings		Electrical Characteristics				Mechanical Dimensions						
					Continuous Applied Voltage (AC)	Energy 10x1000 $\mu$ sec	Transient Peak Current 8x20 $\mu$ sec # Pulses	Varistor Voltage @ 1mA DC	Max Clamping Voltage (@ Test Current)	Typical Cap		Y +/- 0.040" Y +/- 1.02mm		T MAX.			
										(DC)	(J)	(A)	(V)	(V)	(pF)	IN	MM
S66 ZOV131RA180	X	X	C55 - 131UL	130	175	23000	184	224	340	100	4500	0.105	2.67	0.205	5.21	0.248	6.30
S66 ZOV141RA190	X	X	C55 - 141UL	140	180	23000	198	242	360	100	4000	0.108	2.74	0.202	5.13	0.252	6.40
S66 ZOV151RA200	X	X	C55 - 151UL	150	200	23000	212	259	395	100	3700	0.112	2.84	0.198	5.03	0.257	6.53
S66 ZOV181RA250	X	X	C55 - 181UL	180	230	23000	255	311	465	100	3200	0.120	3.05	0.190	4.83	0.267	6.78
S66 ZOV211RA270	X	X	C55 - 211UL	210	270	23000	297	363	545	100	2700	0.129	3.28	0.181	4.60	0.294	7.47
S66 ZOV231RA290	X	X	C55 - 231UL	230	300	23000	326	397	595	100	2500	0.134	3.40	0.176	4.47	0.280	7.11
S66 ZOV251RA310	X	X	C55 - 251UL	250	330	23000	354	432	650	100	2300	0.139	3.53	0.171	4.34	0.287	7.29
S66 ZOV271RA330	X	X	C55 - 271UL	270	360	23000	382	466	710	100	2100	0.144	3.66	0.166	4.22	0.294	7.47
S66 ZOV301RA350	X	X	C55 - 301UL	300	390	23000	425	518	790	100	1900	0.155	3.94	0.155	3.94	0.305	7.75
S66 ZOV321RA360	X	X	C55 - 321UL	320	420	23000	453	553	850	100	1800	0.158	4.01	0.152	3.86	0.312	7.92
S66 ZOV361RA370	X	X	C55 - 361UL	360	470	23000	522	638	960	100	1500	0.167	4.24	0.143	3.63	0.318	8.08
S66 ZOV391RA380	X	X	C55 - 391UL	390	505	23000	552	674	1025	100	1500	0.173	4.39	0.137	3.48	0.325	8.26
S66 ZOV421RA390	X	X	C55 - 421UL	420	560	23000	594	725	1120	100	1400	0.185	4.70	0.125	3.18	0.332	8.43
S66 ZOV461RA430	X	X	C55 - 461UL	460	615	23000	651	795	1240	100	1200	0.200	5.08	0.110	2.79	0.344	8.74
S66 ZOV481RA440	X	X	C55 - 481UL	480	640	23000	679	829	1300	100	1200	0.203	5.16	0.107	2.72	0.350	8.89
S66 ZOV511RA450	X	X	C55 - 511UL	510	675	23000	722	881	1350	100	1100	0.212	5.38	0.083	2.49	0.360	9.14
S66 ZOV551RA480	X	X	C55 - 551UL	550	700	23000	778	950	1400	100	1000	0.222	5.64	0.068	2.23	0.373	9.47
S66 ZOV581RA520	X	X	C55 - 581UL	580	735	23000	821	1002	1500	100	990	0.231	5.87	0.060	2.01	0.382	9.70
S66 ZOV621RA550	X	X	C55 - 621UL	620	800	23000	877	1071	1650	100	920	0.242	6.15	0.053	1.73	0.395	10
S66 ZOV681RA620	X	X	C55 - 681UL	680	860	23000	962	1175	1800	100	840	0.251	6.38	0.037	1.50	0.414	10.5
S66 ZOV751RA670	X	X	C55 - 751UL	750	970	23000	1062	1300	2100	100	750	0.259	6.58	0.010	1.30	0.460	11.7
S66 ZOV881RA780	X	X	C55 - 881UL	880	1150	23000	1245	1520	2290	100	560	0.325	8.26	0.015	0.38	0.476	12.1
S66 ZOV102RA860	X	X	C55 - 102UL	1000	1200	925	1414	1728	2700	100	570	0.349	8.86	0.039	0.99	0.514	13.1

**NOTES:**

- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (80) in blanks to indicate STRAIGHT tabs or (77) to indicate FORMED FOOT (i.e. S6680ZOV131RA180 or S6677ZOV131RA180)

\* Footprint configuration converts to Fig. 3.



Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.





# 34mm Single – Square Configuration

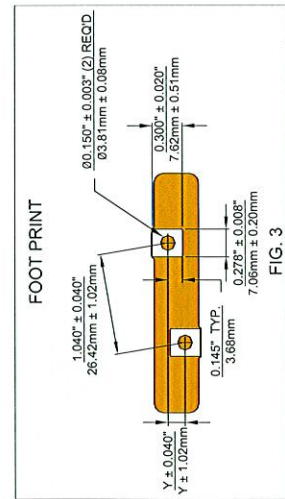
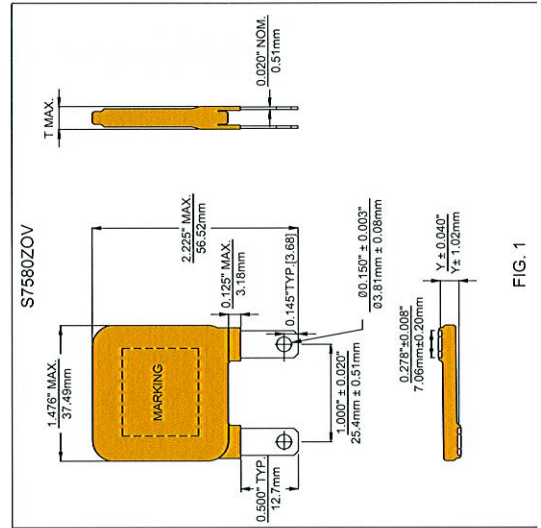
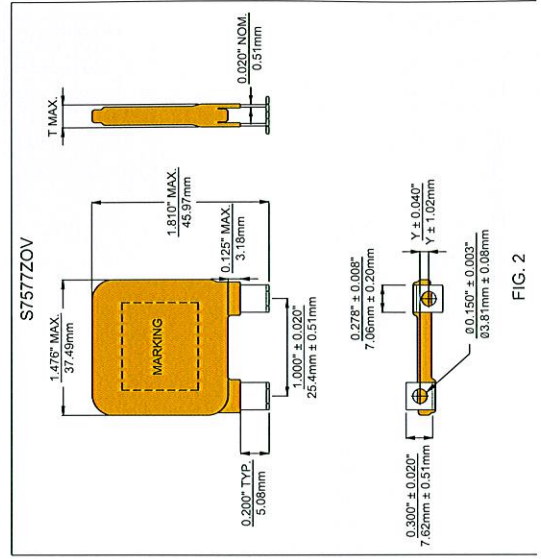
Maida Style Number	Recognitions To Safety Agency Standards				Minimum Marking		Maximum Ratings		Electrical Characteristics			Mechanical Dimensions						
							Continuous		Transient		Peak Current 8x20 μsec # Pulses	Varistor Voltage @ 1mA DC	Max Clamping Voltage (@ Test Current)	Typical Cap @ 1kHz	Y +/- 0.040° Y +/- 1.02mm		S7577 FIG. 2	
	Applied Voltage	Energy 10x1000 μsec	Vmax (V)	Vmin (V)	(A)	(A)	IN	MM	IN	MM					IN	MM	IN	MM
S75 ZOV131RA310	X	X	X	X	D4S - 131UL	130	175	184	224	340	300	10000	0.105	2.67	0.205	5.21	0.248	6.30
S75 ZOV141RA330	X	X	X	X	D4S - 141UL	140	180	198	242	360	300	9000	0.108	2.74	0.202	5.13	0.252	6.40
S75 ZOV151RA360	X	X	X	X	D4S - 151UL	150	200	212	259	395	300	8000	0.112	2.84	0.198	5.03	0.257	6.53
S75 ZOV181RA390	X	X	X	X	D4S - 181UL	180	230	255	311	465	300	7100	0.120	3.05	0.190	4.83	0.267	6.78
S75 ZOV211RA430	X	X	X	X	D4S - 211UL	210	270	297	363	640	300	4800	0.129	3.28	0.181	4.60	0.275	6.99
S75 ZOV231RA460	X	X	X	X	D4S - 231UL	230	300	326	397	595	300	5600	0.134	3.40	0.176	4.47	0.280	7.11
S75 ZOV251RA490	X	X	X	X	D4S - 251UL	250	330	354	432	650	300	5000	0.139	3.53	0.171	4.34	0.287	7.29
S75 ZOV271RA550	X	X	X	X	D4S - 271UL	270	360	382	466	710	300	4500	0.144	3.66	0.166	4.22	0.294	7.47
S75 ZOV301RA600	X	X	X	X	D4S - 301UL	300	390	425	518	790	300	4000	0.155	3.94	0.155	3.94	0.305	7.75
S75 ZOV321RA640	X	X	X	X	D4S - 321UL	320	420	453	553	850	300	3800	0.158	4.01	0.152	3.86	0.312	7.92
S75 ZOV361RA710	X	X	X	X	D4S - 361UL	360	470	500	638	950	300	2700	0.175	4.45	0.135	3.43	0.318	8.08
S75 ZOV391RA800	X	X	X	X	D4S - 391UL	390	505	552	674	1025	300	3300	0.173	4.39	0.137	3.48	0.312	7.92
S75 ZOV421RA910	X	X	X	X	D4S - 421UL	420	560	594	725	1120	300	3000	0.185	4.70	0.127	3.23	0.332	8.43
S75 ZOV461RA780	X	X	X	X	D4S - 461UL	460	615	651	795	1240	300	2600	0.200	5.08	0.110	2.79	0.344	8.74
S75 ZOV481RA820	X	X	X	X	D4S - 481UL	480	640	679	829	1300	300	2700	0.203	5.16	0.107	2.72	0.350	8.89
S75 ZOV511RA900	X	X	X	X	D4S - 511UL	510	675	722	881	1350	300	2500	0.212	5.38	0.098	2.49	0.360	9.14
S75 ZOV551RA960	X	X	X	X	D4S - 551UL	550	700	778	950	1500	300	1800	0.222	5.64	0.088	2.24	0.373	9.47
S75 ZOV581RA1000	X	X	X	X	D4S - 581UL	580	735	821	1002	1575	300	1700	0.234	5.94	0.076	1.93	0.382	9.70
S75 ZOV621RA1040	X	X	X	X	D4S - 621UL	620	800	877	1071	1670	300	1600	0.245	6.22	0.065	1.65	0.395	10
S75 ZOV681RA1100	X	X	X	X	D4S - 681UL	680	860	962	1175	1815	300	1500	0.262	6.65	0.048	1.22	0.414	10.5
S75 ZOV751RA1200	X	X	X	X	D4S - 751UL	750	970	1062	1300	2000	300	1300	0.286	7.26	0.024	0.61	0.460	11.7
S75 ZOV881RA1300	X	X	X	X	D4S - 881UL	880	1150	1245	1520	2290	300	1100	0.319	8.10	0.009	0.23	0.476	12.1
S75 ZOV102RA1400	X	X	X	X	D4S - 102UL	1000	1200	1414	1728	2550	300	1000	0.354	8.99	0.044	1.12	0.514	13.1

**NOTES:**

- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (80) in blanks to indicate STRAIGHT tabs  
or (77) to indicate FORMED FOOT  
(i.e. S7580ZOV131RA310 or S7577ZOV131RA310)

\* Footprint configuration converts to Fig. 3.



Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.

### 34mm Dual – Square Configuration

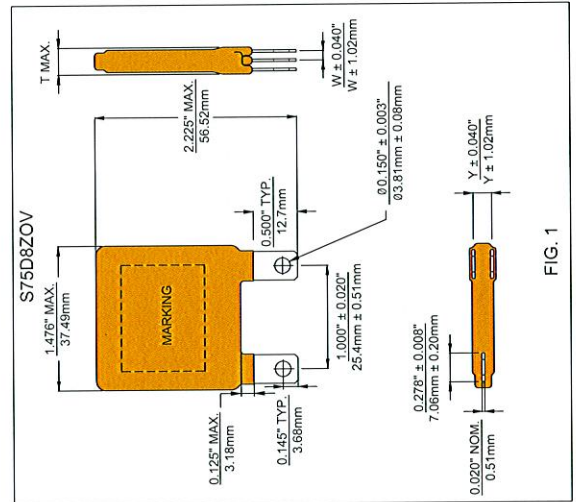
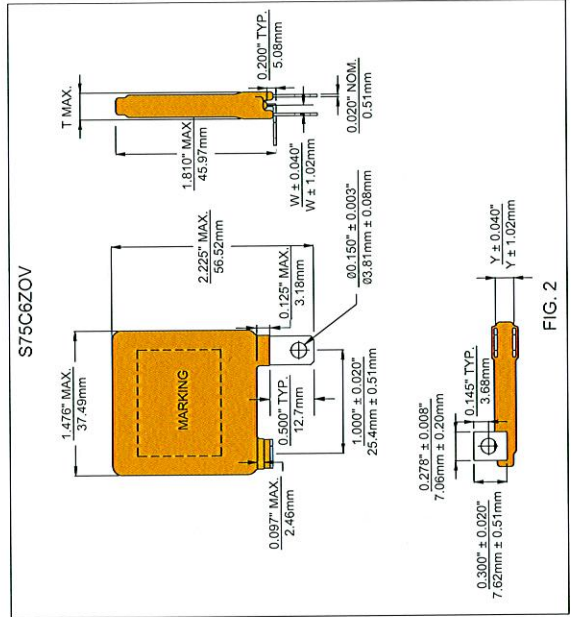
Maida Style Number	Recognitions To Safety Agency Standards		Minimum Marking		Maximum Ratings in reference to center lead for each disk in assembly										Electrical Characteristics						Mechanical Dimensions					
					Continuous			Transient			Applied Voltage	Energy 10x1000 $\mu$ sec	Peak Current 8x20 $\mu$ sec # Pulses	Varistor Voltage @ 1mA DC	Max Clamping Voltage (@ Test Current)	Typical Cap @1kHz	S75D8 FIG. 1		S75C6 FIG. 2		Y +/- 0.040"		T MAX.			
					AC	DC	(A)	(J)	(A)	Vmax							(V)	(V)	(A)	IN	MM	IN	MM	IN	MM	IN
					(A)	(B)	(C)	(D)	(E)	(F)	Vmin	(V)	(V)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)				
S75_ZOV131RA310	X						130	175	310	40000	184	224	340	300	7900	0.162	4.11	0.162	4.11	0.162	4.11	0.304	7.72			
S75_ZOV141RA330	X						140	180	330	40000	198	242	360	300	7183	0.170	4.32	0.170	4.32	0.170	4.32	0.312	7.92			
S75_ZOV151RA360	X	X					150	200	360	40000	212	259	395	300	6600	0.176	4.47	0.176	4.47	0.176	4.47	0.321	8.15			
S75_ZOV181RA390	X	X					180	230	390	40000	255	311	470	300	5600	0.190	4.83	0.190	4.83	0.190	4.83	0.336	8.53			
S75_ZOV211RA430	X	X					210	270	430	40000	297	363	540	300	4800	0.208	5.28	0.208	5.28	0.208	5.28	0.354	8.99			
S75_ZOV231RA460	X	X					230	300	460	40000	326	397	595	300	4400	0.220	5.59	0.220	5.59	0.220	5.59	0.365	9.27			
S75_ZOV251RA490	X	X					250	330	490	40000	354	432	650	300	4100	0.230	5.84	0.230	5.84	0.230	5.84	0.378	9.60			
S75_ZOV271RA550	X	X					270	360	550	40000	382	466	710	300	3800	0.242	6.15	0.242	6.15	0.242	6.15	0.392	9.96			
S75_ZOV301RA600	X	X					300	390	600	40000	425	518	790	300	3400	0.260	6.60	0.260	6.60	0.260	6.60	0.410	10.41			
S75_ZOV321RA640	X	X					320	420	640	40000	453	553	850	300	3200	0.270	6.86	0.270	6.86	0.270	6.86	0.419	10.64			
S75_ZOV361RA710	X	X					360	470	710	40000	522	638	950	300	2700	0.300	7.62	0.300	7.62	0.300	7.62	0.435	11.05			
S75_ZOV391RA800	X	X					390	505	800	40000	552	674	1025	300	2400	0.328	8.33	0.328	8.33	0.328	8.33	0.465	11.81			
S75_ZOV421RA910	X	X					420	560	910	40000	594	725	1120	300	2186	0.350	8.89	0.350	8.89	0.350	8.89	0.489	12.42			
S75_ZOV461RA780	X	X					460	615	920	40000	651	795	1240	300	2100	0.360	9.14	0.360	9.14	0.360	9.14	0.500	12.70			
S75_ZOV481RA820	X	X					480	640	820	40000	679	829	1300	300	2000	0.378	9.60	0.378	9.60	0.378	9.60	0.517	13.13			
S75_ZOV511RA900	X	X					510	675	940	40000	722	881	1390	300	1800	0.400	10.16	0.400	10.16	0.400	10.16	0.545	13.84			
S75_ZOV551RA960	X	X					550	700	960	40000	778	950	1500	300	1700	0.418	10.62	0.418	10.62	0.418	10.62	0.562	14.27			
S75_ZOV581RA1000	X	X					580	735	1000	40000	821	1001	1575	300	1600	0.440	11.18	0.440	11.18	0.440	11.18	0.582	14.78			
S75_ZOV621RA1040	X	X					620	800	1040	40000	877	1071	1670	300	1500	0.474	12.04	0.474	12.04	0.474	12.04	0.617	15.67			
S75_ZOV681RA1100	X	X					680	860	1100	40000	962	1175	1815	300	1300	0.522	13.26	0.522	13.26	0.522	13.26	0.720	18.29			
S75_ZOV751RA1200	X	X					750	970	1200	40000	1062	1300	2000	300												

**NOTES:**

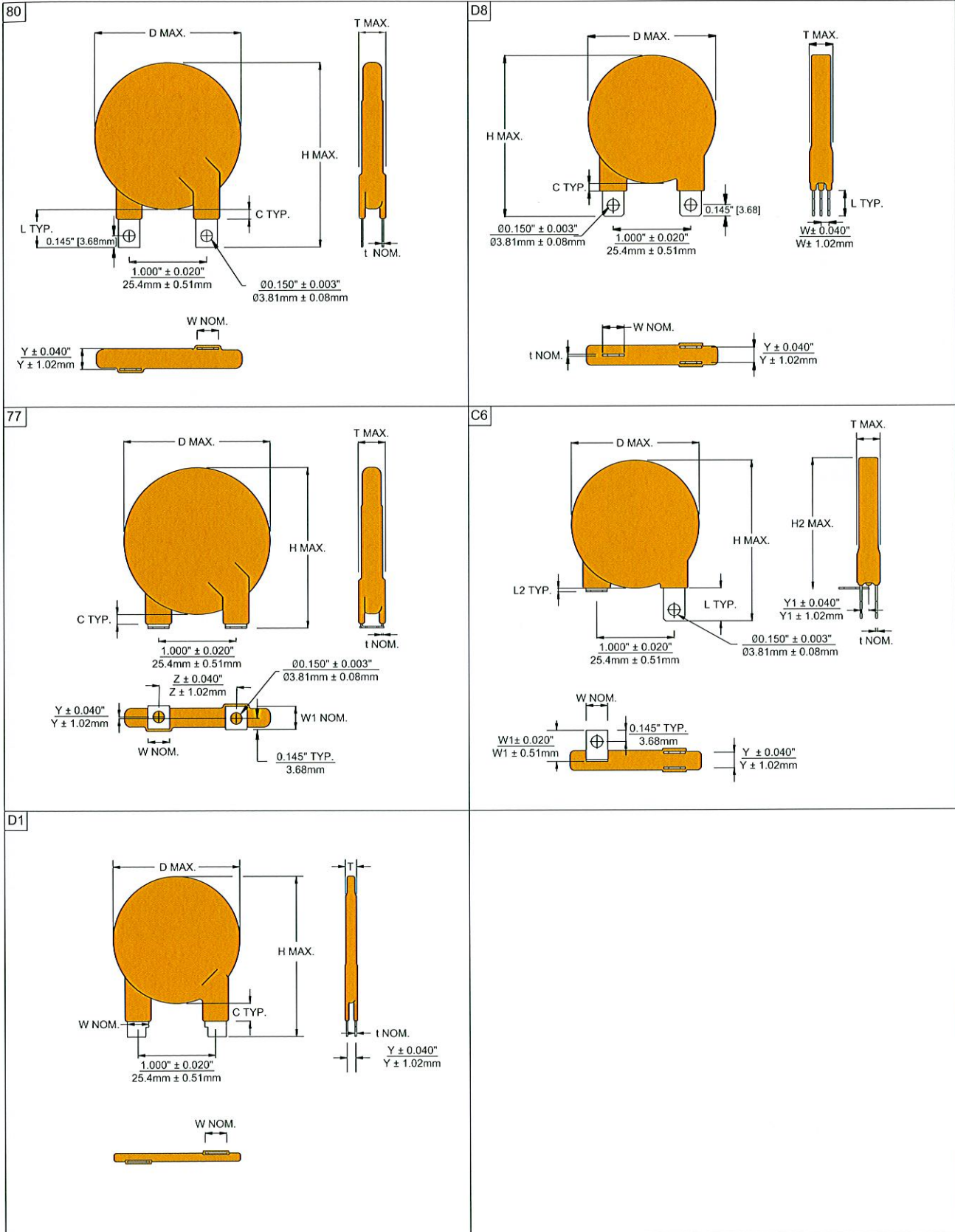
- A = UL1449 File E86730 - Transient Voltage Surge Suppression
- B = UL1414 File E38785 - Across - The Line Applications
- C = CSA C22.2 File LR33468

Insert (D8) in blanks to indicate STRAIGHT tabs or (C6) to indicate FORMED FOOT (i.e., S75D8ZOV131RA310 or S75C6ZOV131RA310)

"W" Dimension in figures is 1/2 of "Y" dimension.



Detailed Voltage vs. Current characteristic curves for each component are available from our engineering department.



# HIGH ENERGY SERIES

## TABBED-LEAD CODES

