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

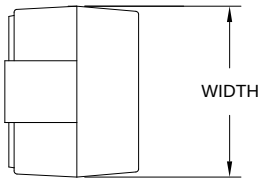
STANDARD MARKING

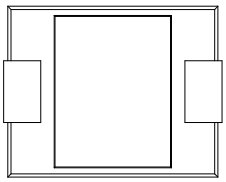
Minimum marking shall consist of an abbreviated style designation and, when space is available, the manufacturer's initials or company logo.

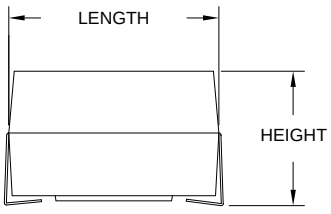
Example
MDC
4S131UL

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

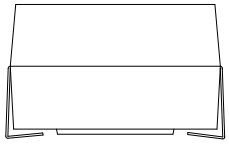
A manufacturing date code and/or special markings may be available upon request.
Other safety agency designations are included where applicable.



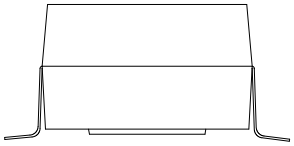




2N - J Lead Style



2P - L Lead Style



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	2S421	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 File E321173 - Surge Protective Devices
B = cUL File E321173 - Surge Protective Devices
C = CSA C22.2 File 033468
D = VDE File 40017480
E = SEV - 96.7 70250.01

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	0.402	0.217	0.087	0.098
4S2NZOV110RA01	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV140RA00	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV140RA01	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV170RA00	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV170RA01	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV200RA00	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV200RA01	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV250RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV250RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV300RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV300RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV350RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV350RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV400RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV400RA03	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV500RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV500RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV600RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV600RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV750RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV750RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV950RA01	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV950RA02	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV121RA02	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV121RA03	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV131RA02	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV131RA03	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV141RA02	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV141RA03	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV151RA02	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV151RA03	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV181RA02	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV181RA03	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV211RA07	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV211RA18	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV231RA08	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV231RA20	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV251RA08	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV251RA21	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV271RA09	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV271RA23	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118

SPECIFICATIONS

300VAC 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)
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					0	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					0	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 File E321173 - Surge Protective Devices
B = cUL File E321173 - Surge Protective Devices
C = CSA C22.2 File 033468
D = VDE File 40017480
E = SEV - 96.7 70250.01

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	0.402	0.217	0.087	0.098
4S2NZOV301RA25	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV321RA11	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV321RA27	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV361RA12	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV361RA28	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV391RA13	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV391RA29	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV421RA14	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV421RA30	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV461RA17	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV461RA33	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
2S2NZOV481RA18	0.280	0.010	0.250	0.010	0.158	0.402	0.217	0.087	0.098
4S2NZOV481RA35	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
4S2NZOV511RA42	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
4S2NZOV551RA43	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
4S2NZOV581RA38	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
4S2NZOV621RA40	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118
4S2NZOV681RA42	0.402	0.010	0.327	0.010	0.256	0.402	0.217	0.087	0.118