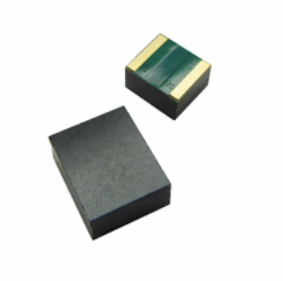
MOVS2825

Surface mount metal oxide varistor



Product features

- Surface mount metal oxide varistor (MOV)
- 2825 (7264 metric) package size
- High transient current capability
- Plastic package meets UL 94 V-0
- Meets UL1449 4th edition
- Moisture sensitivity level (MSL): 1

Applications

- Power supply
- Home appliance
- Industrial equipment
- Telecommunication or telephone system
- Vac driven & COB LED lighting

Agency information

- cURus recognized:
  File: E340782, Guide VZCA2 and VZCA8

Environmental compliance

Ordering part number

MOV S 2825 V011

- Family name
- Type
- Size
- Working voltage (V_{rms})

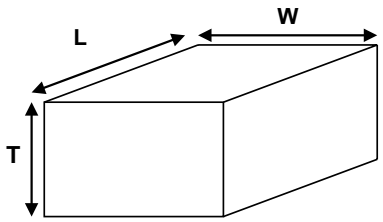
Powering Business Worldwide

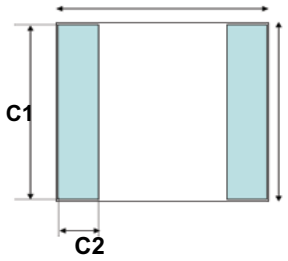
Electrical characteristics (+25 °C)

Part number	Working voltage V_{rms} (V) maximum	Working voltage V_{dc} (V) maximum	Varistor voltage @ 1 mAdc V_v (V) typical	Leakage current @ V_v * 80% (at initial state) IL (µA) maximum	Clamping voltage 8/20 µs V_c (V) maximum	Peak current 8/20 µs i_{max} (A) maximum	Component thickness T (mm) ±0.3
MOVS2825V011	11	14	16.2~19.8	50	40 (1 A)	150	3.2
MOVS2825V014	14	18	19.8~24.2	50	48 (1 A)	150	3.2
MOVS2825V017	17	22	24.3~29.7	50	60 (1 A)	150	3.2
MOVS2825V020	20	26	29.7~36.3	50	73 (1 A)	150	4.2
MOVS2825V025	25	31	35.1~42.9	50	80 (1 A)	150	4.2
MOVS2825V030	30	38	42.3~51.7	50	104 (1 A)	150	4.2
MOVS2825V035	35	45	50.4~61.6	50	123 (1 A)	150	4.2
MOVS2825V040	40	56	61.2~74.8	50	145 (1 A)	150	4.2
MOVS2825V050	50	66	73.8~90.2	50	150 (5 A)	400	3.2
MOVS2825V060	60	85	90~110	50	175 (5 A)	400	3.2
MOVS2825V075	75	102	108~132	50	210 (5 A)	400	4.2
MOVS2825V095	95	127	135~165	50	260 (5 A)	400	4.2
MOVS2825V120	120	160	170~207	50	320 (5 A)	400	4.2
MOVS2825V130	130	175	185~225	50	355 (5 A)	400	4.2
MOVS2825V140	140	180	198~242	50	380 (5 A)	400	4.2
MOVS2825V150	150	200	216~264	50	415 (5 A)	400	4.2
MOVS2825V180	180	230	255~311	50	475 (5 A)	400	4.2
MOVS2825V195	195	250	270~330	50	520 (5 A)	400	4.2
MOVS2825V210	210	275	297~363	50	570 (5 A)	400	4.2
MOVS2825V230	230	300	324~396	50	620 (5 A)	400	4.2
MOVS2825V250	250	330	351~429	50	675 (5 A)	400	4.2
MOVS2825V275	275	370	387~473	50	745 (5 A)	400	5.6
MOVS2825V300	300	385	423~517	50	810 (5 A)	400	5.6
MOVS2825V320	320	420	459~561	50	845 (5 A)	400	5.6
MOVS2825V360	360	470	504~616	50	920 (5 A)	400	5.6
MOVS2825V390	390	505	558~682	50	1025 (5 A)	400	5.6
MOVS2825V420	420	560	612~748	50	1120 (5 A)	400	5.6

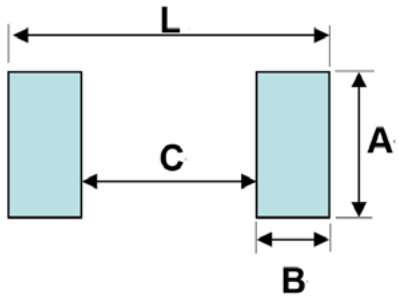
V_{RMS} /V_{DC} – Maximum operating voltage the varistor can maintain
V_v – Voltage across the device measured at 1 mA DC current. Equivalent to V_b, "Breakdown Voltage".
V_c – Maximum peak voltage across the varistor measured at 8/20 us waveform .
i_{max} – Maximum peak current which may be applied with 8/20 us waveform without device failure

Dimensions- mm
Drawing not to scale





Recommended pad layout



Dimension	Value	Note
L	7.2 ± 0.2	
W	6.4 ± 0.2	
T	3.2 ± 0.3	Refer to Electrical specifications table on pg 2
	4.2 ± 0.3	
	5.6 ± 0.3	
C1	5.8 ± 0.3	
C2	1.1 ± 0.3	

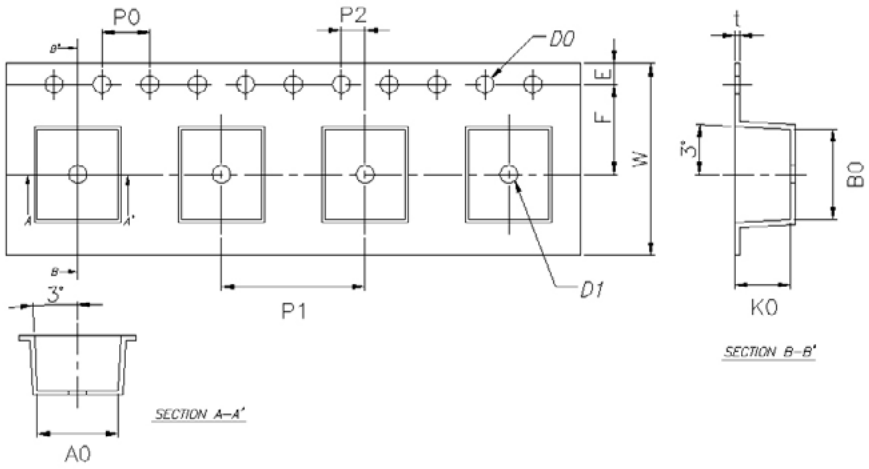
Dimension	Value
A	6.8
B	1.5
C	4.6
L	7.6

General specifications

Operating temperature: -40 °C to +85 °C
Storage temperature (on board): -40 °C to +85 °C
Solderability: +245 ± 5 °C, 3 ± 1 second
Solder leach resistance: +260 ± 5 °C, 10 ± 1 second

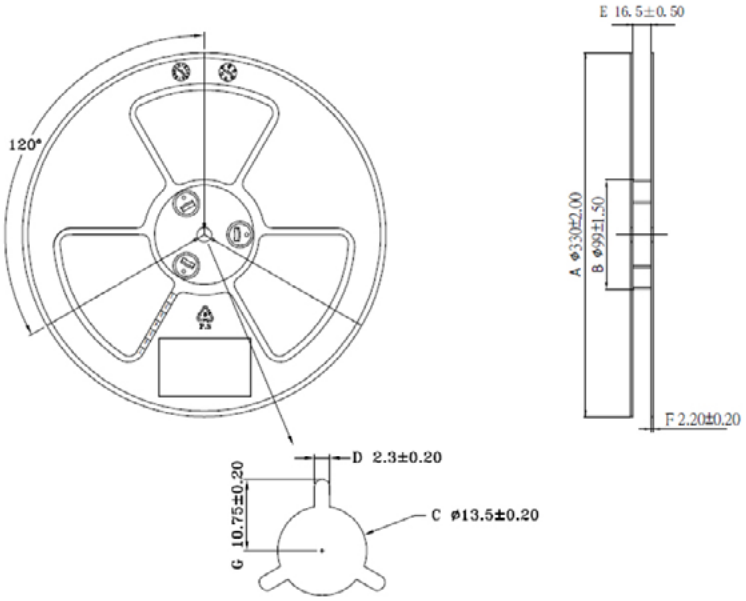
Packaging information - mm

900 pieces per reel for MOVS2825, T = 5.6 mm
1100 pieces per reel for MOVS2825, T = 4.2 mm
1400 pieces per reel for MOVS2825, T = 3.2 mm



Dimension	Value
W	16.00 ± 0.30
E	1.75 ± 0.10
F	7.50 ± 0.15
D0	1.50 ± 0.10/-0.00
D1	1.50 ± 0.10/-0.00
P0	4.00 ± 0.10
P0 x10	40.0 ± 0.20
t	0.50 ± 0.05
A0	6.75 ± 0.15/-0.05
B0	7.55 ± 0.15/-0.05
K0	6.20 maximum
P1	12.00 ± 0.10
P2	2.00 ± 0.15

Reel dimension - mm



Dimension	Value
A	330 ± 2.00
B	99 ± 1.50
C	13.50 ± 0.20
D	2.30 ± 0.20
E	16.50 ± 0.50
F	2.20 ± 0.20
G	10.75 ± 0.20

Solder reflow profile

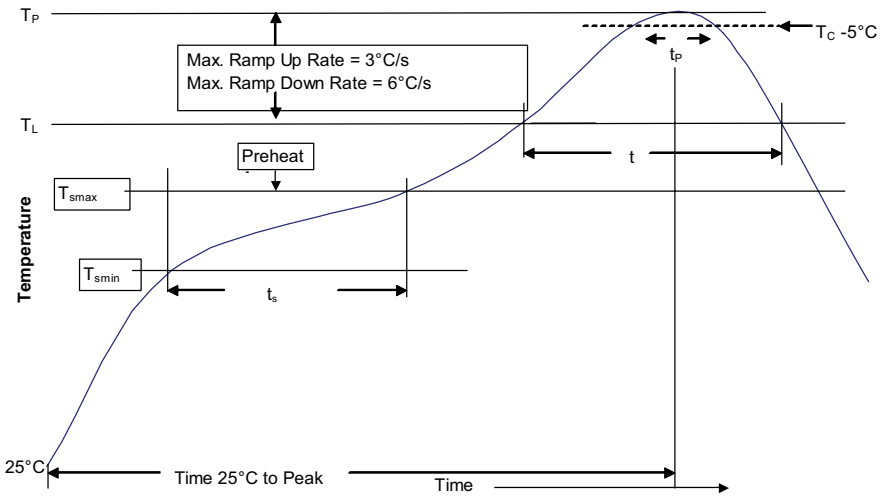


Table 1 - Standard SnPb solder (T_C)

Package thickness	Volume mm3 <350	Volume mm3 ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2 - Lead (Pb) free solder (T_C)

Package thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 – 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Reference J-STD-020

Profile feature		Standard SnPb solder	Lead (Pb) free solder
Preheat and soak	• Temperature min. (T_{smin})	100 °C	150 °C
	• Temperature max. (T_{smax})	150 °C	200 °C
	• Time (T_{smin} to T_{smax}) (t_S)	60-120 seconds	60-120 seconds
Ramp up rate T_L to T_p		3 °C/ second max.	3 °C/ second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L		183 °C 60-150 seconds	217 °C 60-150 seconds
Peak package body temperature (T_P)*		Table 1	Table 2
Time (t_p)* within 5 °C of the specified classification temperature (T_C)		20 seconds*	30 seconds*
Ramp-down rate (T_p to T_L)		6 °C/ second max.	6 °C/ second max.
Time 25 °C to peak temperature		6 minutes max.	8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

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