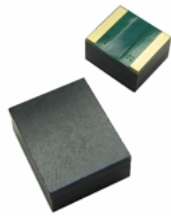


MOV S 2825

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

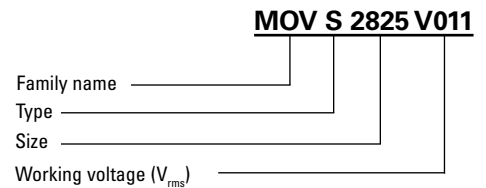
- cURus recognized:
File: E340782, Guide VZCA2 and VZCA8



Environmental compliance



Ordering part number

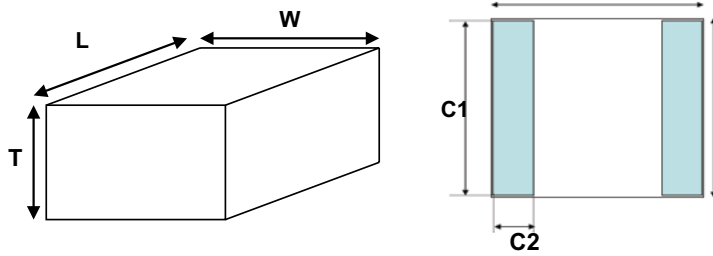


Electrical characteristics (+25 °C)

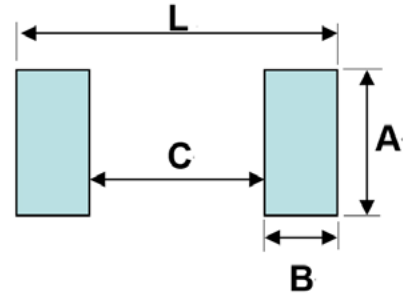
| Part number | Working voltage | | Varistor voltage @ 1 mAdc V_v (V) typical | Leakage current @ V_v * 80% (at initial state) IL (μ A) maximum | Clamping voltage 8/20 μ s V_c (V) maximum | Peak current 8/20 μ s i_{max} (A) maximum | Component thickness T (mm) ± 0.3 |
|--------------|-----------------------------|----------------------------|---|---|---|---|--|
| | V_{rms} (V) maximum | V_{dc} (V) maximum | | | | | |
| 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 4.2 ± 0.3 5.6 ± 0.3 | Refer to Electrical specifications table on pg 2 |
| 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

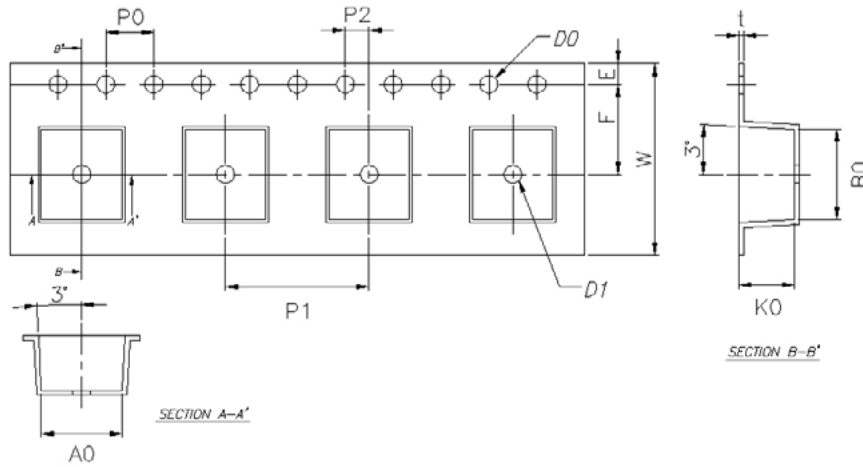
Solder leach resistance: +260 ± 5 °C, 10 ± 1 second

Packaging information - mm

900 pieces per reel for MOVS2825, T = 5.6 mm

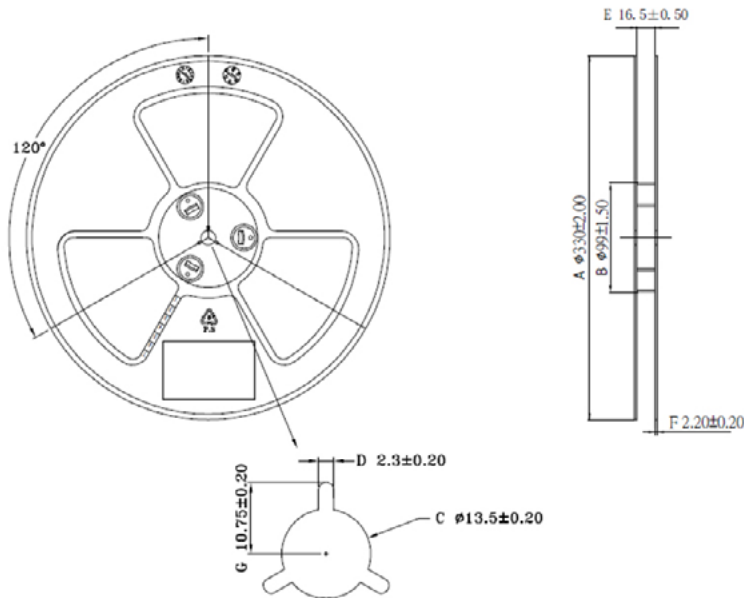
1100 pieces per reel for MOVS2825, T = 4.2 mm

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

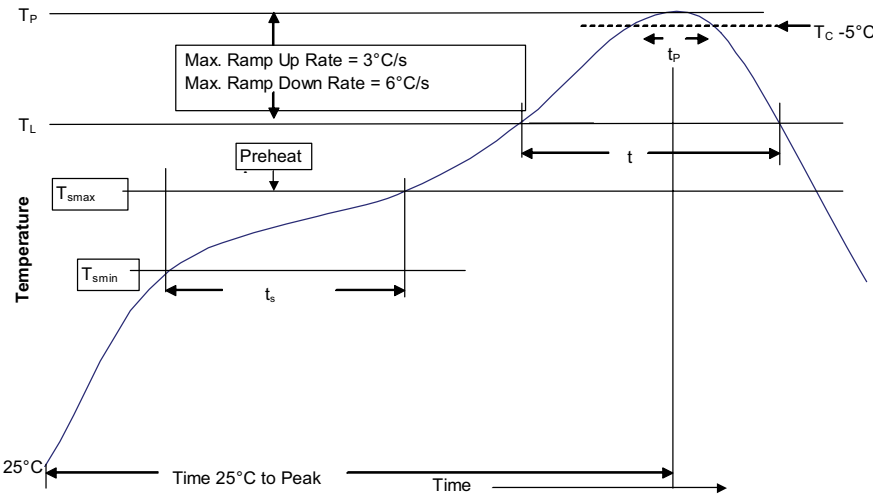


Table 1 - Standard SnPb solder (Tc)

| Package thickness | Volume mm ³ <350 | Volume mm ³ ≥350 |
|-------------------|-----------------------------|-----------------------------|
| <2.5 mm | 235 °C | 220 °C |
| ≥2.5 mm | 220 °C | 220 °C |

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

| Package thickness | Volume mm ³ <350 | Volume mm ³ 350 - 2000 | Volume mm ³ >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 | <ul style="list-style-type: none"> Temperature min. (T_{smin}) Temperature max. (T_{smax}) Time (T_{smin} to T_{smax}) (t_s) | <ul style="list-style-type: none"> 100 °C 150 °C 60-120 seconds |
| Ramp up rate T _L to T _p | 3 °C/ second max. | 3 °C/ second max. |
| Liquidous temperature (T _L) | 183 °C | 217 °C |
| Time (t _L) maintained above T _L | 60-150 seconds | 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.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com/electronics

© 2021 Eaton
All Rights Reserved
Printed in USA
Publication No. ELX1005 BU-ELX21006
February 2021

Eaton is a registered trademark.
All other trademarks are property of their respective owners.

Follow us on social media to get the latest product and support information.



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Varistors](#) category:

Click to view products by [Eaton](#) manufacturer:

Other Similar products are found below :

[820443211E](#) [MOV05131AIA](#) [MOV07231AQA](#) [MOV18131CZA](#) [R71ZOV151HC](#) [D58ZOV500RA01T1](#) [B72205S271K111](#)
[B72214S110K151](#) [B72214S251K151](#) [B72232B131K1](#) [B72530E1140S272](#) [B72540E250K62](#) [B72660M0271K093](#) [NTE1V020](#) [NTE1V130](#)
[NTE2V010](#) [NTE2V130](#) [25FN511K](#) [S10K11G5S5](#) [ERZ-C14DK361U](#) [ERZ-C20DK221U](#) [ERZ-C32CK201B](#) [207869-1](#) [AS-13](#)
[TMOV25SP625E](#) [B72210S251K531](#) [B72214S200K551](#) [B72280B112K1](#) [B72280B381K1](#) [B72590D360A60](#) [B72650M301K93](#)
[B72670M1140K72](#) [MOV07251ARA](#) [MOV10131EDA](#) [MOV10151EFA](#) [MOV14151CWA](#) [MOV20251DFA](#) [TVZ18EC271KBS](#)
[TVZ20EB911KBS](#) [TVZ25D201KBS](#) [TVZ25D241KBS](#) [VDRH20X230BSE](#) [VZ07D220KBS](#) [VZ40D241K](#) [VZ25D511KBS-N](#)
[VZ20E511KBSX](#) [VZ20E221KBSX](#) [VZ10D471KBS-N](#) [ERZ-V20R201](#) [ERZ-V20R221](#)