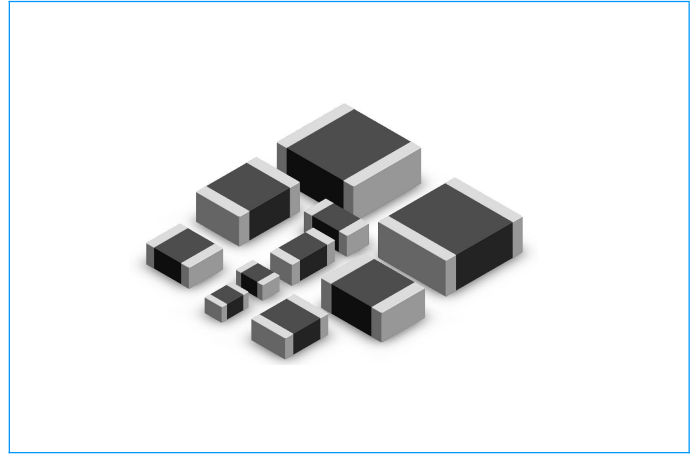


Socay High Surge Micro Varistor

SV1812N260G0B

Features

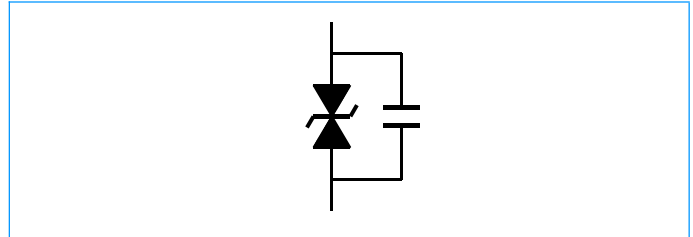
- ◆ RoHS Compliant.
- ◆ Meet IEC 61000-4-5 standard.
- ◆ SMD type zinc oxide based ceramic chip.
- ◆ Insulator overcoat keeps excellent low and stable leakage current.
- ◆ Quick response time (<0.5ns).
- ◆ High transient current capability.
- ◆ High reliability.
- ◆ Compact size for EIA 1812.



Applications

- ◆ Protection against high working voltage applications
Related transient over voltage.

Equivalent Circuits



Electrical Characteristics (25±5°C)

| Symbol | Minimum | Typical | Maximum | Units |
|-----------|---------|---------|---------|-------|
| V_{RMS} | — | — | 18 | V |
| V_{DC} | — | — | 26 | V |
| V_V | 31 | — | 38 | V |
| V_C | — | — | 62 | V |
| C_P | — | 2300 | — | pF |
| I_{max} | — | — | 800 | A |

Notes:

V_{RMS} - Maximum AC operating voltage the varistor can maintain and not exceed 10μA leakage current.

V_{DC} - Maximum DC operating voltage the varistor can maintain and not exceed 10μA leakage current.

V_V - Voltage across the device measure at 1mA DC current.

Equivalent to V_B "breakdown voltage".

V_C - Maximum peak current across the varistor with 8/20μs waveform and 5A pulse current.

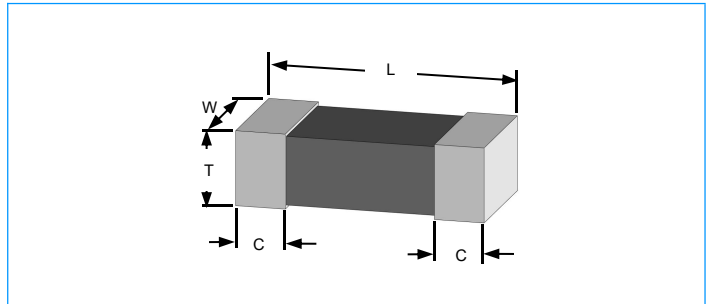
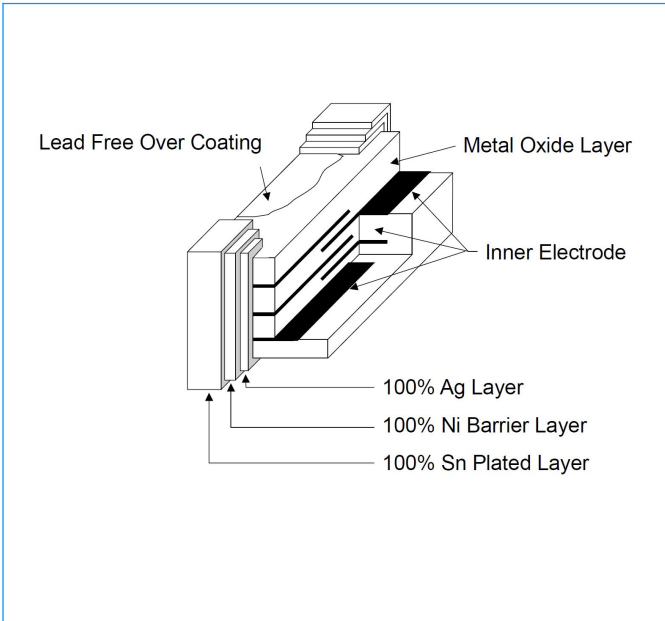
C_P - Device capacitance measured with zero volt bias 1Vrms at 1KHZ .

I_{max} - Maximum peak current which may be applied with 8/20μs waveform without device failure.

Socay High Surge Micro Varistor

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Construction & Dimensions



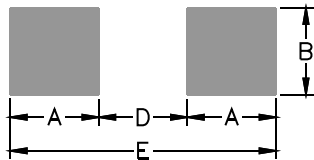
| Size EIA (EIAJ) | 1812 (4532) |
|-----------------|-------------|
| Symbol | Millimeters |
| L | 4.50±0.40 |
| W | 3.20±0.30 |
| T | 2.5 Max |
| C | 0.60±0.30 |

Pad Layouts & Precaution for handling of substrate

Solder cream in reflow soldering

Refer to the recommendable land pattern as printing mask pattern for solder cream.

(1) Print solder in a thickness of 150 to 200µm



Precaution for handling of substrate

Do not exceed to bend the board after soldering this product extremely. (reference examples)

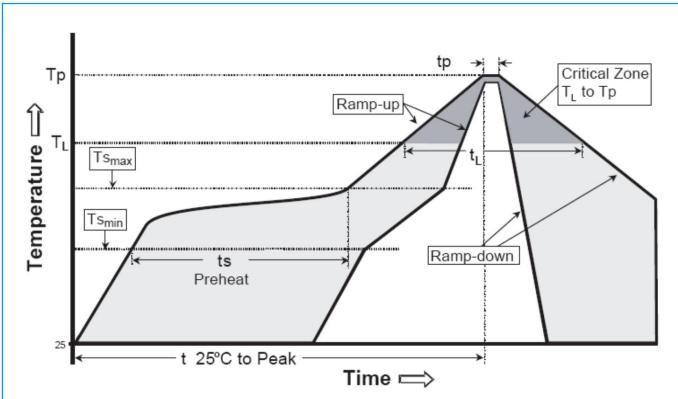
- Mounting place must be as far as possible from the position, which is close to the break line of board or on the line of large holes of board.
- Do not bend extremely the board, in mounting another component. If necessary, use back-up pin (support pin) to prevent from bending extremely.
- Do not break the board by hand. We recommend to use the machine or the jig to break it.

| Size EIA (EIAJ) | 1812 (4532) |
|-----------------|-------------|
| Symbol | Millimeters |
| A | 1.5 |
| B | 3.6 |
| D | 3.0 |
| E | 6.0 |

Socay High Surge Micro Varistor

SV1812N260G0B

Soldering Parameters



Precaution for Soldering

Note that this product will be easily damaged by rapid heating, rapid cooling or local heating.

Do not give heat shock over 100°C in the process of soldering. We recommend to take preheating and gradual cooling

Soldering gun procedure

Note the follows, in case of using solder gun for replacement.

- 1) The tip temperature must be less than 350°C for the period within 3 seconds by using soldering gun under 30W
- 2) The soldering gun tip shall not touch this product directly.

Soldering volume

Note that excess of soldering volume will easily get crack the body of this product.

| Reflow Condition | | Pb-Free assembly |
|--|------------------------------------|------------------|
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150°C |
| | -Temperature Max ($T_{s(max)}$) | +200°C |
| | -Time (min to max) (t_s) | 60 -180 Seconds |
| $T_{s(max)}$ to T_P - Ramp-up Rate | | 3°C/Second Max |
| Reflow | - Temperature (T_L) (Liquidus) | +217°C |
| | - Time (min to max) (t_L) | 60 -150 Seconds |
| Peak Temperature (T_P) | | 260 °C |
| Time within 5°C of actual peak Temperature (t_P) | | 20-40 Seconds |
| Ramp-down Rate | | 6°C/Second Max |
| Time 25°C to peak Temperature (T_P) | | 8 minutes Max |

General Technical Data

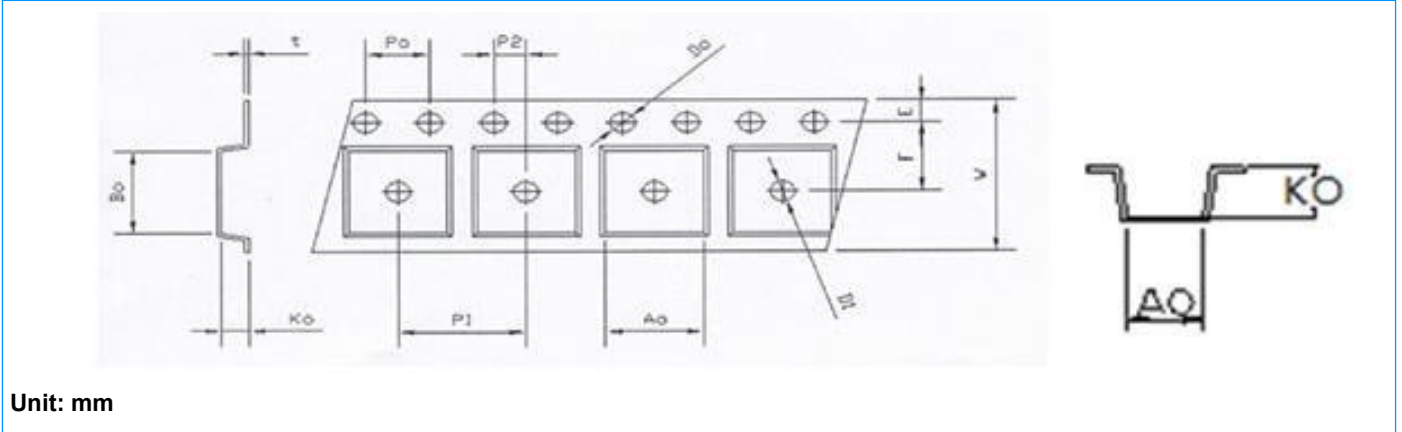
| | | |
|----------------------------------|---------------------|-----------------------|
| Operating Temperature | | -40 ~ +125°C |
| Storage Temperature | | -40 ~ +125°C |
| Response Time | | <1 ns |
| Solderability | | 245±5°C, 5 +0/-0.5sec |
| Solder leach resistance | | 260±5°C, 10±1sec |
| Taping Package Storage Condition | Storage Temperature | 5 ~ 40°C |
| | Relative Humidity | To 65% |
| | Storage Time | 12 Months max |

Socay High Surge Micro Varistor

SV1812N260G0B

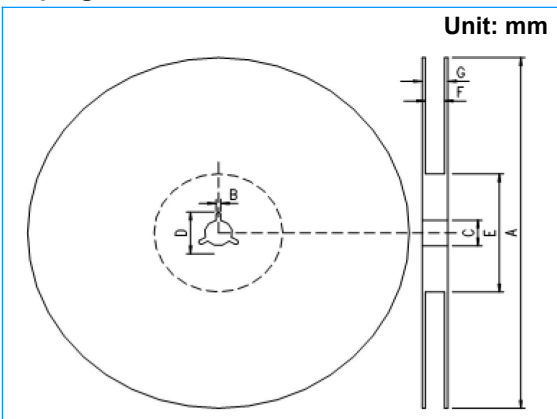
Packaging Information

Carrier Tape Dimensions



| Symbol | W | E | F | D0 | D1 | P0 | P1 | P2 | 10P0 |
|--------|-----------|-----------|----------|-----------|-----------|----------|----------|----------|-----------|
| 1812 | 12.0±0.15 | 1.75±0.10 | 5.5±0.10 | 1.55±0.10 | 1.55±0.10 | 4.0±0.10 | 8.0±0.10 | 2.0±0.10 | 40.0±0.20 |
| Symbol | Bo | Ao | Ko | t | -- | -- | -- | -- | -- |
| 1812 | 4.9±0.10 | 3.5±0.10 | 2.2±0.10 | 0.25±0.5 | -- | -- | -- | -- | -- |

Taping Reel Dimensions



| Symbol | A | B | C | D | E | F | G |
|--------|-----------|---------|----------|----------|----------|----------|----------|
| 1812 | 178.0±1.0 | 2.5±0.5 | 13.0±0.5 | 25.0±1.0 | 60.2±0.5 | 13.0±0.5 | 16.0±0.5 |

Taping Specifications

There Shall be the portion having no product in both the head and the end of taping, and there shall be the cover tape in the heat of taping.

Quantity of products in the taping package

| SIZE EIA (EIAJ) | 1812 (4532) |
|--|-------------|
| Standard Packing Quantity (PCS / reel) | 1,000 |