

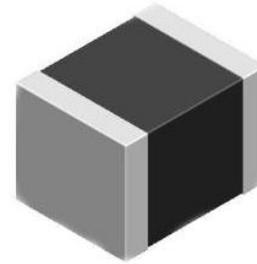
Socay High Surge Micro Varistor

SV0604H271G1B

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 0604.

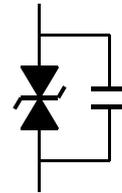
Top View (0604)



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}	—	—	175	V
V_{DC}	—	—	225	V
V_V	243	—	297	V
I_L	--	--	50	μA
V_C	—	—	450	V
C_P	--	20	--	pF
I_{max}	—	—	20	A

Notes:

V_{RMS} - Maximum AC operating voltage the varistor can maintain .

V_{DC} - Maximum DC operating voltage the varistor can maintain .

I_L - Leakage current at $V_V \times 80\%$

C_p - Device capacitance measured with zero volt bias 1Vrms.

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

Equivalent to VB "breakdown voltage".

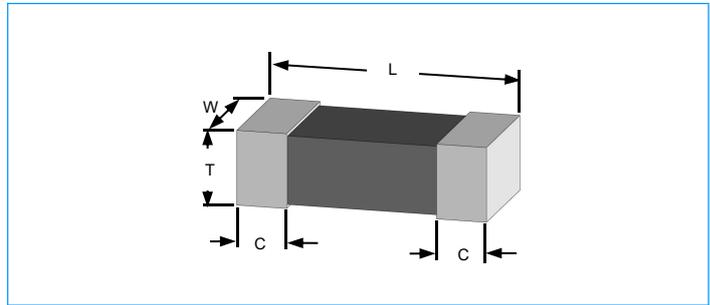
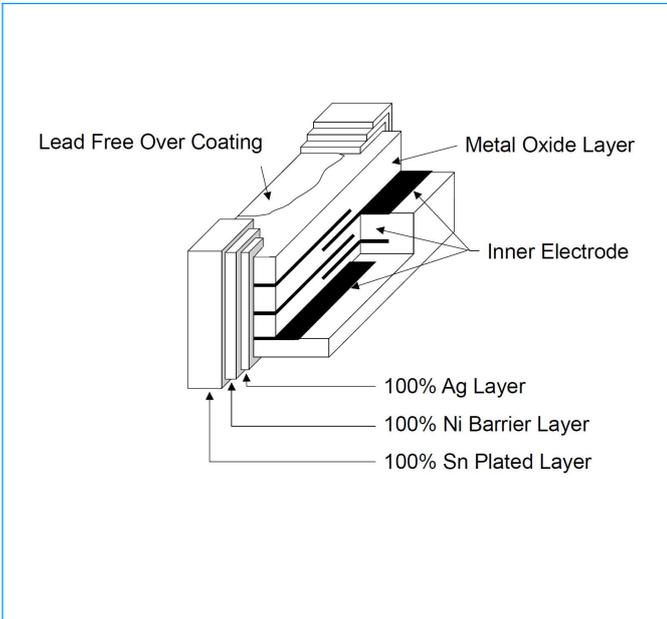
V_C - Maximum peak current across the varistor with 8/20 μs waveform and 1A pulse current.

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

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Construction & Dimensions



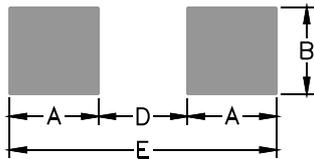
Size EIA (EIAJ)	0604
Symbol	Millimeters
L	1.60±0.15
W	1.05±0.10
T	1.15 Max
C	0.25±0.10

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)

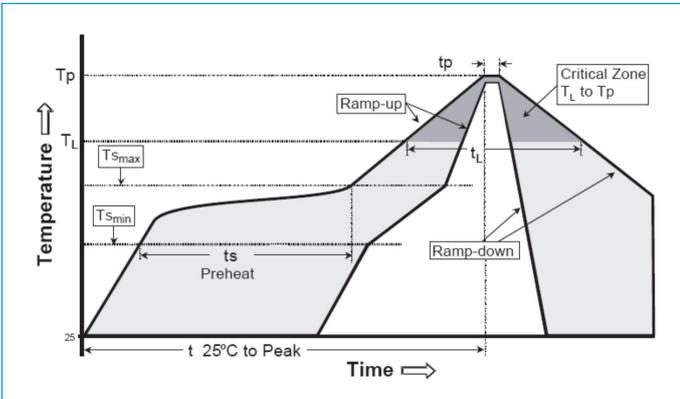
- Mounting place must be as far as possible from the position, which is close to the break line of board or on the line of large holes of board.
- Do not bend extremely the board, in mounting another component. If necessary, use back-up pin (support pin) to prevent from bending extremely.
- Do not break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

Size EIA (EIAJ)	0604
Symbol	Millimeters
A	0.92
B	1.07
D	0.7
E	2.54

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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

Packaging

Part Number	Quantity
SV0604H271G1B	3000Pcs