TESC0R2V24B1X

ESD SUPPRESSOR

TOP-EMC

Features

- SMD type zinc oxide based ceramic chip
- Lead free plating termination provided good solderability characteristic
- Insulator over coat keeps excellent low and stable leakage current
- Quick response time (<1ns)
- Low clamping voltage
- High transient current capability
- Meet IEC 61000-4-2 standard
- Compact size for EIA 0603
- ESD per IEC 61000-4-2(Contact):8KV
- ESD per IEC 61000-4-2(Air):15KV

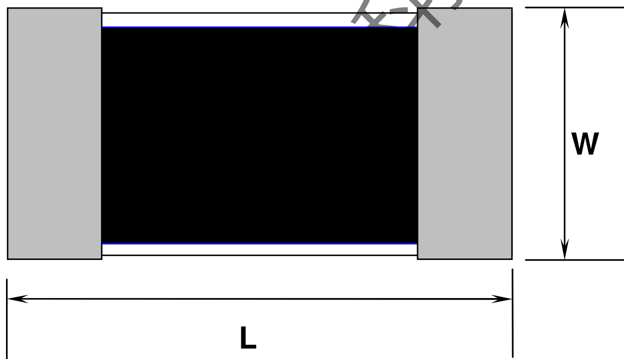
Applications

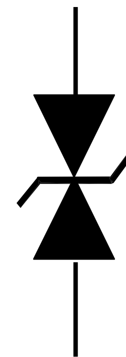
- Application for Mother Board, Notebook, Cellular Phone, PDA, handheld device
- DSC,DV,Scanner , and Set-Top Box etc.
- Data port:Audio,Video,Keyboard,Charge etc.

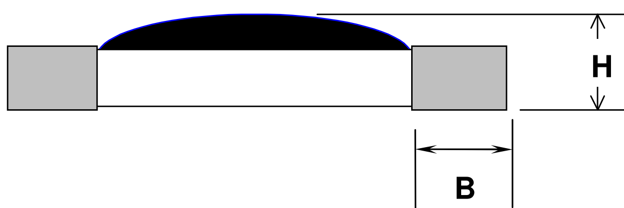
科技-EMC方案的最佳选择

Construction & Dimension

End termination: Ag/Ni/Sn







Unit: mm	0603
L	1.60±0.10
W	0.85±0.15
H	0.51±0.05
c	0.30±0.20

Part ratings and characteristics

	Rated voltage	Trigger voltage	Clamping Voltage	Capacitance
Symbol	V_{DC}	Vt	Vc	Cp
Units	Volts (max)	Volts	Volts	pF (Typical)
Test Condition				1MHz
TESC0R2V24B1X	24	300	30	0.2

Vt – measurement by using Transmission Line Pulse (TLP)
Vc –measurement by using Transmission Line Pulse (TLP)
Cp – Device capacitance measured with 1Vrms

General electrical specifications

General technical data

Operating temperature	-55℃~ +125℃
Storage temperature	-55℃~ +125℃
Response time	<1 ns

韬略科技 - EMC方案的最佳选择

Environmental Specifications

Item	Specifications	Test condition	Reference
Bias humidity	IL ≦10μA	85%RH, 85℃, rated voltage 12VDC ,1000 hrs	MIL-STD-202 Method 103
Thermal Shock	IL ≦10 μA	-40℃to 85℃, 30 min. cycle, 5 cycles	JIS C 0025 (1998)Test Na
High Temperature load voltage	IL ≦10 μA	Rated voltage, 85℃, 1000 hrs	MIL-STD-202G Method 108
Solder leach resistance	IL ≦10 μA	260℃, 10s	MIL-STD-202G Method 210F
Vibration	IL ≦10 μA	The entire frequency range：10~55Hz 1.5mm amplitude 2 hours for each Y, Z directio	MIL-STD-202G Method 201A

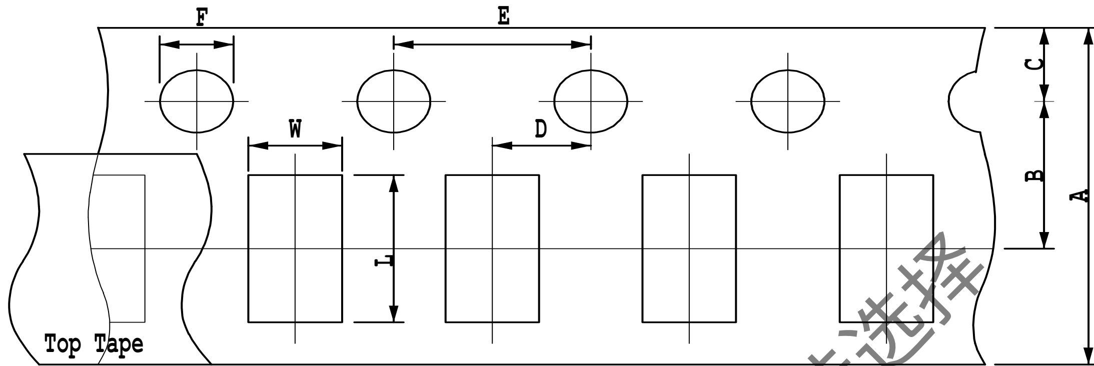
I_L – Leakage current at rated voltage, the maximum leakage current was measured after reliability test.

Storage Condition with package

Storage Temperature: 5 to 40°C
Relative Humidity: < 65%RH
Storage Time: 12 months max

Taping Package and Label Marking

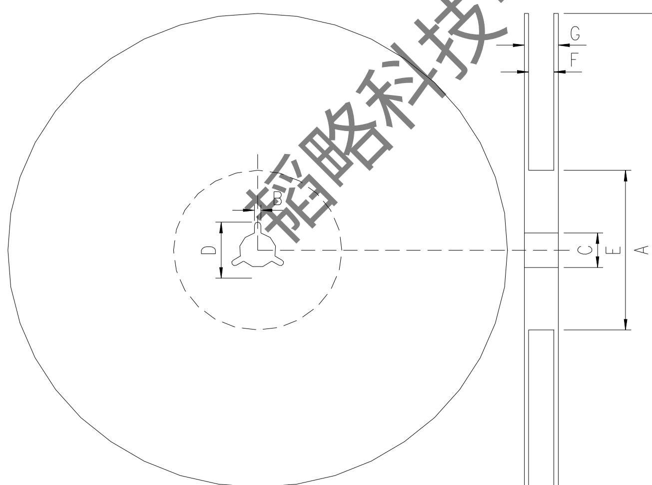
Carrier tape dimensions



UNIT: mm

A	B	C	D	E	F	L	W	T
8.00± 0.30	3.50± 0.05	1.75± 0.10	2.00± 0.05	4.00± 0.10	1.50± 0.10	1.90± 0.20	1.05± 0.20	0.60± 0.03

Taping reel dimensions



A	178.0±2.0
B	2.0±0.5
C	13.0±0.5
D	21.0±0.8
E	62.0±1.5
F	9.0±0.5
G	13.0±1.0

韬略科技-EMC方案的最佳选择

Quantity of products in the taping package

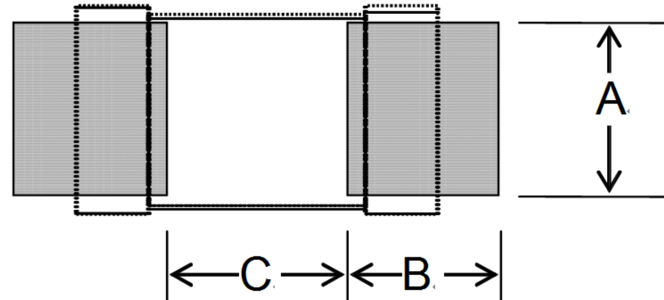
(1) Standard quantity：5000pcs/Reel

(2) Shipping quantity is a multiple of standard quantity.

Precautions for Handling

Solder cream in reflow soldering

Print solder in a thickness of 0.15 to 0.20 mm.



Unit : mm(inch)

A	0.75±0.1 (0.03±0.004)
B	0.75±0.1 (0.03±0.004)
C	0.75±0.1 (0.03±0.004)

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 using the machine or the jig to break it.

Precaution for soldering

Note that rapid heating, rapid cooling or local heating will easily damage this product.
Do not give heat shock over 100°C in the process of soldering. We recommend taking preheating and gradual cooling.

Soldering volume

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

韬略科技-EMC方案的最佳选择

Soldering gun procedure

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

(1) The tip temperature must be less than 280°C for the period within 3 seconds by using soldering gun under 30 W.

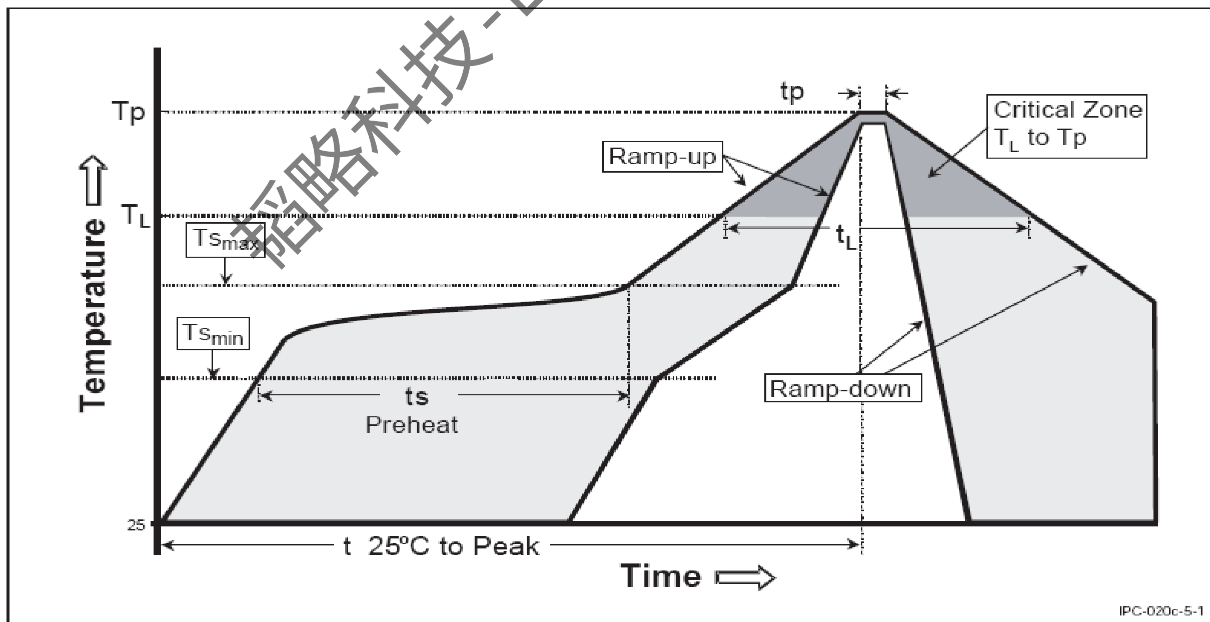
(2) The soldering gun tip shall not touch this product directly.

Recommendable reflow soldering

Reference IPC-J-STD-020D.1

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3° C/second max.
Preheat – Temperature Min (Tsmin) – Temperature Max (Tsmax) – Time (tsmin to tsmax)	 150°C 200°C 60-120 seconds
Time maintained above: – Temperature (TL) – Time (tL)	 217°C 60-150 seconds
Peak/Classification Temperature (Tp)	260°C
Time within 5 °C of actual Peak Temperature (tp)	30seconds
Ramp-Down Rate	6°C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

韬略科技-EMC方案的最佳选择



Contant Information

SHENZHEN TOP-FLIGHT TECHNOLOGY CO.,LTD

4th Floor, C Building, Quansen Industrial Park , Bulong Road, Longhua New District, Shenzhen

Tel: 86-755-82908191 Fax: 86-755-82908701 Email:kang@topleve.com

Website: **http ://www.topleve .com**