

TEPC0R2V12B1X

POLYMER ESD SUPPRESSORS



1. Generals

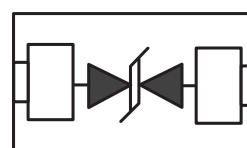
- This device is an ultra low capacitance PESD Product designed to protect very high speed data interfaces
TEPC0R2V12B1X has a typical capacitance of only 0.2pf(I/O to GND), and it can be used to meet the ESD immunity requirements of IEC61000-4-2(15KV air,8KV contact discharge)

2. Feature

- ESD protection for high speed data lines to IEC61000-4-2
- ESD contact discharge typical 8KV, max 15KV
- ESD air discharge typical 15KV, max 25KV
- Multilayer structure
- Surface mount
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- The best ESD protection for high frequency, low voltage applications

3. Application

- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Display Port Interface (DP)
- Unified Display Interface (UDI)
- Mobile Display Digital Interface (MDDI)
- Gigabit Ethernet
- USB2.0 and USB3.0
- IEEE1394 interface



Bidirectional

4. Part Number System

T E P C 0R2 V12 B 1X
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① Company Name: TOP-EMC
- ② Product Function: ESD
- ③ Material Type: Polymer
- ④ Chip Size (EIA): B(0402),C(0603)
- ⑤ Capacitance: 0R2=0.2PF,1R0=1.0PF,5R0=5.0PF
- ⑥ Working Voltage: V05=5V,V12=12V,V24=24V
- ⑦ Direction Type: Bidirectional
- ⑧ Lines Protected: 1X=1 line

5. Absolute Maximum Ratings

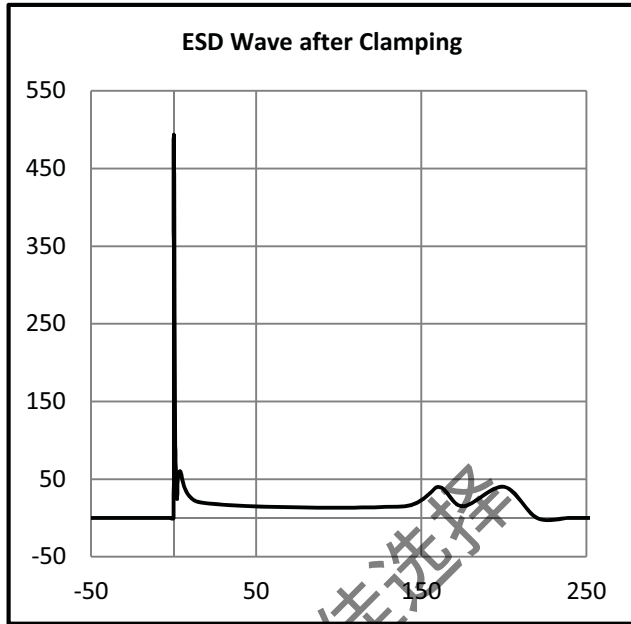
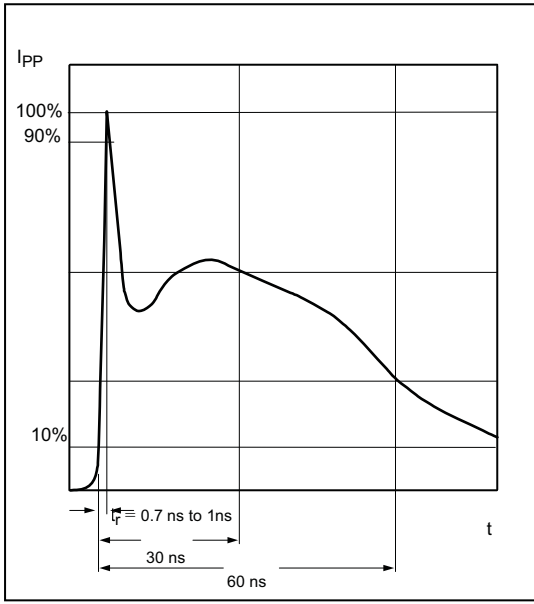
Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	---	15KV	V
Maximum Air discharge voltage Per IEC61000-4-2	---	25KV	V
Maximum Operating temperature	T _{OPER}	-40 to +90	°C
Maximum Storage temperature	T _{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T _L	260	°C

6. Electrical Characteristics(T_A=25°C)

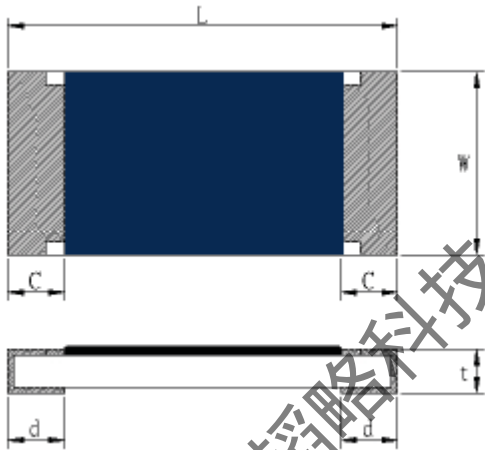
Parameter	Symbol	Typ	Max	Units
Rated Voltage	V _R	---	12	V
Trigger voltage	V _T	250	---	V
Clamping voltage	V _C	25	---	V
Leakage current	I _L	0.1		uA
Capacitance	C _P	0.20	0.25	pF

- Note:**
1. Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.
 2. After reliability tests such as high temp storage, temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10uA.

7. ESD Clamping Test Waveforms

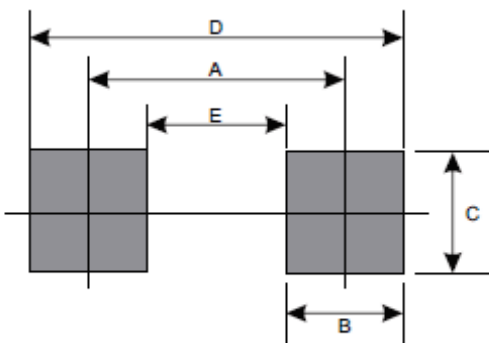


8. Product Dimension



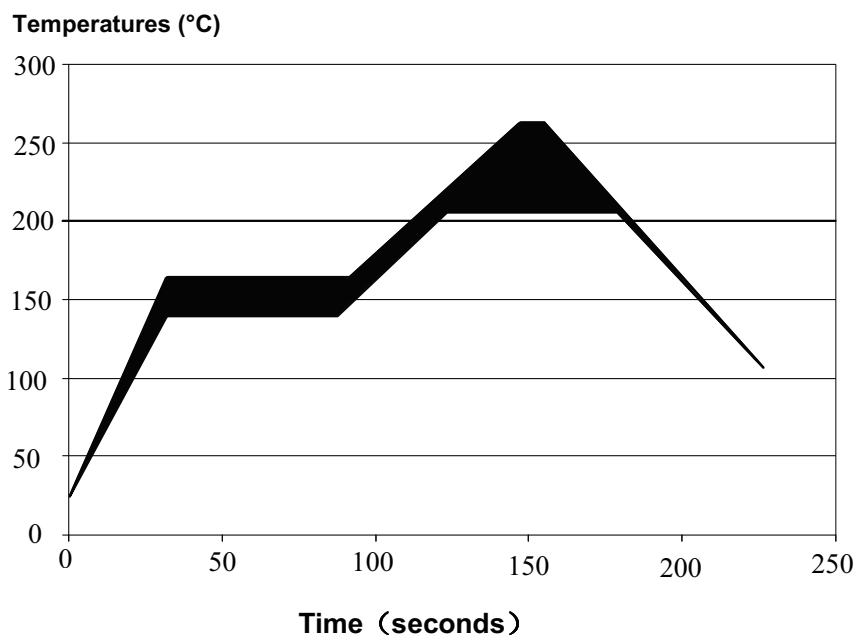
Type	Dimensions(mm)				
	L	W	C	d	t
0402	1.0±0.1	0.52±0.05	0.2±0.1	0.25±0.1	0.36±0.05
0603	1.6±0.1	0.8±0.1	0.3±0.2	0.35±0.2	0.45±0.1

PAD Dimension

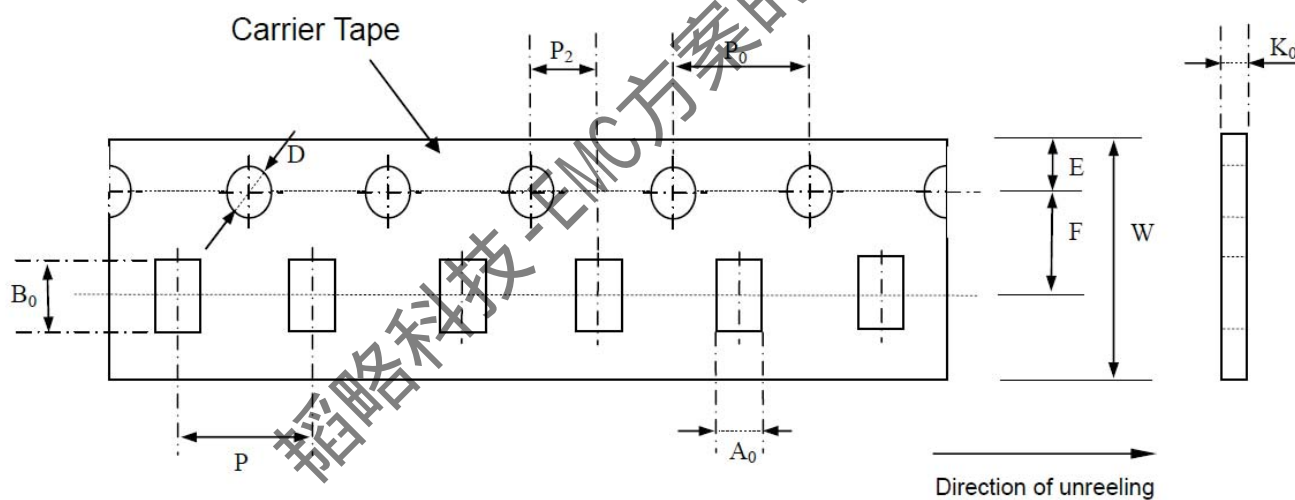


Size	0603 (mm)
A	1.5
B	0.6
C	0.9
D	2.1
E	0.8

9. Solder Reflow Recommendations

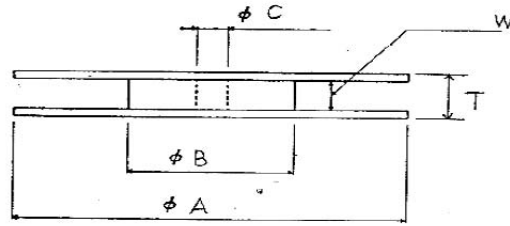
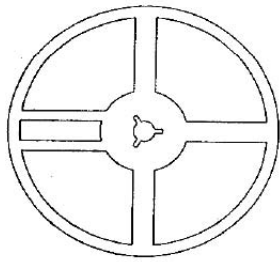


10. Package Information



Symbol	A_0 ± 0.05	B_0 ± 0.05	K_0 ± 0.05	D $+0.10$ -0.05	P ± 0.10	P_2 ± 0.10	P_0 ± 0.10	W ± 0.10	E ± 0.10	F ± 0.05
0402	0.62	1.12	0.60	1.55	2.00	2.00	4.00	8.00	1.75	3.50
0603	1.10	1.90	0.95	1.56	4.00	2.00	4.00	8.00	1.75	3.50

- 6.1 Carrier tape and transparent cover tape should be heat-sealed to carry the products, and the reel should be used to reel the carrier tape.
- 6.2 The adhesion of the heat-sealed cover tape shall be 40 ± 30 grams.
- 6.3 Both the head and the end portion of the taping shall be empty for reel package and SMT auto-pickup machine. And a normal paper tape shall be connected in the head of taping for the operator to handle.



Series	ϕA	ϕB	ϕC	W	T
0402	180 ⁺⁰	60 min	13.0±1.0	9.0±1.0	11.4±2.0
0603	-3				

11. Order Information

Device	Package	Quantity	HSF Status
TEPC0R2V12B1X	0603	5,000pcs/reel	RoHS compliant

韬略科技-EMC方案的最佳选择

12. Contact 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>