

# TEPC0R15V12B1X

## POLYMER ESD SUPPRESSORS



### 1. Generals

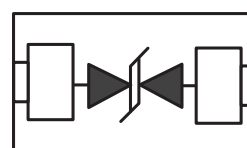
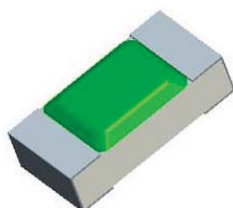
- This device is an ultra low capacitance PESD Product designed to protect very high speed data interfaces  
TEPC0R15V12B1X has a typical capacitance of only 0.15pf(I/O to GND),and it can be used to meet the ESD immunity requirements of IEC61000-4-2(15KV air,8KV contact discharge)

### 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 0R15 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: 0R15=0.15PF,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 <sub>OPER</sub>	-40 to +90	°C
Maximum Storage temperature	T <sub>STG</sub>	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T <sub>L</sub>	260	°C

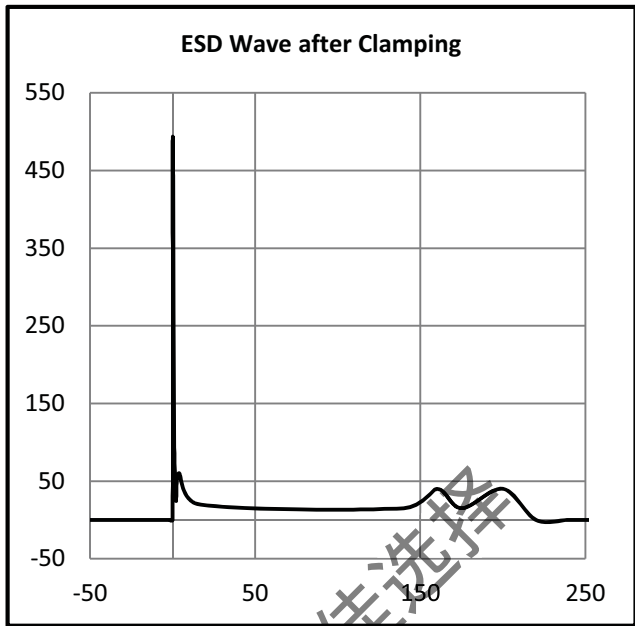
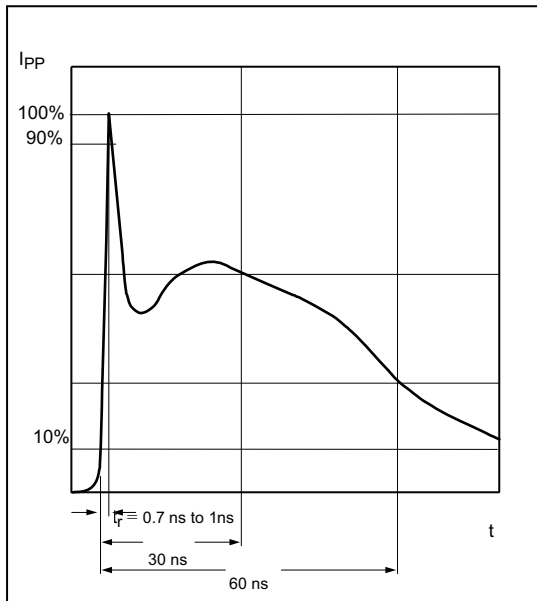
## 6. Electrical Characteristics(T<sub>A</sub>=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V <sub>R</sub>	---	---	---	12	V
Trigger voltage	V <sub>T</sub>	IEC61000-4-2 8KV contact discharge	---	350	---	V
Clamping voltage	V <sub>C</sub>	IEC61000-4-2 8KV contact discharge	---	35	---	V
Leakage current	I <sub>L</sub>	DC 5V shall be applied on component	---	0.1		uA
Capacitance	C <sub>P</sub>	V <sub>R</sub> = 0V, f = 1MHz	---	0.15		pF

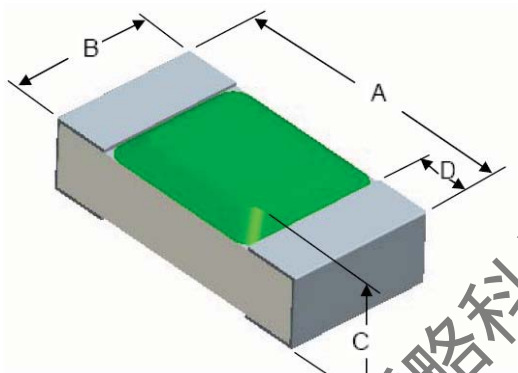
**Note:** 1. Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.

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

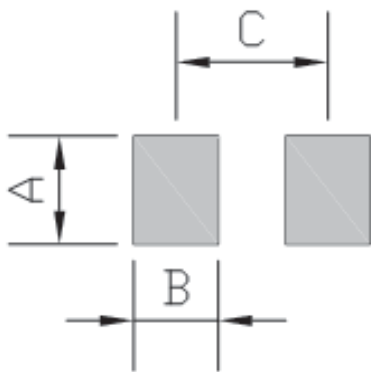


### 8. Product Dimension



Parameter	Symbol	Dimension			Unit
		Min	Typ	Max	
Length	A	1.45	1.60	1.75	mm
Width	B	0.65	0.80	0.95	
Height	C	0.26	0.36	0.46	
Terminal width	D	0.15	0.25	0.35	

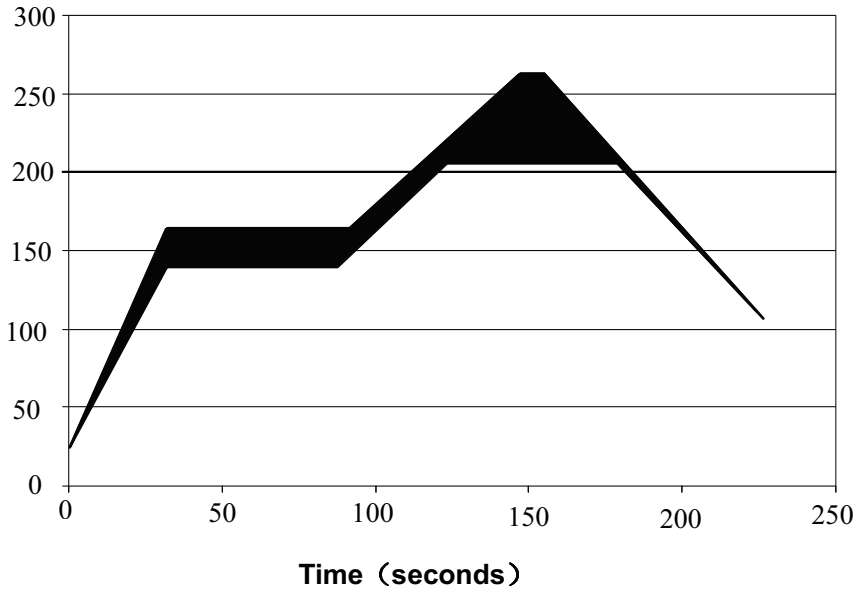
### PAD Dimension



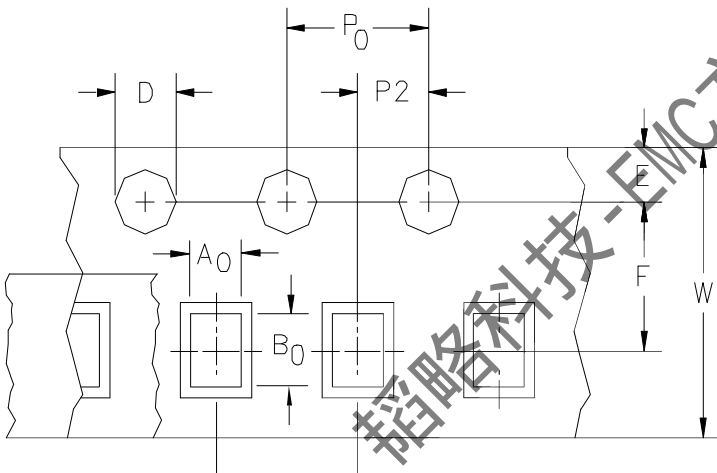
Symbol	Dimension	Unit
A	0.95	mm
B	0.65	
C	1.35	

### 9. Solder Reflow Recommendations

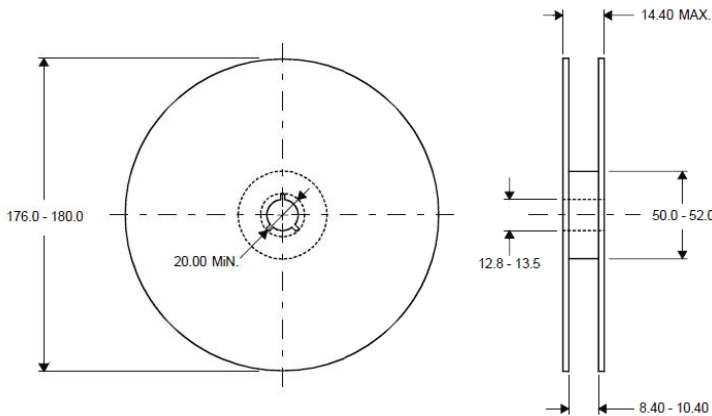
Temperatures (°C)



### 10. Package Information



Dimension	Typical	Unit
A0	1.10	mm
B0	1.90	
D	1.55	
P0	4.00	
P1	4.00	
P2	2.00	
E	1.75	
F	3.50	
W	8.00	



DIMENSIONS ARE: MILLIMETERS

## 11. Order Information

Device	Package	Quantity	HSF Status
TEPC0R15V12B1X	0603	5,000pcs/reel	RoHS compliant

韬略科技-EMC方案的最佳选择

## 12. Contact Information

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