Surface Mount Polymeric ESD Suppressor

Features

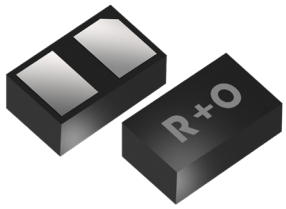
- Low leakage current
- Fast response time
- 0402 surface mount package
- IEC 61000-4-2 (ESD Air): ±15kV
- IEC 61000-4-2 (ESD Contact): ±8kV

Reverse Working Voltage
5V Max.
Ultra Low capacitance
0.05pF(Typ)

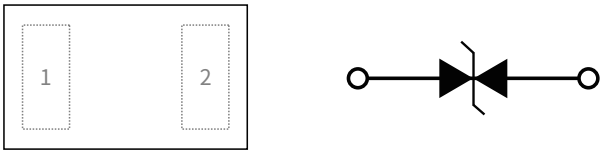
Applications

- USB 3.0/3.1
- HDMI 1.3/1.4/2.0
- RF Antenna
- SATA and eSATA interface
- Smart Phone/Mobile Internet

0402 Series



Function Diagram



Part Number Code

PESD □□□□ - □□

- Working Voltage V_{DC}
- Package
- Polymeric ESD

Maximum Ratings (Ta=25°C Unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{ESD}	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2(Air)	±15	KV
		ESD per IEC 61000-4-2(Contact)	±8	KV
T_J	Operating JunctionTemperature Range	—	-55 to +125	°C
T_{STG}	Storage Temperature Range	—	-55 to +125	°C

Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	CONDITION	Min	Typ	Max	UNIT
Continuous Operating Voltage	V_{DC}	T_a=25°C	—	—	5.0	V
Trigger Voltage	V_T	IEC61000-4-2 8kV contact discharge	—	450	—	V
Reverse Leakage Current	I_R	DC 5V shall be applied on component	—	—	10	nA
Clamping Voltage	V_C	IEC61000-4-2 8kV contact discharge	—	40	—	V
Capacitance	C_J	Measured at 10MHz	—	0.05	—	pF

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

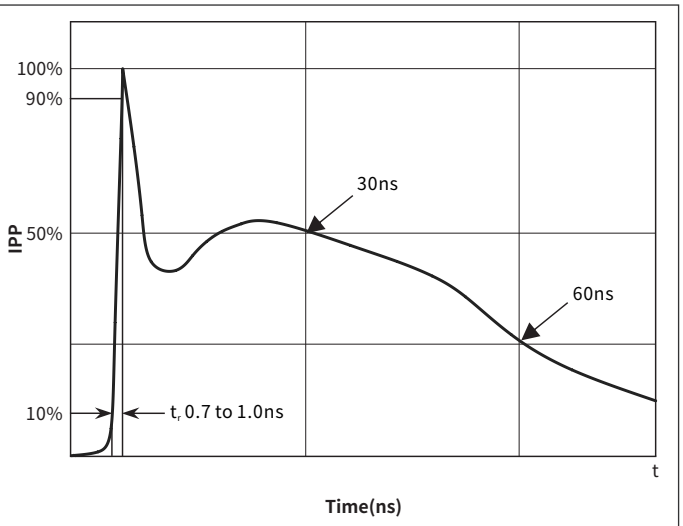


Fig.1 ESD Clamping Test Waveform

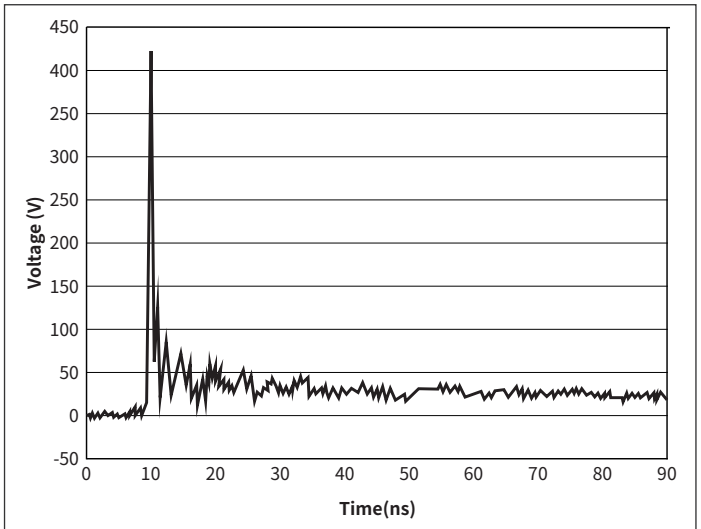


Fig.2 ESD Waveform after Clamping

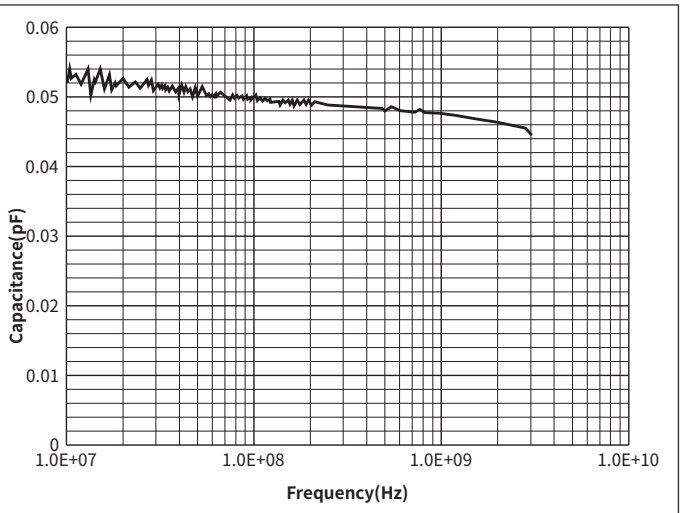
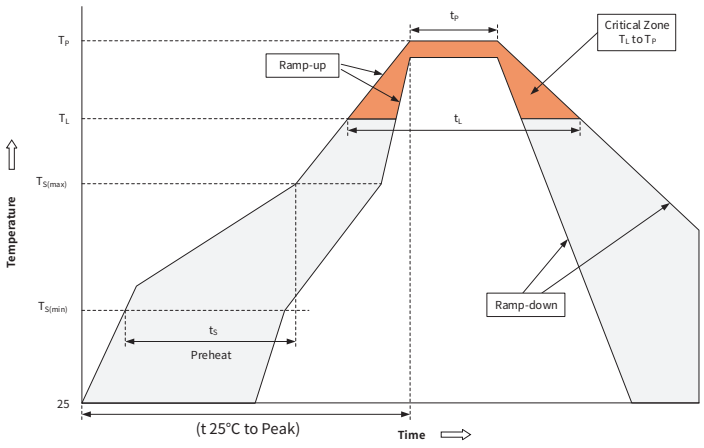


Fig.3 Capacitance VS Frequency

Ordering Information

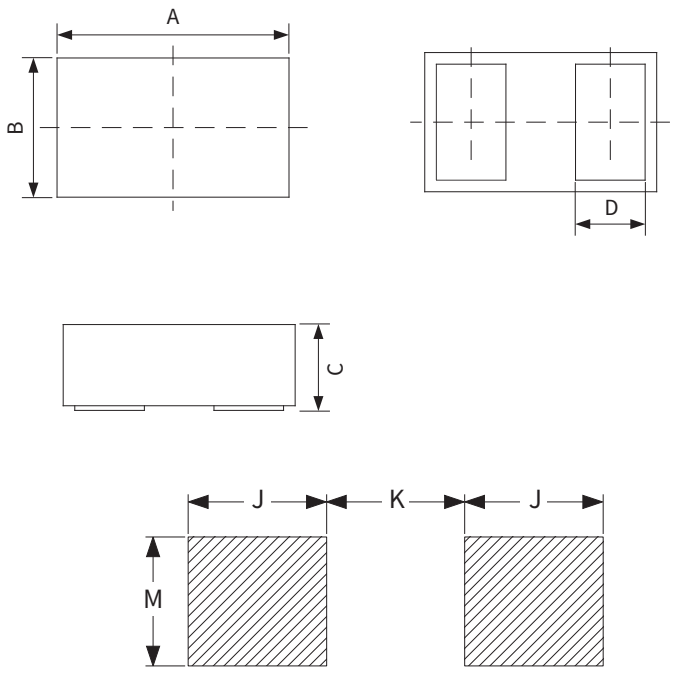
PREFERED P/N	PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
PESD0402-05	0402	1.00×0.52×0.38	7'' REEL	10,000

Recommended Soldering Conditions



Profile Feature		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 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C /sec. Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature(T_L)(Liquid us)	+217°C
	Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		20-40secs
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

Package Outline Dimensions (0402 package)



Notes:
This solder pad layout is for reference purposes only.

Symbol	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.90	1.10	0.035	0.043
B	0.42	0.62	0.016	0.024
C	0.25	0.45	0.010	0.018
D	0.15	0.35	0.006	0.014
J	0.50		0.020	
K	0.40		0.016	
M	0.65		0.026	