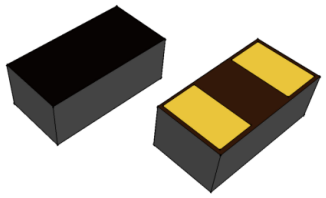
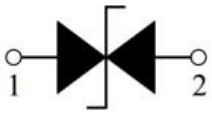
PESD0603V05P03

Surface Mount Polymeric ESD Suppressor

Description

PESD0603V05P03 polymeric ESD suppressor help protect sensitive electronic equipment against electrostatic discharge (ESD) without distorting data signals. This protection is a result of its ultra-low capacitance of only 0.05 pF (I/O to GND), and it can be used to help equipment to pass IEC61000-4-2 level 4 test (15KV air, 8KV contact discharge).





Feature

- The best ESD protection for high speed, low voltage applications
- RoHS compliant and halogen free
- Compact size for EIA 0603
- Ultra low capacitance, 0.05 pF (typ.)
- Extremely quick response time (<1ns)
- Extremely low leakage current
- Bi-directional, single line protection

Application

- Smart Phone/Mobile Internet Device
- Laptop/Desktop Computer
- Bi-directional, single line protection
- Antennas (Cell Phones, GPS…)
- High Speed Ethernet
- USB 3.0 and USB 3.1

  Caution: This component is designed for signal line protection only, not intended to be used on power lines or for power bus applications.

Surface Mount Polymeric ESD Suppressor

Part Number	Working Voltage V_{DC}	Capacitance @10MHz Cp	Leakage Current @$V_{DC}I_L$	ESD Pulse Withstand	Clamping Voltage V_C	Trigger Voltage Vt	Maximum ESD IEC61000-4-2
	V	pF	μA	IEC61000-4-2 8KV contact discharge			
	Max.	Typ.	Max.	Min.	Typ.	Typ.	
PESD0603V05P03	3.0	0.05	0.05	1000	40	450	Contact Discharge Voltage: 8 KV Air Gap Discharge Voltage: 15 KV

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

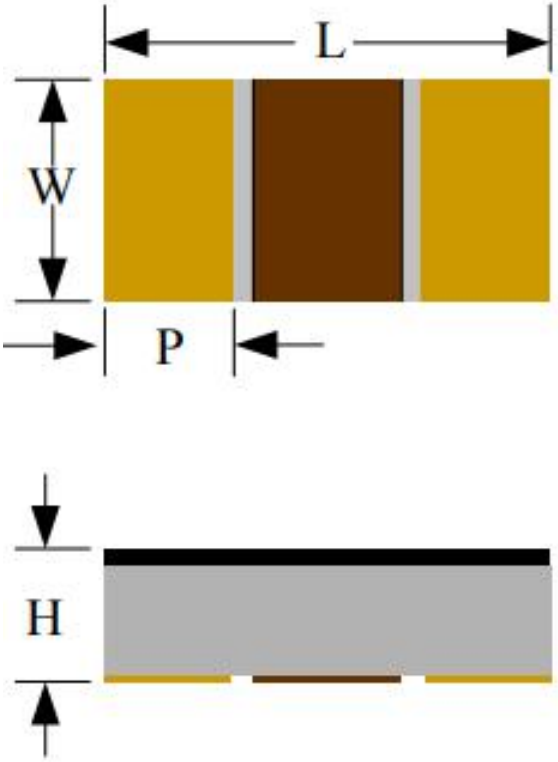
General Technical Data

Operating Temperature	-40 ~+85℃
Storage Temperature (on board)	-55 ~ +125℃
Response Time	<1 ns
Solderability	245±5℃, 3±1sec.
Solder Leach Resistance	260±5℃, 10±1 sec.

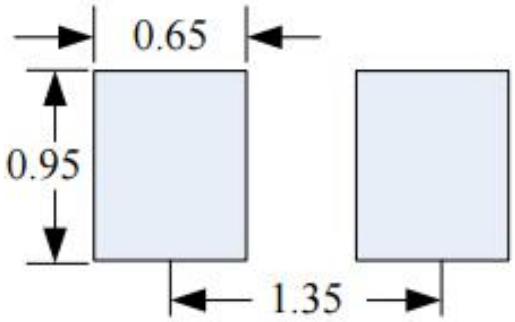
Environmental

Item	Specifications	Test Condition
Bias Humidity	I_L ≦ 100 nA	85%RH, 85℃, Working Voltage, 1000 hrs
Thermal Shock		-55℃ to 125℃, 30 min. cycle, 1000 cycles
Preconditioning		125℃, 24H;85℃, 85%RH, 162H;260℃ Reflow,3 Times

Package Dimension



Recommended Solder Pad Footprint



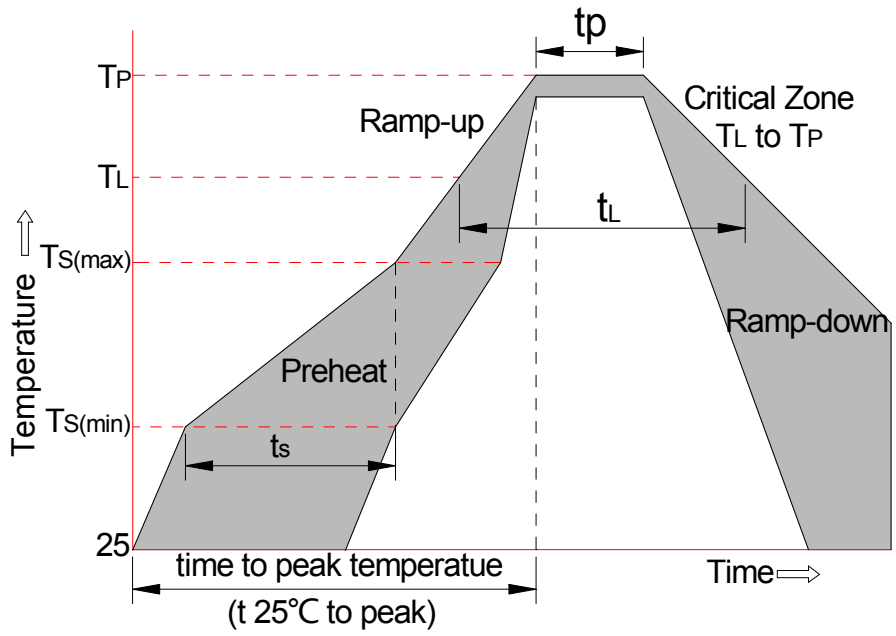
***Sizes in mm**

Notes：

This solder pad layout is for reference purposes only.

Model	Unit: Millimeters		
	Min.	Typ.	Max.
L(mm)	1.45	1.60	1.75
W(mm)	0.70	0.80	0.95
H(mm)	0.26	0.40	0.46
P(mm)	0.20	0.35	0.50

Soldering Parameters



Profile Feature	Pb-Free Assembly
Pre Heat Temperature Min (T_{smin}) Temperature Max (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	 150 °C 200 °C 60-120 seconds
Ramp-up Rate (T_L to T_p)	3 °C/second max.
Liquidus temperature (T_L) Time (t_L) maintained above T_L	217 °C 60-150 seconds
Peak package body temperature (T_p)	260(+0/-5)°C
Time (t_p)* within 5 °C of the specified classification temperature (T_c)	30* seconds
Ramp-down Rate (T_p to T_L)	6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.	