

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.

Ver.1.0



Surface Mount Polymeric ESD Suppressor

Part Number	Working Voltage V _{DC} V	Capacitance @10MHz Cp pF	Leakage Current @V _{DC} IL µA	ESD Pulse Withstand IEC61000-4-2	Clamping Voltage V _c 2 8KV contac	Trigger Voltage Vt t discharge	Maximum ESD	
	Max.	Тур.	Max.	Min.	Тур.	Тур.		
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°C	
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		85%RH, 85℃, Working Voltage, 1000 hrs	
Thermal Shock	$I_L \cong 100 \text{ nA}$	-55°C to 125°C, 30 min. cycle, 1000 cycles	
Preconditioning		125°C, 24H;85°C, 85%RH, 162H;260°C Reflow,3 Times	



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Recommended Solder Pad Footprint





Notes:

This solder pad layout is for reference purposes only.

Madal	Unit: Millimeters				
woder	Min.	Тур.	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		

Η



Soldering Parameters



Profile Feature	Pb-Free Assembly		
Pre Heat			
Temperature Min (T _{smin})	150 °C		
Temperature Max (T _{smax})	200 °C		
Time (t_s) from (T_{smin} to T_{smax})	60-120 seconds		
Ramp-up Rate (T_L to T_p)	3 °C/second max.		
Liquidus temperature (T _L)	217 °C		
Time (t_L) maintained above T_L	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 $(T_p \text{ to } T_L)$	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.			

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