



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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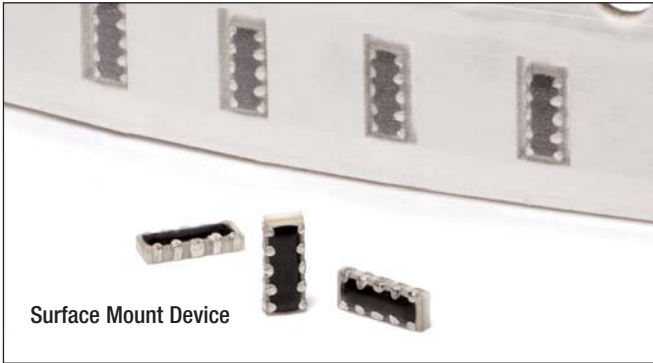
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Four-Channel ESD Suppressor PolySurg™ 42510ESDA-TR1



Description

The Eaton PolySurg™ 42510ESDA four-channel array ESD suppressor protects sensitive electronic circuits from the threat of electrostatic discharge (ESD) without distorting data signals. This protection is a result of its ultra-low capacitance (0.1pF typical) that is well suited for HDMI ESD protection applications.

Features

- Halogen free, lead free and RoHS compliant for global applications
- Ultra-low capacitance (0.1pF typical) ideally suited for protecting high speed data applications
- Provides ESD protection with fast response time (<1ns) allowing equipment to pass the IEC 61000-4-2 Level 4 test
- Four (4) channel array
- Zero signal distortion
- Low leakage current (<0.01μA typical)

Electrical Specifications	
Characteristic	Value/Range
Rated Voltage (max)	12V
Leakage Current (max @ 12Vdc)	0.01μA
Trigger Voltage (V _T)	300V Typical
Clamping Voltage (V _C)	30V Typical
Capacitance (C _p) @1MHz*	0.1pF Typical
Response Time	<1ns
ESD Voltage Capability, IEC 61000-4-2 Contact Discharge Mode	8kV
ESD Voltage Capability, IEC 61000-4-2 Air Discharge Mode	15kV
ESD Withstand Pulses	100 Times Minimal

* Note, Capacitance measured with 1V_{rms}

Applications

Applied to a high speed signal interface, the 42510ESDA protects:

- Digital video equipment
- Mobile phone
- GPS Antenna
- Bluetooth communication equipment antenna circuit
- IEEE-1394
- DVI
- HDMI

Part Numbering System:

- 4 2510 ESDA- TR1
- Four channel SIN 1 chip
 - 2.5x1.0mm footprint size
 - ESDA ESD Suppressor
 - Tape and reel packaging code

Packaging

- Supplied in tape and reel packaging, 5000 parts per seven inch (178mm) reel per EIA Standard 481-1

Ordering Information

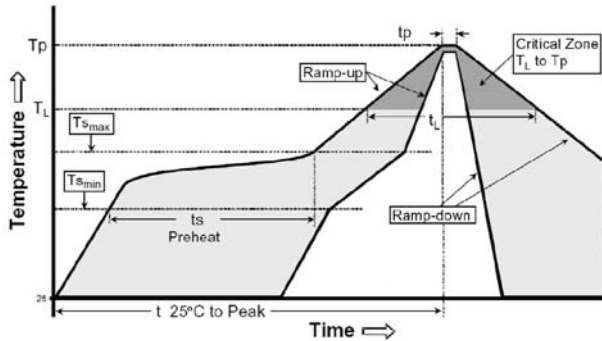
Catalog Number	Description
42510ESDA-TR1	5000 suppressors in paper tape on a 7 inch (178mm) reel

Environmental Specifications	
Characteristic	Value
Load Humidity	+85°C/90%RH with rated voltage for 1000 hrs
Thermal Shock	-40°C to +85°C, 30 minute cycle, 5 cycles
Moisture Resistance Test	J-STD-020 Standard: Level 2 (1 year floor life under 30°C/65%RH conditions)
Operating Temperature Range	-40°C to +85°C (-40°F to 185°F)
Storage Temperature Range	-55°C to +125°C (-67°F to +257°F)

Soldering Recommendations

- Compatible with lead and lead-free solder reflow processes
- Hand soldering - soldering tip should not directly touch part - 280°C max for 3 sec. max
- Peak reflow temperatures and durations:
 - IR Reflow = 260°C max for 20 sec. max
 - Wave Solder = 260°C max for 10 sec. max

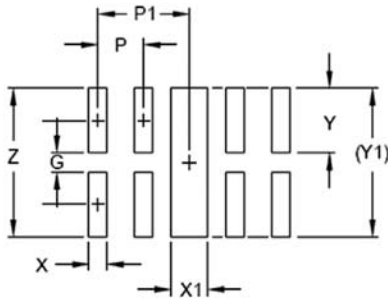
Recommended IR Reflow Profile



Design Considerations

- Follow the soldering recommendations to avoid deforming product
- Do not use high temperature, high humidity or corrosive atmospheres (sulfide and chloride gas) that could damage the solderability
- Moisture Sensitivity Level (MSL) according to J-STD-020 standard: Level 2 (Floor Life 1 year under <30°C/65%RH conditions)
- Solderability requirement according to IPC/JEDEC J-STD-002C, Test D, Test B1
- Use Sn/Ag/Cu (96.5/3.0/0.5) or equivalent solder and activated flux #5 or equivalent.

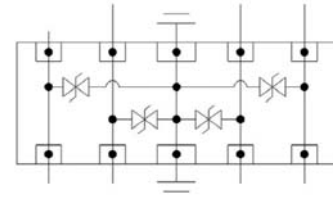
Recommended Pad Layout - mm



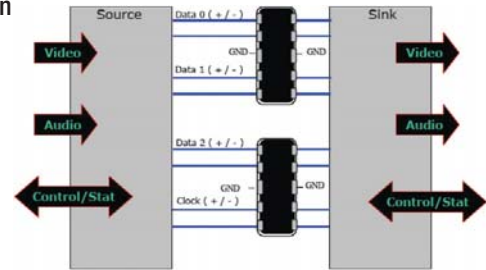
G	P	P ₁	X	X ₁	Y	Y ₁	Z
0.2	0.5	1	0.2	0.3	0.6	1.4	1.4

Note: Print solder 0.01~0.015mm thick.

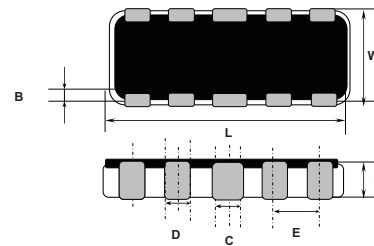
Circuit Schematic



HDMI Application

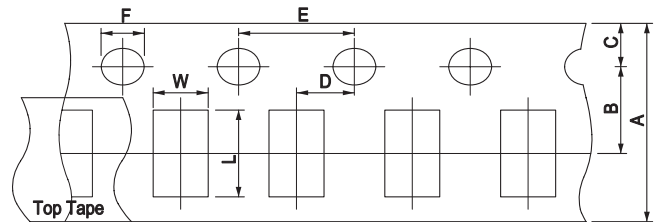


Dimensions - mm



B	C	D	E	L	T	W
0.2	0.3	0.2	0.5	2.5	0.5	1.0
±0.1	±0.05	±0.05	±0.05	±0.1	±0.1	±0.1

Tape and Reel Packaging Specifications - mm



A	B	C	D	E	F	L	W
8.00	3.50	1.75	2.00	4.00	1.50	2.90	1.40
±0.30	±0.05	±0.10	±0.05	±0.10	±0.10	±0.20	±0.20

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