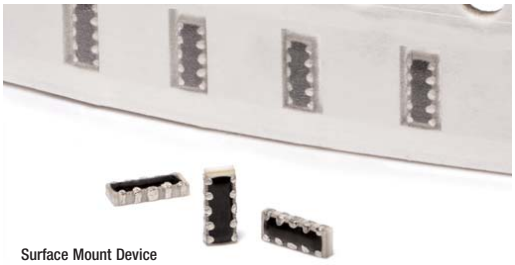
42510ESDA-TR1

ESD suppressor four-channel



Surface Mount Device

Product 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)

Applications

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

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.

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

Ordering

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

Electrical Specifications

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

* Note, Capacitance measured with 1 Vrms

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)

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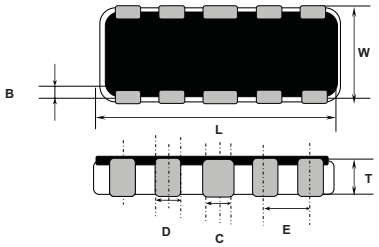
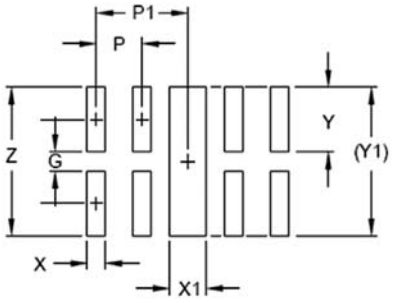
Dimensions - mm



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

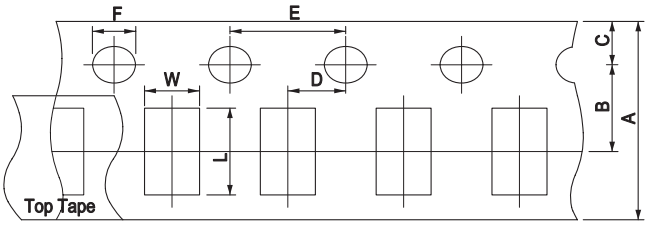
Recommended Pad Layout - mm



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.							

Packaging-mm

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



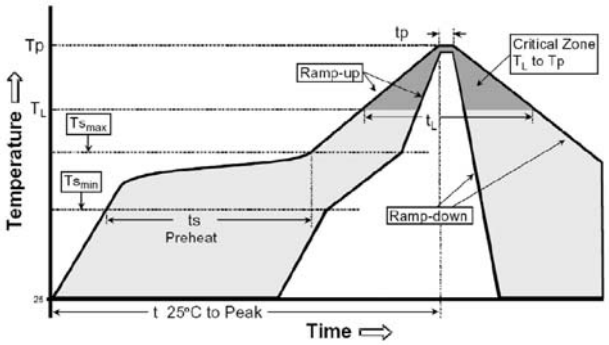
Unit: mm

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

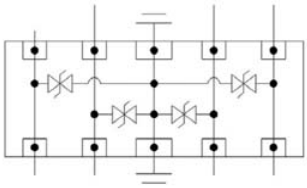
Soldering recommendations

- 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

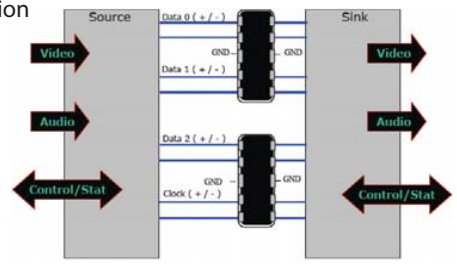
Recommended IR Reflow Profile



Circuit Schematic



HDMI Application



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