

Specification Status: Released

BENEFITS

- Silicon ESD device in an EIA-0201 size rectangular passive component SMT package
- Standard PCB assembly and rework processes
- Bi-directional operation allows placement on PCB without orientation constraint
- Appropriate for ESD protection in space-constrained portable electronics and mobile handsets
- Suitable for +5V operating voltage applications
- Helps protect electronic circuits against damage from Electrostatic Discharge (ESD) events
- Assist equipment to pass IEC61000-4-2, level 4 testing
- RoHS compliant and Halogen Free

FEATURES

- Input capacitance – 4pF (typ)
- Low leakage current – 1.0µA (max)
- Low working reverse voltage – 6.0V (max)
- ESD maximum rating per IEC61000-4-2 standard
 - ± 10kV contact discharge ⁽¹⁾
 - ± 16kV air discharge
- Capable of withstanding numerous ESD strikes
- Small package size: 0.60mm x 0.30mm (typ)
- Low package height: 0.30mm (typ)

APPLICATIONS

- Cellular phones and portable electronics
- Digital cameras and camcorders
- USB 2.0 and computer I/O ports
- Keypads, pushbuttons, low voltage DC lines, speakers, headphones, microphones
- Applications requiring high ESD performance

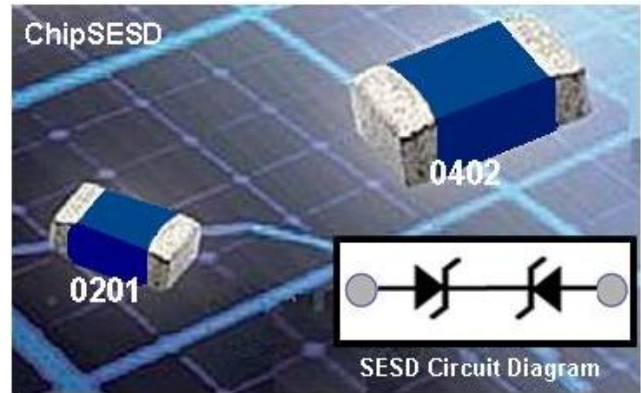
RoHS Compliant ELV Compliant Halogen Free *

Directive 2000/53/EC
Compliant

Directive 2002/95/EC
Compliant

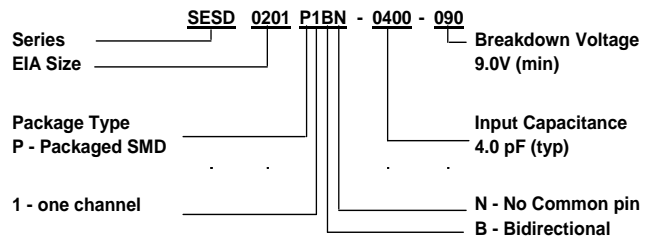


* Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm
Terminal finish: 100% Matte Tin (Sn)



PART NUMBERING

MATERIALS INFORMATION

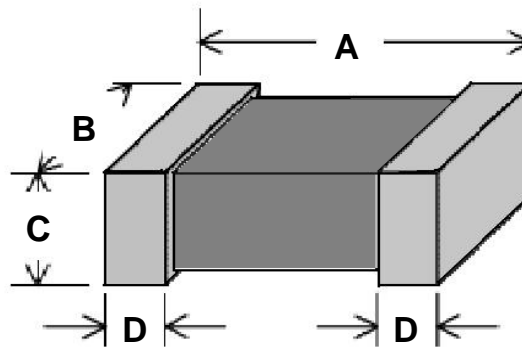


Device Characteristics @ T = 25°C	Min	Typ	Max	Unit
Input Capacitance @ $V_f = 0V, f = 1MHz$	--	4.0	5.0	pF
Working Reverse Voltage (peak) - V_{RWM}	--	--	6.0	V
Breakdown Voltage - V_{br} @ $I_f = 1mA^{(2)}$	9.0	11.0	--	V
Leakage current @ $V_{RWM} = 6.0V$	--	--	1.0	μA
Clamping Voltage @ $I_{pp}=2A, t_p=(8/20\mu s)$	--	± 10.0	± 12.0	V
ESD contact discharge per IEC61000-4-2 standard ⁽¹⁾	--	--	± 10	kV
ESD air discharge per IEC61000-4-2 standard	--	--	± 16	kV
Operating ($T_{junction}$) and Storage Temperature Range	-40 to +125			°C

⁽¹⁾ 10kV @ ± 50 pulses under IEC61000-4-2; 8kV @ 1,000 pulses under IEC61000-4-2

⁽²⁾ V_{br} is measured at test current I_f

DEVICE DIMENSIONS

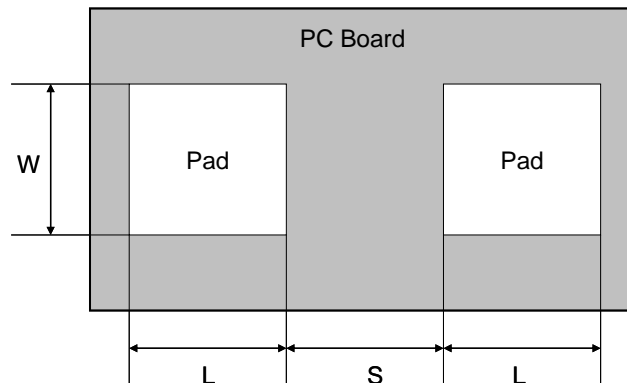


Drawing Not To Scale

Typical	A	B	C	D
mm	0.60 ± 0.05	0.30 ± 0.05	0.30 ± 0.05	0.21 ± 0.07
mils*	23.62 ± 2.0	11.81 ± 2.0	11.81 ± 2.0	8.27 ± 2.8

* Round off approximation

RECOMMENDED LANDING PATTERN:



	L	S	W
mm	0.28 ± 0.01	0.19 ± 0.01	0.30 ± 0.01
mils*	11.0 ± 0.4	7.5 ± 0.4	11.8 ± 0.4

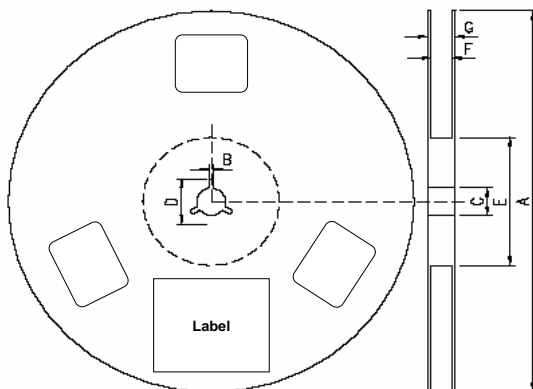
* Round off approximation

- Recommended solder thickness: 150 to 200 μ m
- Recommended rework procedure:
 - Soldering iron tip temperature should be less than 350°C
 - Apply iron tip to solder for less than 5 seconds
 - Do not apply solder iron tip to the body of this product directly

PACKAGING

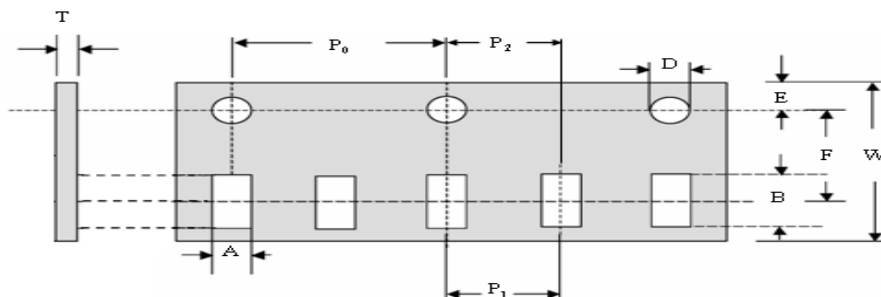
Packaging	Tape & Reel	Standard Box
SESD0201P1BN-0400-090	15,000	75,000

REEL DIMENSIONS



Dimension	A	B	C	D	E	F	G
(mm)	178.0 ± 2.0	2.0 ± 0.5	13.0 ± 0.5	21.0 ± 0.8	62.0 ± 1.5	9.0 ± 0.5	13.0 ± 1.0

CARRIER TAPE DIMENSIONS



Dimension	A	B	D	E	F	W
(mm)	0.39 ± 0.03	0.69 ± 0.03	1.55 ± 0.05	1.75 ± 0.05	3.5 ± 0.05	8.0 ± 0.1

Dimension	P ₀	P ₁	P ₂	T
(mm)	4.0 ± 0.1	2.0 ± 0.05	2.0 ± 0.05	0.42 ± 0.03

FIGURE 1: TYPICAL IV CURVE

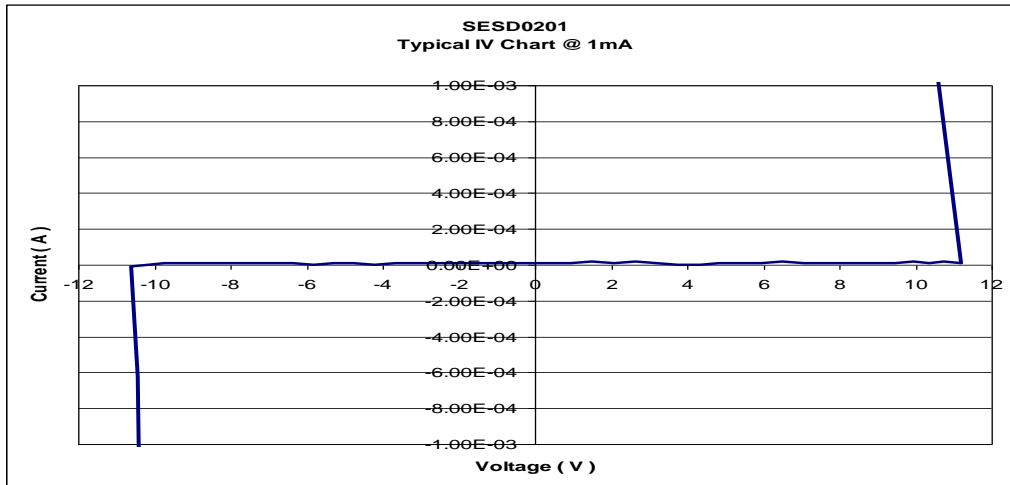


FIGURE 2: ESD CLAMPING VOLTAGE – 8kV Contact

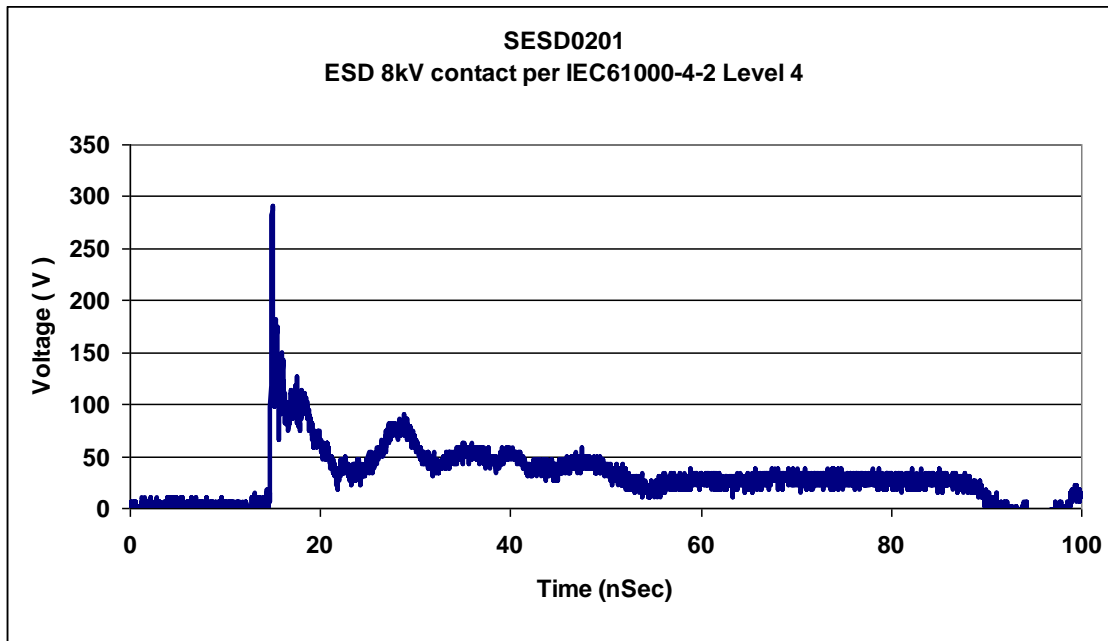
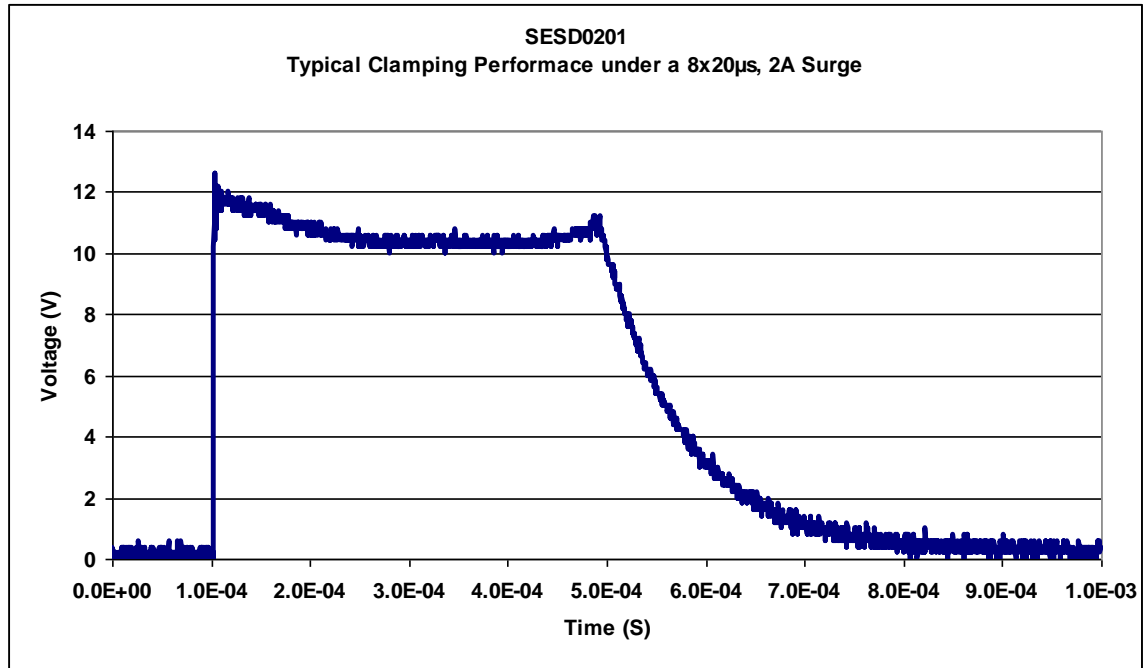


FIGURE 3: ESD CLAMPING VOLTAGE – 8x20μs, 2A Surge



Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse.