

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 – 1.0 μ A (max)
- Low working reverse voltage – 6.0V (max)
- ESD maximum rating per IEC61000-4-2 standard
 - ± 10 kV contact discharge ⁽¹⁾
 - ± 16 kV 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

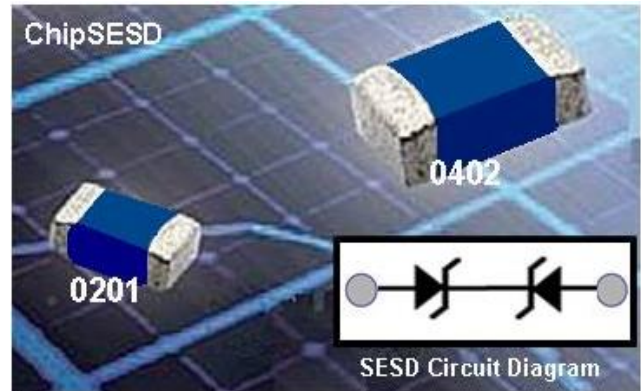
RoHS Compliant ELV Compliant Halogen Free *

Directive 2000/53/EC
Compliant

Directive 2002/95/EC
Compliant

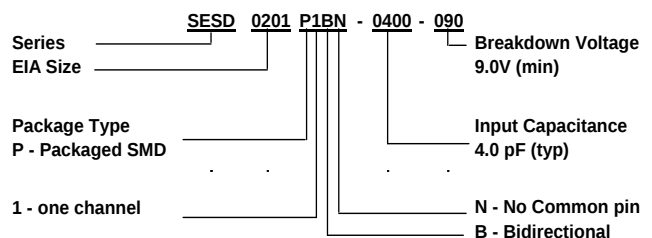


* Halogen Free refers to: Br $\leq$ 900ppm, Cl $\leq$ 900ppm, Br+Cl $\leq$ 1500ppm
Terminal finish: 100% Matte Tin (Sn)



PART NUMBERING

MATERIALS INFORMATION



ChipSESD

Silicon ESD Protector

Overvoltage Protection Device

PRODUCT: SESD0201P1BN-0400-090

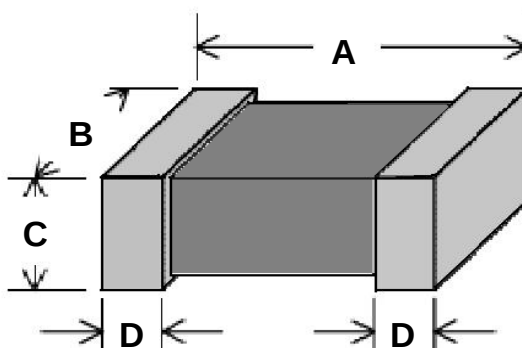
DOCUMENT: SCD27763
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Device Characteristics @ T = 25°C	Min	Typ	Max	Unit
Input Capacitance @ $V_i = 0V$, $f = 1MHz$	--	4.0	5.0	pF
Working Reverse Voltage (peak) - V_{RWM}	--	--	6.0	V
Breakdown Voltage - V_{br} @ $I_t = 1mA^{(2)}$	9.0	11.0	--	V
Leakage 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_t

DEVICE DIMENSIONS

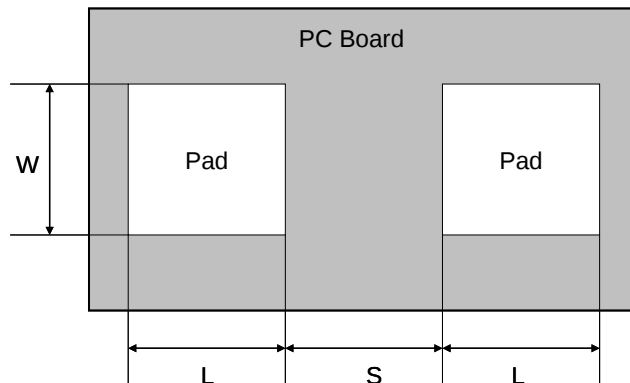


Drawing Not To Scale

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:



ChipSESD

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	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

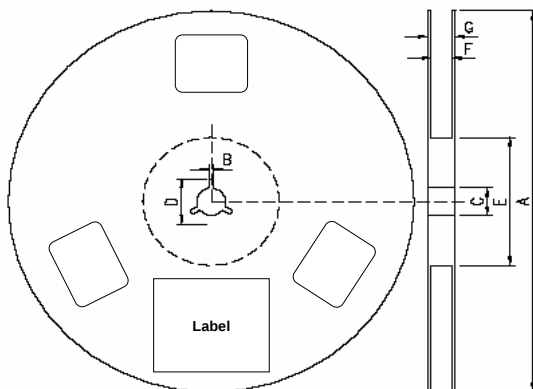
* Round off approximation

- Recommended solder thickness: 150 to 200 μm
- 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

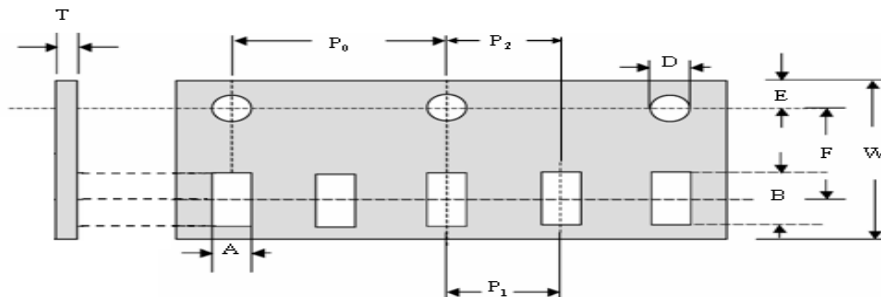
Packaging	Tape & Reel	Standard Box
SESD0201P1BN-0400-090	15,000	75,000

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

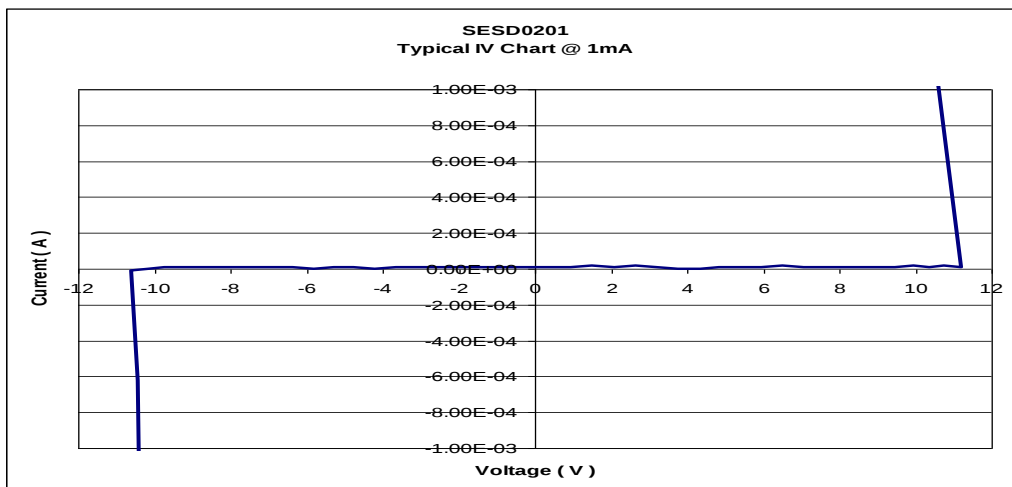


FIGURE 2: ESD CLAMPING VOLTAGE – 8kV Contact

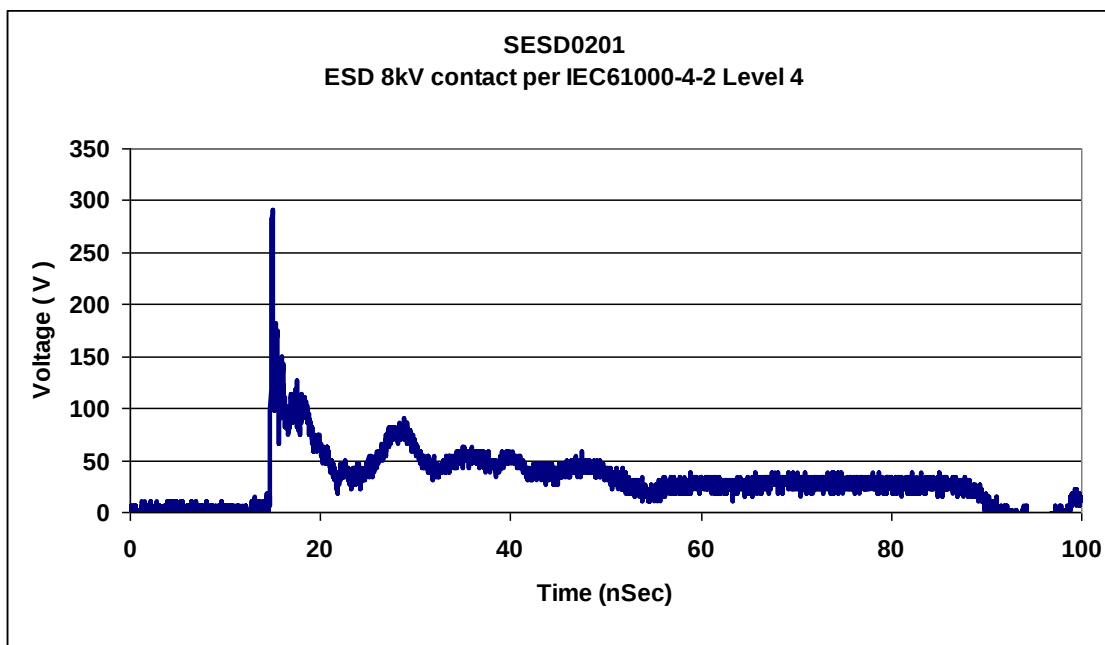
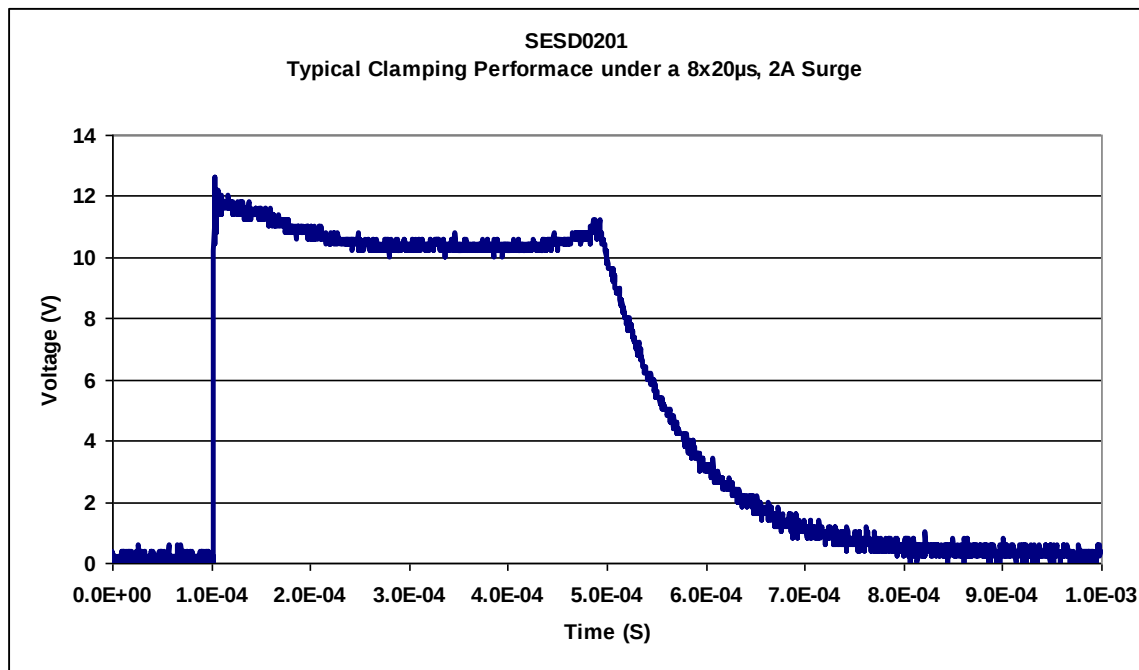


FIGURE 3: ESD CLAMPING VOLTAGE – 8x20μs, 2A Surge



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