

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

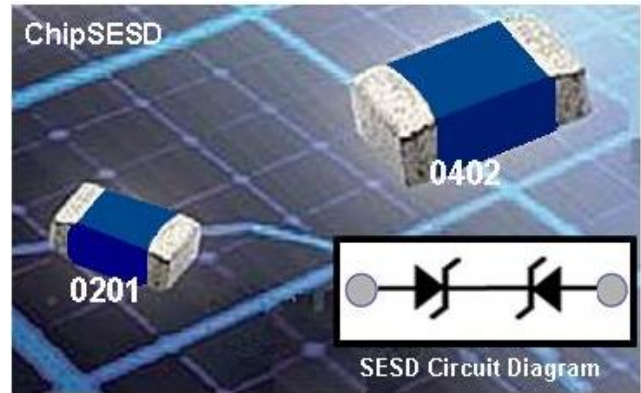
RoHS Compliant ELV Compliant Halogen Free *

Directive 2000/53/EC
Compliant

Directive 2002/95/EC
Compliant

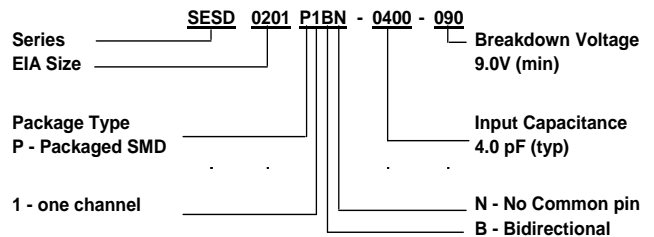


* Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm
Terminal finish: 100% Matte Tin (Sn)



PART NUMBERING

MATERIALS INFORMATION

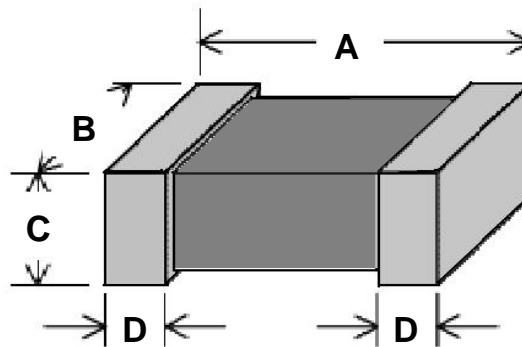


| Device Characteristics @ T = 25°C | Min | Typ | Max | Unit |
|--|-------------|------------|------------|---------|
| Input Capacitance @ $V_r = 0V, f = 1MHz$ | -- | 4.0 | 5.0 | pF |
| Working Reverse Voltage (peak) - V_{RWM} | -- | -- | 6.0 | V |
| Breakdown Voltage - V_{br} @ $I_r = 1mA^{(2)}$ | 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_r

DEVICE DIMENSIONS

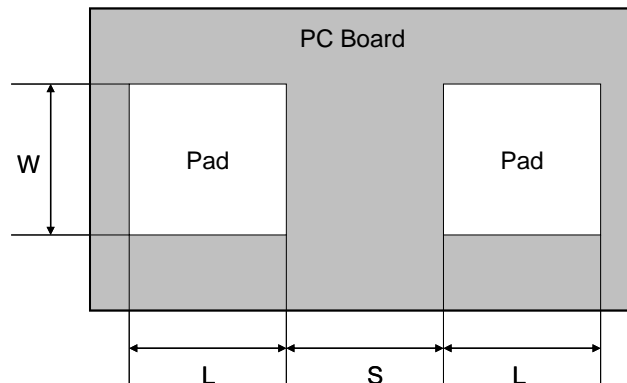


Drawing Not To Scale

| 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 |

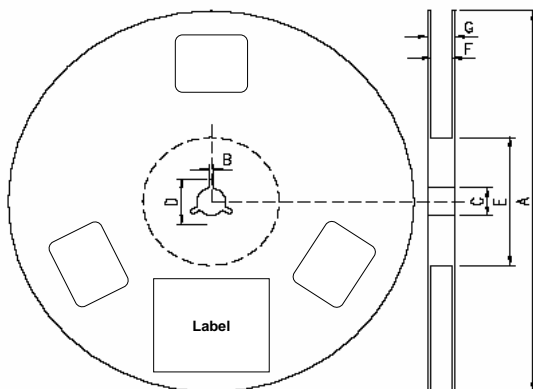
* Round off approximation

- Recommended solder thickness: 150 to 200 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

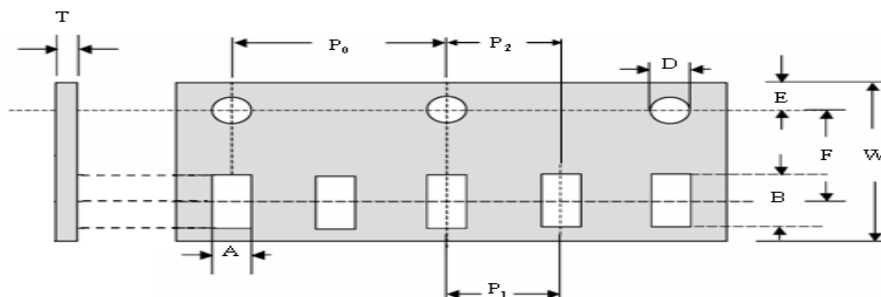
| Packaging | Tape & Reel | Standard Box |
|-----------------------|-------------|--------------|
| SESD0201P1BN-0400-090 | 15,000 | 75,000 |

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

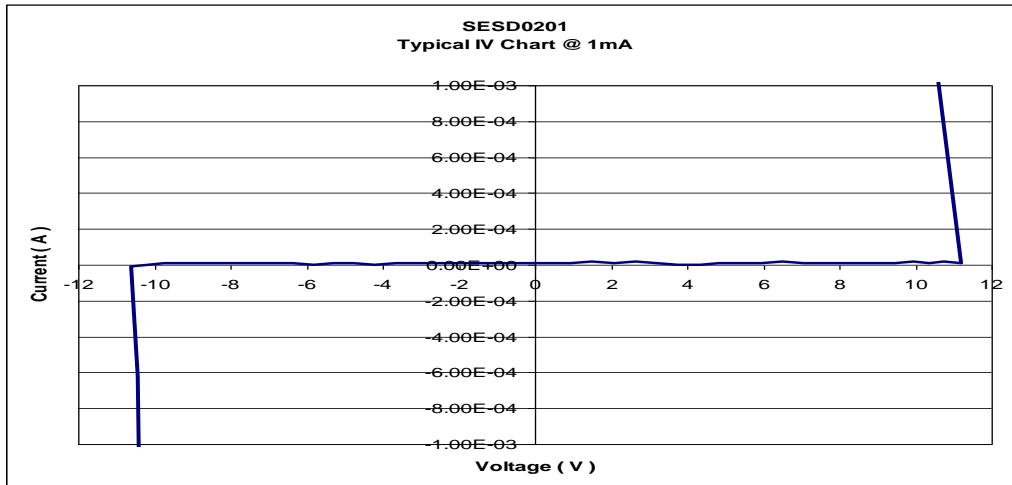


FIGURE 2: ESD CLAMPING VOLTAGE – 8kV Contact

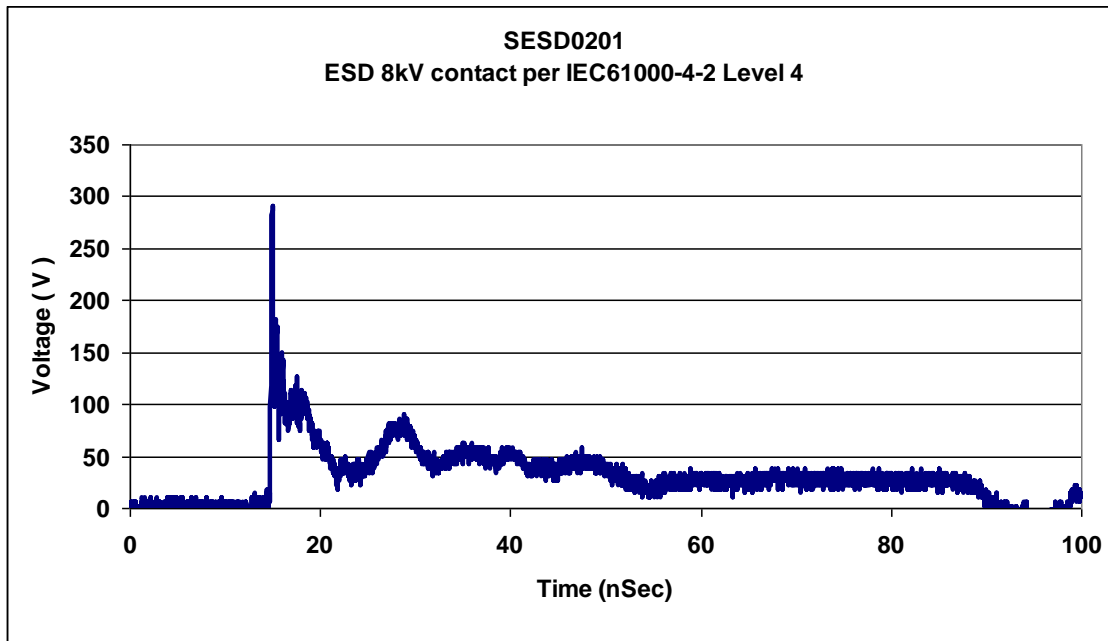
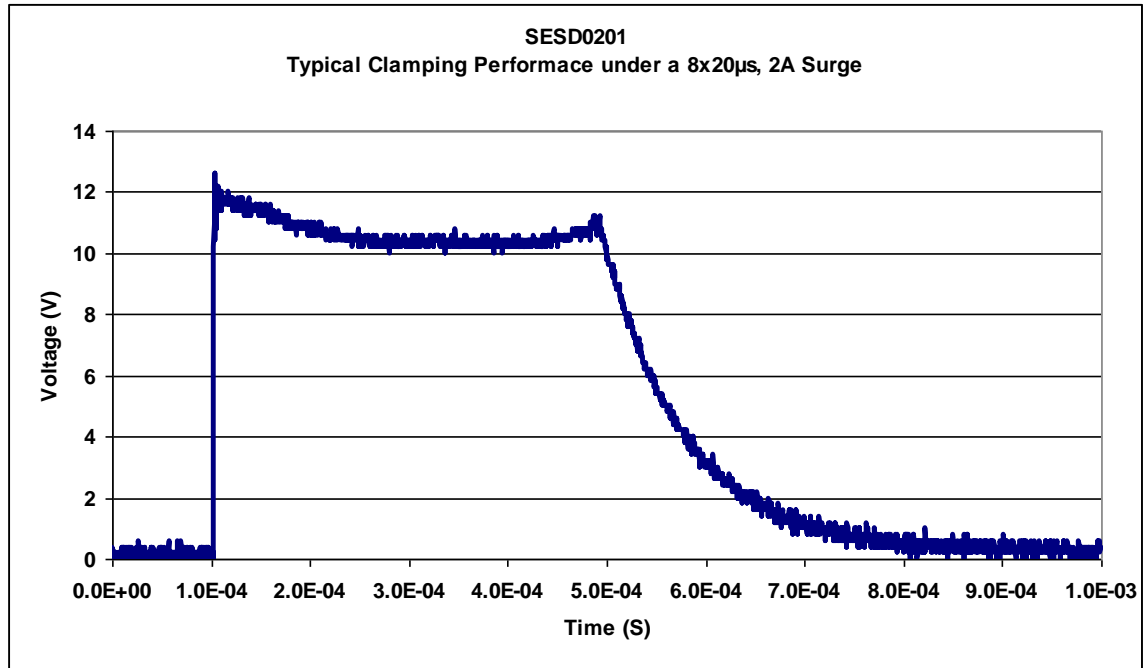


FIGURE 3: ESD CLAMPING VOLTAGE – 8x20μs, 2A Surge



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