

ESD5V0D9

Description

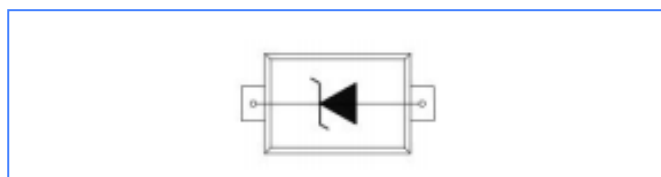
ESD5V0D9 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Features

- 60 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- Operating voltage: 5V
- Low leakage current
- Package: SOD-923
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15kV$
 - Contact discharge: $\pm 8kV$



Functional Diagram



Applications

- Cellular Phones
- Portable Devices
- Digital Cameras
- Power Supplies

Absolute Maximum Ratings ($T_{amb}=25\text{ }^{\circ}C$ unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|----------------------------------|-----------|--------------|-------------|
| Peak Pulse Power (8/20 μs) | P_{PP} | 60 | Watts |
| ESD per IEC 61000-4-2 (Air) | V_{ESD} | ± 15 | KV |
| ESD per IEC 61000-4-2 (Contact) | | ± 8 | KV |
| Lead Soldering Temperature | TL | 260 (10 sec) | $^{\circ}C$ |
| Operating Temperature Range | T_J | -55 to +125 | $^{\circ}C$ |
| Storage Temperature Range | T_{STJ} | -55 to +150 | $^{\circ}C$ |

Electrical Characteristics (TA = 25 °C unless otherwise noted)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---------------------------|--------|--|------|------|------|-------|
| Reverse Stand-off Voltage | VRWM | | | | 5 | V |
| Reverse Breakdown Voltage | VBR | It = 1mA | 6 | | | V |
| Reverse Leakage Current | IR | VR = VRWM | | | 1 | μA |
| Clamping Voltage | VC | I _{PP} =1A, t _P = 8/20μs | | | 9.8 | V |
| Clamping Voltage | VC | I _{PP} =9A, t _P = 8/20μs | | | 18 | V |
| Junction Capacitance | CJ | VR=0V, f = 1MHz | | | 25 | pF |

Characteristics Curves

Figure 1- Power Derating Curve

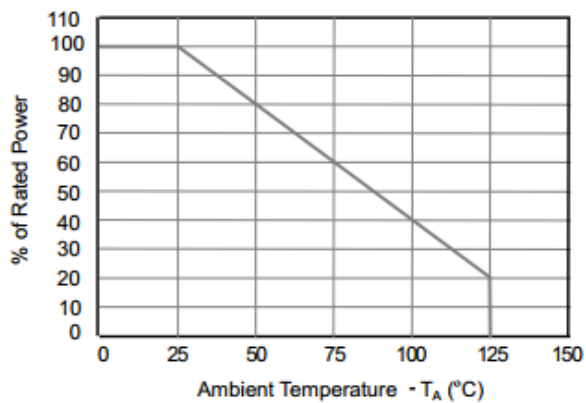
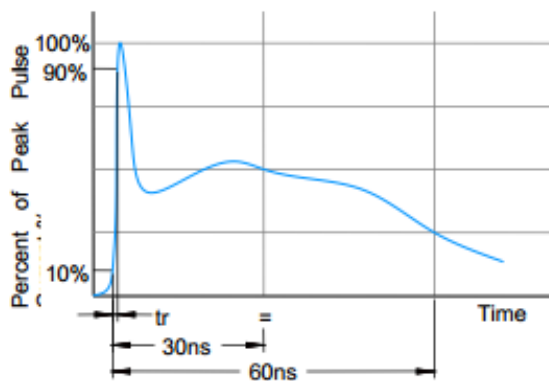
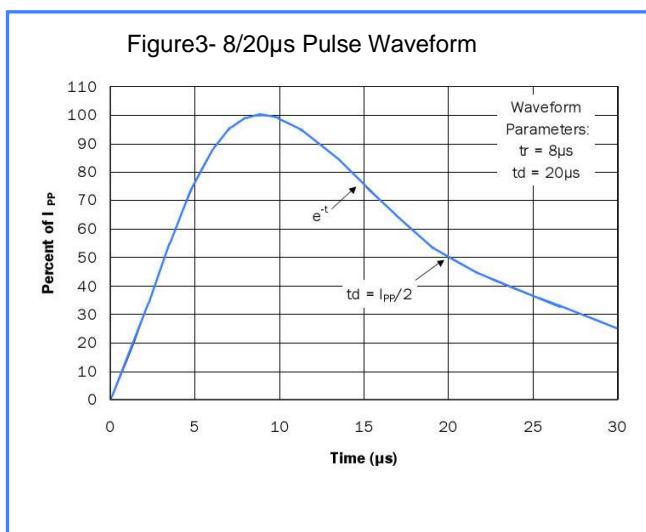
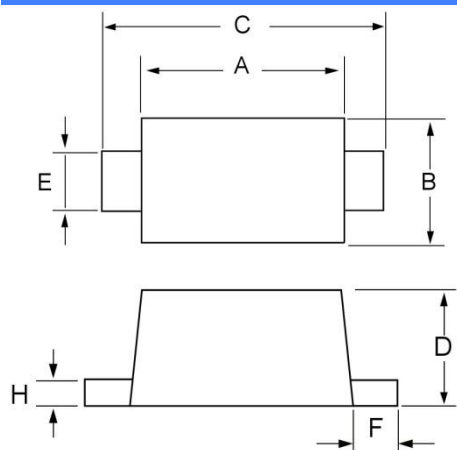


Figure 2- ESD Pulse Waveform (according to IEC 61000-4-2)

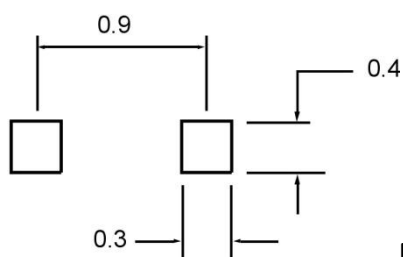




PACKAGE OUTLINE DIMENSIONS in millimeters (inches) :



| Dim | Inches | | Millimeters | |
|-----|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.030 | 0.033 | 0.75 | 0.85 |
| B | 0.022 | 0.026 | 0.55 | 0.65 |
| C | 0.037 | 0.041 | 0.95 | 1.05 |
| D | 0.014 | 0.017 | 0.36 | 0.43 |
| E | 0.006 | 0.010 | 0.15 | 0.25 |
| F | 0.002 | 0.006 | 0.05 | 0.15 |
| H | 0.003 | 0.007 | 0.07 | 0.17 |



Mounting Pad Layout(mm)

Disclaimer

Specifications are subject to change without notice.
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
 Users should verify actual device performance in their specific applications.