

Transient Voltage Suppressors for ESD Protection

Low Capacitance

SE03D3D01GE

Feature

- ◆ Protects one bi-directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3V
- ◆ Low leakage current
- ◆ RoHS compliant
- ◆ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)

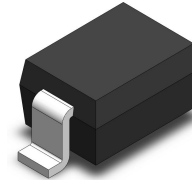
Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ USB Interface

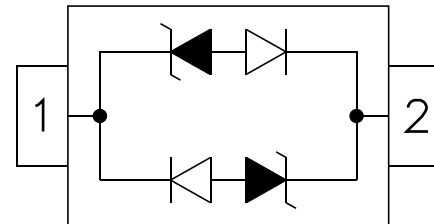
Mechanical Characteristics

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch

SOD-323



Functional Diagram



Absolute Maximum Ratings (TA=25°C unless otherwise specified)

| Parameter | Symbol | Value | Units |
|---------------------------------|-----------|-------------|-------|
| ESD per IEC 61000-4-2 (Air) | V_{ESD} | ±30 | KV |
| ESD per IEC 61000-4-2 (Contact) | | ±30 | |
| Operating Temperature Range | T_J | -40 to +120 | °C |
| Storage Temperature Range | T_{STG} | -40 to +150 | °C |

Transient Voltage Suppressors for ESD Protection

Low Capacitance

SE03D3D01GE

Electrical Characteristics (T_A= 25°C)

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|------------------|--|-----|---------|-----|-------|
| Reverse Stand-Off Voltage | V _{RWM} | — | — | — | 3.3 | V |
| Reverse Breakdown Voltage | V _{BR} | I _t =1mA | 4 | — | 6 | V |
| Leakage Current | I _R | V _{RWM} =3.3V, T=25°C | — | — | 0.1 | uA |
| Clamping Voltage | V _C | I _{PP} =1A, t _p =8/20μs | — | — | 5 | V |
| Clamping Voltage | V _C | I _{PP} =18A, t _p =8/20μs | — | — | 16 | V |
| Junction Capacitance | C _J | V _R =0V, f=1Mhz | — | 1 | — | pF |

Ratings and V-I Curve Characteristics Curves (T_A=25°C, unless otherwise noted)

Fig1. V- I Curve Characteristics

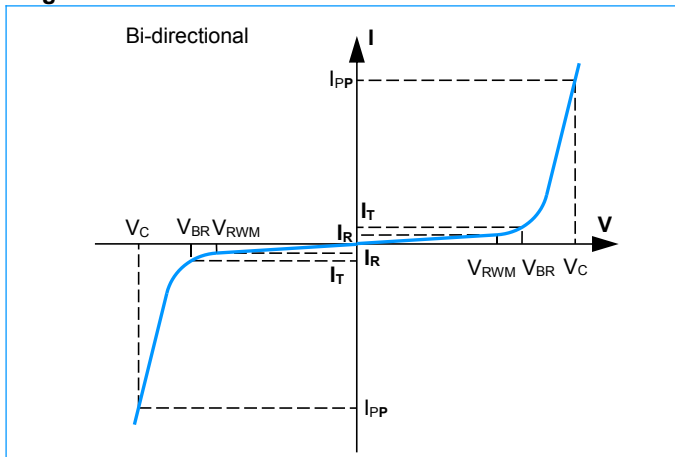


Fig2. Peak Pulse Power VS. Pulse Time

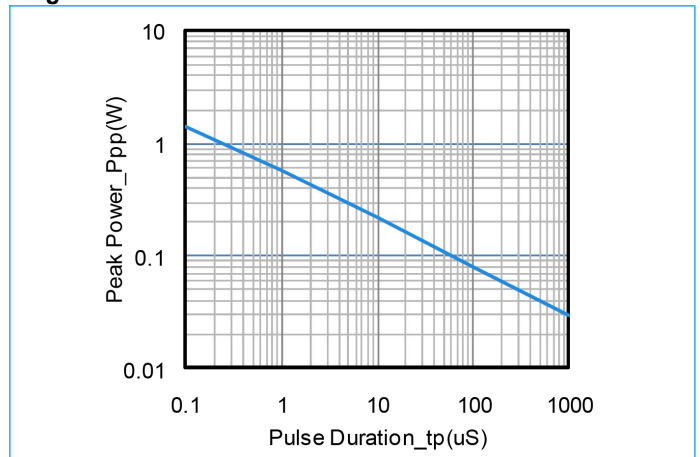


Fig3. Power Derating Curve

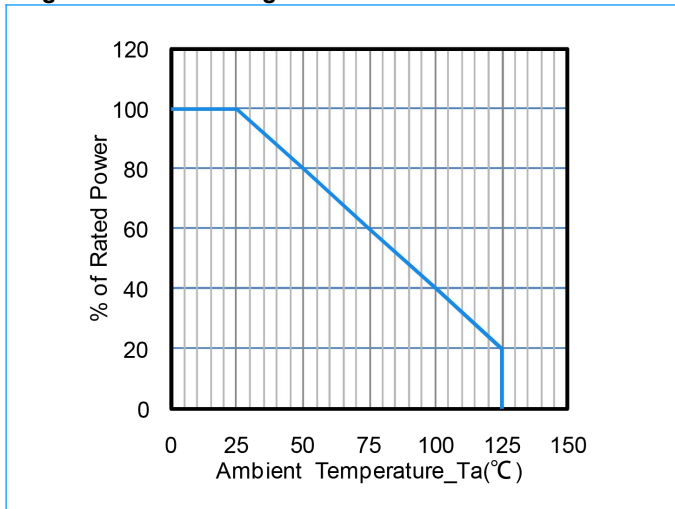
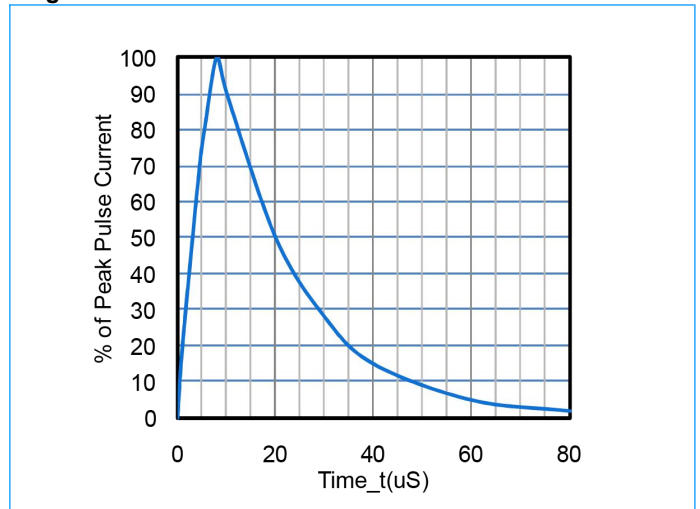
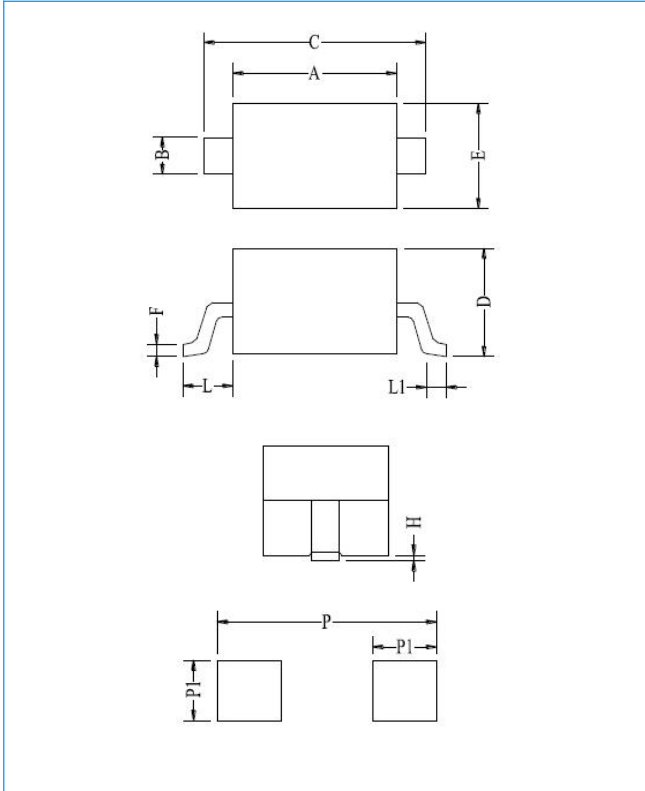


Fig4. 8 X 20uS Pulse Waveform



Transient Voltage Suppressors for ESD Protection
Low Capacitance
SE03D3D01GE
Package Mechanical Data


| Symbol | Millimeters | | Inches | |
|-----------|-------------|------|----------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.60 | 1.80 | 0.063 | 0.071 |
| B | 0.25 | 0.35 | 0.010 | 0.014 |
| C | 2.50 | 2.70 | 0.098 | 0.106 |
| D | 0.00 | 1.00 | 0.000 | 0.039 |
| E | 1.20 | 1.40 | 0.047 | 0.055 |
| F | 0.08 | 0.15 | 0.003 | 0.006 |
| L | 0.475REF | | 0.019REF | |
| L1 | 0.25 | 0.40 | 0.010 | 0.016 |
| H | 0.00 | 0.10 | 0.000 | 0.004 |
| P | 3.00 | | 0.118 | |
| P1 | 0.80 | | 0.031 | |