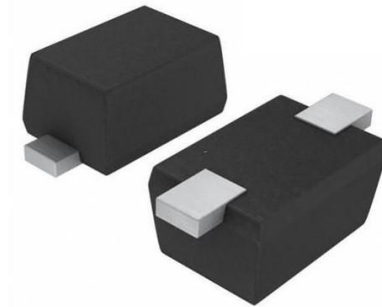


»Features

- 350Watts peak pulse power ($t_p = 8/20\mu s$)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 8kV$ contact $\pm 15kV$ air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 10A(8/20 μs)



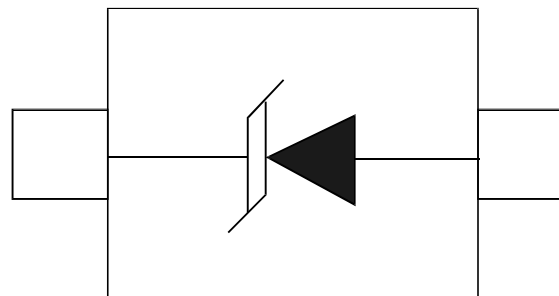
»Applications

- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

»Mechanical Data

- SOD523 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration



SOD-523

»Absolute Maximum Rating

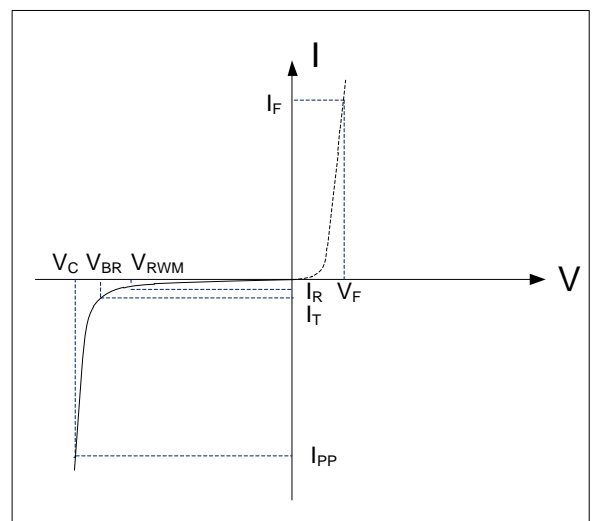
| Rating | Symbol | Value | Units |
|--|-----------|----------------|-------|
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 350 | Watts |
| Peak Pulse Current ($t_p = 8/20\mu s$) (note1) | I_{pp} | 10 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | 15 8 | kV |
| Lead Soldering Temperature | T_L | 260(10seconds) | °C |
| Junction Temperature | T_J | -55 to + 150 | °C |
| Storage Temperature | T_{stg} | -55 to + 150 | °C |

»Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|-----------|---------------------------------|------|---------|------|---------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 12.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1mA$ | 13.3 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 12V, T = 25^\circ C$ | | | 1 | μA |
| Clamping Voltage | V_C | $I_{PP} = 10A, t_p = 8/20\mu s$ | | | 35 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ | | 55 | | pF |

»Electrical Parameters (TA = 25°C unless otherwise noted)

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| | |
| | |



Note: 8/20 μs pulse waveform.

»Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

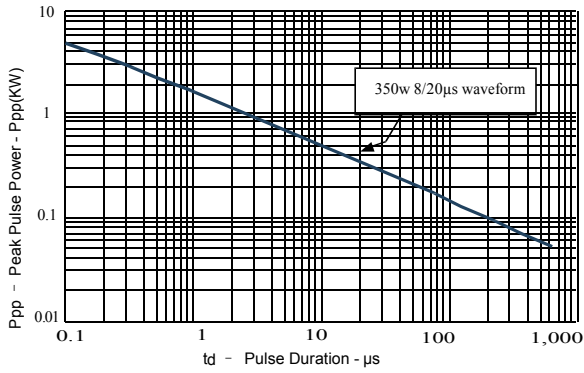


Figure 2: Power Derating Curve

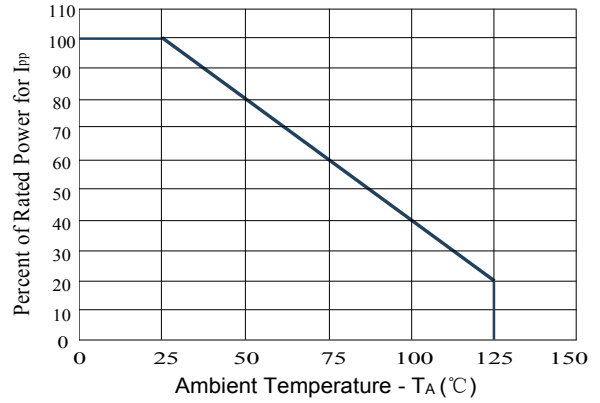


Figure3: Pulse Waveform

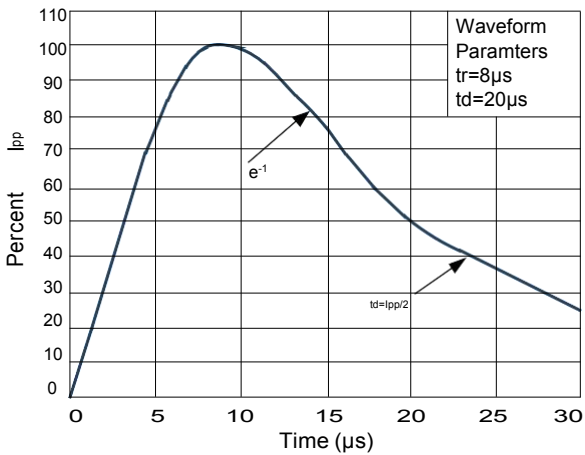
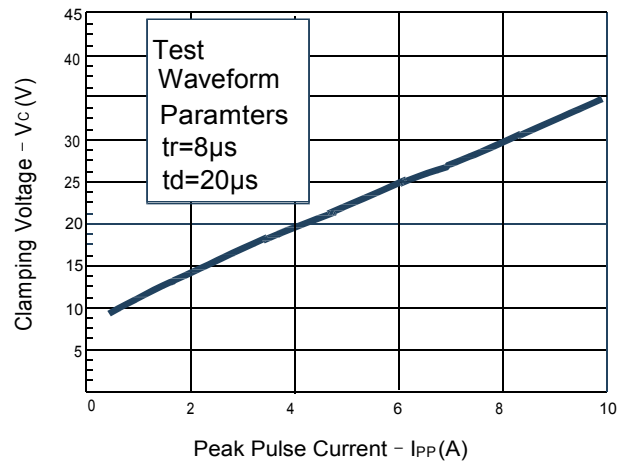
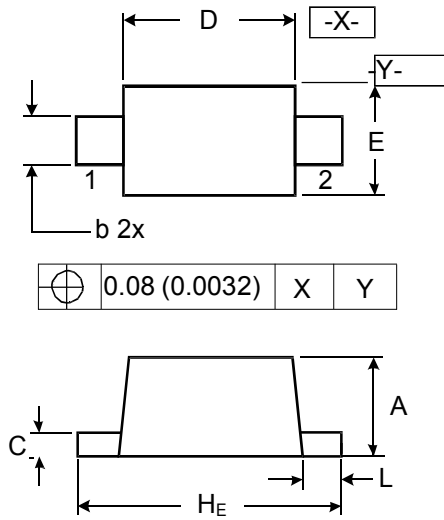


Figure 4: Clamping Voltage vs. Ipp



»Outline Drawing – SOD523



DIMENSIONS

| SYMBOL | MILLIMETER | | INCHES | |
|----------------|------------|------|--------|--------|
| | MIN | MAX | MIN | MAX |
| A | 0.50 | 0.70 | 0.020 | 0.028 |
| b | 0.25 | 0.35 | 0.010 | 0.014 |
| C | 0.07 | 0.20 | 0.0028 | 0.0079 |
| D | 1.10 | 1.30 | 0.043 | 0.051 |
| E | 0.70 | 0.90 | 0.028 | 0.035 |
| H _E | 1.50 | 1.70 | 0.059 | 0.067 |
| L | 0.15 | 0.25 | 0.006 | 0.010 |

»Marking



»Ordering information

| Order code | Package | Base qty | Delivery mode |
|---------------|---------|----------|---------------|
| PESD12VS1UB-N | SOD523 | 5000 | Tape and reel |