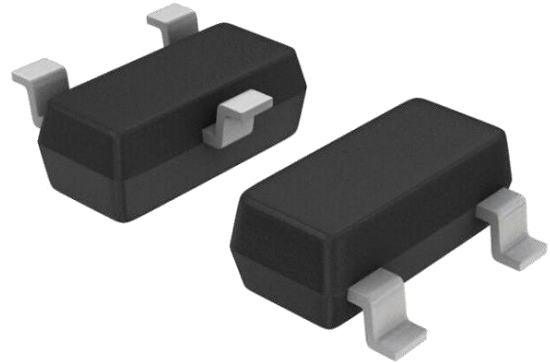


### »Features

- 300 Watts 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  $\pm 15kV$  contact  $\pm 20kV$  air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 4A(8/20 $\mu s$ )



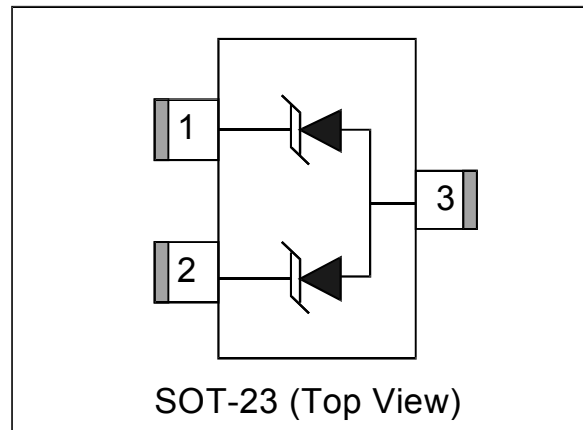
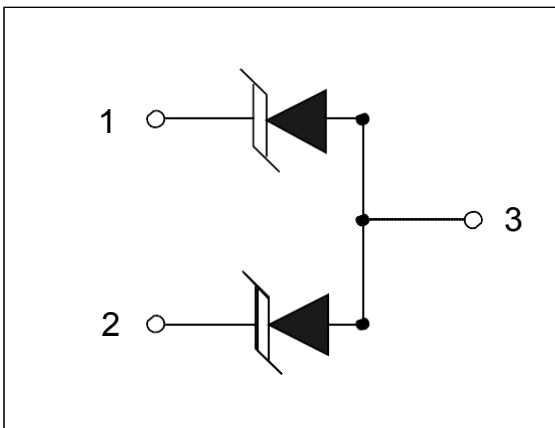
### »Applications

- Dataline
- Automatic Teller Machines
- Net works
- Power line

### »Mechanical Data

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

### »Schematic & PIN Configuration



»Absolute Maximum Rating

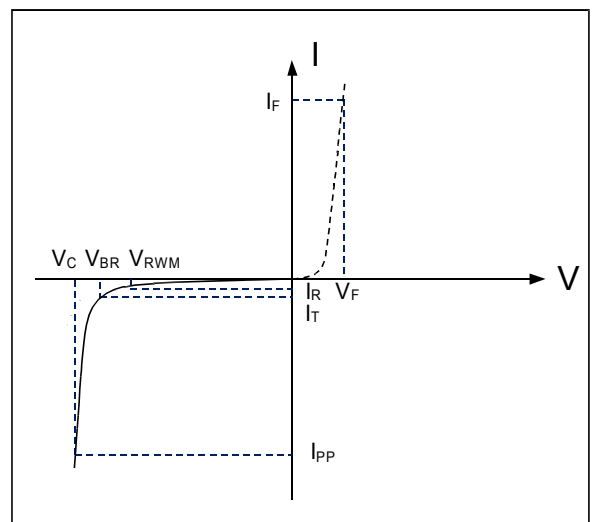
| Rating   | Symbol    | Value          | Units |
|--|-----------|----------------|-------|
| Peak Pulse Power ( $t_p=8/20\mu s$ )                           | $P_{PP}$  | 300            | Watts |
| Peak Pulse Current ( $t_p=8/20\mu s$ ) (note1)                 | $I_{pp}$  | 4              | A     |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | 20<br>15       | kV    |
| Lead Soldering Temperature                                     | $T_L$     | 260(10seconds) | °C    |
| Junction Temperature   | $T_J$     | -55 to + 125   | °C    |
| Storage Temperature  | $T_{stg}$ | -55 to + 125   | °C    |

»Electrical Characteristics

| Parameter                 | Symbol    | Conditions                                     | Min | Typical | Max  | Units   |
|---------------------------|-----------|--|-----|---------|------|---------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |  |     |         | 36   | V       |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T=1mA$                                      | 40  | 45.5    | 50.0 | V       |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=36V, T=25^\circ C$                    |     | 0.1     | 0.5  | $\mu A$ |
| Peak Pulse Current        | $I_{pp}$  | $t_p=8/20\mu s$                                |     |         | 4    | A       |
| Clamping Voltage          | $V_C$     | $I_{pp}=4A, t_p=8/20\mu s$                     |     | 75      |      | V       |
| Junction Capacitance      | $C_j$     | $V_R = 0V, f = 1MHz$<br>(Pin1 · Pin2 to Pin 3) |     | 12      |      | 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 $\mu s$  pulsewaveform.

»TypicalCharacteristics

Figure 1: Peak Pulse Power vs. Pulse Time

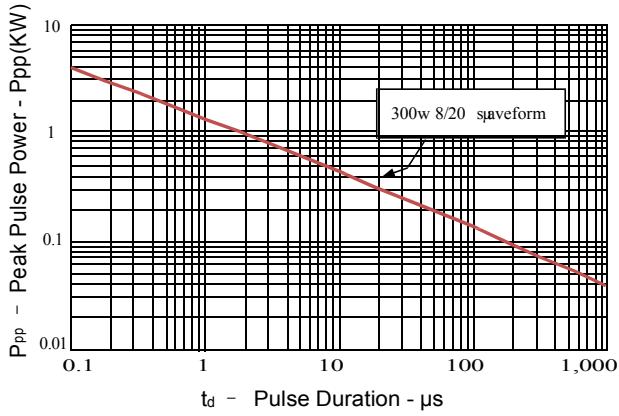


Figure 2: Power Derating Curve

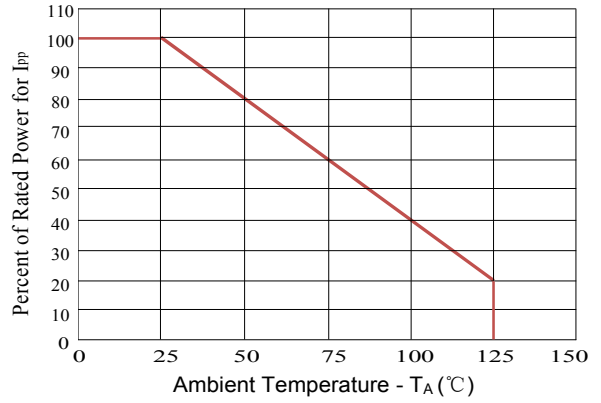


Figure3: Pulse Waveform

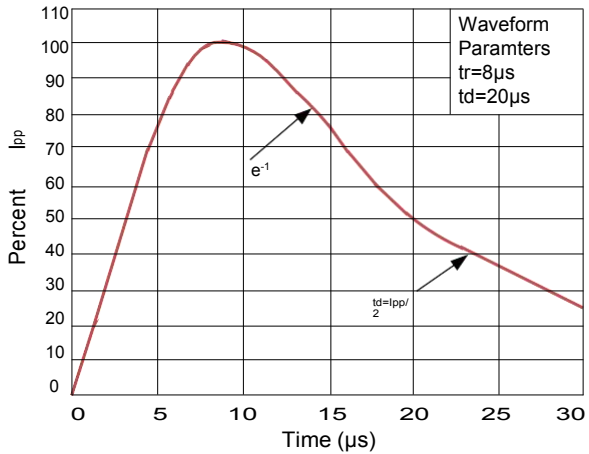
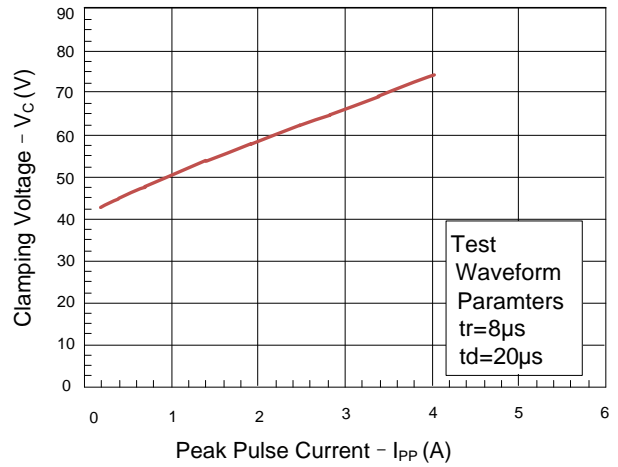
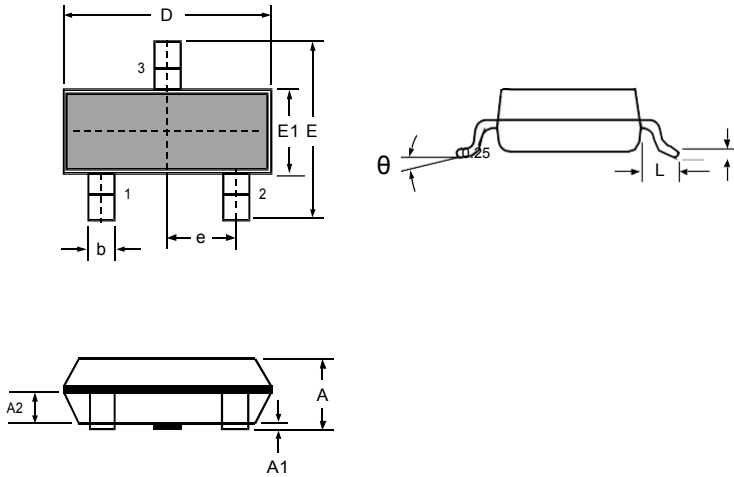


Figure 4: Clamping Voltage vs.Ipp

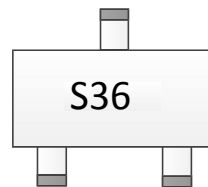


»Outline Drawing – SOT-23



| DIMENSIONS |            |       |           |       |
|------------|------------|-------|-----------|-------|
| SYMBOL     | MILLIMETER |       | INCHES    |       |
|            | MIN        | MAX   | MIN       | MAX   |
| A          | 0.900      | 1.150 | 0.035     | 0.045 |
| A1         | 0.000      | 0.100 | 0.000     | 0.004 |
| A2         | 0.900      | 1.050 | 0.035     | 0.041 |
| D          | 2.800      | 3.000 | 0.110     | 0.118 |
| b          | 0.300      | 0.500 | 0.012     | 0.020 |
| E          | 2.250      | 2.550 | 0.089     | 0.100 |
| E1         | 1.200      | 1.400 | 0.047     | 0.055 |
| e          | 0.950 BSC  |       | 0.037 BSC |       |
| L          | 0.300      | 0.500 | 0.012     | 0.020 |
| θ          | 0          | 8°    | 0         | 8°    |

»Marking



»Ordering information

| Order code     | Package | Base qty | Delivery mode |
|----------------|---------|----------|---------------|
| MMBZ39VCLT1G-N | SOT-23  | 3k       | Tape and reel |