

Features

- For Sensitive ESD Protection
- Low Leakage
- Fast Response Time
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

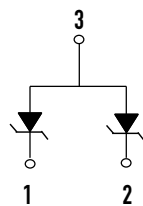
- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C

| MCC Part Number | Device Marking |
|-----------------|----------------|
| SM36 | S36 |

| | | |
|----------------------------|-----------------|----------------|
| IEC61000-4-2(ESD) | Air Contact | ±12KV ±12KV |
| JESD22-A114-B(ESD) | Human Body | ±16KV |
| Peak Pulse Current(8/20µs) | I _{PP} | 3A |
| Peak Pulse Power (8/20us) | P _{PK} | 240W |

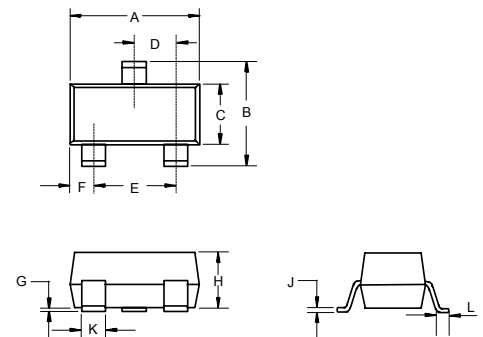
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



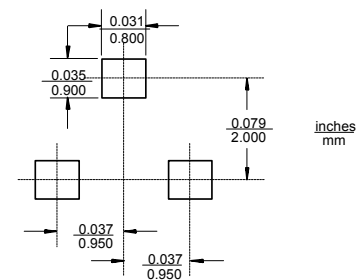
ESD Protection Device

SOT-23



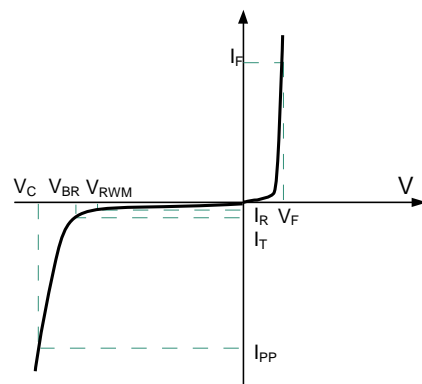
| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.110 | 0.120 | 2.80 | 3.04 | |
| B | 0.083 | 0.104 | 2.10 | 2.64 | |
| C | 0.047 | 0.055 | 1.20 | 1.40 | |
| D | 0.034 | 0.041 | 0.85 | 1.05 | |
| E | 0.067 | 0.083 | 1.70 | 2.10 | |
| F | 0.018 | 0.024 | 0.45 | 0.60 | |
| G | 0.0004 | 0.006 | 0.01 | 0.15 | |
| H | 0.035 | 0.043 | 0.90 | 1.10 | |
| J | 0.003 | 0.007 | 0.08 | 0.18 | |
| K | 0.012 | 0.020 | 0.30 | 0.51 | |
| L | 0.007 | 0.020 | 0.20 | 0.50 | |

Suggested Solder Pad Layout



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter |
|-----------|-------------------------------------|
| V_{RWM} | Peak Reverse Working Voltage |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| P_{PP} | Peak Pulse Power |
| C_J | Junction Capacitance |
| I_F | Forward Current |
| V_F | Forward Voltage @ I_F |



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---------------------------|-----------|---|------|------|------|---------------|
| Reverse Working Voltage | V_{RWM} | | | | 36 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1\text{mA}$ | 40 | | 48 | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 36\text{V}$ | | | 1 | μA |
| Forward Voltage | V_F | $I_F = 10\text{mA}$ | | | 0.9 | V |
| Clamping Voltage | V_C | $I_{PP} = 3\text{A}, t_p = 8/20\mu\text{s}$ | | | 80 | V |
| Junction Capacitance | C_J | $V_R = 0\text{V}, f = 1\text{MHz}$ | | 30 | | pF |

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

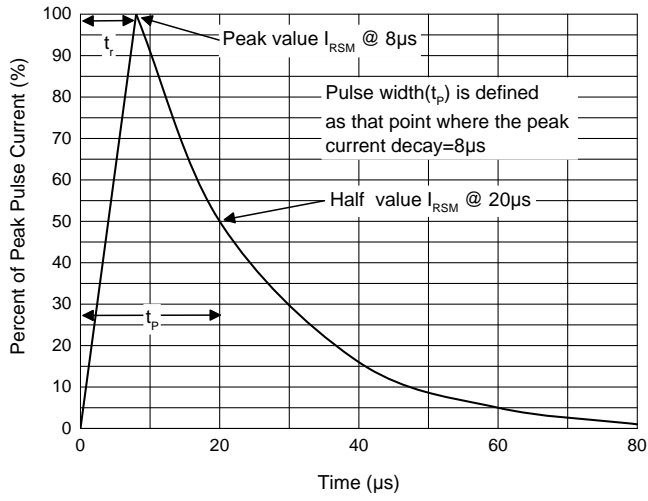


Fig. 2 - Pulse Derating Curve

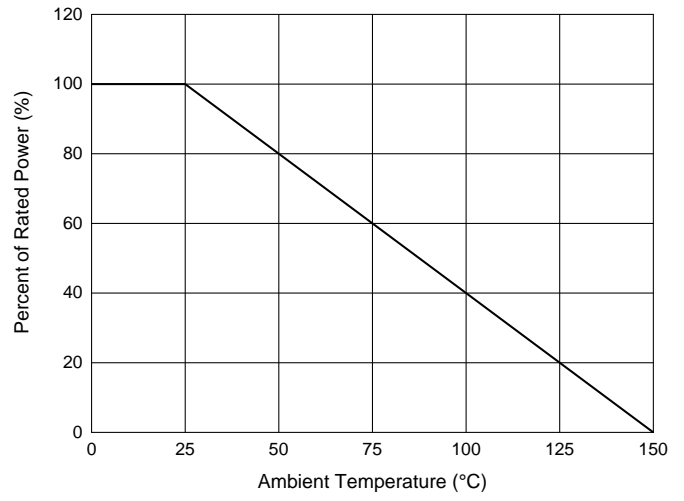


Fig. 3 - Capacitance Characteristics

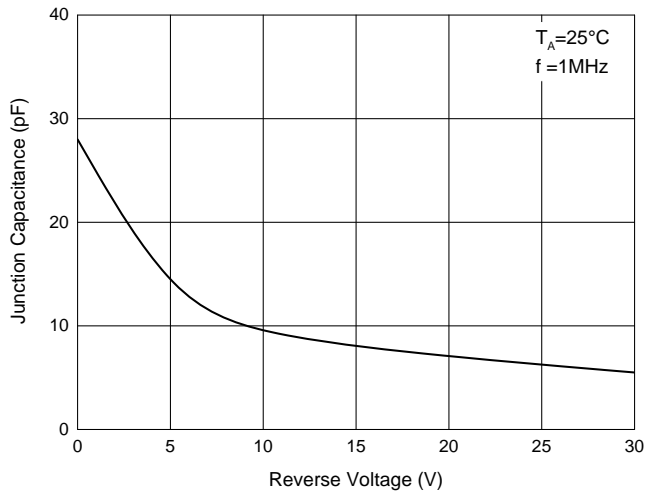
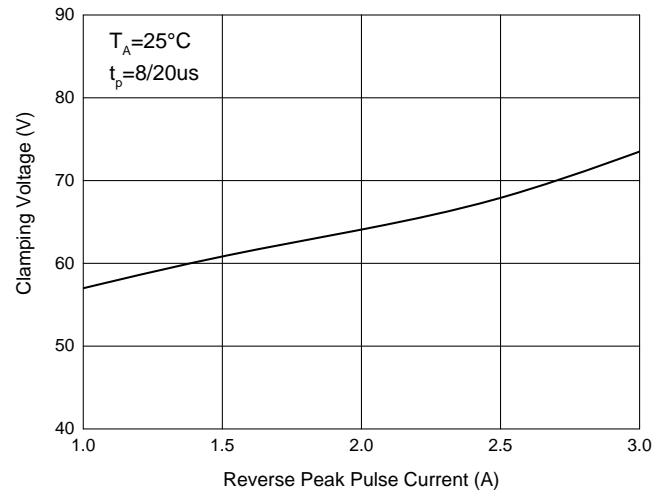


Fig. 4 - Clamping Voltage Characteristics



Ordering Information

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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