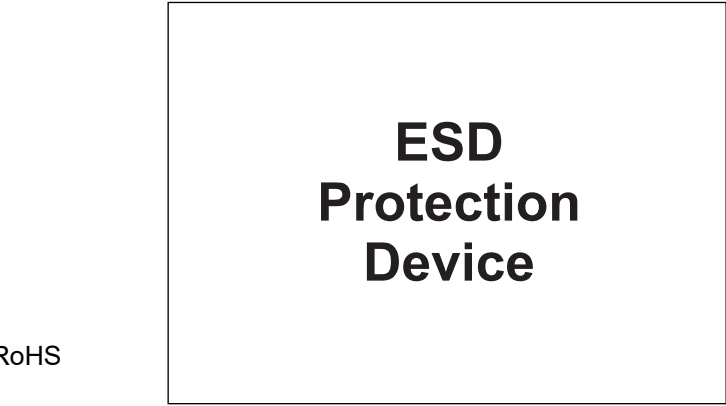


Features

- For Sensitive ESD Protection
- Excellent Clamping Capability
- Low Leakage
- Fast Response, Response Time Less than 1ns.
- 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 +150°C
- Storage Temperature Range: -55°C to +150°C



SOD-923

DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.037 | 0.041 | 0.95 | 1.05 | |
| B | 0.030 | 0.033 | 0.75 | 0.85 | |
| C | 0.022 | 0.026 | 0.55 | 0.65 | |
| D | 0.014 | 0.017 | 0.36 | 0.43 | |
| E | 0.006 | 0.010 | 0.15 | 0.25 | |
| F | 0.003 | 0.007 | 0.07 | 0.17 | |

Suggested Solder Pad Layout

| MCC Part Number | Device Marking |
|-----------------|----------------|
| ESD3V3D9 | E1 |

| | | |
|---------------------------|-----------------|---------------|
| IEC61000-4-2(ESD) | Air Contact | ±15KV ±8KV |
| JESD22-A114-B(ESD) | Human Body | 16KV |
| Peak Pulse Power (8/20us) | P _{PK} | 100W |

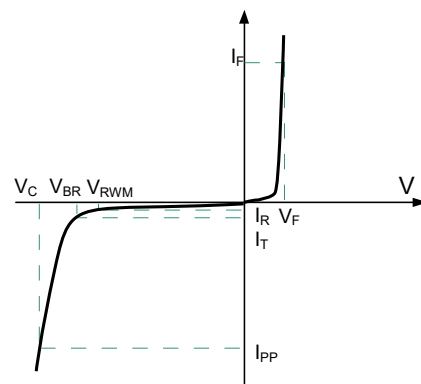
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



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} | | | | 3.3 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1\text{mA}$ | 5 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 3.3\text{V}$ | | 0.005 | 1 | μA |
| Forward Voltage | V_F | $I_F = 10\text{mA}$ | | 0.8 | | V |
| Clamping Voltage | V_C | $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$ | | | 5.8 | V |
| Clamping Voltage | V_C | $I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$ | | | 8.8 | V |
| Junction Capacitance | C_J | $V_R = 0\text{V}, f = 1\text{MHz}$ | | 35 | 50 | pF |
| Junction Capacitance | C_J | $V_R = 2.5\text{V}, f = 1\text{MHz}$ | | 20 | 27 | pF |

Curve Characteristics

Fig. 1 - 8 X 20µs Pulse Waveform

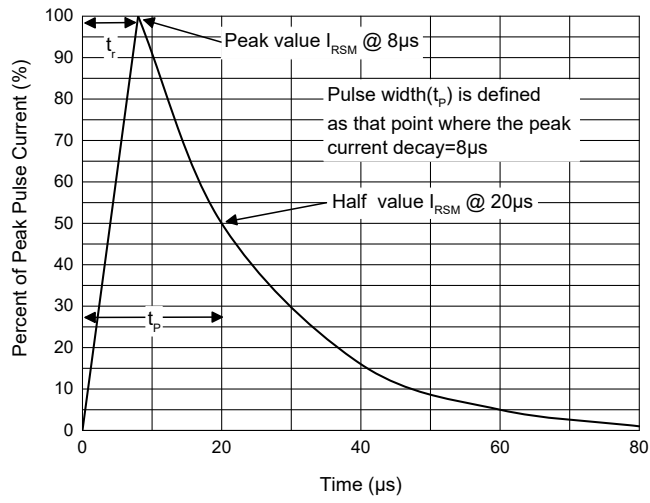
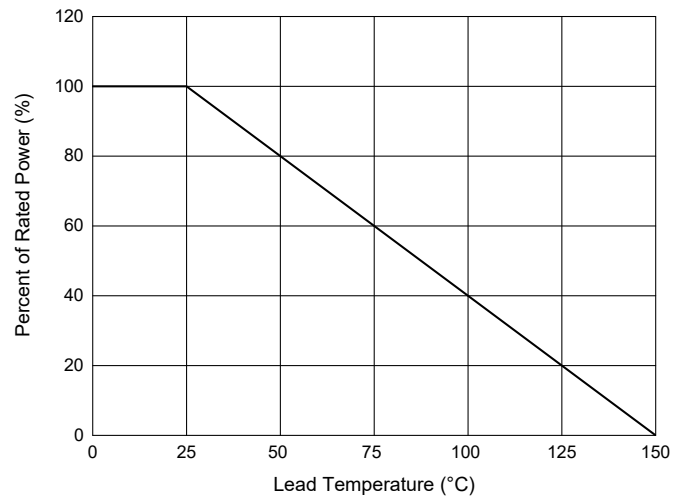


Fig. 2 - Pulse Derating Curve



Ordering Information

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 8Kpcs/Reel |

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