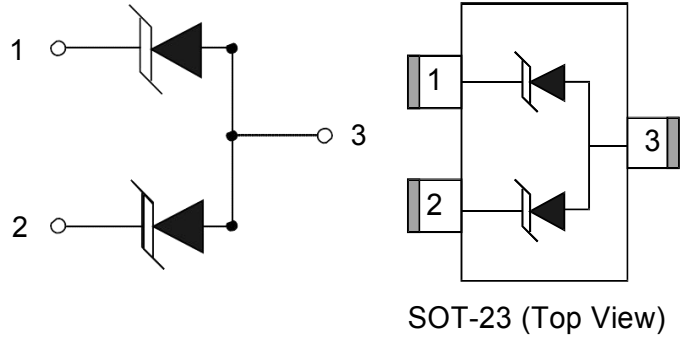


Features

- 300 W peak pulse power ($t_p = 8/20\mu s$)
- Bidirectional and unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 120$ pF typ.)
- Protection two data lines
- IEC 61000-4-2 ± 30 kV contact ± 30 kV air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 20A(8/20 μs)



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

Absolute Maximum Rating

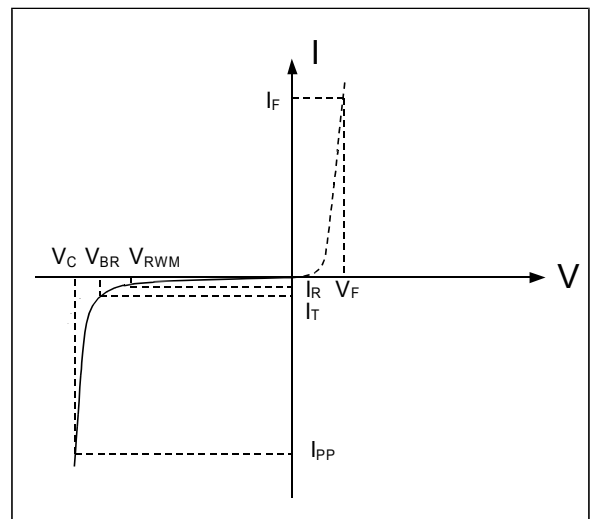
| Rating | Symbol | Value | Units |
|----------------------------------------------------------------|-----------|--------------|-------------|
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{pp} | 300 | W |
| Peak Pulse Current ($t_p = 8/20\mu s$) (note1) | I_{pp} | 20 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | 30 30 | kV |
| Lead Soldering Temperature | T_L | 260 | $^{\circ}C$ |
| Junction Temperature | T_J | -55 to + 125 | $^{\circ}C$ |
| Storage Temperature | T_{stg} | -55 to + 125 | $^{\circ}C$ |

Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|-----------|---------------------------------------------------|-----|---------|-----|---------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.0 | 7.0 | 8.5 | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5V, T=25^{\circ}C$ | | 0.5 | 1 | μA |
| Peak Pulse Current | I_{PP} | $t_p=8/20\mu s$ | | | 20 | A |
| Clamping Voltage | V_C | $I_{PP}=10A, t_p=8/20\mu s$ | | | 12 | V |
| | | $I_{PP}=20A, t_p=8/20\mu s$ | | | 16 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ (pin1 \cdot pin2 to pin3) | | 120 | | 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

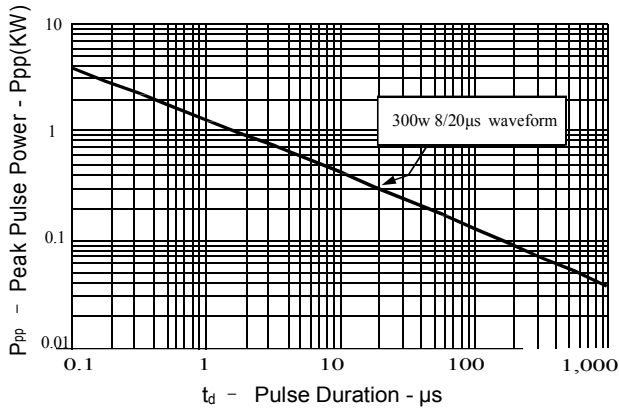


Figure 2: Power Derating Curve

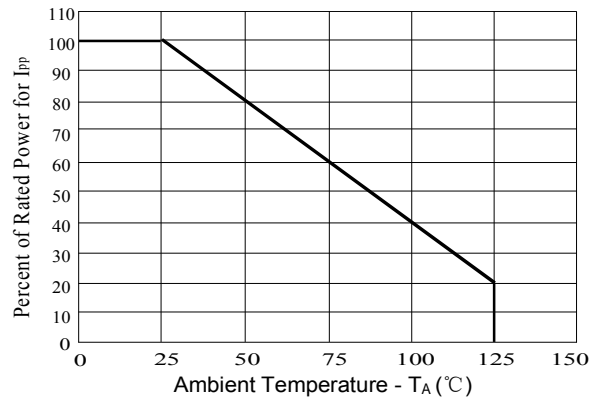


Figure 3: Pulse Waveform

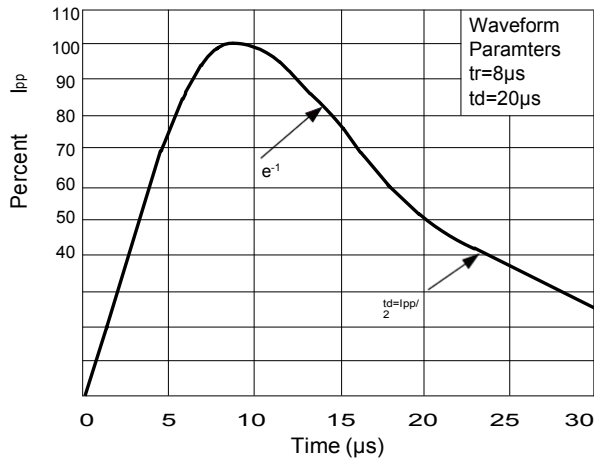
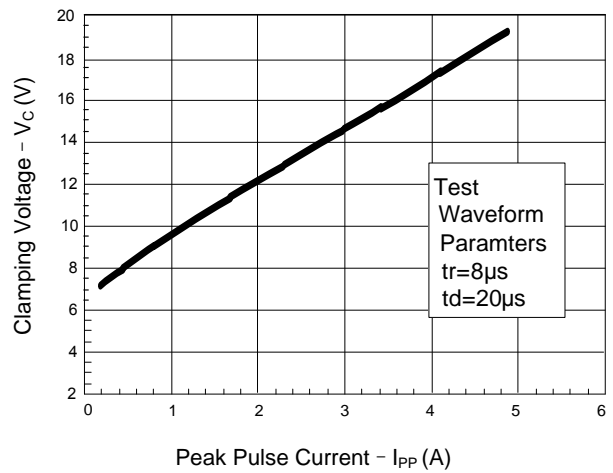
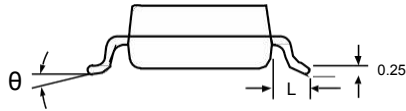
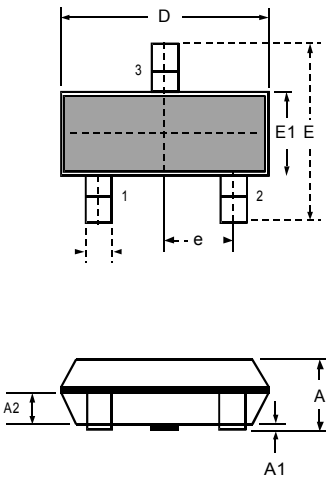


Figure 4: Clamping Voltage vs. I_{pp}



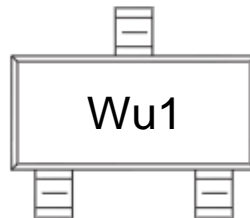
Outline Drawing – SOT-23



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 |
|-----------------|---------|----------|---------------|
| UMW PESD5V2S2UT | SOT-23 | 3000 | Tape and reel |

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[3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#)
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