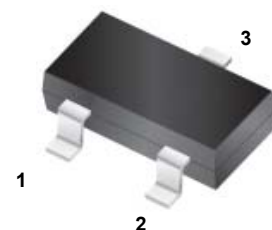
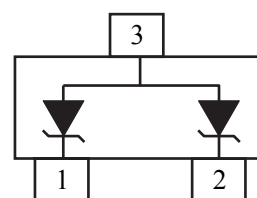


Features

- 300 Watts peak pulse power ($t_p=8/20\mu s$)
- SOT-23 package
- Protects one bidirectional or two unidirectional lines
- Fast response time, typically < 1 ns
- Excellent clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 30kV$ (Air) ESD protection
- IEC 61000-4-2 $\pm 30kV$ (Contact) ESD protection
- IEC 61000-4-4 40A (5/50ns) EFT protection
- IEC 61000-4-5 12A (8/20us) SURGE protection
- RoHS compliant



SOT-23



Schematic Diagram

Applications

- Cellular handsets and accessories
- Portable electronics
- Control & Monitoring systems
- Servers, notebooks and desktop pcs
- Set-top box
- Communication systems

Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--------------------------------------|-----------|-------------|------------|
| Peak Pulse Power ($T_p=8/20\mu s$) | P_{PP} | 300 | W |
| Junction Temperature | T_J | -55 To +150 | $^\circ C$ |
| Storage Temperature | T_{STG} | -55 To +150 | $^\circ C$ |

Electrical Characteristics ($T_A=25^\circ C$ unless otherwise specified)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|------------------------------|-----------|-----------------------------|------|-----|-----|---------|
| Reverse Standard-Off Voltage | V_{RWM} | - | - | - | 12 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 13.3 | - | - | V |
| Reverse Leakage Current | I_R | $V_R=12V$ | - | - | 1 | μA |
| Clamping Voltage | V_C | $I_{PP}=1A, T_p=8/20\mu s$ | - | - | 16 | V |
| Clamping Voltage | V_C | $I_{PP}=12A, T_p=8/20\mu s$ | - | - | 25 | V |
| Junction Capacitance | C_J | $V_R=0V, F=1MHz$ | - | 50 | - | pF |

Typical Characteristic Curves

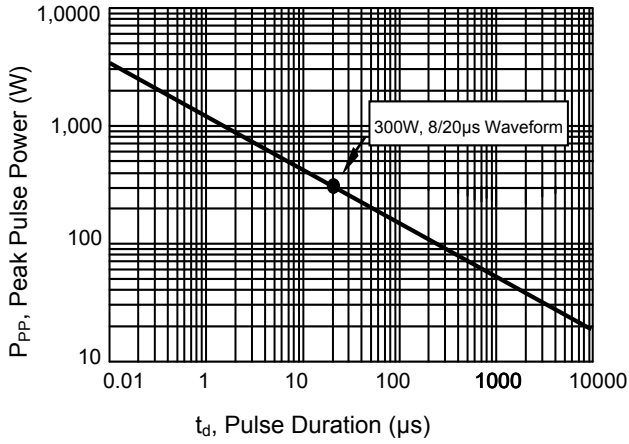


Figure 1. Peak Pulse Power vs. Pulse Time

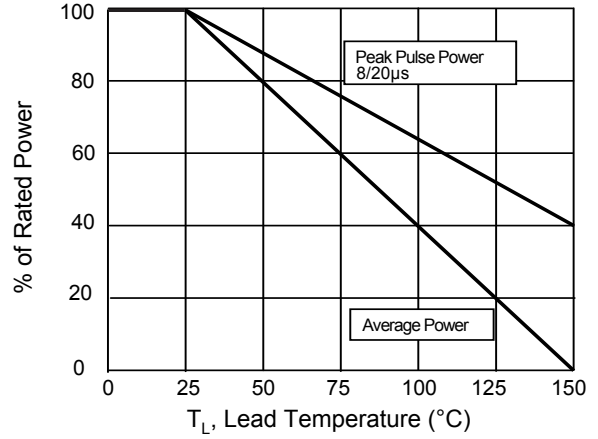


Figure 2. Power Derating Curve

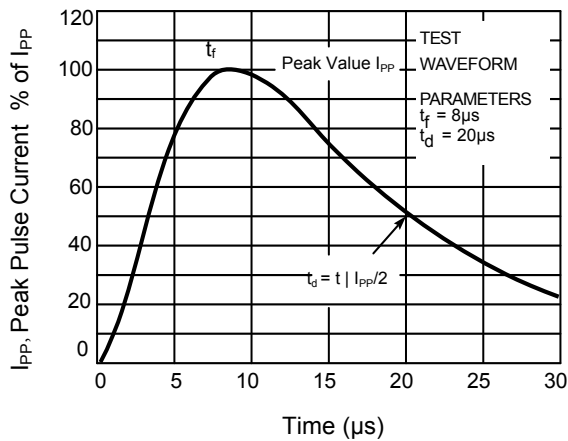


Figure 3. Pulse Waveform-8/20 μs

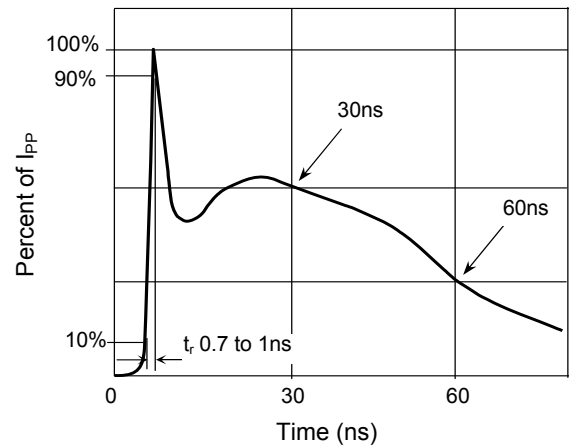
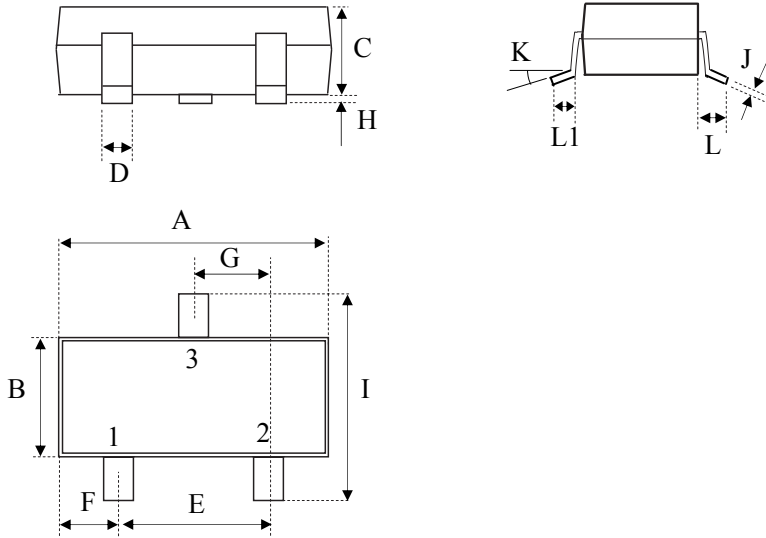


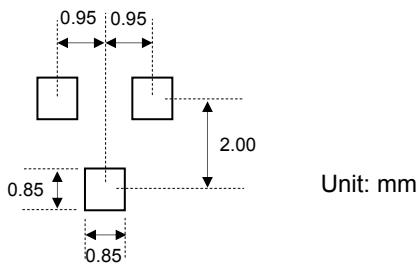
Figure 4. Pulse Waveform-ESD (IEC61000-4-2)

Package Outline Dimensions (SOT-23)



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.800 | 3.040 | 0.110 | 0.120 |
| B | 1.200 | 1.400 | 0.047 | 0.055 |
| C | 0.890 | 1.110 | 0.035 | 0.044 |
| D | 0.370 | 0.500 | 0.015 | 0.020 |
| E | 1.780 | 2.040 | 0.070 | 0.080 |
| F | 0.450 | 0.600 | 0.018 | 0.024 |
| G | 0.890 | 1.020 | 0.035 | 0.040 |
| H | 0.013 | 0.100 | 0.001 | 0.004 |
| I | 2.100 | 2.500 | 0.083 | 0.098 |
| J | 0.085 | 0.177 | 0.003 | 0.007 |
| K | 0° | 10° | 0° | 10° |
| L | 0.450 | 0.600 | 0.018 | 0.024 |
| L1 | 0.300 | 0.600 | 0.012 | 0.024 |

Recommended Pad Layout



Order Information

| Device | Package | Marking | Carrier | Quantity |
|------------|---------|---------|-------------|-----------------|
| GSEC12U050 | SOT-23 | AM2 | Tape & Reel | 3,000pcs / Reel |

For more information, please contact us at: inquiry@goodarksemi.com