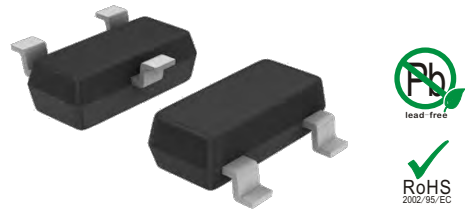


Features

- 300 watts peak pulse power ($t_p = 8/20\mu s$)
- Protects one bi-directional or two uni-directional line(s)
- Ultra low leakage: nA level
- Stand-off voltage: 24V
- Ultra low clamping voltage
- RoHS compliant



IEC Compatibility (EN61000-4)

- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20 μs)

SOT-23

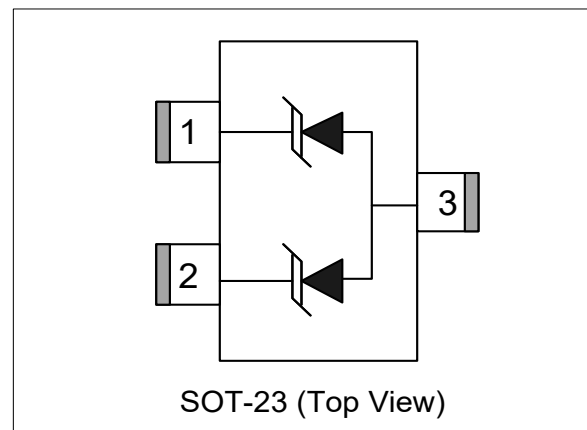
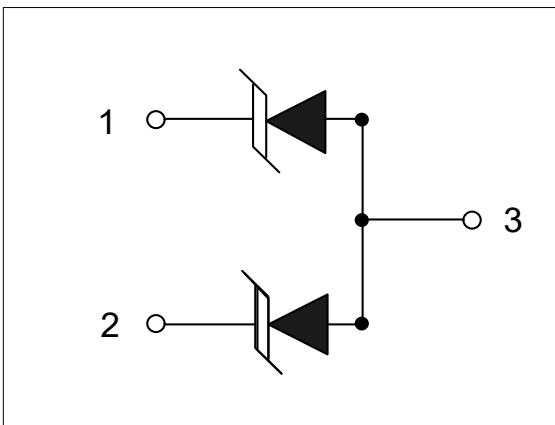
Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

Mechanical Characteristics

- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

Schematic & PIN Configuration



Absolute Maximum Ratings

| Parameter | Symbol | Value | Unit |
|--|-----------|----------------------|-------------|
| Peak Pulse Power ($t_p = 8/20\mu s$ waveform) | P_{PP} | 300 | W |
| Peak Pulse Current (8/20 μs) | I_{PP} | 5 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | ± 30 ± 30 | kV |
| Operating Temperature Range | T_J | -55 to +125 | $^{\circ}C$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^{\circ}C$ |

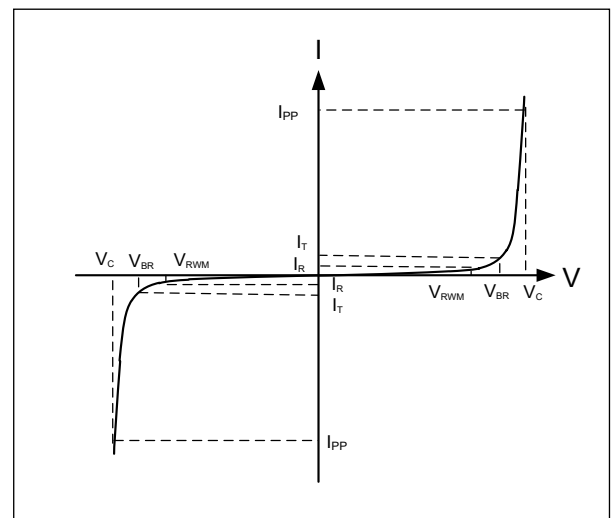
Electrical Characteristics

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-------------------------|-----------|--------------------------------------|------|-----|-----|---------|
| Reverse Working Voltage | V_{RWM} | | | | 24 | V |
| Breakdown Voltage | V_{BR} | $I_T = 1mA$ | 26.7 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 24V$ | | | 1 | μA |
| Clamping Voltage | V_C | $I_{PP} = 1A$ (8 x 20 μs pulse) | | 35 | | V |
| Clamping Voltage | V_C | $I_{PP} = 5A$ (8 x 20 μs pulse) | | | 55 | V |
| Junction Capacitance | C_J | $V_R = 0V, f = 1MHz$ | | | 36 | pF |

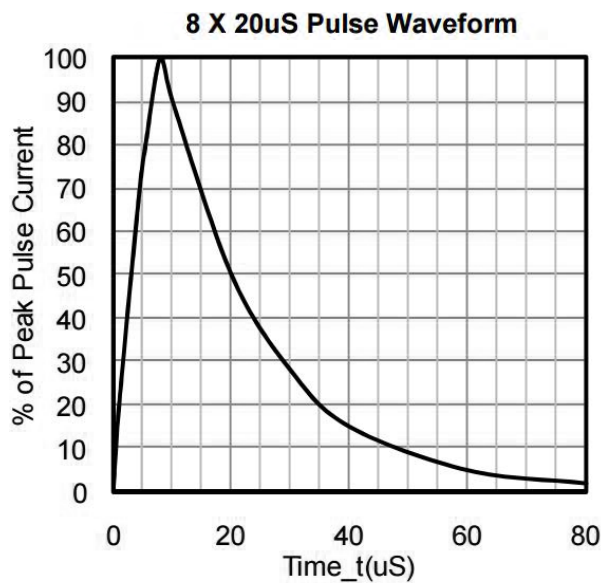
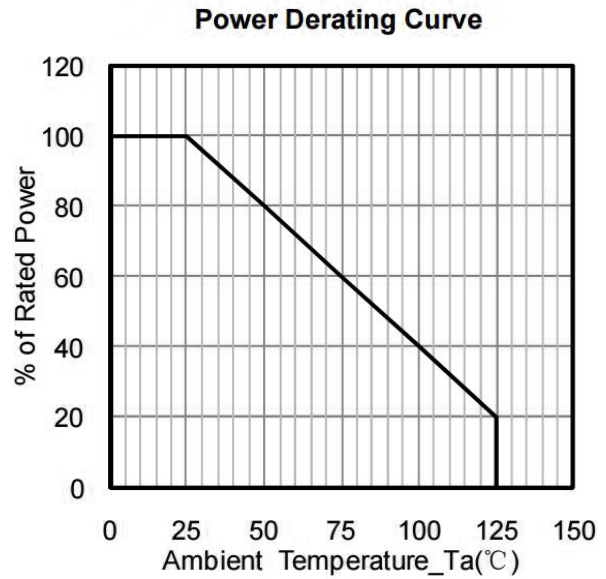
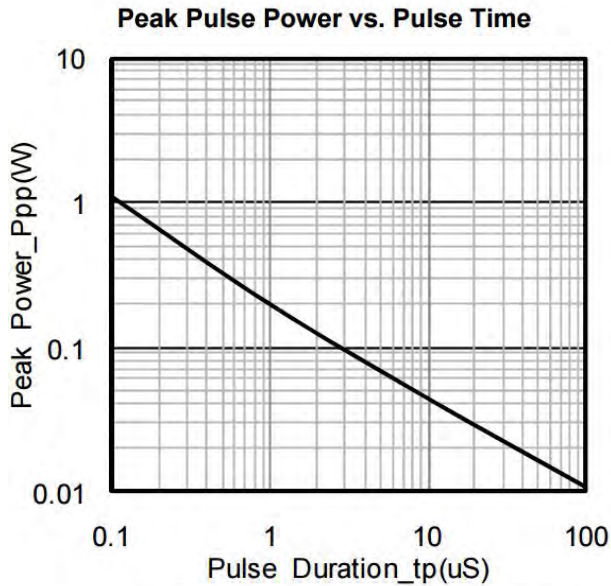
Electrical Parameters (TA = 25 $^{\circ}C$ unless otherwise noted)

| 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 |

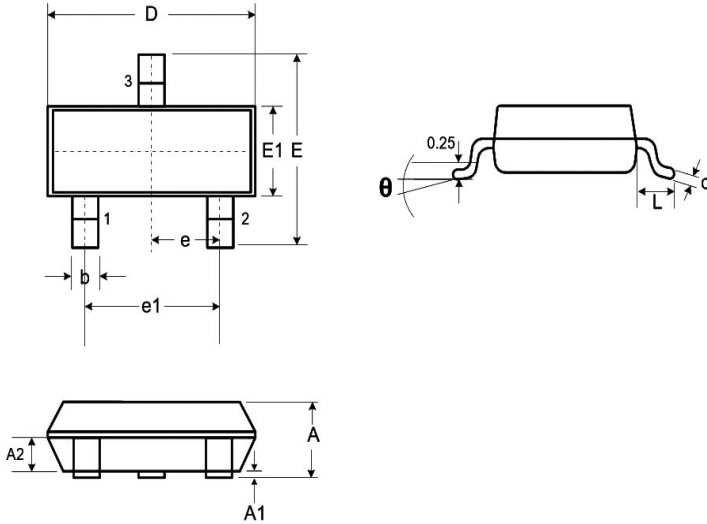
Note.: 8/20 μs pulse waveform.



Typical Performance Characteristics (TA=25°C unless otherwise Specified)

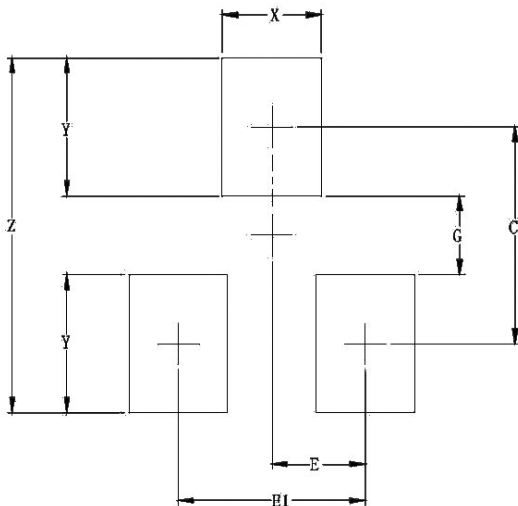


Package Mechanical Data



| GMA | 8-A9BG-CBG | | | | | |
|-----|------------|-------|-------|-------------|-------|-------|
| | INCHES | | | MILLIMETERS | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.035 | - | 0.044 | 0.890 | - | 1.120 |
| A1 | 0.000 | - | 0.004 | 0.010 | - | 0.100 |
| A2 | 0.035 | 0.037 | 0.040 | 0.880 | 0.950 | 1.020 |
| b | 0.012 | - | 0.020 | 0.300 | - | 0.510 |
| c | 0.030 | - | 0.007 | 0.080 | - | 0.180 |
| D | 0.110 | 0.114 | 0.120 | 2.800 | 2.900 | 3.040 |
| E | 0.082 | 0.093 | 0.104 | 2.100 | 2.370 | 2.640 |
| E1 | 0.047 | 0.051 | 0.055 | 1.200 | 1.300 | 1.400 |
| e | 0.075 | | | 1.900 | | |
| e1 | 0.037 | | | 0.950 | | |
| L | 0.015 | 0.020 | 0.024 | 0.400 | 0.500 | 0.60 |
| L1 | 0.022 | | | 0.550 | | |
| N | 3.000 | | | 3.000 | | |
| θ | 0° | - | 8° | 0° | - | 8° |

Suggested Land Pattern



| GMA | 8-A9BG-CBG | |
|-----|------------|-------|
| | A=09A9H9FG | B7<9G |
| C | 0.087 | 2.200 |
| E | 0.037 | 0.950 |
| E1 | 0.075 | 1.900 |
| G | 0.031 | 0.800 |
| X1 | 0.039 | 1.000 |
| Y | 0.055 | 1.400 |
| Z | 0.141 | 3.600 |

Ordering Information

| Order code | Package | Base qty | Delivery mode |
|------------------|---------|----------|---------------|
| PTT233H36S24CA30 | SOT-23 | 3K | Tape and reel |