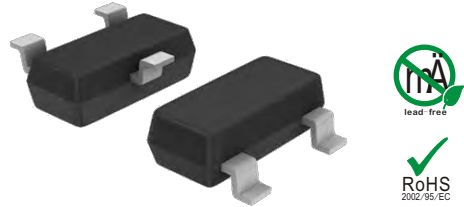


Features

- Up to 2 lines protects
- Junction capacitance (Max value:75pF)
- Low leakage current
- Working voltage:12V or 7V
- RoHS Compliant



SOT-23

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 $\pm 15\text{kV}$ contact $\pm 20\text{kV}$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns) IEC
- 61000-4-5 (Lightning) 13A (8/20 μs)

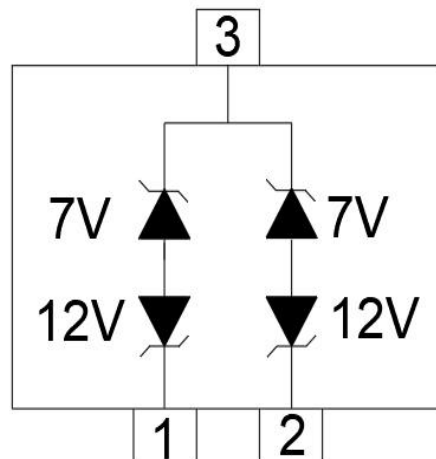
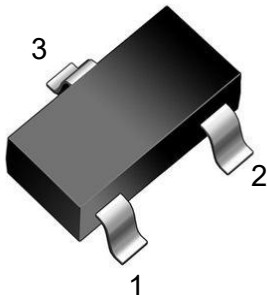
Applications

- Wireless System
- Networks
- Portable Instrumentation
- RS485 Ports

Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

Appearance & Symbol



Absolute Maximum Ratings (T=25°C,RH-45%-75%, unless otherwise noted)

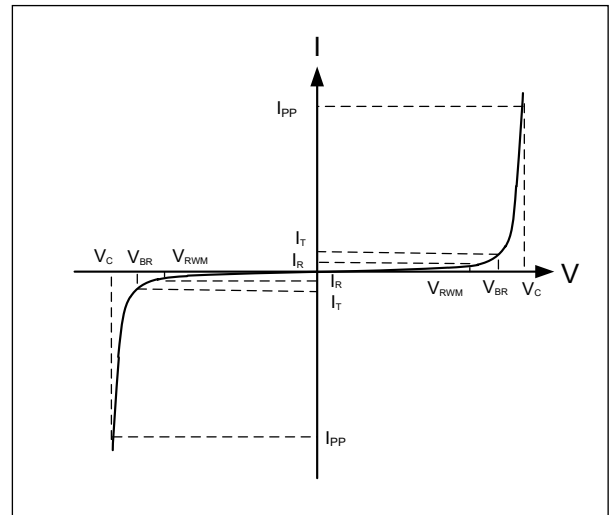
| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20μs) | P _{PP} | 325 | W |
| Peak Pulse Current (8/20μs) | I _{PP} | 13 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V _{ESD} | ±20 ±15 | kV |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |

Electrical Characteristics(T=25°C,RH-45%-75%, unless otherwise noted)

| Parameter | Symbol | Pin3 to Pin1 or Pin2 (12V) | | | Pin1 or Pin2 to Pin3 (7V) | | | Unit | Test Condition |
|-------------------------|------------------|----------------------------|-----|------|---------------------------|-----|-----|------|--|
| | | Min | Typ | Max | Min | Typ | Max | | |
| Reverse Working Voltage | V _{RWM} | | | 12 | | | 7 | V | |
| Breakdown Voltage | V _{BR} | 13.3 | | | 7.5 | | | V | I _T = 1mA |
| Reverse Leakage Current | I _R | | | 0.05 | | | 2.0 | μA | V _R = V _{RWM} |
| Clamping Voltage | V _C | | | 20 | | | 10 | V | I _{PP} = 5A (8 x 20μs pulse) |
| Clamping Voltage | V _C | | | 26 | | | 16 | V | I _{PP} = 13A (8 x 20μs pulse) |
| Junction Capacitance | C _J | | | 75 | | | 75 | pF | V _R = 0V, f = 1MHz |
| Junction Capacitance | C _J | | 45 | | | 45 | | pF | V _R = V _{RWM} , f = 1MHz |

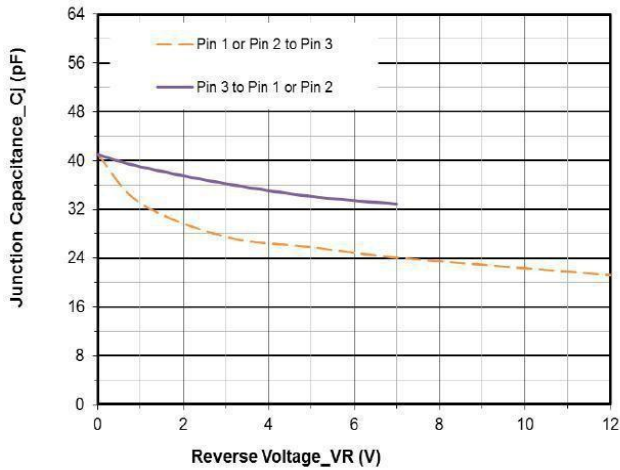
Electrical Parameters (T_A = 25°C unless otherwise noted)

| 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 |

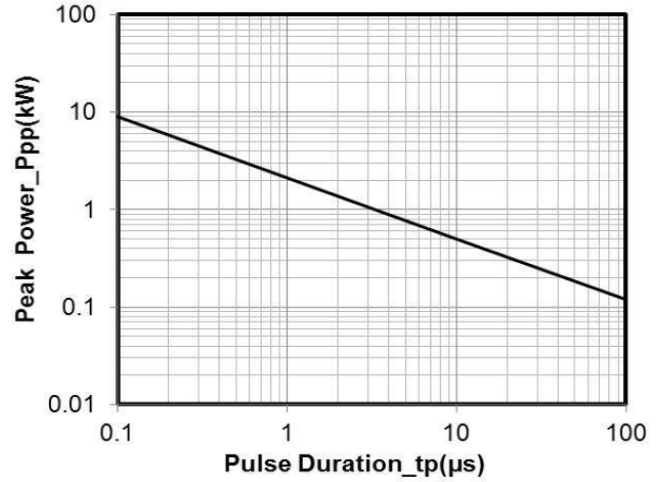


Note: 8/20μs pulse waveform.

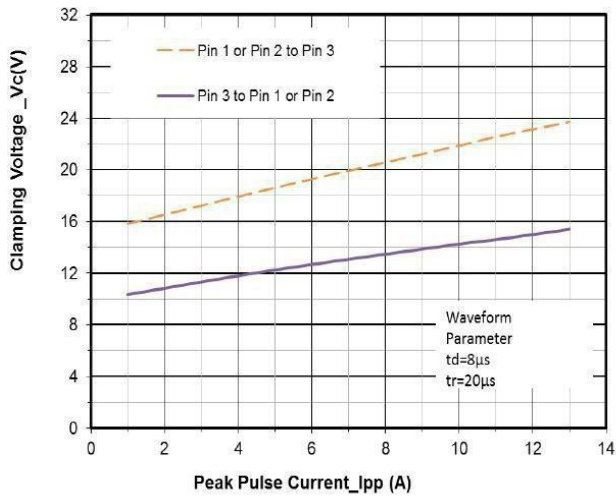
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



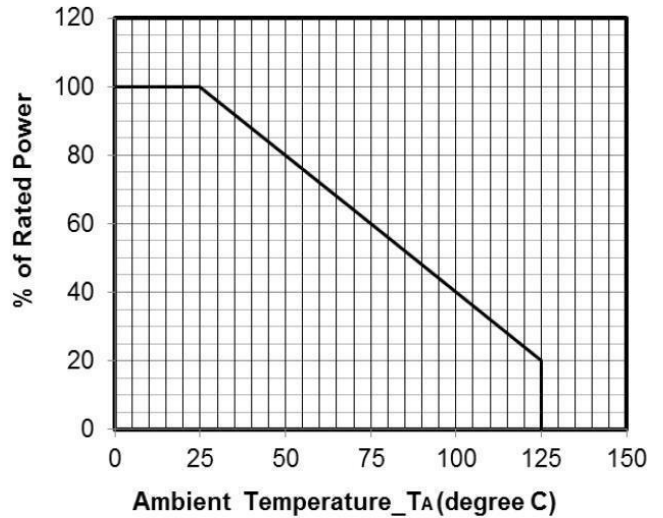
Junction Capacitance vs. Reverse Voltage



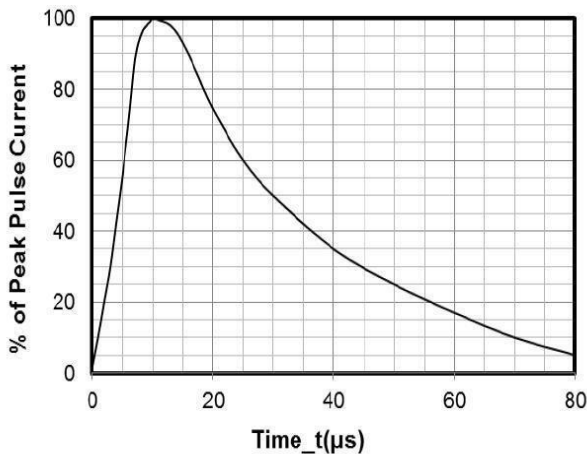
Peak Pulse Power vs. Pulse Time



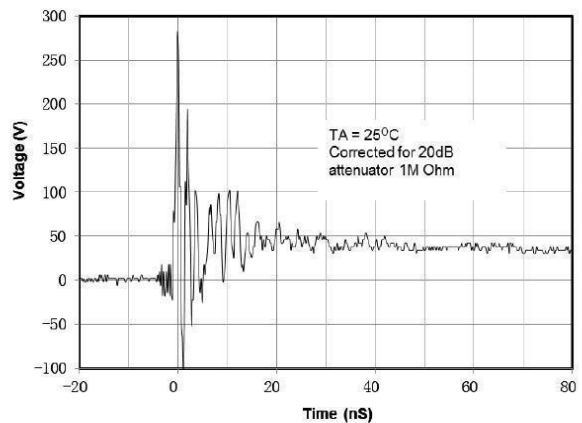
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

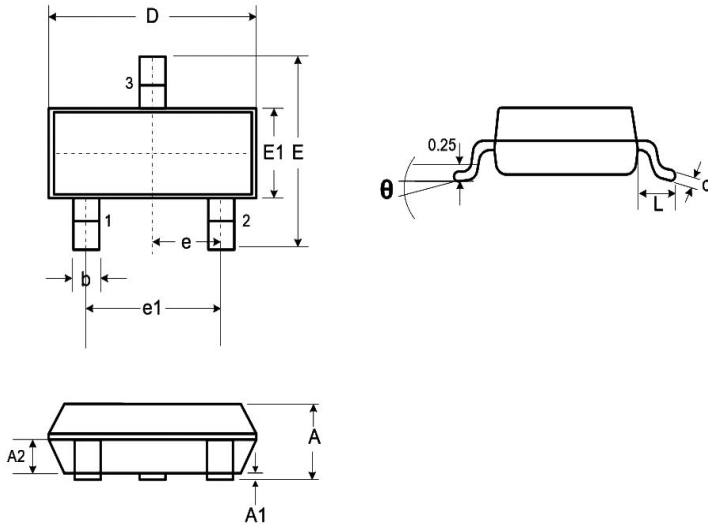


8 X 20μs Pulse Waveform



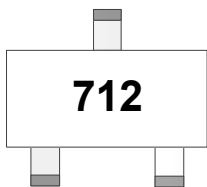
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

Package Mechanical Data



| SYM | DIMENSIONS | | | |
|-----|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.035 | 0.045 | 0.90 | 1.15 |
| A1 | 0.000 | 0.004 | 0.00 | 0.10 |
| A2 | 0.012 | 0.022 | 0.30 | 0.55 |
| b | 0.012 | 0.020 | 0.30 | 0.50 |
| c | 0.003 | 0.006 | 0.08 | 0.15 |
| D | 0.110 | 0.118 | 2.80 | 3.00 |
| E | 0.089 | 0.100 | 2.25 | 2.55 |
| E1 | 0.047 | 0.055 | 1.20 | 1.40 |
| e | 0.037 | | 0.95 | |
| e1 | 0.071 | 0.079 | 1.80 | 2.00 |
| L | 0.022 | | 0.55 | |
| θ | 0° | 8° | 0° | 8° |

Marking



Ordering Information

| Order code | Package | Base qty | Delivery mode |
|------------------|---------|----------|---------------|
| PTT233H45S12CA32 | SOT-23 | 3K | Tape and reel |