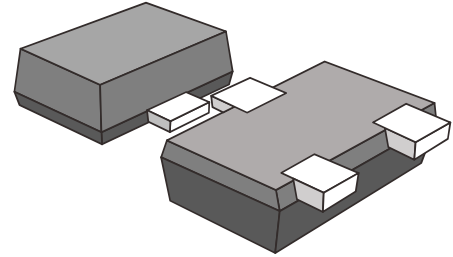


## » Features

- 56Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Uni-directional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 25KV$
    - Contact discharge:  $\pm 20KV$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 4A (8/20us)



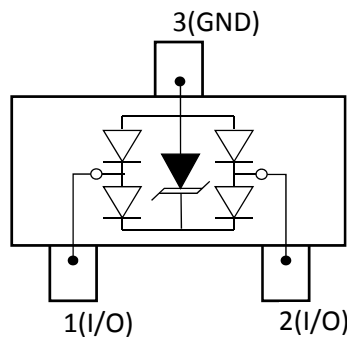
## » Applications

- Digital TV
- Set-top box and Digital TV
- Mobile Phones and Accessories
- Cellular Handsets and Accessories

## » Mechanical Data

- Package: SOT-9X3
- UL Flammability Classification Rating 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## » Schematic & PIN Configuration



SOT-723

### » Absolute Maximum Ratings

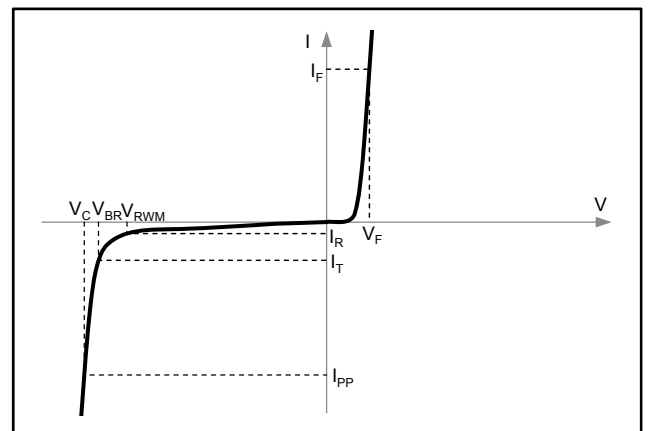
| Parameter                         | Symbol            | Value      | Units        |
|-----------------------------------|-------------------|------------|--------------|
| Reverse Working Voltage           | $V_{RWM}$         | 5          | V            |
| Peak Pulse Power (8/20 $\mu$ s)   | $P_{PP}$          | 56         | W            |
| Peak Pulse Current (8/20 $\mu$ s) | $I_{PP}$          | 4          | A            |
| ESD per IEC 61000-4-2 (Air)       | $V_{ESD-Air}$     | 25         | KV           |
| ESD per IEC 61000-4-2 (Contact)   | $V_{ESD-Contact}$ | 20         | KV           |
| Lead Soldering Temperature        | $T_L$             | 260(10s)   | $^{\circ}$ C |
| Operating Temperature Range       | $T_J$             | -55 to 125 | $^{\circ}$ C |
| Storage Temperature Range         | $T_{STG}$         | -55 to 150 | $^{\circ}$ C |

### » Electrical Characteristics

| Parameter                                    | Symbol   | Conditions                   | Min | Typ   | Max  | Units   |
|--|----------|------------------------------|-----|-------|------|---------|
| Breakdown Voltage                            | $V_{BR}$ | $I_T = 1mA$                  | 6   |       |      | V       |
| Reverse Leakage Current                      | $I_R$    | $V_{RWM} = 5V$               |     | 0.001 | 0.1  | $\mu$ A |
| Clamping Voltage                             | $V_C$    | $I_{PP} = 4A$ , 8/20 $\mu$ s |     | 12    | 14   | V       |
| Junction Capacitance between I/O pins        | $C_O$    | $V_{DC} = 0V$ , $f = 1MHz$   |     | 0.25  | 0.35 | pF      |
| Junction Capacitance between I/O pin and GND | $C_J$    | $V_{DC} = 0V$ , $f = 1MHz$   |     | 0.45  | 0.6  | pF      |

### » Electrical Parameters

| Symbol    | Definition                                  |
|-----------|---|
| $I_{PP}$  | 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                                |
|           |   |



» Typical Characteristics

Fig.1 - Peak Pulse Power Rating

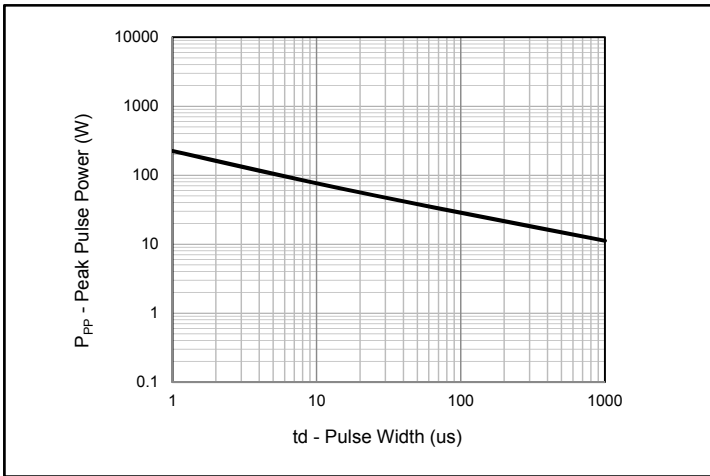


Fig.2 - Pulse Derating Curve

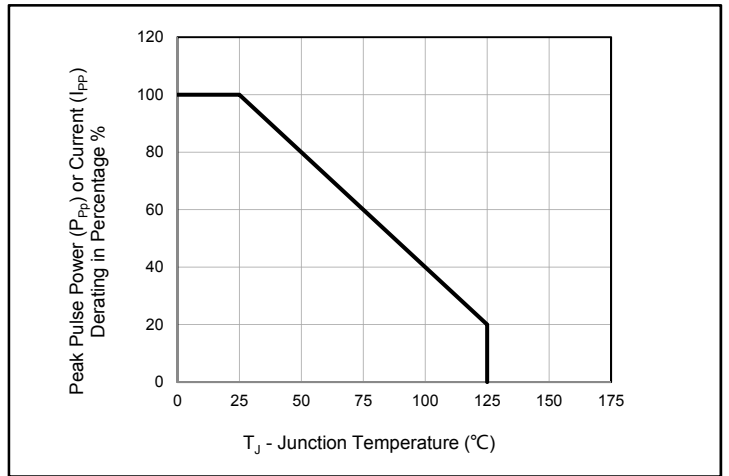


Fig.3 - 8/20us Pulse Waveform

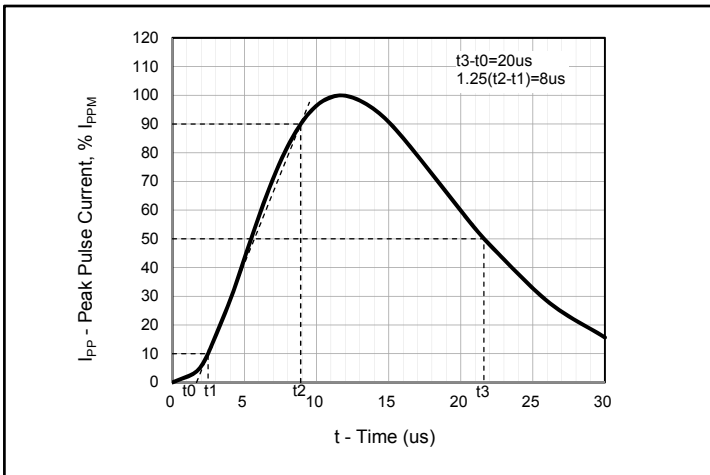
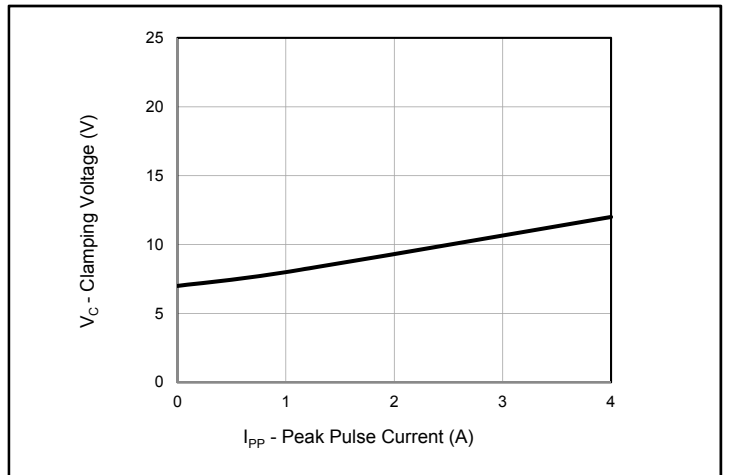
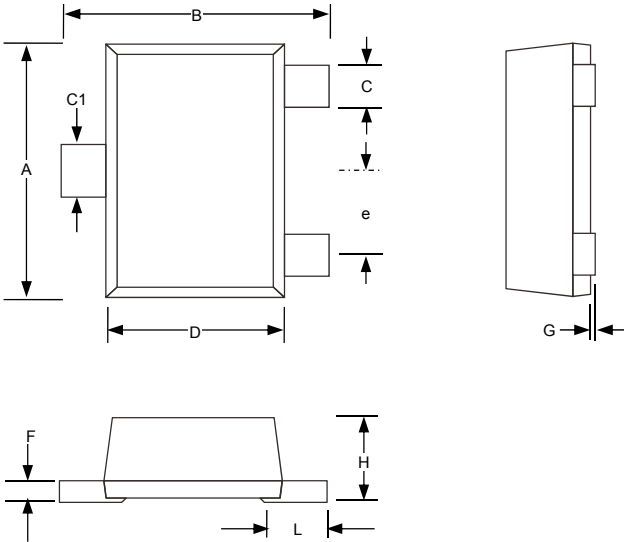


Fig.4 - Clamping Voltage

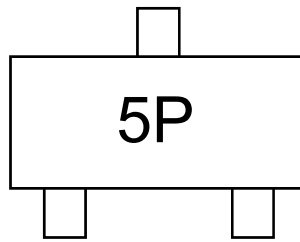


» Outline Drawing



| SOT-9X3 |             |      |      |        |       |       |
|---------|-------------|------|------|--------|-------|-------|
| SYMBOL  | Millimeters |      |      | Inches |       |       |
|         | MIN         | NOM  | MAX  | MIN    | NOM   | MAX   |
| A       | 1.15        | 1.2  | 1.25 | 0.045  | 0.047 | 0.049 |
| B       | 1.15        | 1.2  | 1.25 | 0.045  | 0.047 | 0.049 |
| C       | 0.15        | 0.2  | 0.25 | 0.006  | 0.008 | 0.01  |
| D       | 0.75        | 0.8  | 0.85 | 0.03   | 0.031 | 0.033 |
| e       |             | 0.4  |      |        | 0.016 |       |
| F       | 0.08        | 0.1  | 0.15 | 0.003  | 0.004 | 0.006 |
| G       |             |      | 0.05 |        |       | 0.002 |
| C1      | 0.2         | 0.25 | 0.3  | 0.008  | 0.01  | 0.012 |
|         |             |      |      |        |       |       |
|         |             |      |      |        |       |       |
|         |             |      |      |        |       |       |
|         |             |      |      |        |       |       |

» Marking



Marking Code: 5P

» Ordering Information

| Order Code        | Package | Base Quantity | Delivery Mode |
|-------------------|---------|---------------|---------------|
| TPD2EUSB30ADRTR-N | SOT-9X3 | 10000         | Tape and Reel |