

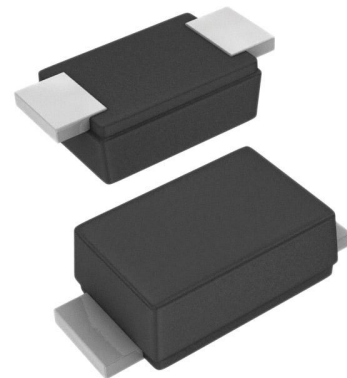
## Small package ESD Protection

### Applications

- Lan equipment
- Video
- DVI
- High Speed Data Line
- Ethernet
- USB 2.0 Power and Data line Protection

### Feature

- With TVS Diod
- ESD Protection:Level 4
- Low clamping voltage
- 60 Watts peak pulse power per line(tp=8/20uS)
- Ultra low capacitance:10pf typ.(any I/O to I/O.)
- Protection one line I/O port



SOD-923



### IEC Compatibility

- EN61000-4
- 61000-4-2(ESD):Level 4,Contact:±10kv,Air:±15kv
- 61000-4-4(EFT):40A-5/50ns
- 61000-4-5(Surge):3A-8/20us

### Mechanical Characteristics

- Molded JEDEC SOD-923 package
- Packing:Tape and Reel
- Flammability rating UL 94V-0
- Halogen Free

## Device Characteristics

| <b>Maximum Ratings@25 unless otherwise specified</b> |        |         |       |
|--|--------|---------|-------|
| Parameter  | Symbol | Value   | Units |
| Peak pulse power (tp=8/20us)                         | PPP    | 60      | Watts |
| Operating Temperature                                | TJ     | -55~150 | °c    |
| Storage Temperature                                  | TSTG   | -55~150 | °c    |

**Electrical Characteristics**

| Parameter                 | Symbol     | Condition                                   | min | typ | max | Units   |
|---------------------------|------------|---|-----|-----|-----|---------|
| Reverse Stand-off Voltage | $V_{RWM}$  | Pin 2 to 1/Pin 1 to 2                       |     |     | 5   | V       |
| Reverse Breakdown Voltage | $V_{BR}$   | $I_Z=1mA$ , Pin to 1/pin 2-1                | 5.6 |     | 9.4 | V       |
| Reverse Leakage Current   | $I_R(max)$ | @ $V_{RWM}$                                 |     |     | 0.9 | $\mu A$ |
| Clamping Voltage          | $V_C$      | $I_{PP}=1A$ $t_p=8/20\mu s$                 |     |     | 12  | V       |
| Peak Pulse Current        | $I_{PP}$   | $t_p=8/20\mu s$                             |     |     | 3   | A       |
| Junction Capacitance      | C I/O      | Pin capacitance to GND. $V_{dc}=0V, f=1MHz$ | 8   | 10  | 13  | pf      |

**Electrical Characteristics  $T=(25^\circ C)$** 

| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $V_{RWM}$ | Nominal Reverse Working Voltage     |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Reverse Breakdown Voltage @ $I_T$   |
| $I_T$     | Test Current for Reverse Breakdown  |
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $I_{PP}$  | Maximum Peak Pulse Current          |
| $C_{ESD}$ | Parasitic Capacitance               |
| $V_R$     | Reverse Voltage                     |
| f         | Small Signal Frequency              |

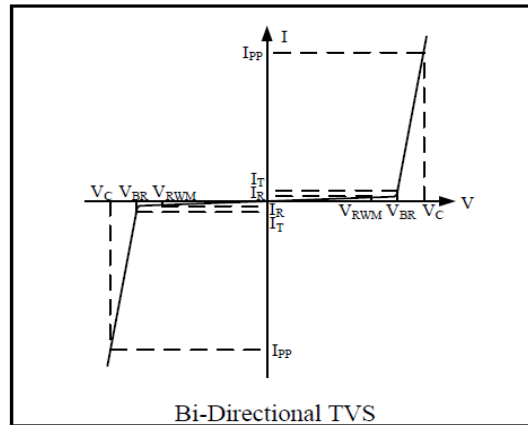
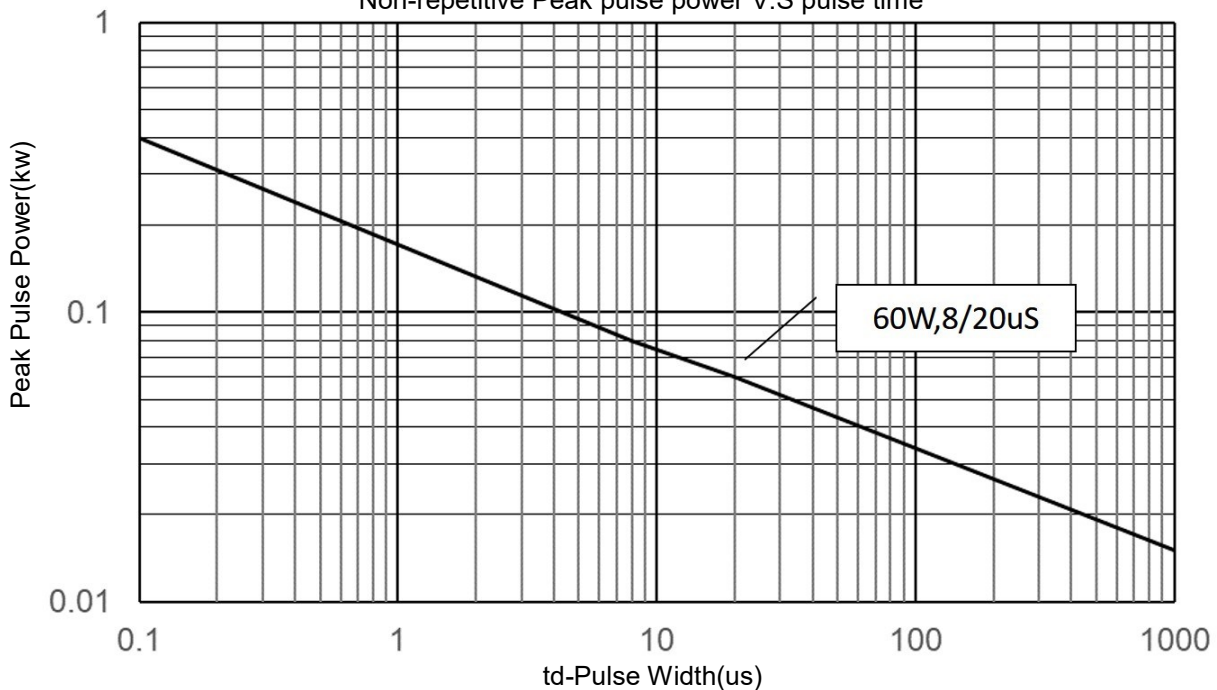

**Rating and characteristic curve**

FIGURE 1

Non-repetitive Peak pulse power V.S pulse time



Rating and characteristic curve

Small package ESD Protection

FIGURE 2  
Power Derating Curve

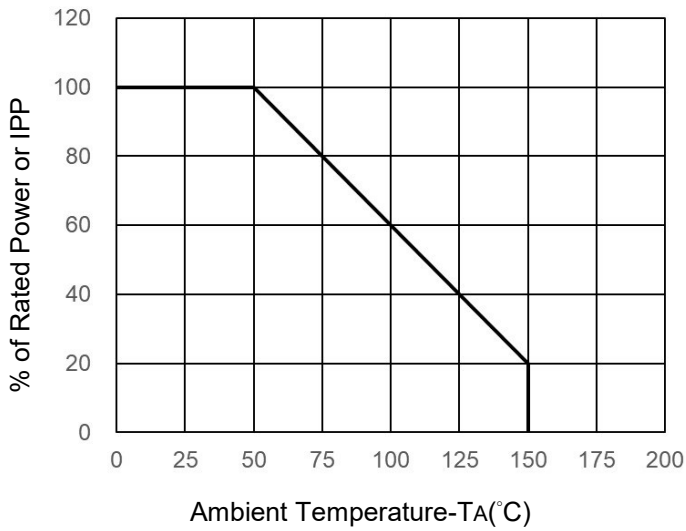


FIGURE 3  
Pulse Wave Form

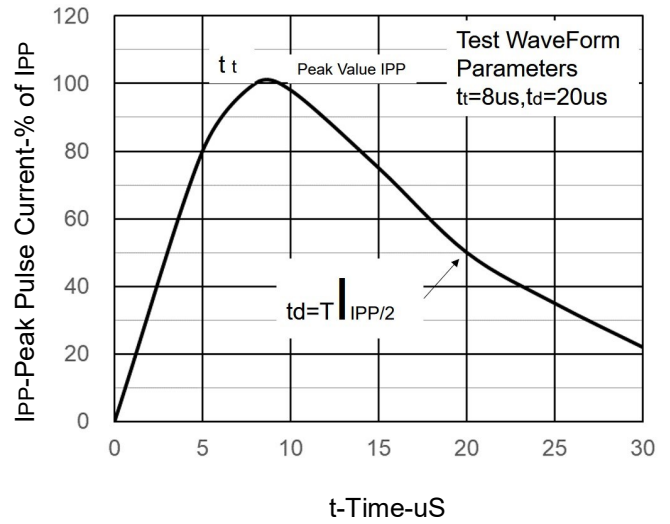


FIGURE 4  
Clamping Voltage Curve

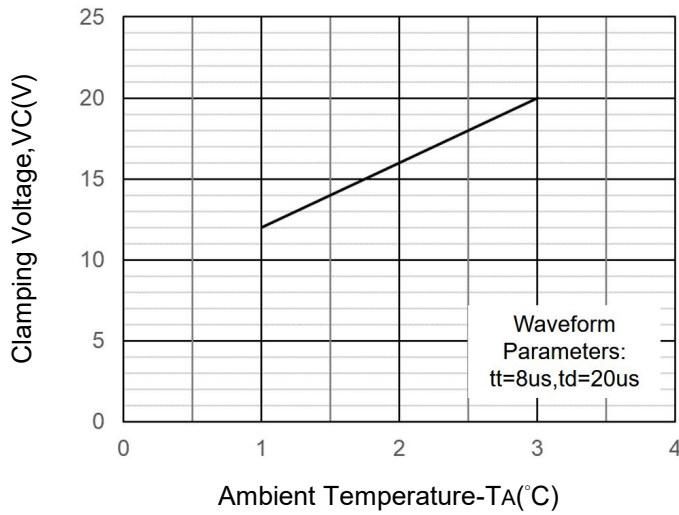


FIGURE 5  
Normalized Capacitance Curve

