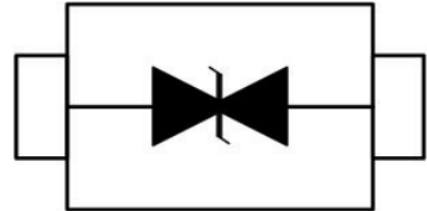


## Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000 -4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000 -4-4 (EFT) 40A (5/50ns)
  - IEC61000 -4-5 (Lightning) 8A (8/20  $\mu\text{s}$ )
- RoHS Compliant



## Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

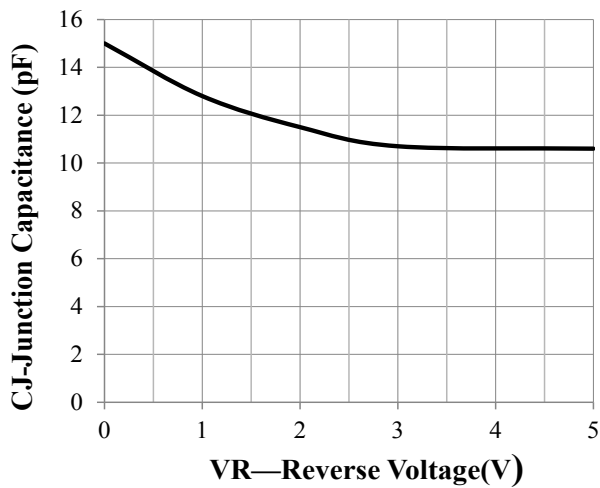
## Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                              | Symbol           | Value       | Unit |
|----------------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | P <sub>pp</sub>  | 100         | W    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub> | $\pm 30$    | Kv   |
| ESD per IEC 61000-4-2 (Contact)        |                  | $\pm 30$    |      |
| Operating Temperature Range            | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range              | T <sub>STJ</sub> | -55 to +150 | °C   |

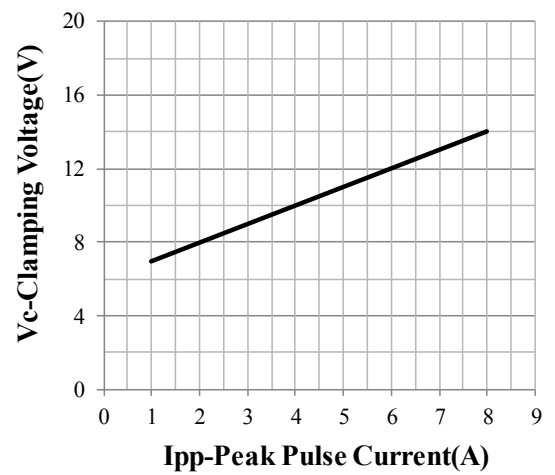
**Electrical Characteristics** (TA=25°C unless otherwise specified)

| Parameter               | Symbol    | Test Condition                 | Min | Typ | Max | Unit    |
|-------------------------|-----------|--------------------------------|-----|-----|-----|---------|
| Reverse Working Voltage | $V_{RWM}$ |                                |     |     | 5   | V       |
| Breakdown Voltage       | $V_{BR}$  | $I_T = 1mA$                    | 5.5 |     |     | V       |
| Reverse Leakage Current | $I_R$     | $V_{RWM} = 5V$                 |     |     | 1   | $\mu A$ |
| Clamping Voltage        | $V_C$     | $I_{PP} = 1A$ (8 x 20 s pulse) |     |     | 9   | V       |
| Clamping Voltage        | $V_C$     | $I_{PP} = 8A$ (8 x 20 s pulse) |     |     | 12  | V       |
| Junction Capacitance    | $C_J$     | $V_R = 0V, f = 1MHz$           |     | 15  |     | pF      |

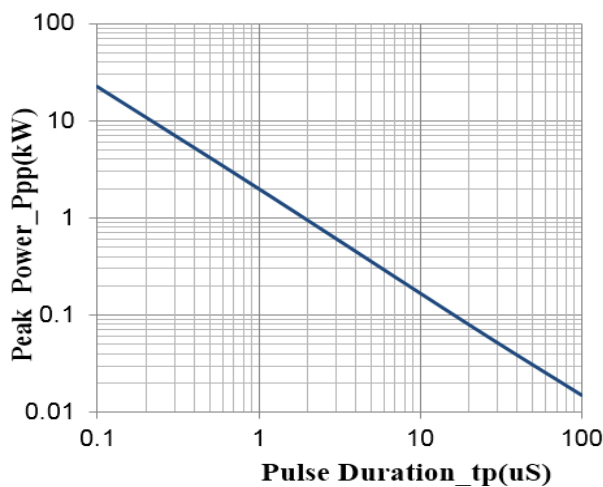
# Typical Performance Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise Specified)



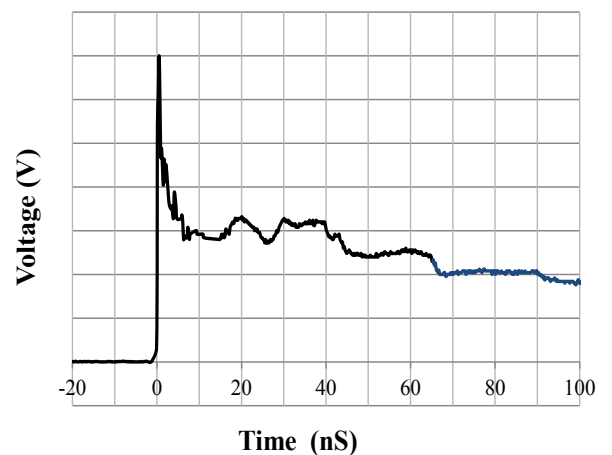
Junction Capacitance vs. Reverse Voltage



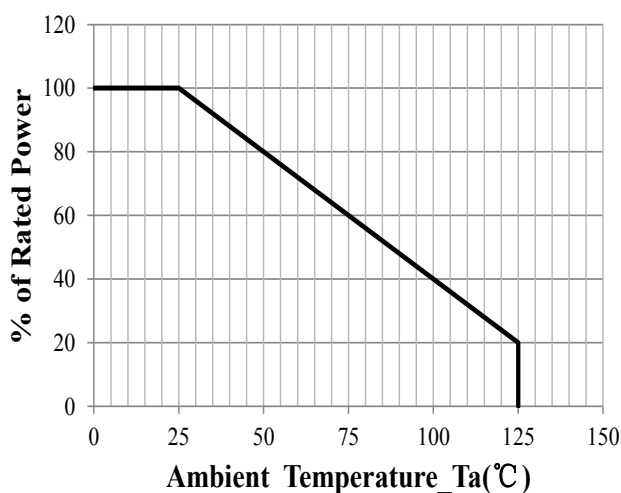
Clamping Voltage vs. Peak Pulse Current



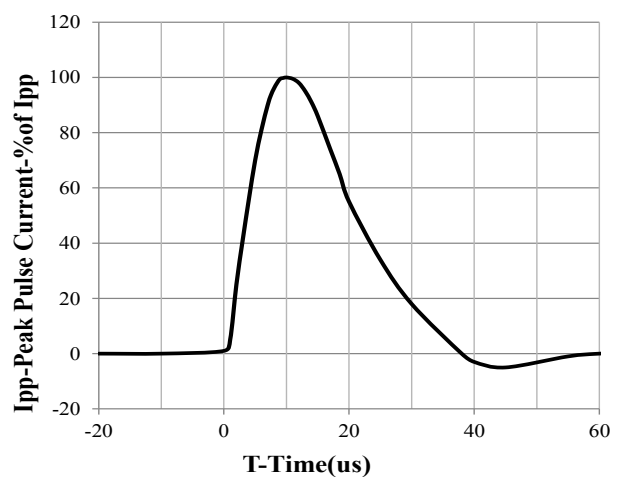
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



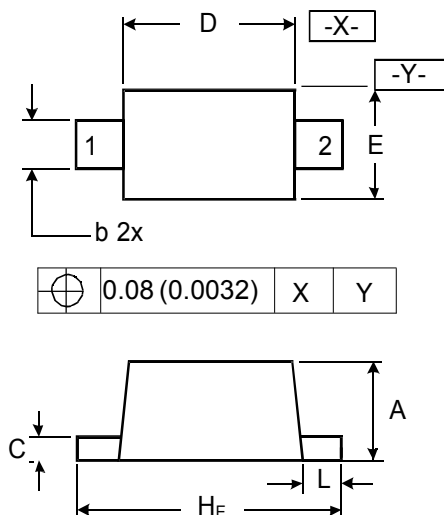
Power Derating Curve



8 X 20us Pulse Waveform

## Package outline dimensions

### SOD-523



**DIMENSIONS**

| SYMBOL         | MILLIMETER |      | INCHES |        |
|----------------|------------|------|--------|--------|
|                | MIN        | MAX  | MIN    | MAX    |
| A              | 0.50       | 0.70 | 0.020  | 0.028  |
| b              | 0.25       | 0.35 | 0.010  | 0.014  |
| C              | 0.07       | 0.20 | 0.0028 | 0.0079 |
| D              | 1.10       | 1.30 | 0.043  | 0.051  |
| E              | 0.70       | 0.90 | 0.028  | 0.035  |
| H <sub>E</sub> | 1.50       | 1.70 | 0.059  | 0.067  |
| L              | 0.15       | 0.25 | 0.006  | 0.010  |

## Marking



## Ordering information

| Order code    | Package | Base qty | Delivery mode |
|---------------|---------|----------|---------------|
| UMW PJSD05CTS | SOD-523 | 3000     | Tape and reel |