

### Features

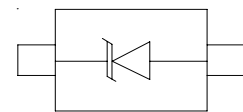
- Ultra low capacitance: 0.6pF typical
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
 Air discharge: ±25kV  
 Contact discharge: ±20kV
  - IEC61000-4-5 (Lightning) 6A (8/20µs)
- RoHS Compliant



**SOD-523**

### Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports



**Schematic Diagram**

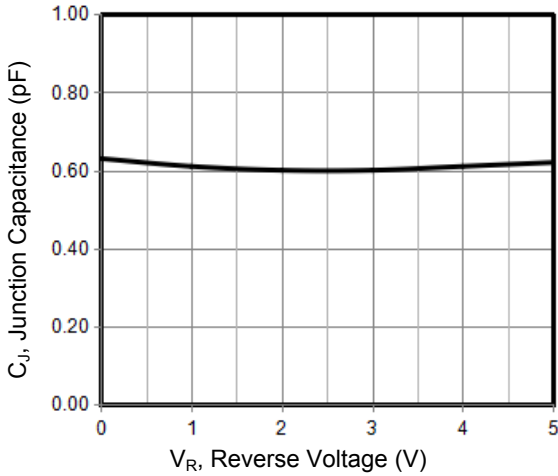
### Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	P <sub>PK</sub>	100	W
Peak Pulse Current (8/20µs)	I <sub>PP</sub>	6	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±25	kV
ESD per IEC 61000-4-2 (Contact)		±20	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

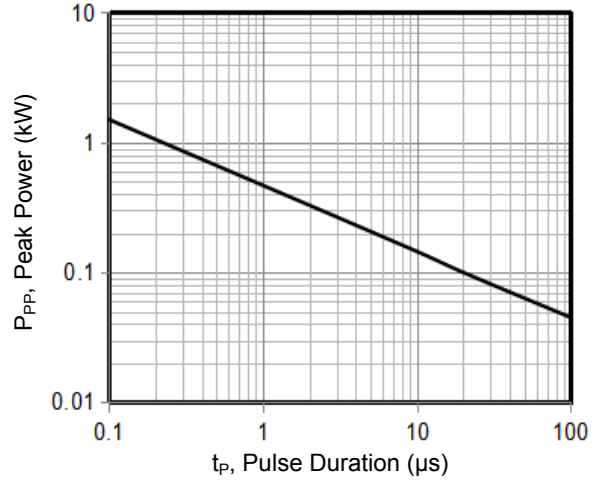
### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>	-	-	-	3.3	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	4.2	-	-	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =3.3V	-	-	0.2	µA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1A (8 x 20µs pulse)	-	-	9	V
		I <sub>PP</sub> =6A (8 x 20µs pulse)	-	-	16	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, F=1MHz	-	0.6	-	pF

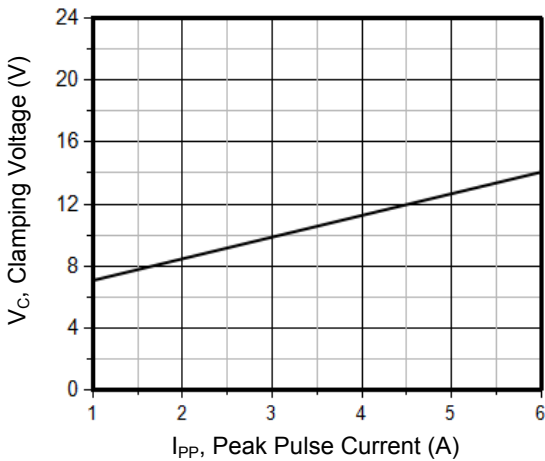
**Typical Performance Characteristic** ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



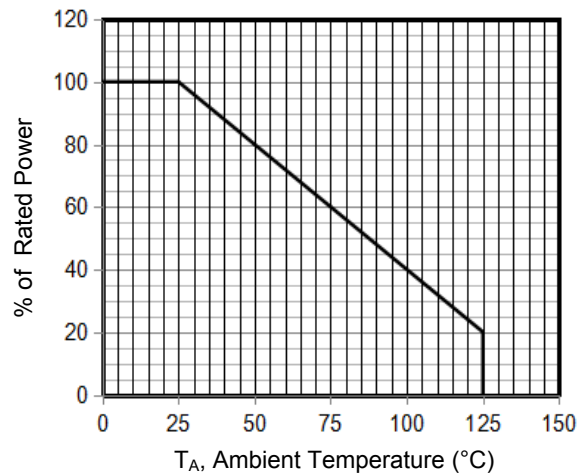
**Figure 1. Junction Capacitance vs. Reverse Voltage**



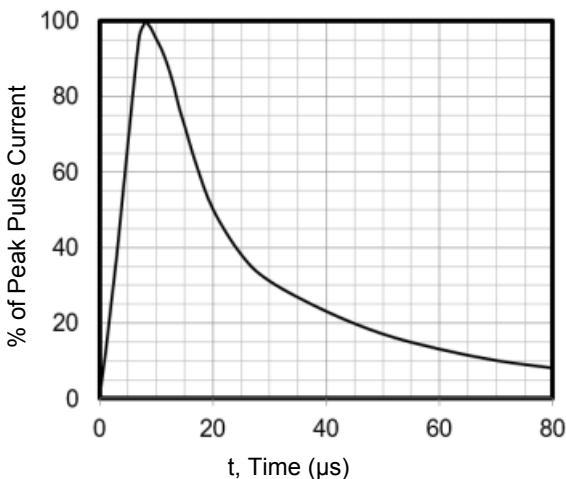
**Figure 2. Peak Pulse Power vs. Pulse Time**



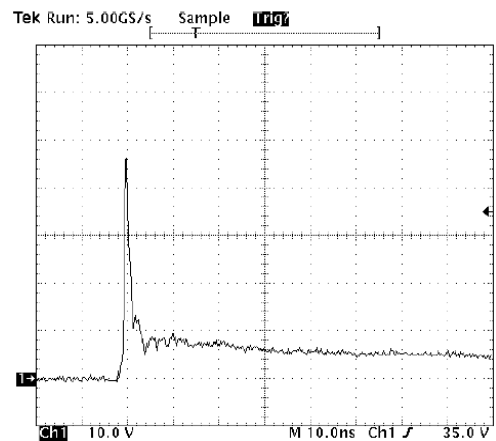
**Figure 3. Clamping Voltage vs. Peak Pulse Current**



**Figure 4. Power Derating Curve**



**Figure 5. 8 X 20 $\mu\text{s}$  Pulse Waveform**

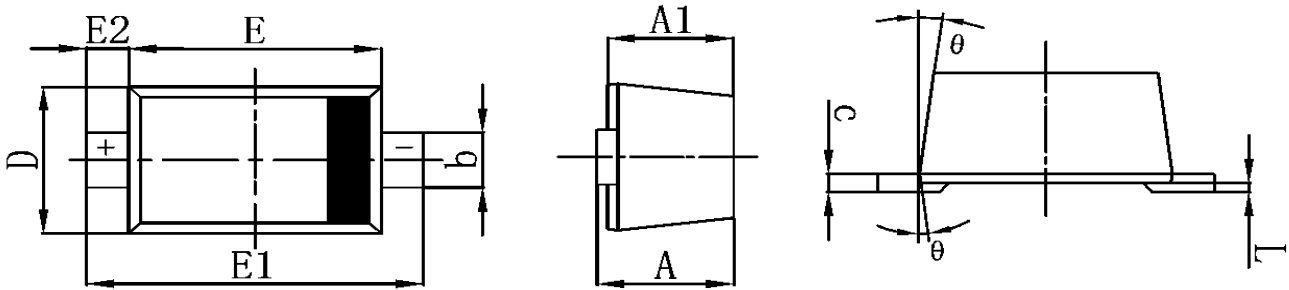


Note: Data is taken with a 10x attenuator

**Figure 6. ESD Clamping Voltage**

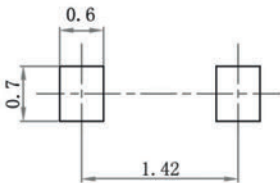
**8 kV Contact per IEC61000-4-2**

**Package Outline Dimensions (SOD-523)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

**Recommended Pad Layout**



Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

**Order Information**

Device	Package	Marking	Quantity	HSF Status
GSEV3U006	SOD-523	36	3,000pcs / Reel	RoHS Compliant

For more information, please contact us at: [inquiry@goodarksemi.com](mailto:inquiry@goodarksemi.com)