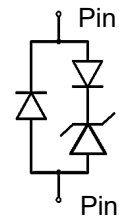


## Features

- Ultra low capacitance: 0.6pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 25\text{kV}$ , Contact discharge:  $\pm 20\text{kV}$
  - IEC61000-4-5 (Lightning) 5A (8/20 $\mu\text{s}$ )
- RoHS Compliant



SOD-923



Schematic Diagram

## Applications

- Cellular handsets and accessories
- Display ports
- MDDI ports
- USB ports
- Digital visual interface (DVI)
- PCI express and serial SATA ports

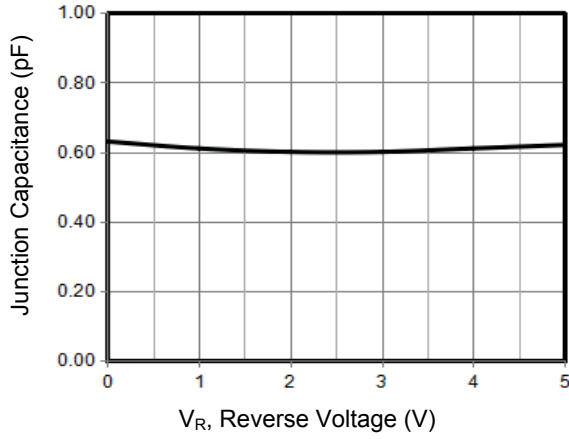
## Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{pk}$	75	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{pp}$	5	A
ESD Per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 25$	kV
ESD Per IEC 61000-4-2 (Contact)		$\pm 20$	
Operating Temperature Range	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

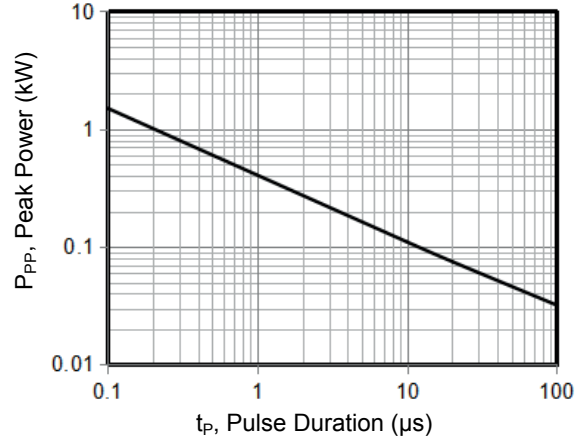
## Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$	-	-	-	5	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6	-	-	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$	-	-	0.5	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)	-	-	10	V
Clamping Voltage	$V_C$	$I_{PP}=5\text{A}$ (8 x 20 $\mu\text{s}$ pulse)	-	-	15	V
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $F=1\text{MHz}$	-	0.6	0.8	pF

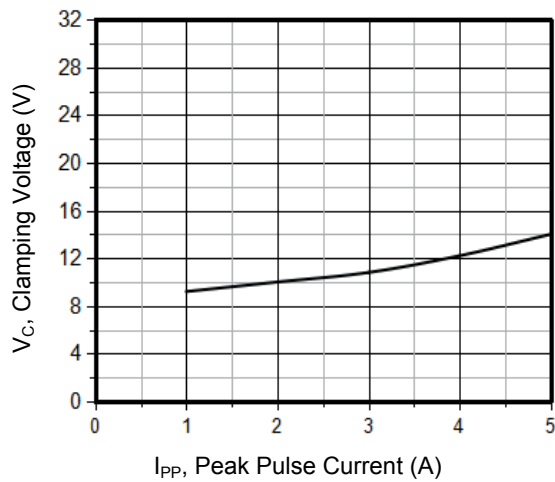
**Typical Characteristic Curves**



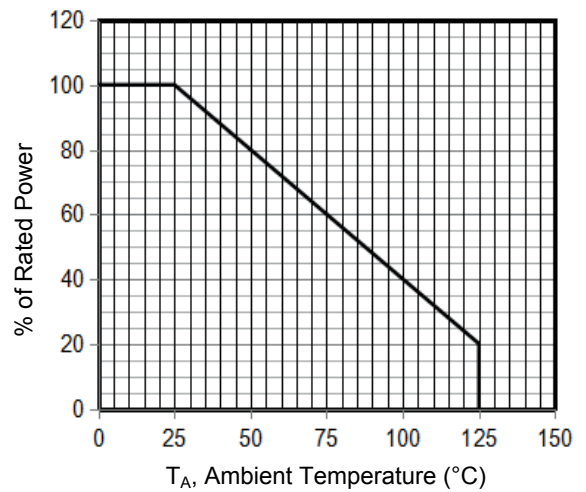
**Figure 1. Junction Capacitance Vs. Reverse Voltage**



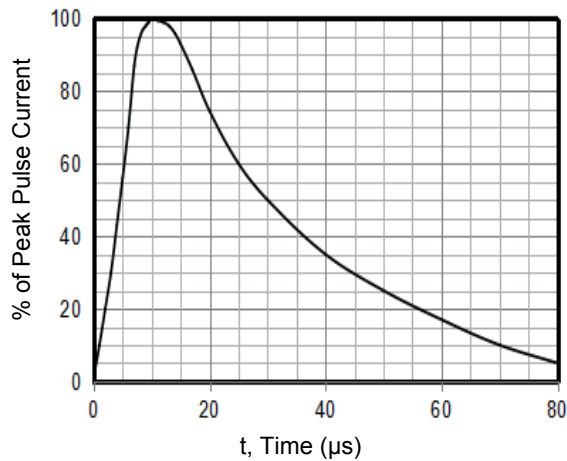
**Figure 2. Peak Pulse Power Vs. Pulse Time**



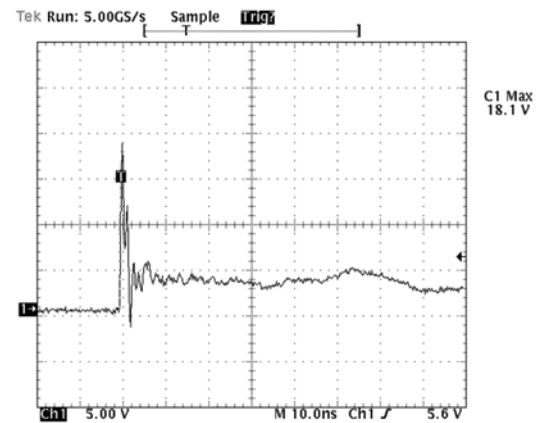
**Figure 3. Clamping Voltage Vs. Peak Pulse Current**



**Figure 4. Power Derating Curve**



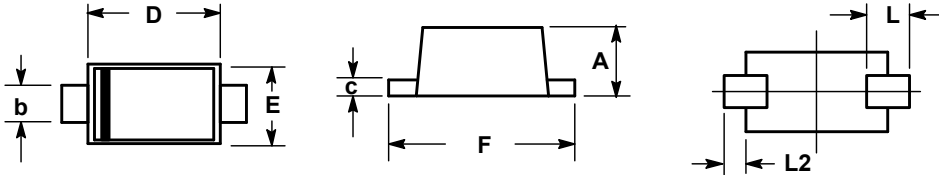
**Figure 5. 8 X 20µs Pulse Waveform**



Note: Data is Taken With a 10x Attenuator

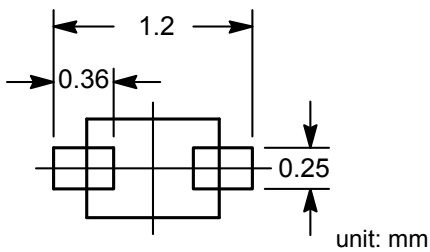
**Figure 6. ESD Clamping Voltage 8 kV Contact per IEC61000-4-2**

**Package Outline Dimensions (SOD-923)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.39	0.45	0.016	0.018
b	0.15	0.25	0.006	0.010
c	0.07	0.17	0.003	0.007
D	0.75	0.85	0.030	0.034
E	0.55	0.65	0.022	0.026
F	0.95	1.05	0.038	0.042
L	0.19 REF		0.007 REF	
L2	0.05	0.15	0.002	0.006

**Recommended Pad Layout**



**Order Information**

Device	Package	Marking	Carrier	Quantity
GSEM5U006	SOD-923	9Z	Tape & Reel	8,000 pcs / Reel