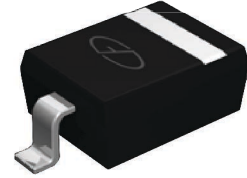


**Features**

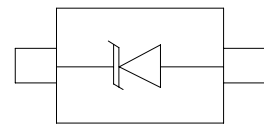
- 500W peak pulse power (8/20μs)
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 12V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  - Air discharge: ±30kV
  - Contact discharge: ±30kV
- RoHS Compliant



**SOD-323**

**Applications**

- Cellular handsets and accessories
- Personal digital assistants
- Notebooks and handhelds
- Portable instrumentation
- Peripherals
- Pagers peripherals



**Schematic Diagram**

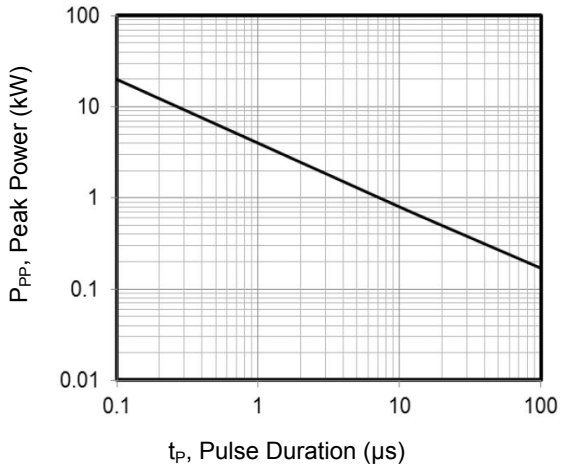
**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	$P_{pk}$	500	W
Peak Pulse Current (8/20μs)	$I_{PP}$	20	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	$T_J$	-55 to +125	°C
Storage Temperature Range	$T_{stg}$	-55 to +150	°C

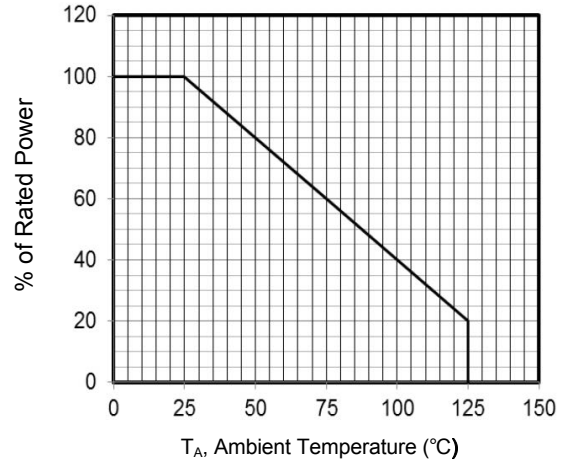
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$	-	-	-	12	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	13.3	-	-	V
Reverse Leakage Current	$I_R$	$V_{RWM}=12\text{V}$	-	-	0.2	μA
Forward Voltage	$V_F$	$I_F=10\text{mA}$	-	0.8	1.2	V
Clamping Voltage	$V_C$	$I_{PP}=5\text{A}$ (8 x 20μs pulse)	-	-	19	V
		$I_{PP}=20\text{A}$ (8 x 20μs pulse)	-	-	25	
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $F=1\text{MHz}$	-	100	150	pF

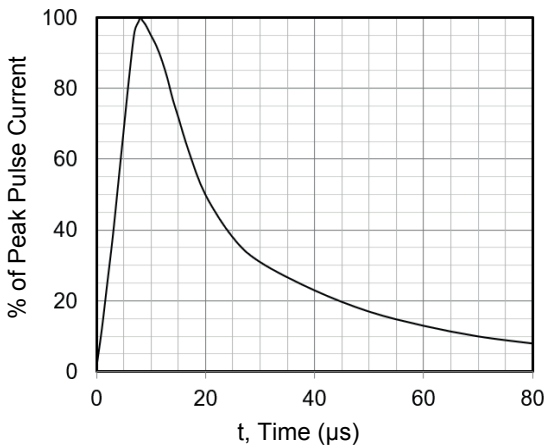
**Typical Characteristic Curves** ( $T_A=25^\circ\text{C}$  unless otherwise specified)



**Figure 1. Peak Pulse Power vs. Pulse Time**

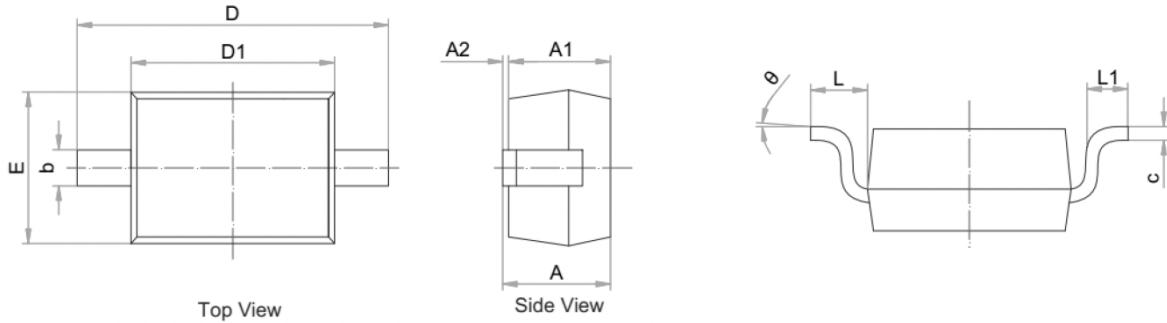


**Figure 2. Power Derating Curve**



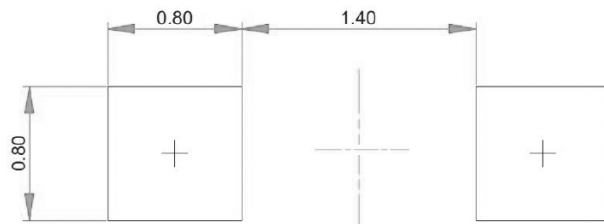
**Figure 3. 8 X 20 $\mu\text{s}$  Pulse Waveform**

**Package Outline Dimensions (SOD-323)**



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	0.800	1.100	0.031	0.043
A1	0.800	0.900	0.031	0.035
A2	0.000	0.100	0.000	0.004
b	0.25	0.400	0.010	0.016
c	0.080	0.177	0.003	0.007
D1	1.600	1.800	0.063	0.071
D	2.300	2.800	0.091	0.110
E	1.150	1.400	0.045	0.055
L	0.475REF		0.019REF	
L1	0.100	0.500	0.004	0.020
Θ	0°	8°	0°	8°

**Recommended Pad Layout**



Unit: mm

**Order Information**

Device	Package	Marking	Carrier	Quantity
GSEDC12U1000	SOD-323	312	Tape & Reel	3,000pcs / Reel

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