

GSEDC3B011

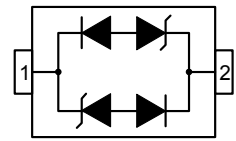
Low Capacitance ESD Protection Diode

Features

- 340W peak pulse power (8/20μs)
- Ultra low capacitance: 1pF typical
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Protects one power line or data line
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±30kV
 - Contact discharge: ±30kV
 - IEC 61000-4-5 (Lightning) 21A (8/20μs)
- RoHS compliant



SOD-323



Schematic Diagram

Applications

- USB ports
- Smart phones
- Wireless systems
- Ethernet 10/100/1000 base T

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{PK}	340	W
Peak Pulse Current (8/20μs)	I _{PP}	21	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)			
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}	-	-	-	3.3	V
Breakdown Voltage	V _{BR}	I _T =1mA	3.5	-	-	V
Reverse Leakage Current	I _R	V _{RWM} =3.3V	-	-	0.2	μA
Clamping Voltage	V _C	I _{PP} =1A (8 x 20μs pulse)	-	-	7	V
Clamping Voltage	V _C	I _{PP} =21A (8 x 20μs pulse)	-	-	16	V
Junction Capacitance	C _J	V _R =0V, f=1MHz	-	1	-	pF

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

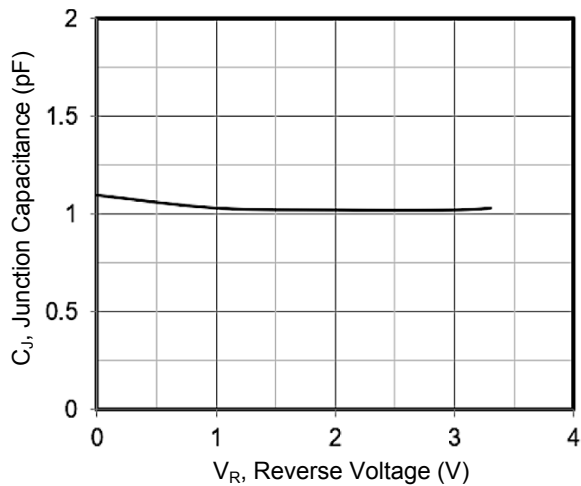


Figure 1. Junction Capacitance vs. Reverse Voltage

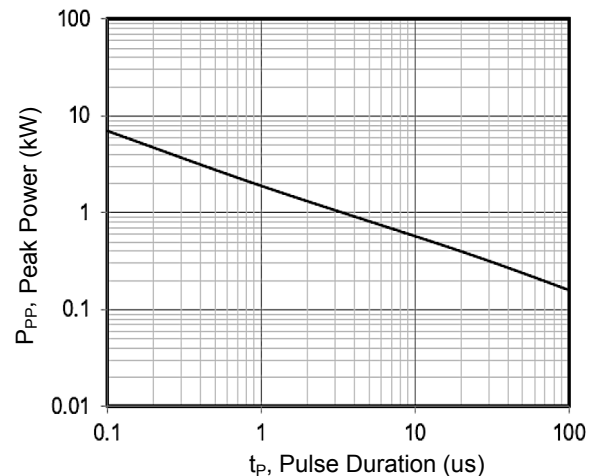


Figure 2. Peak Pulse Power vs. Pulse Time

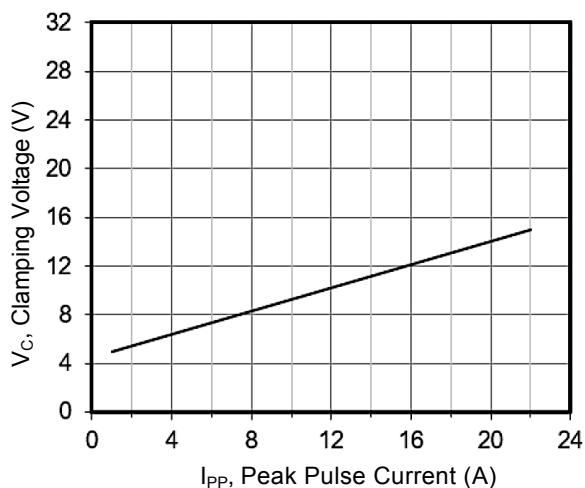


Figure 3. Clamping Voltage vs. Peak Pulse Current
($t_P=8/20\mu\text{s}$)

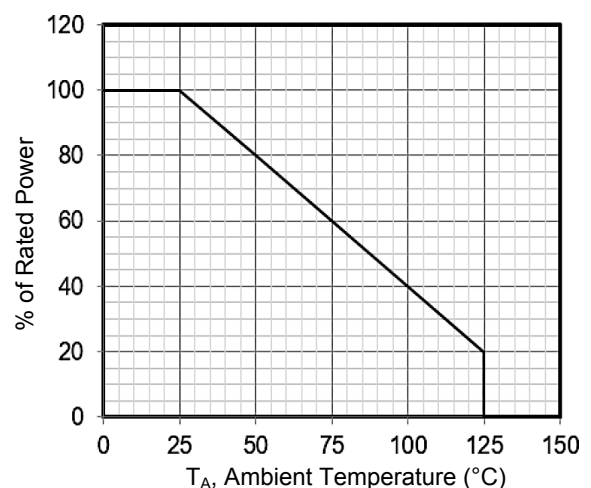


Figure 4. Power Derating Curve

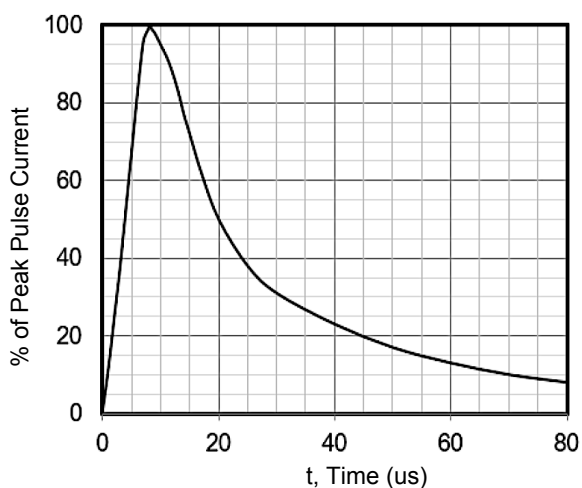


Figure 5. 8 x 20µs Pulse Waveform

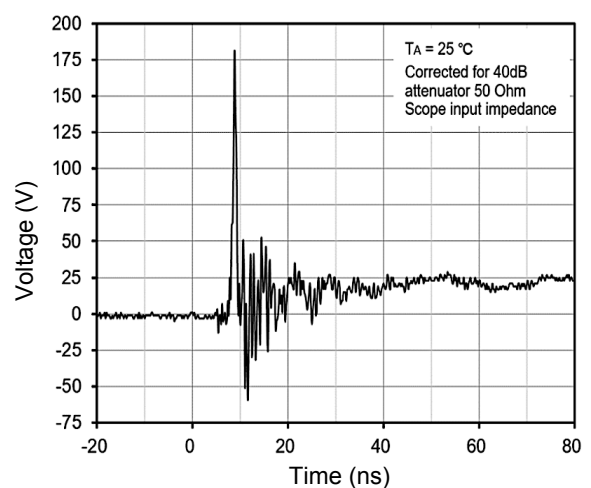
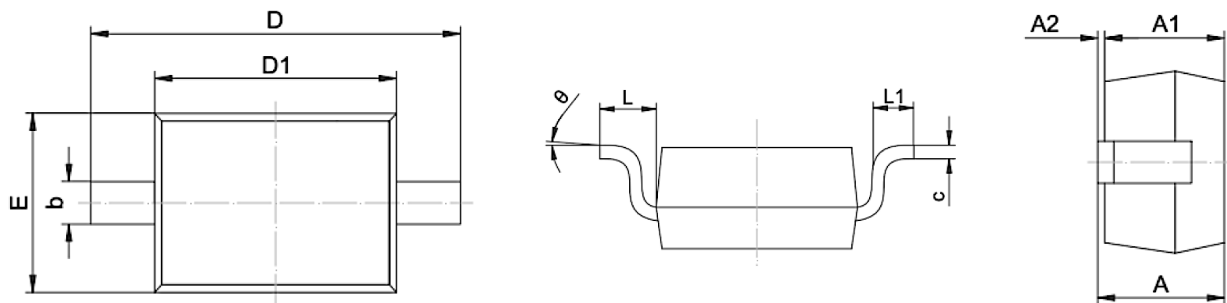


Figure 6. ESD Clamping Voltage
8kV Contact per IEC61000-4-2

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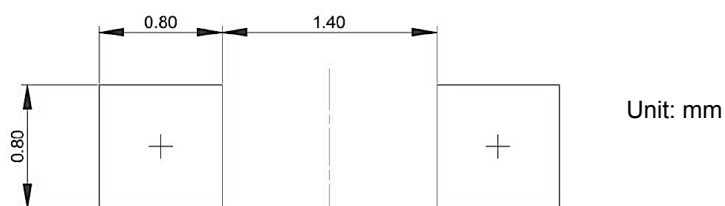
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Package Outline Dimensions (SOD-323)



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	0.250	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	0.475 REF		0.019 REF	
L1	0.100	0.500	0.004	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Order Information

Device	Package	Marking	Carrier	Quantity
GSEDC3B011	SOD-323	R3	Tape & Reel	3,000 Pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com