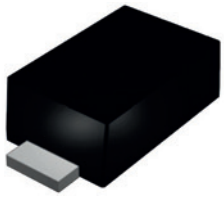
GOOD-ARK SEMICONDUCTOR

GSEM5B008
ESD Protection Diode

Features

- Bi-directional transient voltage suppressor
- Low capacitance and low leakage
- Response time is typically < 1 ns
- IEC61000-4-2 level 4 ESD protection
- ROHS compliant
- UL-94 V-0 / green EMC
- Matte tin lead finish (Pb-free)



SOD-923

Schematic Diagram

Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (t_p=8/20us)	P_{pp}	50	W
IEC61000-4-5 (Surge) @ 8/20us	I_{PP}	2	A
ESD Per IEC 61000-4-2 (Air)	V_{ESD}	±15	kV
ESD Per IEC 61000-4-2 (Contact)		±8	
Junction Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{stg}	-55 to +150	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Peak Voltage	V_{RWM}	-	-	-	5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0	-	8.5	V
Reverse Current	I_R	V_{RWM}=5V	-	-	0.5	μA
Clamping Voltage	V_C	I_{PP}=1A	-	-	12	V
Clamping Voltage	V_C	I_{PP}=2A	-	-	20	V
Capacitance	C	V_R=0V, F=1MHz	-	0.8	0.9	pF

Typical Characteristic Curves

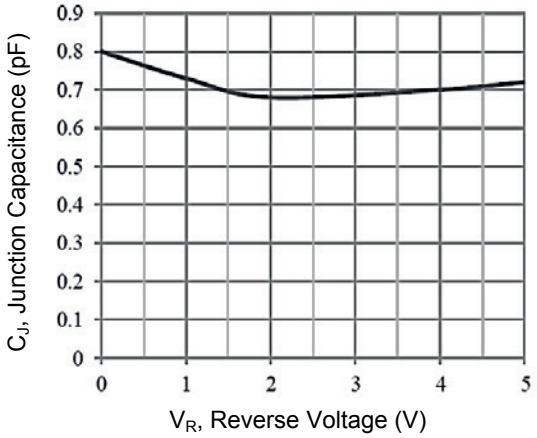


Figure 1. Junction Capacitance vs. Reverse Voltage

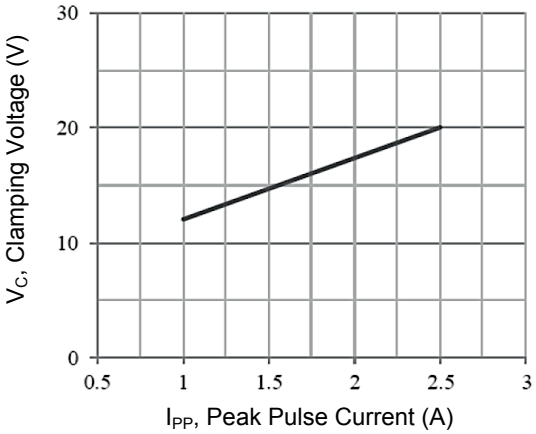


Figure 2. Clamping Voltage vs. Peak Pulse Current

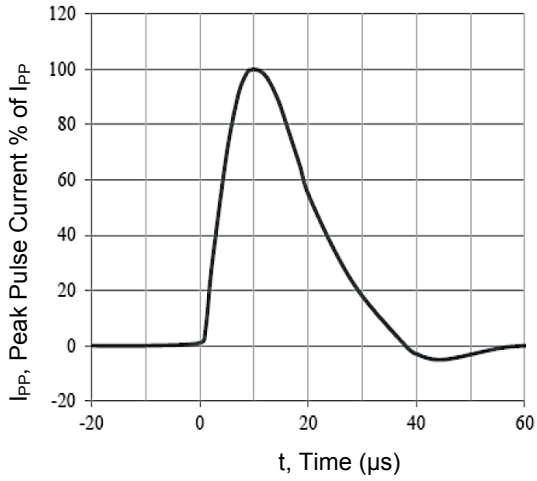


Figure 3. 8 X 20μs Pulse Waveform

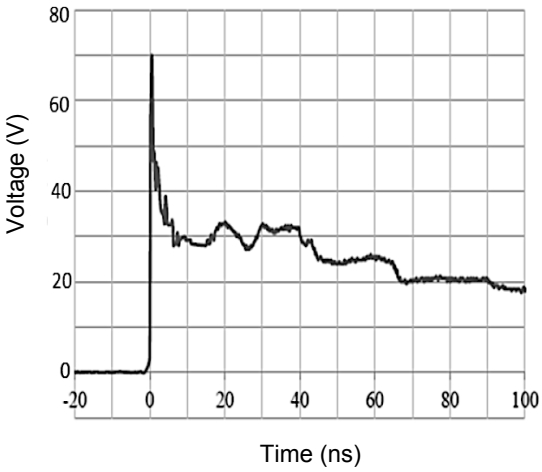


Figure 4. IEC61000-4-2 Pulse Waveform

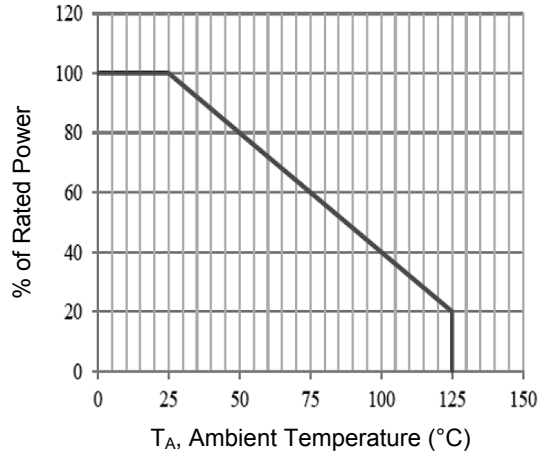


Figure 5. Power Derating Curve

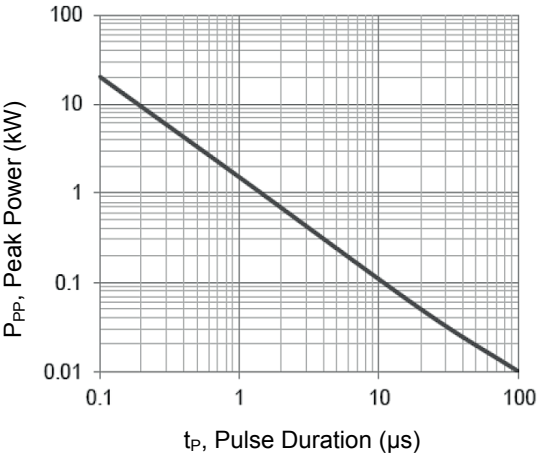
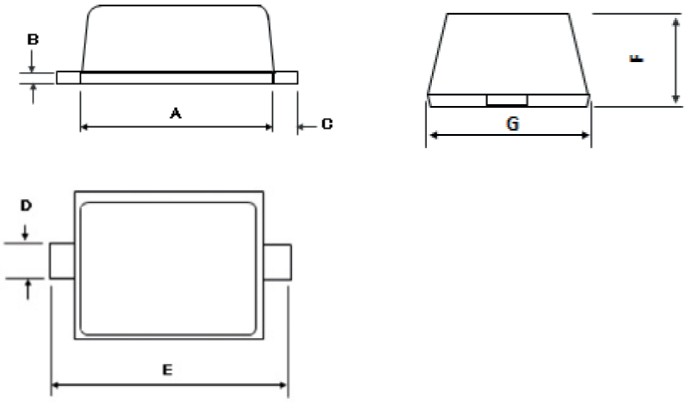


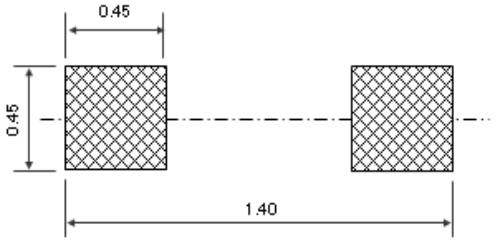
Figure 6. Peak Pulse Power vs. Pulse Time

Package Outline Dimensions (SOD-923)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.70	0.90	0.028	0.035
B	0.05	0.20	0.002	0.008
C	0.05	0.15	0.002	0.006
D	0.15	0.30	0.006	0.012
E	0.90	1.10	0.035	0.043
F	0.39	0.45	0.015	0.018
G	0.55	0.65	0.022	0.026

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

Order Information

Device	Package	Marking	Carrier	Quantity
GSEM5B008	SOD-923	5T	Tape & Reel	8,000 pcs / Reel