GSE120MB1D3F

ESD Protection Diode

Product Description

It is designed to protect sensitive electronics from damage due to electrostatic discharge (ESD) and other transient events.

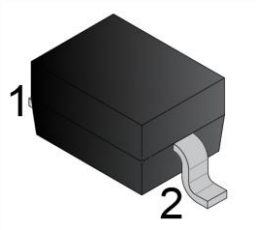
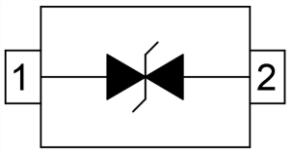
Features

- Operating Voltage: 12V
- IEC61000-4-2(ESD) ±30kV (Air)
- IEC61000-4-2(ESD) ±30kV (Contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns).
- IEC61000-4-5 (Lightning) 12A (8/20μs).

Mechanical Data

- SOD-323. Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

SOD-323	Equivalent Circuit
	

Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSE120MB1D3F	SOD-323	12C	3,000PCS

GSE120MB1D3F

- **Product Code:** GSE120MB1
- **Package Code:** **D3** for SOD-323
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information

- **Product Code:** 12C

Absolute Maximum Ratings (T_A=25ºC unless otherwise specified)

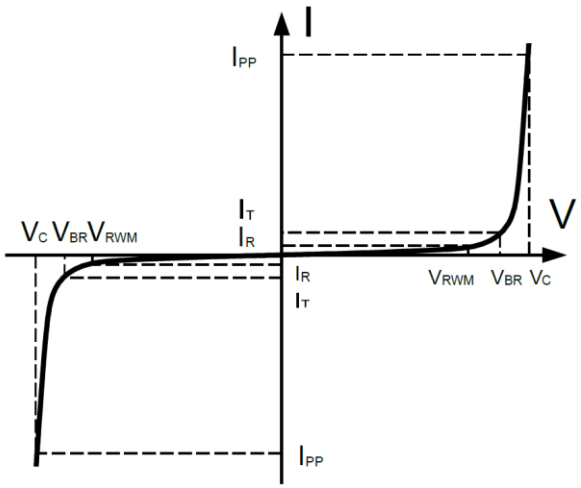
Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (t_P=8/20μs)	396	W
I_{PP}	Peak Pulse Current (t_P=8/20μs)	12	A
V_{ESD}	ESD Per IEC61000-4-2 (Air)	±30	KV
	ESD Per IEC61000-4-2 (Contact)	±30	KV
T_J	Operating Junction Temperature Range	-55 to +125	ºC
T_{STG}	Storage Temperature Range	-55 to +150	ºC
T_L	Lead Soldering Temperature	260 (10 sec.)	ºC

Electrical Characteristics (T_A=25ºC unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage	-			12	V
V_{BR}	Breakdown Voltage	I_T = 1mA	13.3			V
I_R	Reverse Leakage Current	V_{RWM}=12V			0.5	μA
V_C	Clamping Voltage	I_{PP}=1A (8/20μs)			19	V
		I_{PP}=12A (8/20μs)			33	V
C_J	Junction Capacitance	V_R=0V, f=1MHz			45	pF

Electrical Parameters

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Typical Characteristics (T_A=25℃ unless otherwise specified)

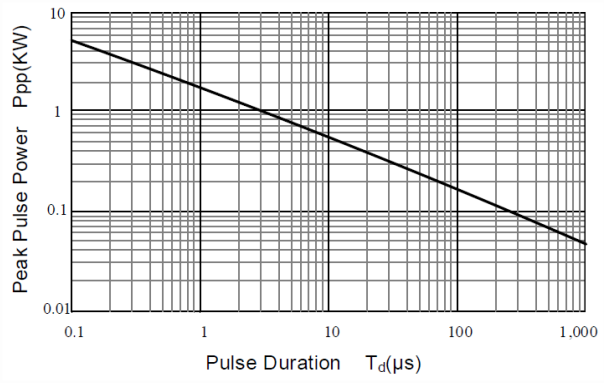


Fig 1. Peak Pulse Power vs. Pulse Time

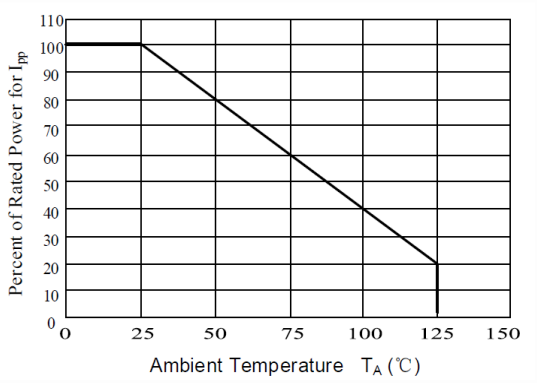


Fig 2. Power Derating Curve

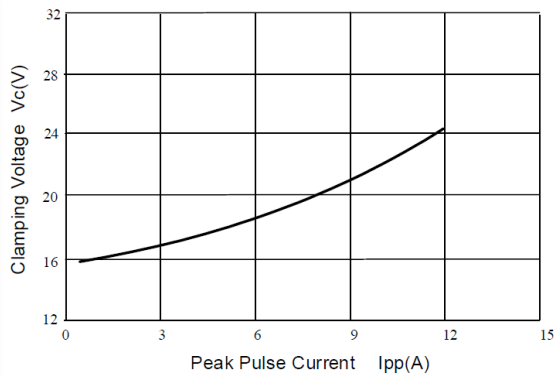


Fig 3. Clamping Voltage vs. Peak Pulse Current

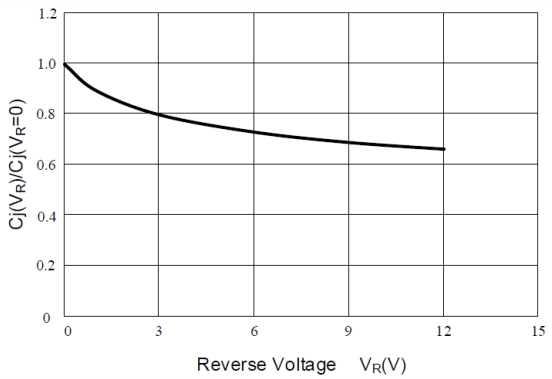


Fig 4. Junction Capacitance vs. Reverse Voltage

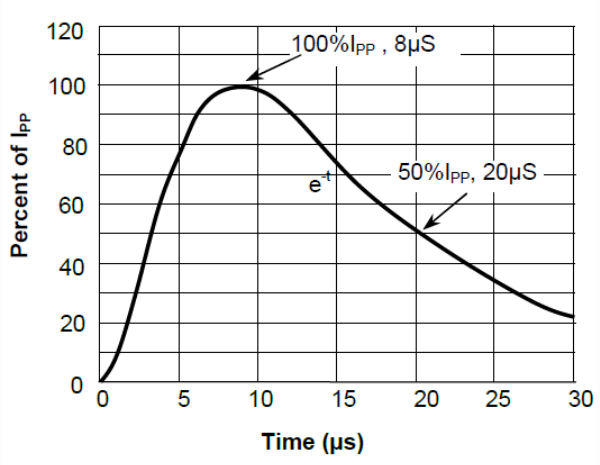


Fig 5. 8 X 20μs Pulse Waveform

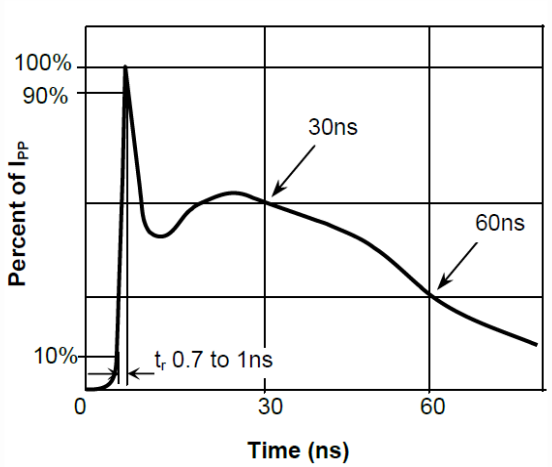
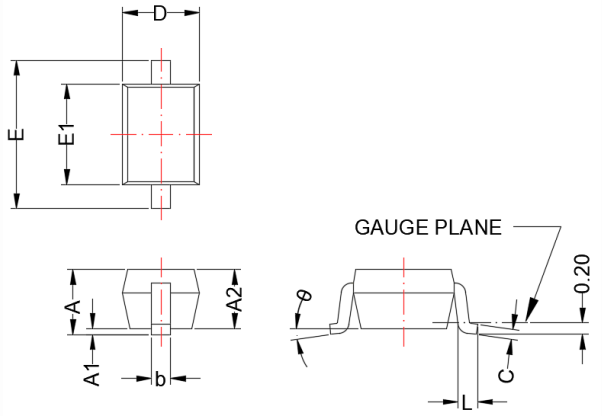


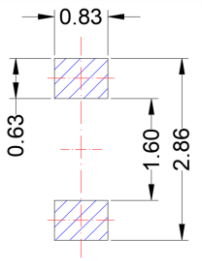
Fig 6. ESD(IEC61000-4-2) Pulse Waveform

SOD-323

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	---	1.16	---	0.046
A1	0.00	0.14	0.000	0.006
A2	0.80	---	0.031	---
b	0.25	0.40	0.010	0.016
C	0.08	0.25	0.003	0.010
D	1.15	1.40	0.045	0.055
E	2.30	2.80	0.091	0.110
E1	1.40	1.80	0.055	0.071
L	0.08	---	0.003	---
θ	0°	8°	0°	8°

NOTE:

Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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