GSE033HB1D3F

ESD Protection Diode

Product Description

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

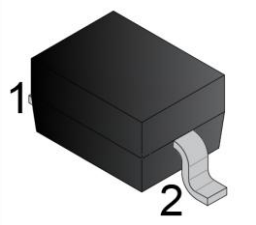
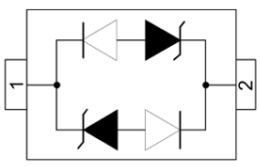
Features

- Operating Voltage: 3.3V
- IEC61000-4-2(ESD) ±30kV (Air)
- IEC61000-4-2(ESD) ±30kV (Contact)
- IEC61000-4-5 (Lightning) 21A (8/20μs).

Mechanical Data

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

Package and Pin Assignment

SOD-323	Equivalent Circuit
	

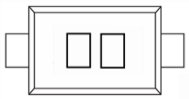
Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSE033HB1D3F	SOD-323	R3 or CC	3,000PCS

GSE033HB1D3F

- **Product Code:** GSE033HB1
- **Package Code:** **D3** for SOD-323
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information



- **Product Code:** □□ is R3 or CC

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

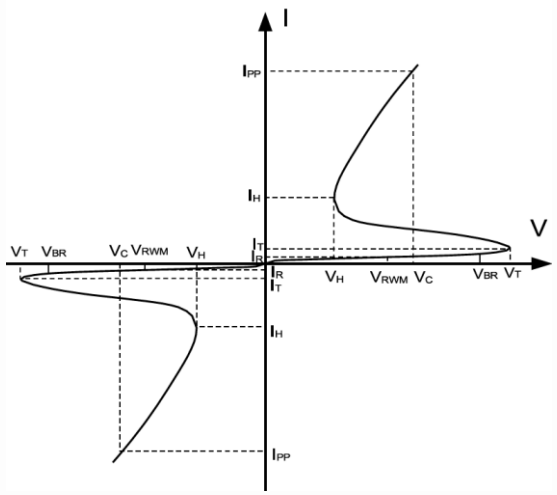
Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (t_P=8/20μs)	340	W
I_{PP}	Peak Pulse Current (t_P=8/20μs)	21	A
V_{ESD}	ESD Per IEC61000-4-2 (Air)	±30	KV
	ESD Per IEC61000-4-2 (Contact)	±30	KV
T_J	Operating Junction Temperature Range	-55 to +125	ºC
T_{STG}	Storage Temperature Range	-55 to +150	ºC

Electrical Characteristics (T_A=25ºC unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage	-			3.3	V
V_{BR}	Breakdown Voltage	I_T = 2μA	3.5			V
V_H	Holding Voltage	I_H = 50mA	2.8			V
I_R	Reverse Leakage Current	V_{RWM}=3.3V			0.2	μA
V_C	Clamping Voltage	I_{PP}=1A (8/20μs)			5	V
		I_{PP}=21A (8/20μs)			16	V
C_J	Junction Capacitance	V_R=0V, f=1MHz		1		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
V_T	Test Voltage
I_T	Test Current
V_H	Holding Voltage
I_H	Holding Current



Typical Characteristics (T_A=25℃ unless otherwise specified)

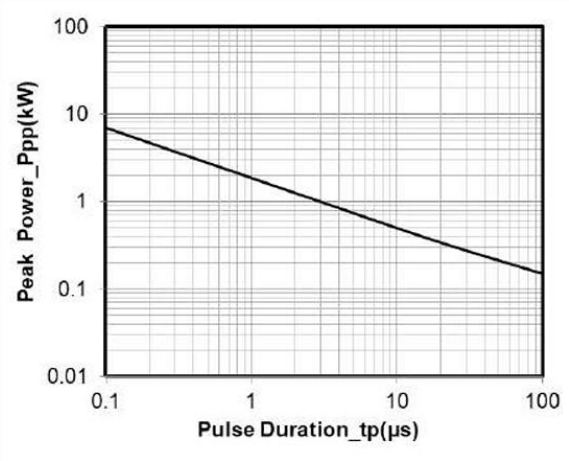


Fig 1. Peak Pulse Power vs. Pulse Time

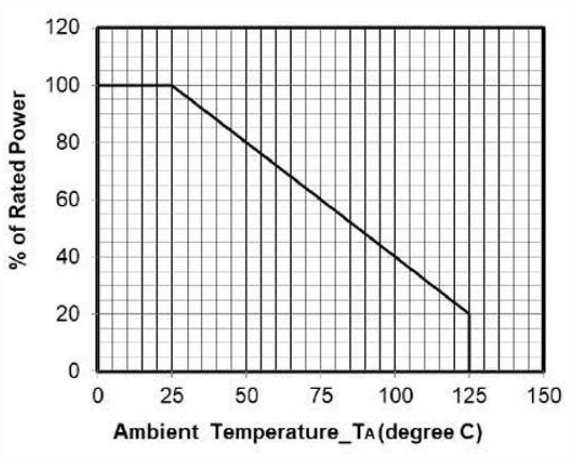


Fig 2. Power Derating Curve

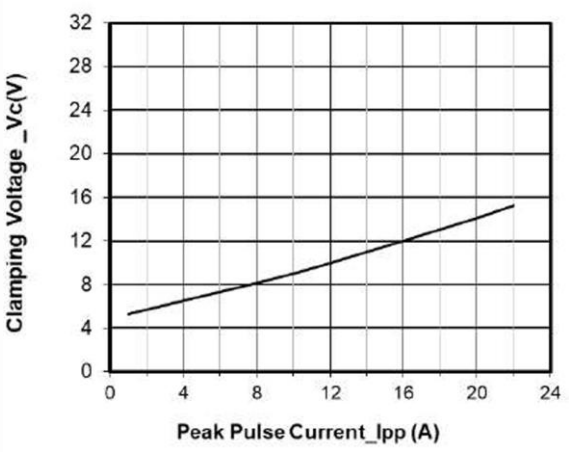


Fig 3. V_C vs. I_{PP} (8 X 20μs Pulse)

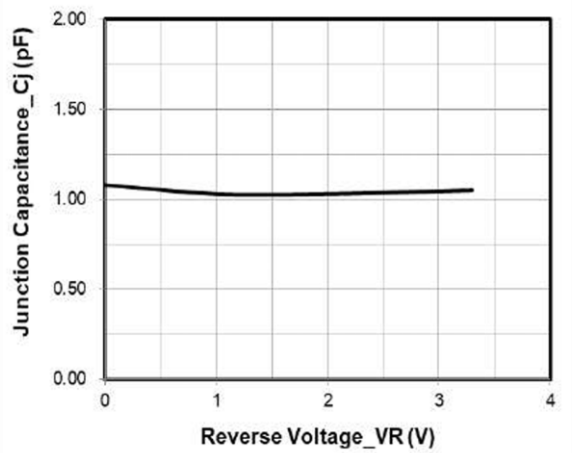


Fig 4. C_J vs. V_R

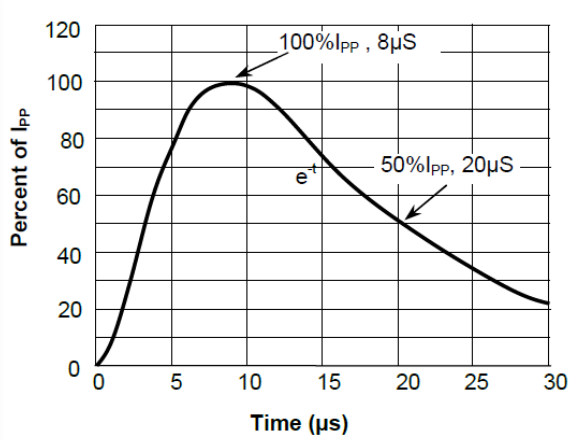


Fig 5. 8 X 20μs Pulse Waveform

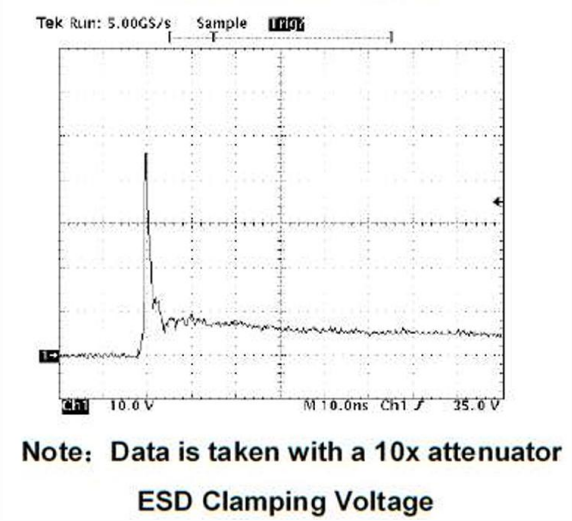
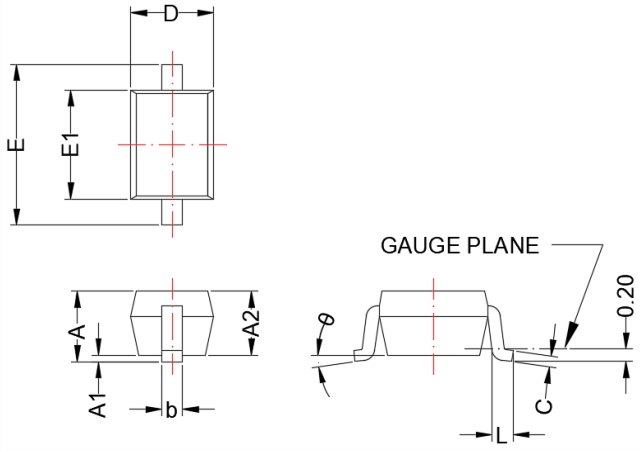


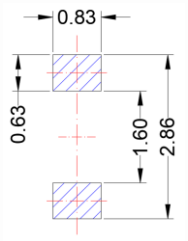
Fig 6. 8KV Contact per IEC61000-4-2

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.

NOTICE

- Globaltech Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all Globaltech Semiconductor products described or contained herein. Globaltech Semiconductor products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.

- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Globaltech Semiconductor makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

- Information furnished is believed to be accurate and reliable. However Globaltech Semiconductor assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties, which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Globaltech Semiconductor. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information without express written approval of Globaltech Semiconductor.

CONTACT US

GS Headquarter	
	4F, NO.43-1, Lane 11, Sec. 6, Minquan E. Rd Neihu District, Taipei City 114761, Taiwan (R.O.C).
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587