

GSE050SB1N6F

ESD Protection Diode

Product Description

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

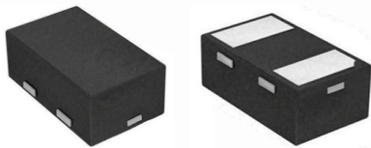
Features

- Peak Reverse Working Voltage: 5V.
- Bidirectional Configurations
- IEC61000-4-2(ESD) $\pm 18\text{KV}$ (Air)
- IEC61000-4-2(ESD) $\pm 18\text{KV}$ (Contact)
- IEC61000-4-4(EFT) 40A (5/50ns)
- IEC61000-4-5(Lighting) 7A (8/20 μs)

Mechanical Data

- DFN0603-2L Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

DFN0603-2L	Equivalent Circuit
	

Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSE050SB1N6F	DFN0603-2L	C2	10,000 PCS
GSE050SB1N6F - Product Code: GSE050SB1 - Package Code: N6 for DFN0603-2L - Green Level: F for RoHS Compliant and Halogen Free			
Marking Information			
- Product Code: C2			

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

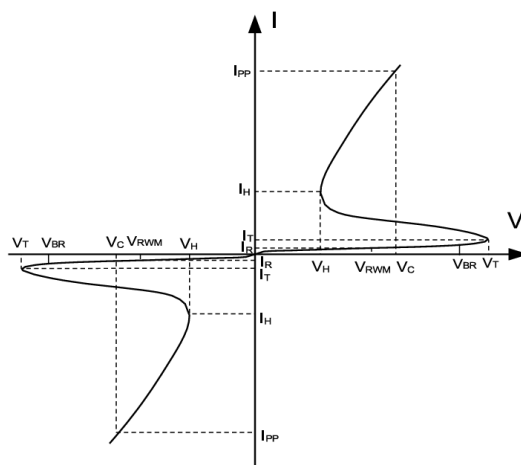
Symbol	Parameter	Value	Unit
P _{PP}	Peak Pulse Power (t _p =8/20μs)	50	W
I _{PP}	Peak Pulse Current (t _p =8/20μs)	7	A
V _{ESD}	ESD Per IEC61000-4-2 (Air)	±18	KV
	ESD Per IEC61000-4-2 (Contact)	±18	KV
T _J	Operating Junction Temperature Range	-55 to +125	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _L	Lead Soldering Temperature (10s)	260	°C

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _{RWM}	Reverse Working Voltage				5	V
V _T	Trigger Voltage		8		16	V
V _H	Holding Voltage	I _T =I _H	2		5	V
I _R	Reverse Leakage Current	V _{RWM} =5V			0.5	μA
V _C	Clamping Voltage	I _{PP} =7A (8/20μs)		6	7.5	V
		I _{PP} =16A (TLP T _P =100ns)		7		
R _{DYN}	Dynamic Resistance	T _P =100ns		0.25		Ω
C _J	Junction Capacitance	V _R =0V, f=1MHz		0.2		pF

Electrical Parameters

Symbol	Parameter
V _{RWM}	Reverse Working Voltage
I _{PP}	Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
I _R	Reverse Leakage Current
V _{BR}	Breakdown Voltage
V _T	Trigger Voltage
I _T	Test Current
V _H	Holding Voltage
I _H	Holding Current



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

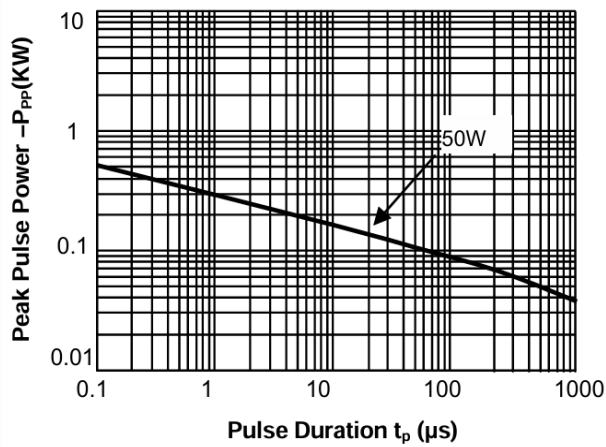


FIG 1. Peak Pulse Power vs. Pulse Time

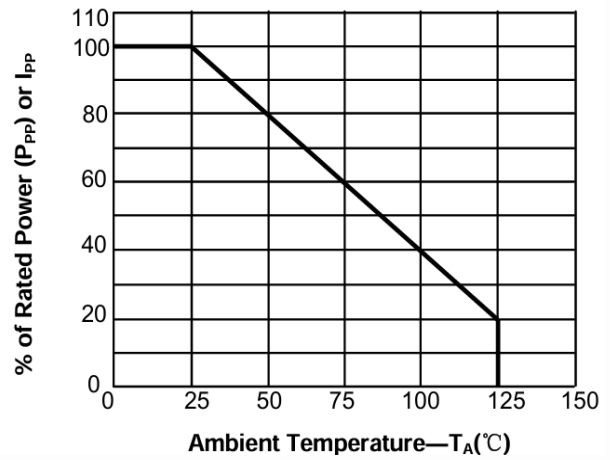


FIG 2. Power Derating Curve

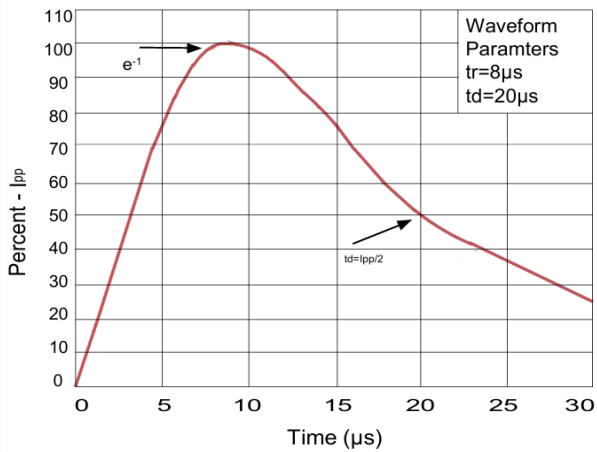


FIG 3. 8/20μs Pulse Waveform

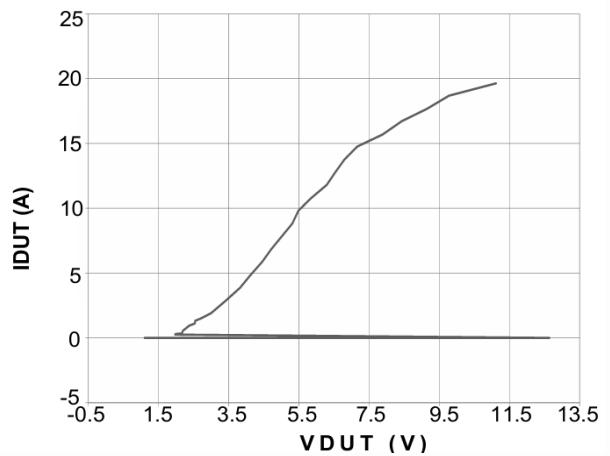


FIG 4. Transmission Line Pulse

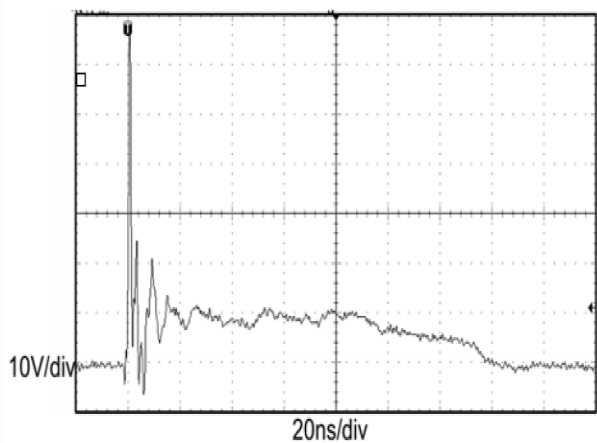


FIG 5. ESD Clamping Waveform
(+8kV contact discharge per IEC61000-4-2)

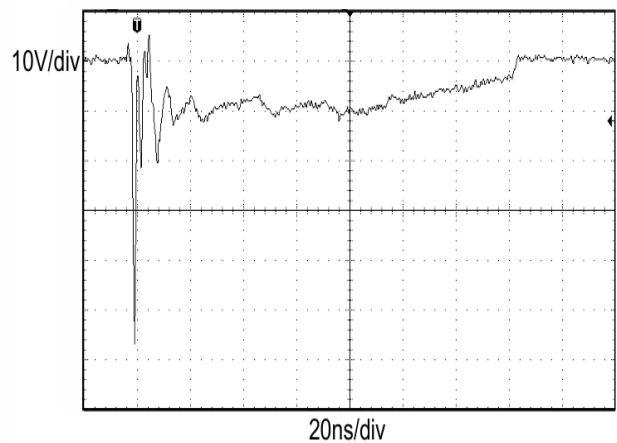
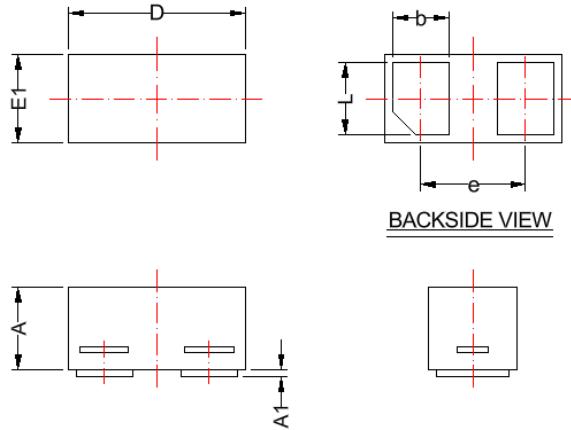


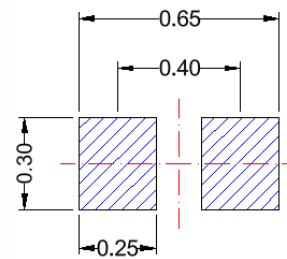
FIG 6. ESD Clamping Waveform
(-8kV contact discharge per IEC61000-4-2)

DFN0603-2L

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.23	0.34	0.009	0.013
A1	0.00	0.05	0.000	0.002
b	0.12	0.22	0.005	0.009
D	0.55	0.67	0.022	0.026
E1	0.25	0.37	0.010	0.015
e	0.355 BSC		0.014 BSC	
L	0.21	0.29	0.008	0.011

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