

GSE050MB1N1F

ESD Protection Diode

Product Description

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

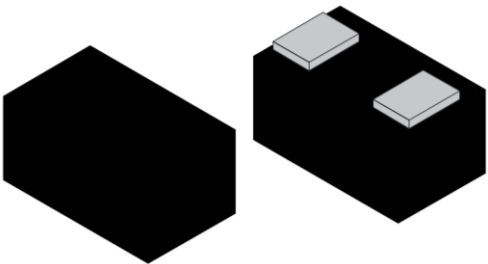
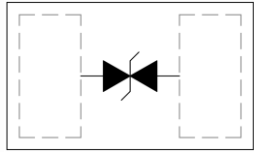
Features

- Operating Voltage: 5V
- IEC61000-4-2(ESD) $\pm 30\text{kV}$ (Air)
- IEC61000-4-2(ESD) $\pm 30\text{kV}$ (Contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20 μs)

Mechanical Data

- DFN1006-2L Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

DFN1006-2L	Equivalent Circuit
	

Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSE050MB1N1F	DFN1006-2L	54F	10,000PCS
GSE050MB1N1F - Product Code: GSE050MB1 - Package Code: N1 for DFN1006-2L - Green Level: F for RoHS Compliant and Halogen Free			
Marking Information			
<div style="border: 1px solid black; padding: 5px; display: inline-block;">54F</div>		- Product Code: 54F	

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

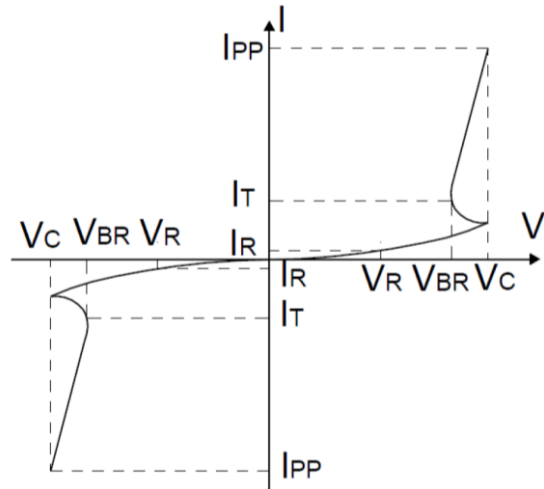
Symbol	Parameter	Value	Unit
P _{PP}	Peak Pulse Power (t _p =8/20μs)	120	W
I _{PP}	Peak Pulse Current (t _p =8/20μs)	12	A
V _{ESD}	ESD Per IEC61000-4-2 (Air)	±30	KV
	ESD Per IEC61000-4-2 (Contact)	±30	KV
T _J	Operating Junction Temperature Range	-55 to +125	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _L	Lead Soldering Temperature	260 (10 sec.)	°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 _{BR}	Reverse Breakdown Voltage	I _T =1mA	5.8			V
I _R	Reverse Leakage Current	V _{RWM} =5V			0.2	μA
V _C	Clamping Voltage	I _{PP} =1A (8/20μs)			7.5	V
		I _{PP} =12A (8/20μs)			10	V
	ESD Clamping Voltage	I _{PP} = 4A (TLP=0.2/100ns)		6.3		V
		I _{PP} = 16A (TLP=0.2/100ns)		9		V
R _{DYN}	Dynamic Resistance	TLP=0.2/100ns		0.22		Ω
C _J	Junction Capacitance	V _R =0V, f=1MHz		0.55	0.8	pF

Electrical Parameters (T=25°C)

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

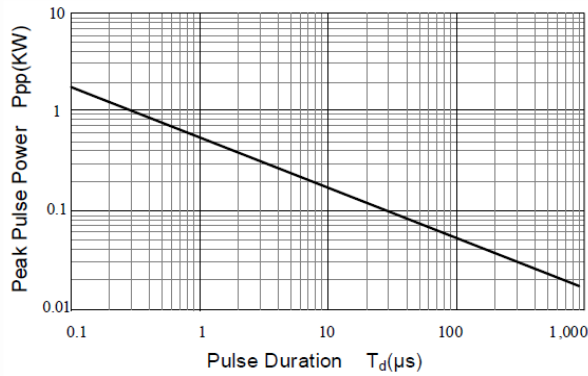


Fig 1. Peak Pulse Power vs. Pulse Time

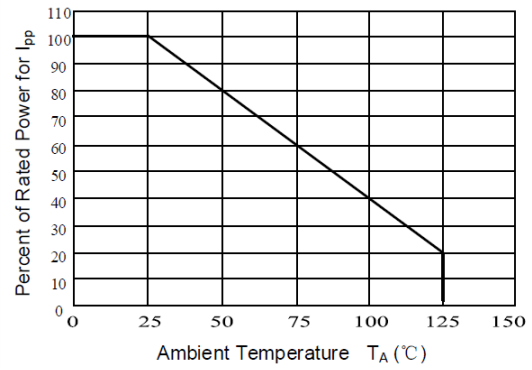


Fig 2. Power Derating Curve

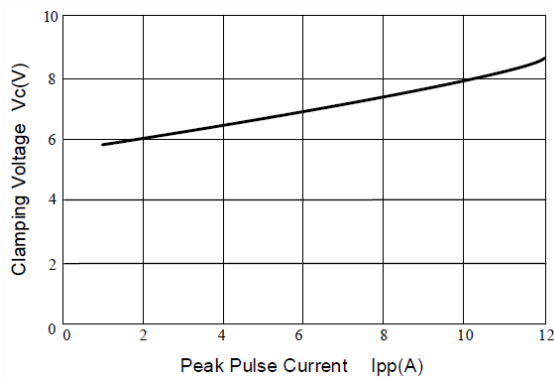


Fig 3. Clamping Voltage vs. Peak Pulse Current

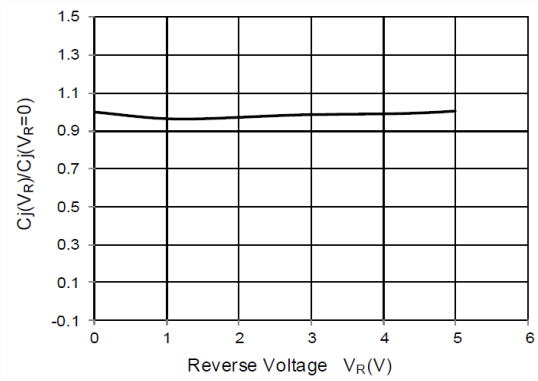


Fig 4. Junction Capacitance vs. Reverse Voltage

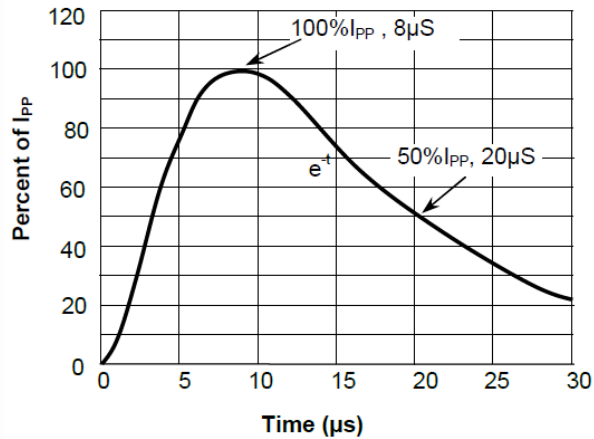


Fig 5. 8 X 20μs Pulse Waveform

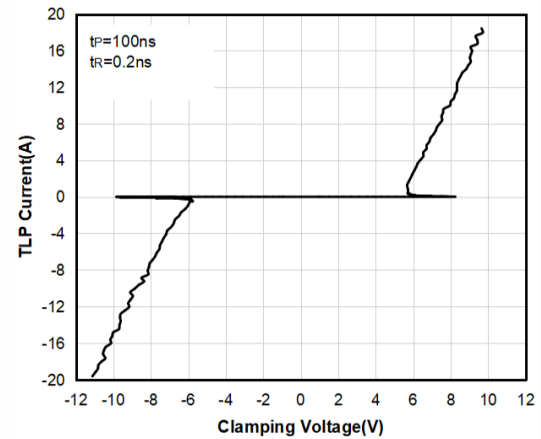
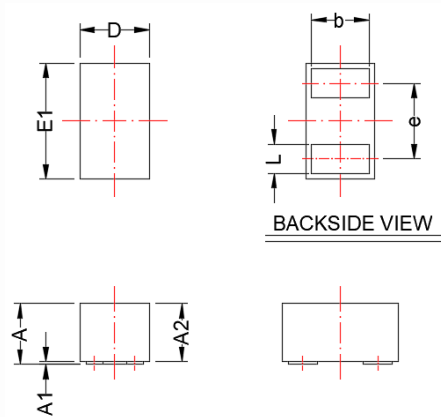


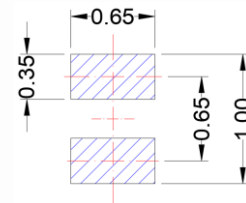
Fig 6. TLP I-V Curve

DFN1006-2L

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	0.40	0.60	0.016	0.024
A1	0.00	0.05	0.000	0.002
A2	0.35	0.60	0.014	0.024
b	0.45	0.55	0.018	0.022
D	0.55	0.65	0.022	0.026
E1	0.95	1.05	0.037	0.041
e	0.65 BSC		0.026 BSC	
L	0.20	0.30	0.008	0.012





NOTE:



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

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CONTACT US

GS Headquarter	
	4F, NO.43-1, Lane 11, Sec. 6, Minquan E. Rd Neihs 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