GSE050LB1N6F

ESD Protection Diodes

Product Description

50W Peak Pulse Power (8/20μs).
5V Working Voltage.

Features

- Extremely Low Capacitance 0.2pF (Typ.)
- Bidirectional Protection
- IEC61000-4-2 (ESD) ±18kV (Air), ±18kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 3.5A (8/20μs)

Mechanical Data

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

Package and Pin Assignment

DFN0603-2L	Equivalent Circuit
	

Ordering and Marking Information

Ordering Information			
Part Number	**Package**	**Marking Code**	**Quantity/Reel**
GSE050LB1N6F	DFN0603-2L	U5	10000 PCS

- **Product Code:** **GSE**
- **Voltage Code:** **050** is 5V of V_{RWM} Voltage.
- **Type1 Code:** **L** for Type of Rating.
- **Type2 Code:** **B** for Bidirectional **1** for Single Channel
- **Package Code:** **N6** for DFN0603-2L Package
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information
U5 - **Product Code:** U5

Absolute Maximum Ratings (T_A=25ºC Unless otherwise noted)

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (tp=8/20μs Waveform)	50	W
I_{PP}	Peak Pulse Current (tp=8/20μs Waveform)	3.5	A
V_{ESD}	Maximum Air Discharge Voltage per IEC61000-4-2	±18	KV
	Maximum Contact Discharge Voltage per IEC61000-4-2	±18	KV
T_{OP}	Operating Junction Temperature Range	-55 to +125	ºC
T_{STG}	Storage Temperature Range	-55 to +150	ºC

NOTE:
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical Characteristics (T_A=25ºC Unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Stand-Off Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	6.5			V
I_R	Reverse Leakage Current	V_{RWM} = 5V			0.1	uA
V_C	Clamping Voltage	I_{PP} =3.5A, tp=8/20us		15		V
V_C	Clamping Voltage (TLP)	I_{PP} =16A, tp=100ns			15	V
C_J	Junction Capacitance	V_R=0V, f=1MHz		0.2		pF

Typical Characteristics (T_A=25ºC Unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

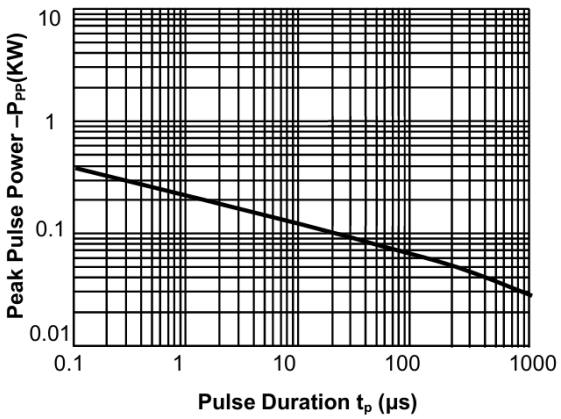


Fig.2 Pulse Derating Curve

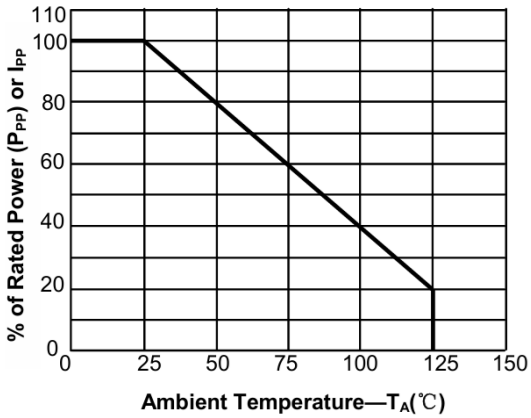


Fig.3 Pulse Waveform-8/20μs

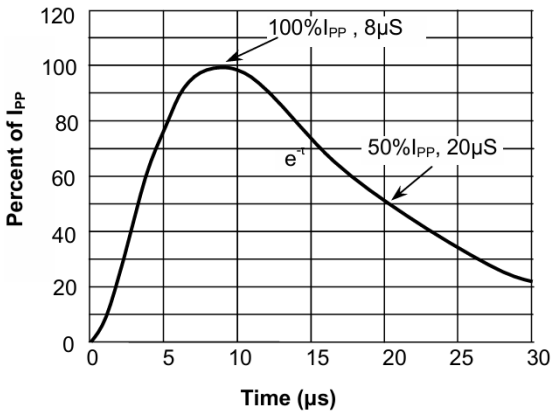


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

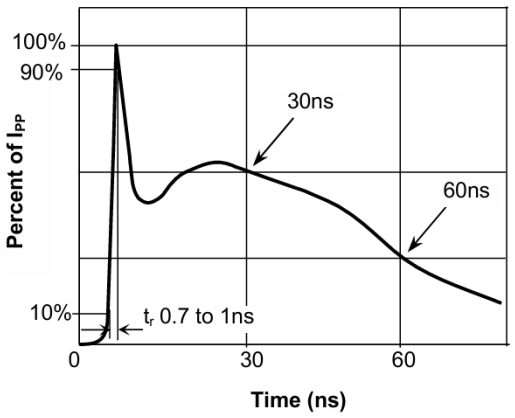


Figure5: Positive Clamping voltage (TLP)

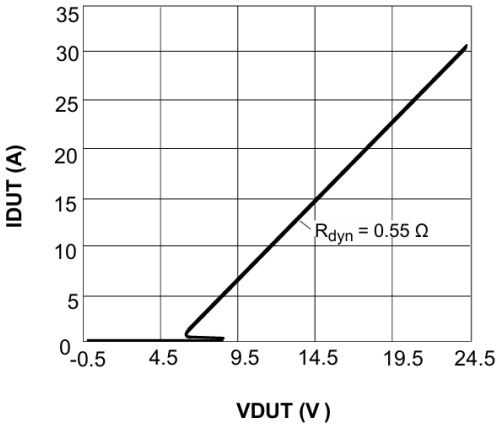
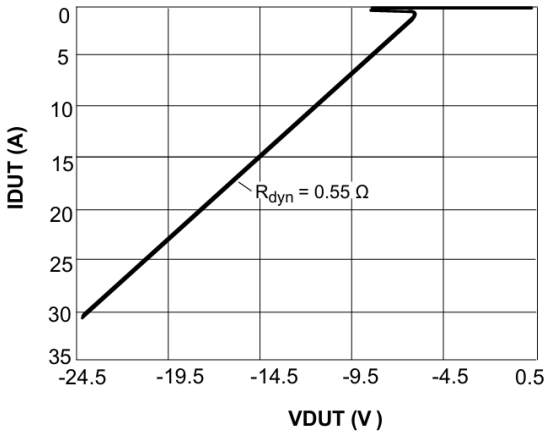
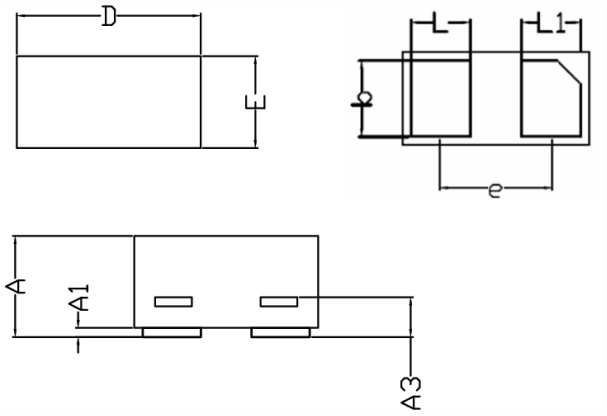


Figure6: Negative Clamping voltage (TLP)

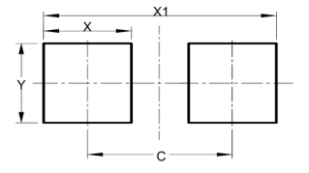


DFN0603-2L

Package Dimension



Recommended Land Pattern



Dimensions	Value (mm)
C	0.380
X	0.230
X1	0.610
Y	0.300

Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	0.23	-	0.33
A1	0.00	-	0.05
A3	0.102 REF		
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.215	0.245	0.275
L	0.160	0.190	0.220
L1	0.160	0.190	0.220
e	0.355 BSC		

NOTE:
Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions.

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