GSE712MB2JZF

ESD Protection Diodes

Product Description

400W Peak Pulse Power (8/20μs).
7V or 12V Working Voltage.

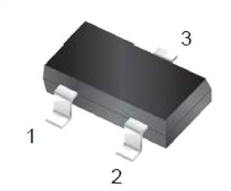
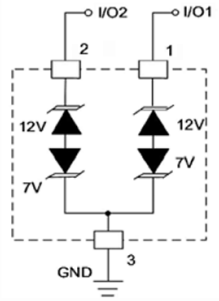
Features

- Bidirectional Protection
- IEC61000-4-2 (ESD) ±30kV (Air), ±30kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 17A (8/20μs)

Mechanical Data

- SOT-23 Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

SOT-23	Equivalent Circuit
	

Ordering and Marking Information

Ordering Information			
Part Number	**Package**	**Marking Code**	**Quantity/Reel**
GSE712MB2JZF	SOT-23	712	3000 PCS

- **Product Code:** **GSE**
- **Voltage Code:** **712** is 7V & 12V of V_{RWM} Voltage.
- **Type1 Code:** **M** for Type of Rating.
- **Type2 Code:** **B** for Bidirectional **2** for 2 Channels
- **Package Code:** **JZ** for SOT-23 Package
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information
712 - **Product Code:** 712

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

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (tp=8/20μs Waveform)	400	W
I_{PP}	Peak Pulse Current (tp=8/20μs Waveform)	17	A
V_{ESD}	Maximum Air Discharge Voltage per IEC61000-4-2	±30	KV
	Maximum Contact Discharge Voltage per IEC61000-4-2	±30	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	12V ESD (Pin 1-3 and Pin 2-3)			Unit
			Min	Typ	Max	
V_{RWM}	Reverse Stand-Off Voltage				12	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	13.3			V
I_R	Reverse Leakage Current	$V_R = V_{RWM}$			1	uA
V_C	Clamping Voltage	I_{PP} =17A, tp=8/20us		24		V
C_J	Junction Capacitance	V_R=0V, f=1MHz		45		pF

Symbol	Parameter	Conditions	7V ESD (Pin 3-1 and Pin 3-2)			Unit
			Min	Typ	Max	
V_{RWM}	Reverse Stand-Off Voltage				7	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	7.5			V
I_R	Reverse Leakage Current	$V_R = V_{RWM}$			1	uA
V_C	Clamping Voltage	I_{PP} =17A, tp=8/20us		10		V
C_J	Junction Capacitance	V_R=0V, f=1MHz		45		pF

Typical Characteristics (T_A=25ºC Unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

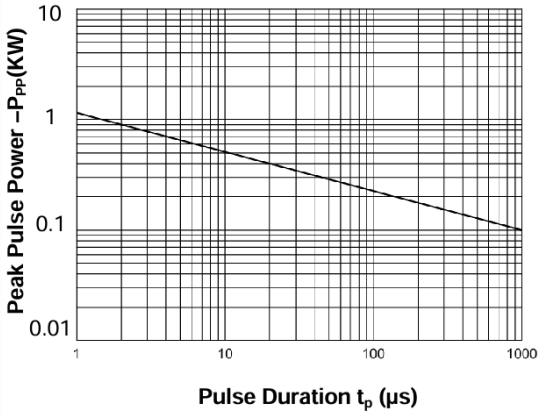


Fig.2 Pulse Derating Curve

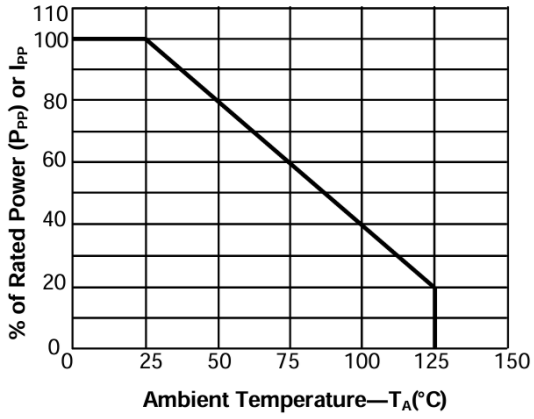


Fig.3 Pulse Waveform-8/20μs

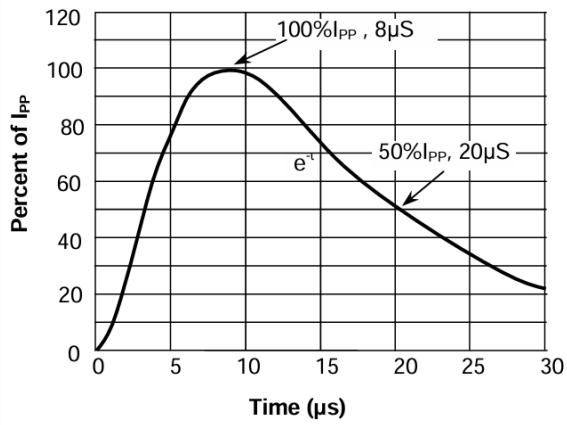
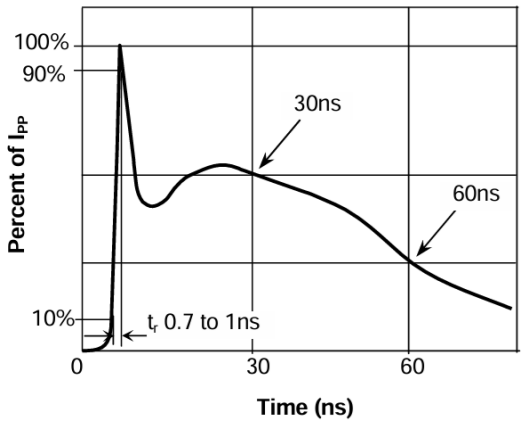
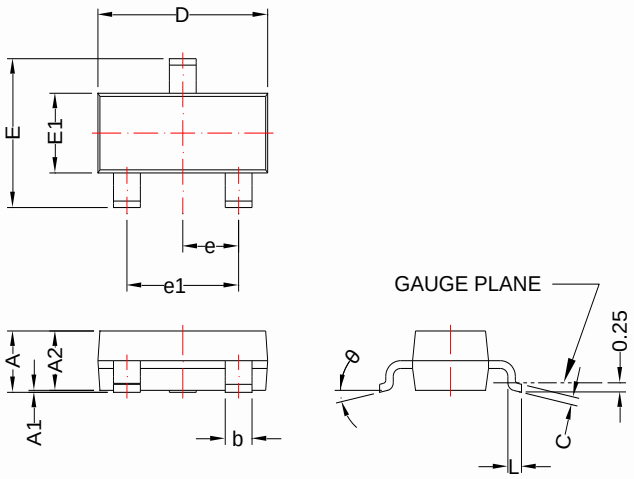


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

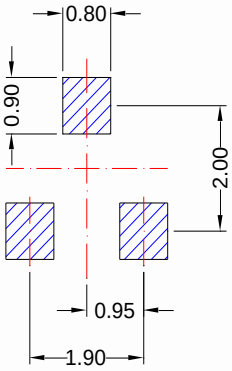


SOT-23

Package Dimension



Recommended Land Pattern



(Unit:mm)

Dimensions				
SYMBOL	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	0.75	1.17	0.030	0.046
A1	0.01	0.15	0.000	0.006
A2	0.70	1.02	0.028	0.040
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.3	0.6	0.012	0.024
θ	0°	8°	0°	8°

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

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