GSE033HB2JZF

ESD Protection Diode

Product Description

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

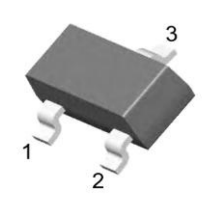
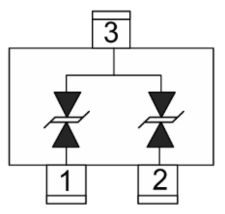
Features

- Operating Voltage: 3.3V.
- Bidirectional Configurations
- Protects two I/O Ports
- IEC61000-4-2(ESD) ±30kV (Air)
- IEC61000-4-2(ESD) ±30kV (Contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Lighting) 24A (8/20μs)

Mechanical Data

- SOT-23 Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

SOT-23	Equivalent Circuit
	

Pin	Symbol	Description	Pin	Symbol	Description
1	K1	Cathode 1	3	CC	Common Cathode
2	K2	Cathode 2			

Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSE033HB2JZF	SOT-23	3B2	3,000PCS

GSE033HB2JZF

- **Product Code:**
  GSE033HB2
- **Package Code:**
  JZ for SOT-23
- **Green Level:**
  F for RoHS Compliant and Halogen Free

Marking Information

- **Product Code:**
  3B2

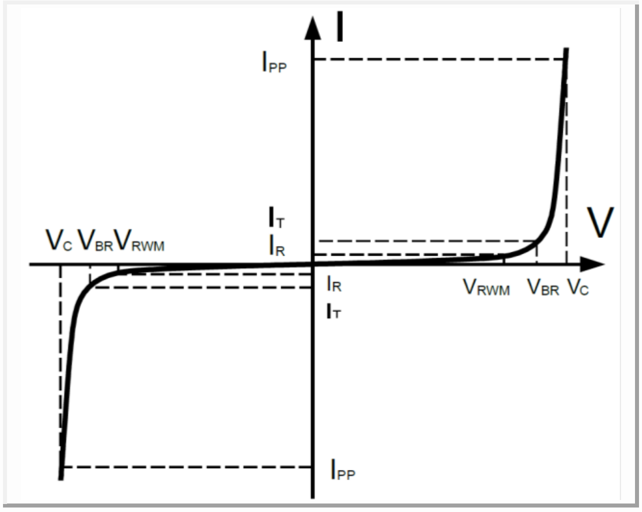
Absolute Maximum Ratings (T$_A$=25ºC unless otherwise specified)

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (t_P=8/20μs)	450	W
I_{PP}	Peak Pulse Current (t_P=8/20μs)	24	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}	Reverse Breakdown Voltage	I_T = 1mA	4			V
I_R	Reverse Leakage Current	V_{RWM}=3.3V			0.5	µA
V_C	Clamping Voltage	I_{PP}=24A (8/20µs)		18		V
C_J	Junction Capacitance	V_R=0V, f=1MHz		100		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	
I_T	Test Current	

Typical Characteristics (T_A=25℃ unless otherwise specified)

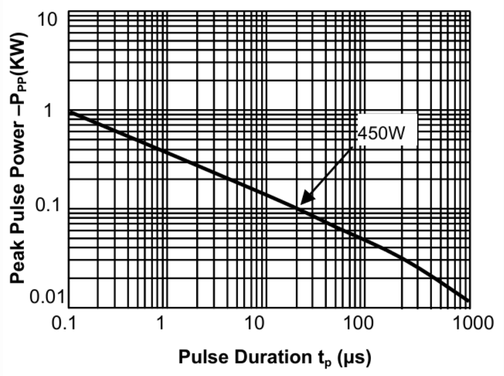


Fig 1. Peak Pulse Power vs. Pulse Time

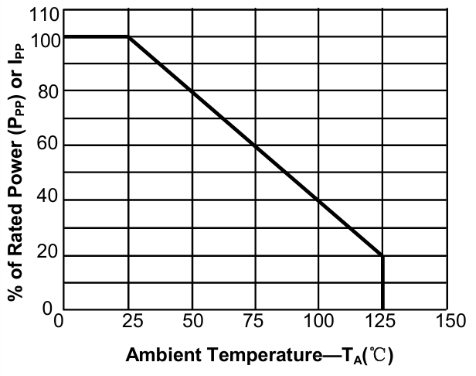


Fig 2. Power Derating Curve

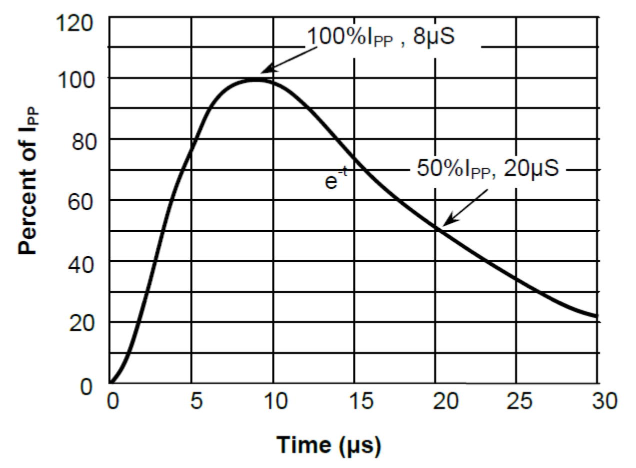


Fig 3. 8 X 20μs Pulse Waveform

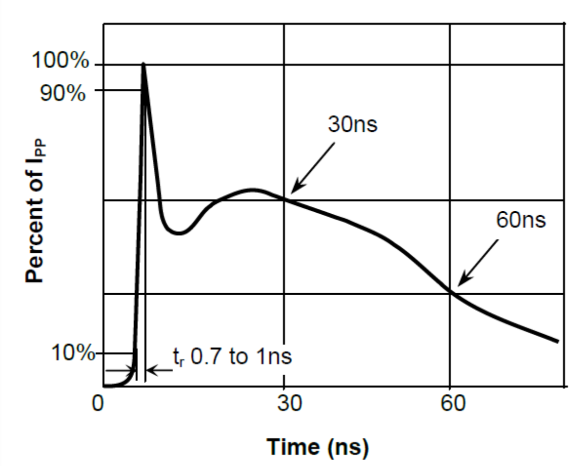
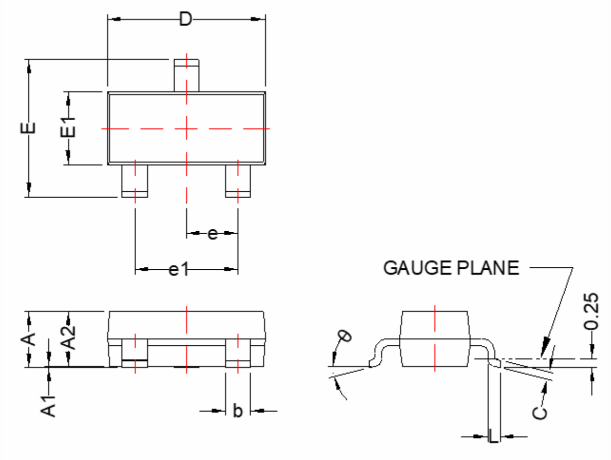


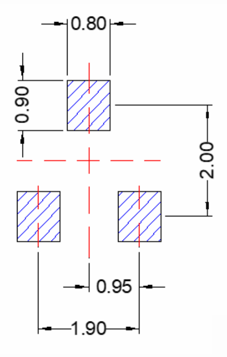
Fig 4. ESD(IEC61000-4-2) Pulse Waveform

SOT-23

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions

SYMBOL	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	0.75	1.20	0.030	0.047
A1	0.00	0.15	0.000	0.006
A2	0.70	1.10	0.028	0.043
b	0.30	0.60	0.012	0.024
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	0.2	0.6	0.008	0.024
θ	0°	8°	0°	8°

NOTE:

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

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