Bidirectional TVS Diode

GESD1242VB3

Features

- Transient Protection For Data&Power Lines to IEC 61000-4-2(ESD) 30kV(air),30kV(contanct)
- ESD protection of one line.
- Max. peak pulse power: PPP = 240W at tp = 8/20us.

Lead-free

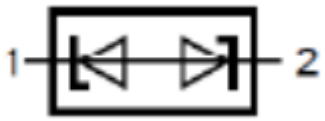
HF

Typical Applications

- LIN-bus.
- ESD protection applications.

Mechanical Data

- Case: SOD-323.
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208.



GESD1242VB3

SOD-323

Ordering Information

Part Number	Package	Shipping	Marking Code
GESD1242VB3□	SOD-323	3000/Tape Reel	1242

□: none is for Lead Free package;

"G" is for Halogen Free package.

Maximum Ratings (@T_A=25℃ unless otherwise specified)

Characteristic	Symbol	Value	Units
Peak pulse power (tp = 8/20μs)	P_{PK}	240	W
ESD according to IEC61000-4-2 air	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge	V_{ESD}	±30	KV

Thermal Characteristics

Parameter	Symbol	Value	Units
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	545	℃/W
Thermal Resistance Junction to Case	$R_{\theta JC}$	454	℃/W
Thermal Resistance Junction to Lead	$R_{\theta JL}$	405	℃/W
Junction temperature	T_J	125	℃
Storage temperature range	T_{STG}	-55 to+150	℃

Electrical Characteristics (@T_A=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}	Pin 1 to Pin 2 Pin 2 to Pin 1	-	-	12 42	V
Reverse breakdown voltage	V_{BR}	I_R=1mA Pin 1 to Pin 2 Pin 2 to Pin 1	13.3 43	-	17 49	V
Reverse leakage current	I_R	Pin 1 to Pin 2,V_{RWM}=12V Pin 2 to Pin 1,V_{RWM}=42V	-	-	0.5 0.5	uA
Clamping voltage	V_C	Pin 1 to Pin 2 I_{PP}=1A I_{PP}=12A	-	-	20 25	V
		Pin 2 to Pin 1 I_{PP}=1A I_{PP}=4A	-	-	53 62	V
Diode capacitance	C_d	V_R=0V,f=1MHZ	-	-	30	pF

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

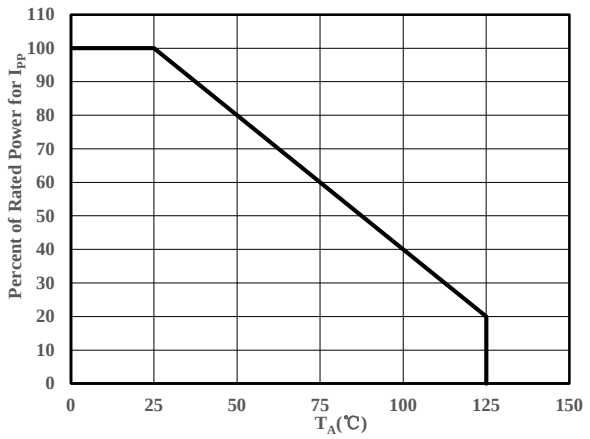


Fig1. Power Derating Curve

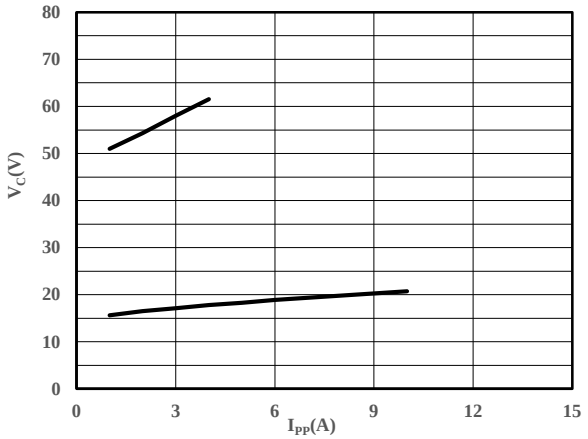


Fig2. Clamping Voltage vs. Peak Pulse Current

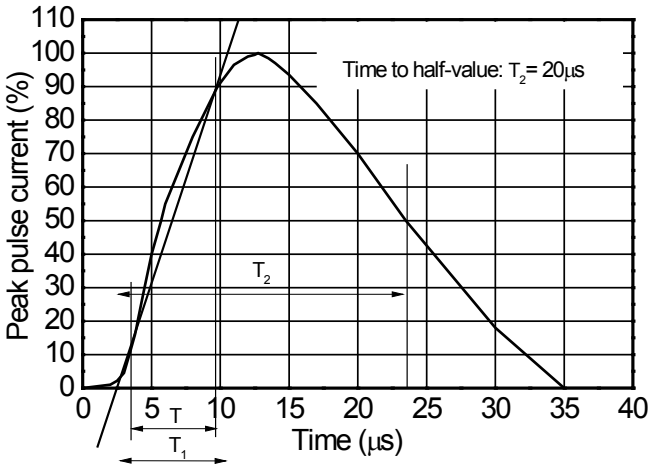


Fig3. 8/20μs waveform per IEC61000-4-5

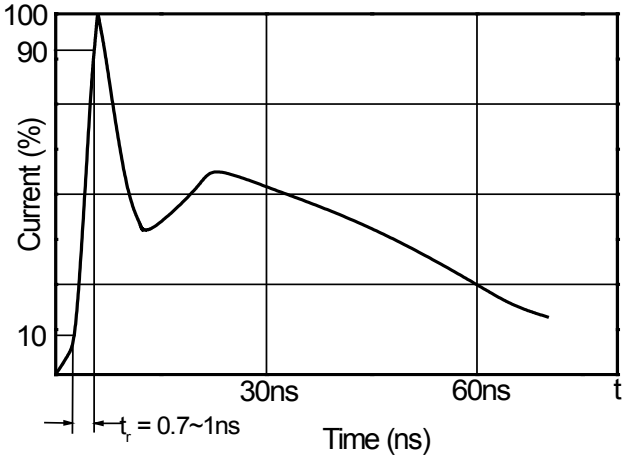
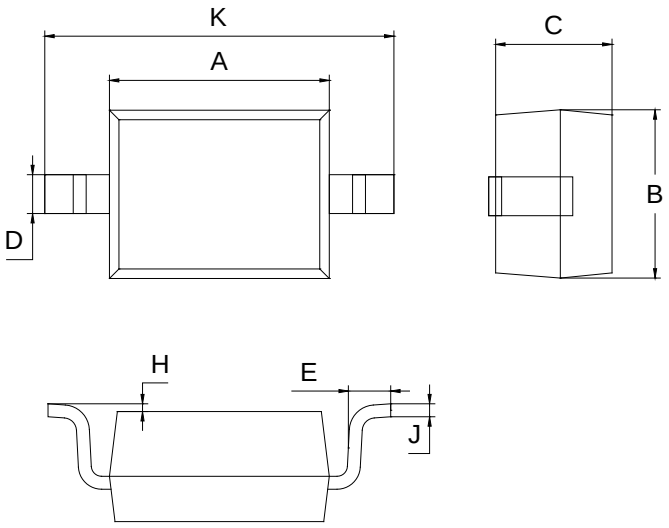


Fig4. ESD pulse waveform according to IEC61000-4-2

Package Outline Dimensions(unit:mm)

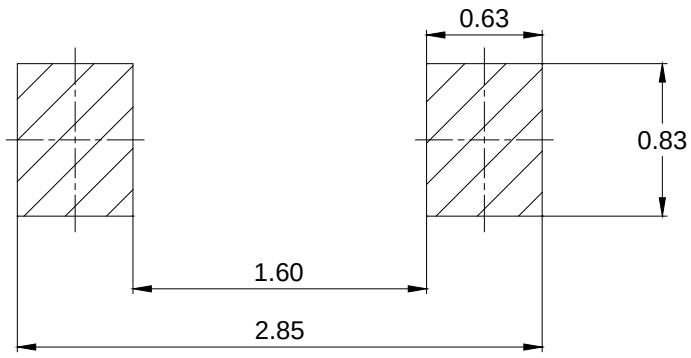
SOD-323



SOD-323		
Dim	Min	Max
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

Mounting Pad Layout(unit:mm)

SOD-323



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