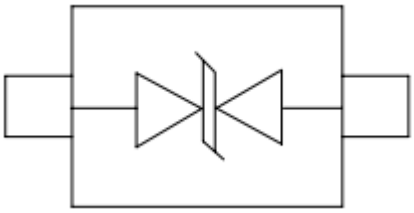
Description

The JLE33BGS3-2 is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers and PDA's, using monolithic silicon technology to provide fast response time and ultra low ESD clamping voltage, making this device an ideal solution for protecting sensitive semiconductor components from damage. The JLE33BGS3-2 complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact dis charge. The JLE33BGS3-2 is assembled into a lead-free SOD-323 package and will protect one bidirectional line.

Circuit Diagram



Circuit and Pin Schematic

Marking Diagram

Transparent top view

33L:Device Marking Code

Features

* 330W peak pulse power (8/20us)
* Low leakage：uA level
* Operating voltage: 3.3V
* Ultra low clamping voltage
* One power line protects
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
* RoHS Compliant
* Package: SOD-323
* Lead Finish: Matte Tin

Applications

* Fast-charge battery chargers
* Power management system
* Cellular Handsets and Accessories
* Personal Digital Assistants
* Notebooks and Handhelds
* Portable Instrumentation
* Digital Cameras

Ordering Information

Part Number	Packaging	Reel Size
JLE33BGS3-2	3000/Tape & Reel	7 inch

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

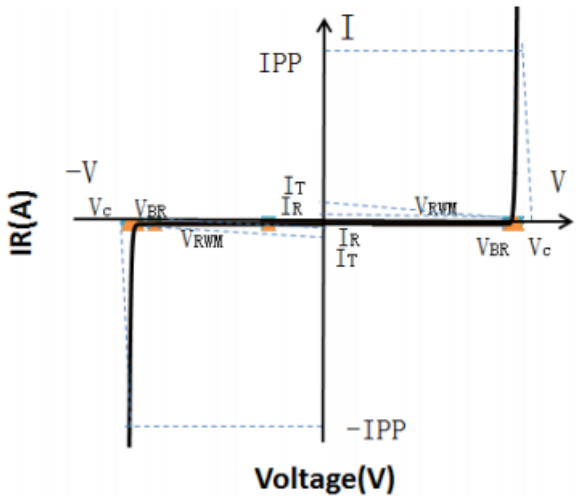
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	330	W
Peak Pulse Current (8/20μs)	IPP	25	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

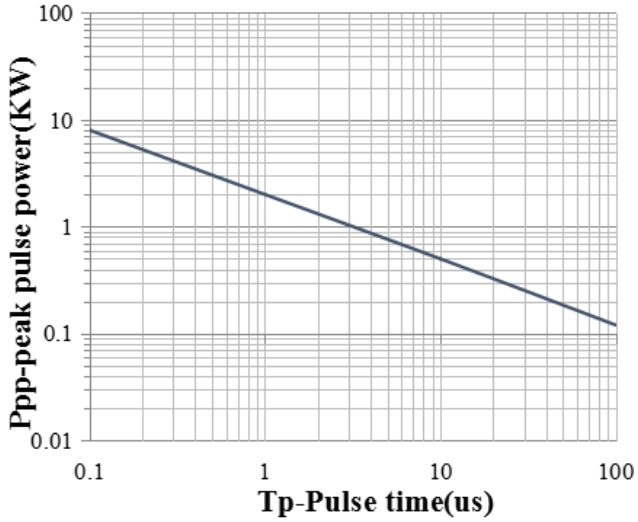
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA	3.8			V
Reverse Leakage Current	I_R	V_{RWM} = 3.3V			1.0	uA
Clamping Voltage	Vc	I_{PP} = 1A (8 x 20 μs pulse)			6	V
Clamping Voltage	Vc	I_{PP} = 25A (8 x 20μs pulse)			12	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz			100	pF

Portion Electronics Parameter

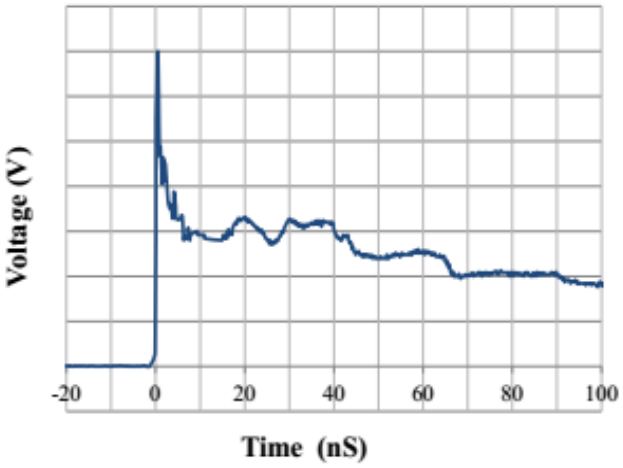
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



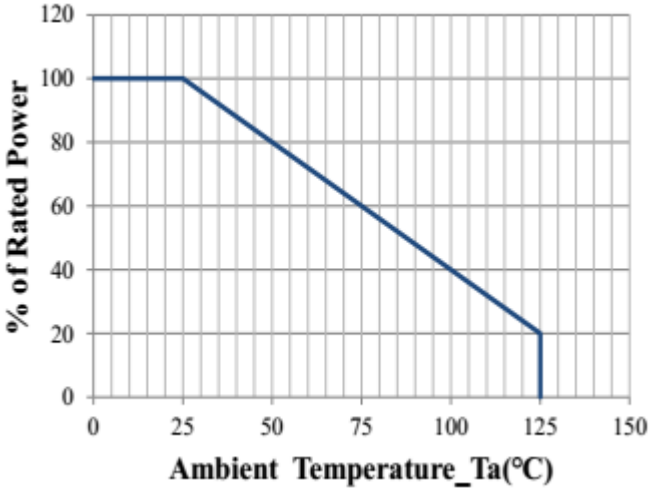
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



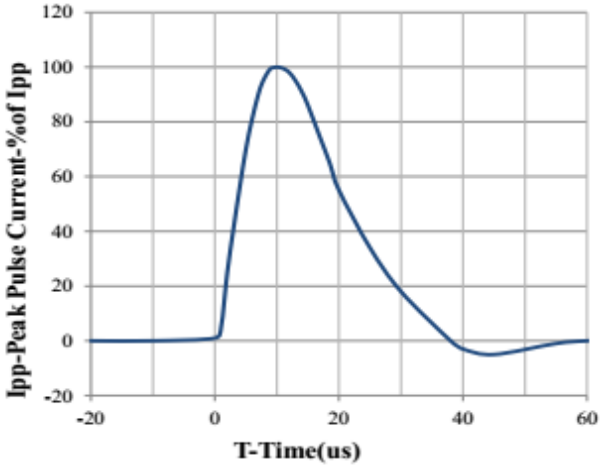
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

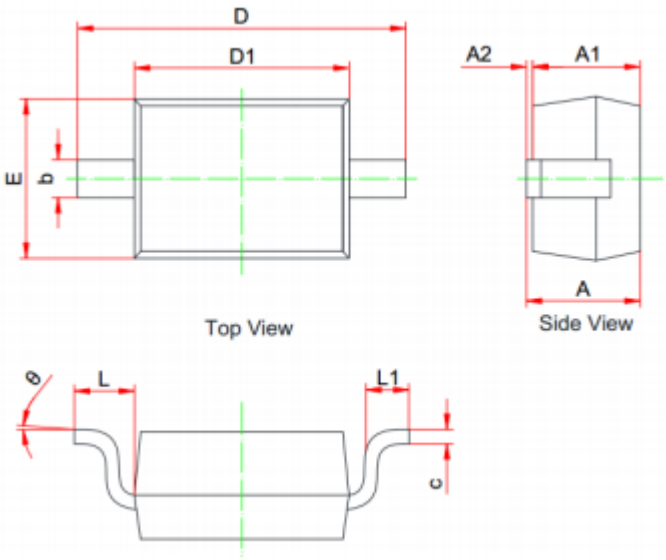


Power Derating Curve



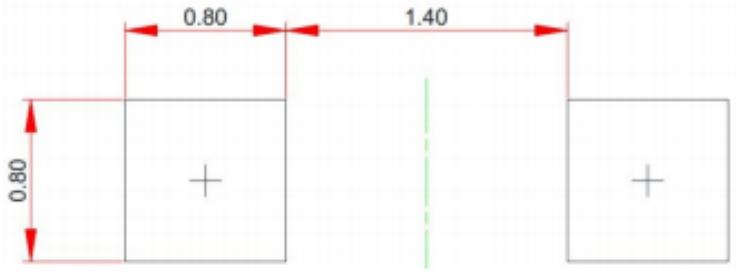
8 X 20us Pulse Waveform

SOD-323 Package Outline Drawing (Dimensions in millimeters)



SYM	MILLIMETERS		
	MIN	NOM	MAX
A	0.800	- -	1.100
A1	0.800	- -	0.900
A2	0.000	- -	0.100
b	0.250	- -	0.400
c	0.080	- -	0.177
D1	1.600	1.700	1.800
D	2.300	- -	2.800
E	1.150	- -	1.400
L	0.475REF		
L1	0.100	- -	0.500
Θ	0°	- -	8°

Suggested Land Pattern



Unit：mm

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