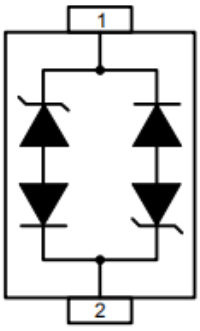
Description

The JLE15BRS3-2 is a 15V bi-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The JLE15BRS3-2 has a low capacitance with a typical value at 1pF, and complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into a lead-free SOD-323 package. The small size, low capacitance and high ESD surge protection make JLE15BRS3-2 an ideal choice to protect cell phone, wireless systems, and communication equipment.

Features

* 300W peak pulse power (8/20μs)
* Ultra Low leakage: nA level
* Operating voltage: 15V
* Low clamping voltage
* One power line protects
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  – IEC61000-4-5 (Lightning) 10A (8/20μs)
* RoHS Compliant
* Package: SOD-323

Circuit Diagram

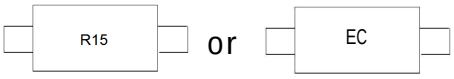


Circuit and Pin Schematic

Applications

* USB Ports
* Smart Phones
* Wireless Systems
* Ethernet 10/100/1000 Base T

Marking Diagram



Transparent top view

R15:Device Marking Code
EC: Device Marking Code

Ordering Information

Part Number	Packaging	Reel Size
JLE15BRS3-2	3000/Tape & Reel	7 inch

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

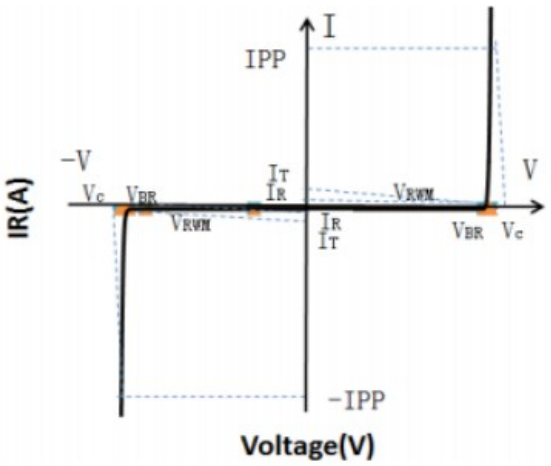
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	300	W
Peak Pulse Current (8/20μs)	IPP	10	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−40 to +85	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

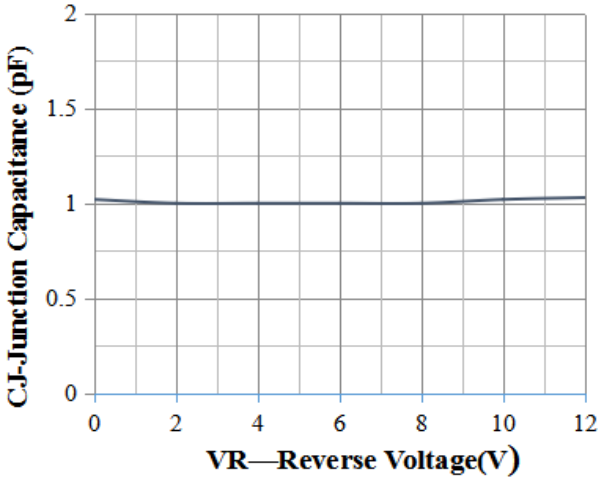
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				15	V
Breakdown Voltage	V_{BR}	I_T = 1mA	16.7			V
Reverse Leakage Current	I_R	V_{RWM} = 15V			0.2	uA
Clamping Voltage	Vc	I_{PP} = 1A (8 x 20μs pulse)			21	V
Clamping Voltage	Vc	I_{PP} = 10A (8 x 20μs pulse)			30	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		1		pF

Portion Electronics Parameter

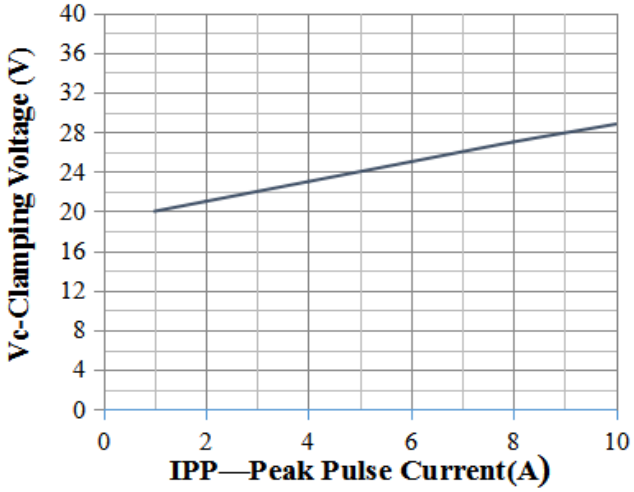
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



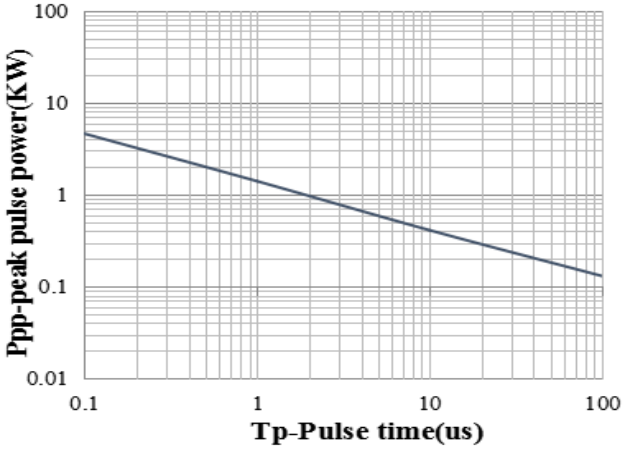
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



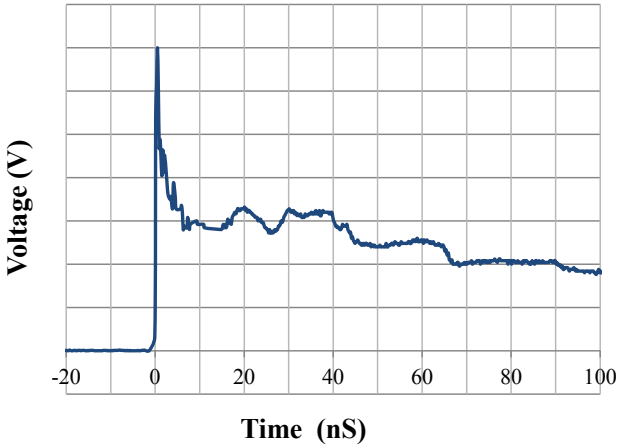
Junction Capacitance vs. Reverse Voltage



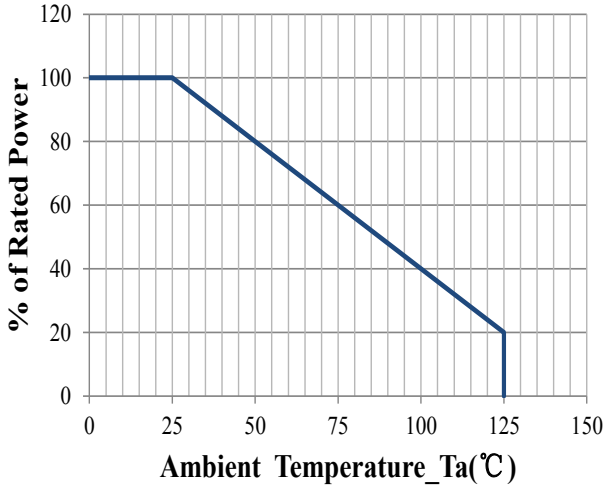
Clamping Voltage vs. Peak Pulse Current



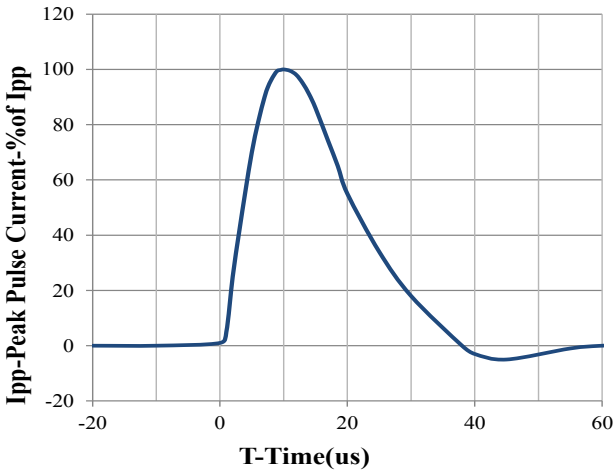
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

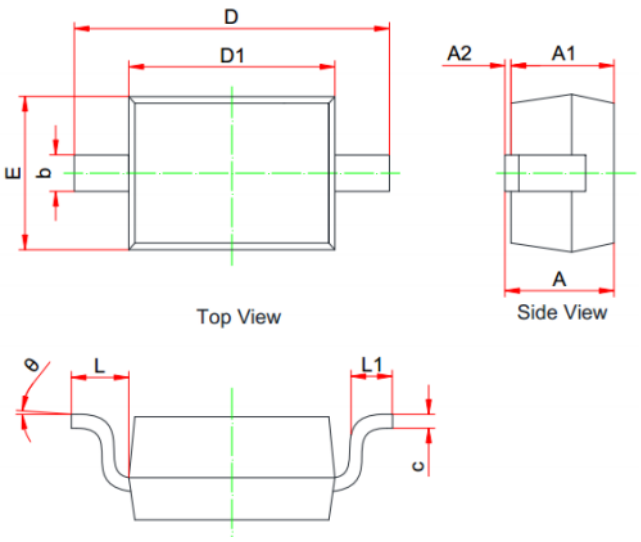


Power Derating Curve



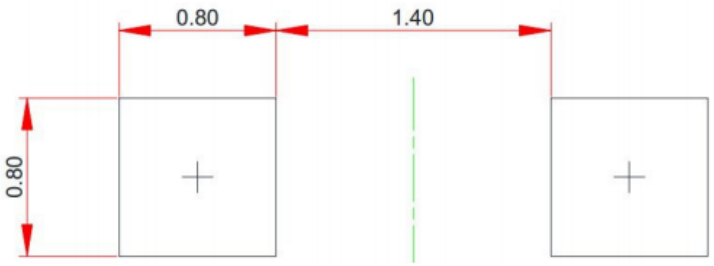
8 X 20us Pulse Waveform

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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