JE24B2UT10-3

2-Line Bi-directional TVS Diode

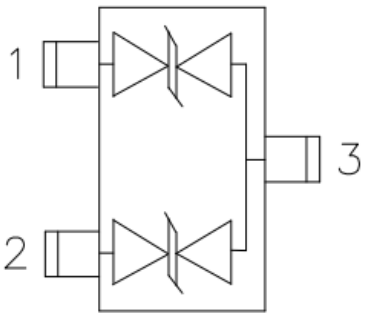
Description

The JE24B2UT10-3 is a bi-directional TVS diode array, utilizing leading monolithic silicon technology to provide fast re- sponse time and low ESD clamping voltage, making this device an ideal solution for protecting sensitive semicon- ductor components from damage. The JE24B2UT10-3 complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into a lead-free SOT- 23 package. It is designed to protect components which are connected to data and transmission lines from volt- age surges.

Features

* 300W peak pulse power (8/20μs)
* Low leakage：nA level
* Operating voltage: 24V
* Ultra low clamping voltage
* Two power line protects
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
  – IEC61000-4-5 (Lightning) 5A (8/20μs)
* RoHS Compliant
* Package：SOT-23

Circuit Diagram

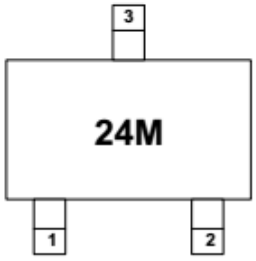


Circuit and Pin Schematic

Applications

* Cellular Handsets and Accessories
* Personal Digital Assistants
* Notebooks and Handhelds
* Digital Cameras
* Set Top Box
* Industrial Cotrols
* Server and Deskop PC

Marking Diagram



Transparent top view

24M:Device Marking Code

Ordering Information

Part Number	Packaging	Reel Size
JE24B2UT10-3	3000/Tape & Reel	7 inch

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

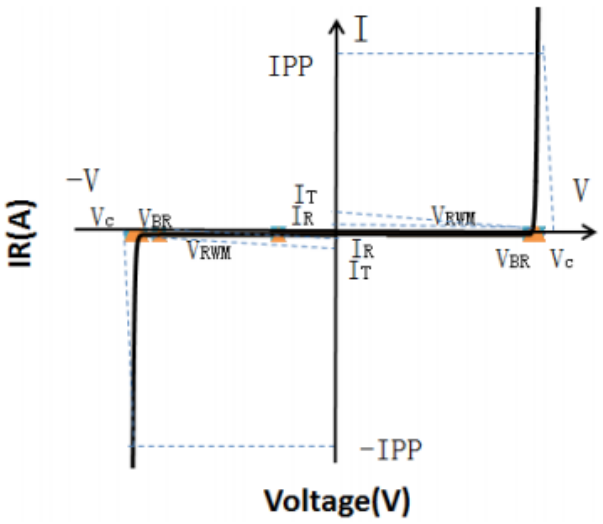
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	300	W
Peak Pulse Current (8/20μs)	IPP	5	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

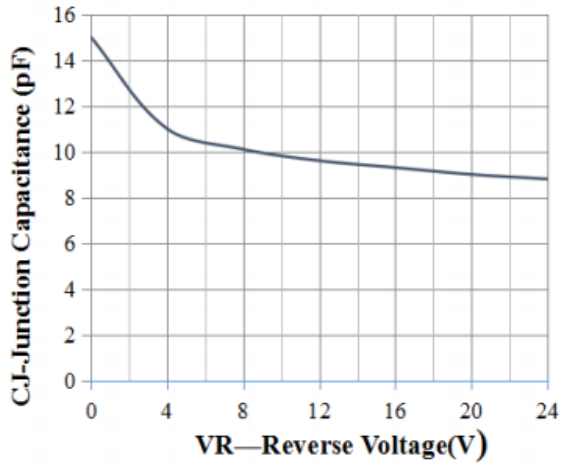
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	I_T = 1mA	27			V
Reverse Leakage Current	I_R	V_{RWM} = 24V			0.2	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse)			40	V
Clamping Voltage	V_C	I_{PP} = 5A (8 x 20μs pulse)			60	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz,pin 1 to pin 3 or Pin 2 to pin 3		15		pF

Portion Electronics Parameter

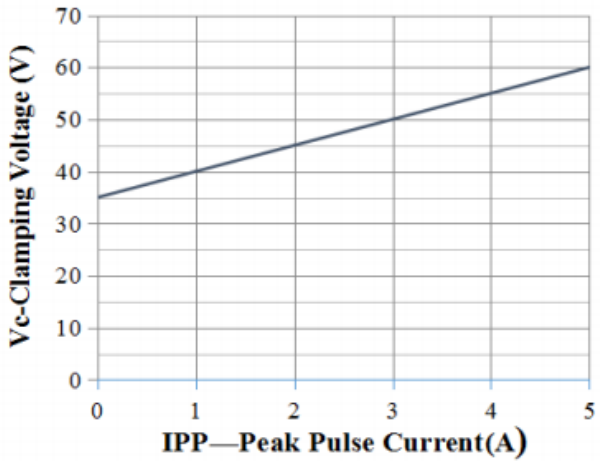
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



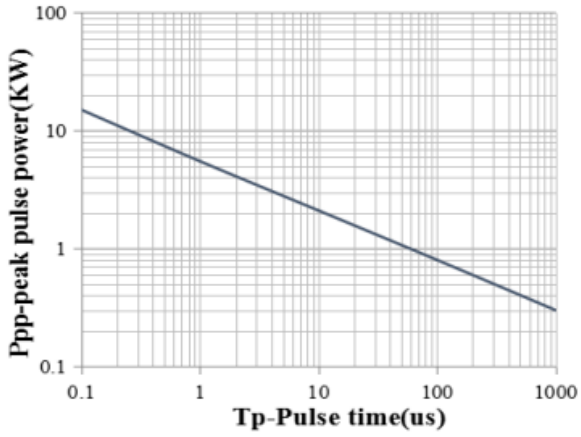
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



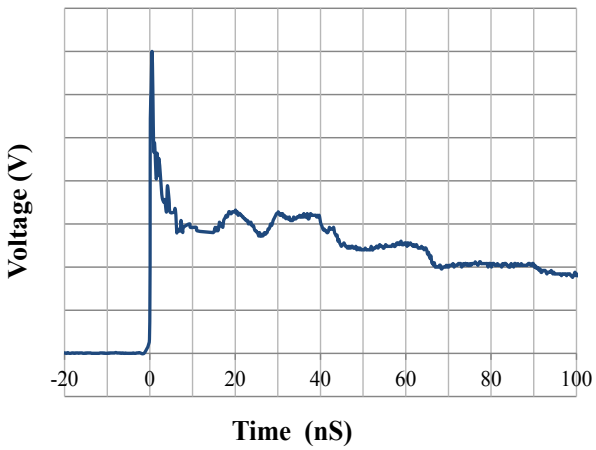
Junction Capacitance vs. Reverse Voltage



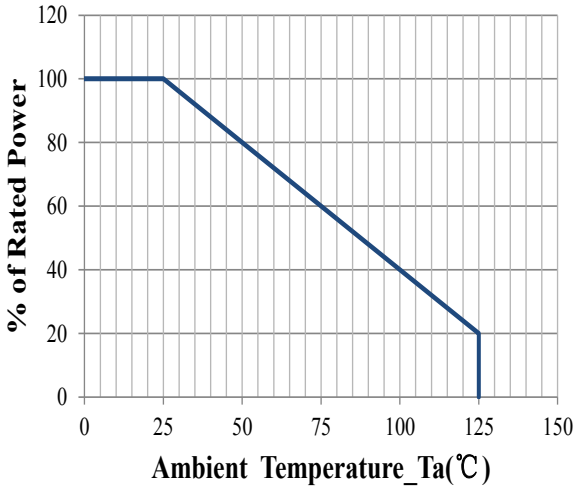
Clamping Voltage vs. Peak Pulse Current



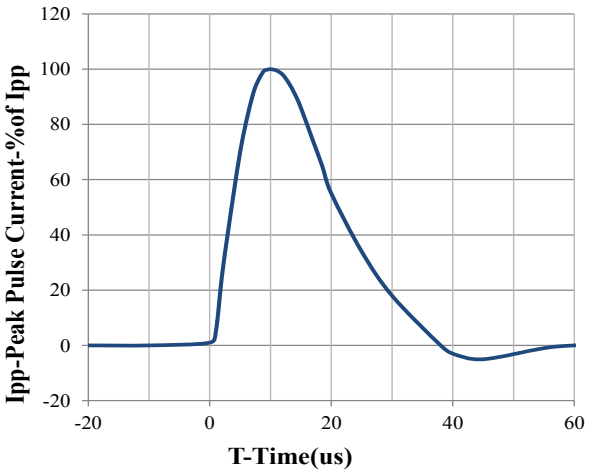
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

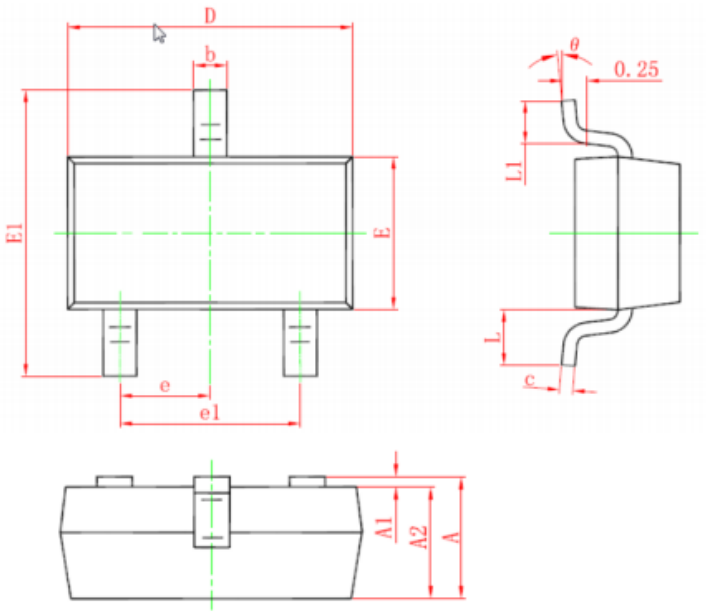


Power Derating Curve



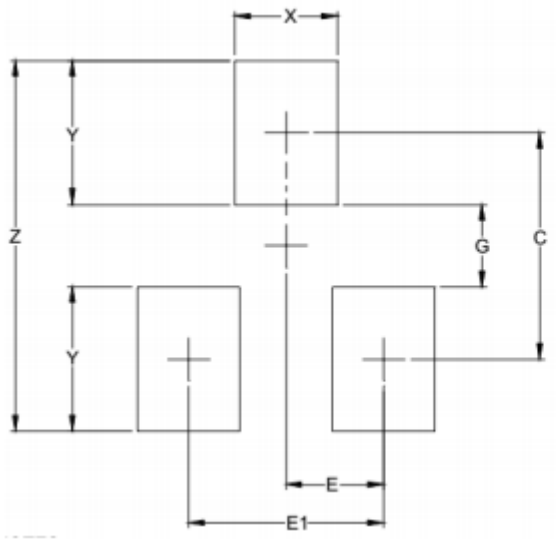
8 X 20us Pulse Waveform

SOT-23 Package Outline Drawing (Dimensions in millimeters)



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	--	1.15	0.035	--	0.045
A1	0.00	--	0.10	0.000	--	0.004
A2	0.90	--	1.05	0.035	--	0.041
b	0.30	--	0.50	0.012	--	0.020
c	0.08	--	0.15	0.003	--	0.006
D	2.80	--	3.00	0.110	--	0.118
E	1.20	--	1.40	0.047	--	0.055
E1	2.25	--	2.25	0.089		0.100
e	0.95TYP			0.037TYP		
e1	1.80	--	2.00	0.071	--	0.079
L	0.55REF			0.022REF		
L1	0.30	--	0.50	0.012	--	0.020
Θ	0°	--	8°	0°	--	8°

Suggested Land Pattern



SYM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60

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