JE05B1UD20-2M

1-Line Bi-directional TVS Diode

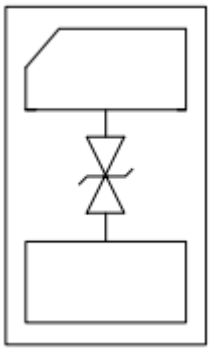
Description

The JE05B1UD20-2M is a 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 data and power line. The JE05B1UD20-2M complies with the IEC 61000-4-2 (ESD) with ±30 kV air and ±30 kV contact discharge. It is assembled into an ultra-small 1.0x0.6x0.5mm lead-free DFN package. The small size and high ESD surge protection make JE05B1UD20-2M an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

* 150W peak pulse power (8/20us)
* Low leakage:nA level
* Operating voltage: 5V
* 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) 8A (8/20us)
* RoHS Compliant
* Package: DFN1006-2

Circuit Diagram

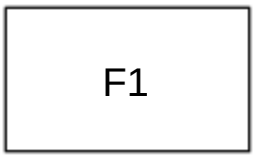


Circuit and Pin Schematic

Applications

* Notebooks and Handhelds
* Peripherals
* Personal Digital Assistants
* Cellular Handsets and Accessories
* Portable Instrumentation
* Audio Players
* Keypads，Side Keys，LCD Displays

Marking Diagram



Transparent top view

F1:Device Marking Code

Ordering Information

Part Number	Packaging	Reel Size
JE05B1UD20-2M	10000/Tape & Reel	7 inch

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

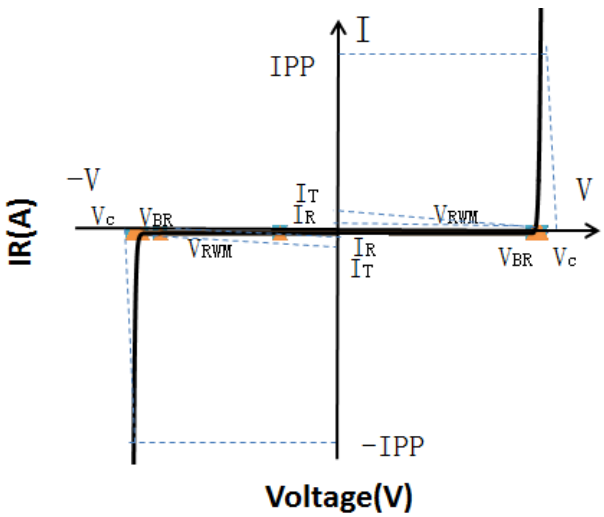
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	150	W
Peak Pulse Current (8/20μs)	IPP	8	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

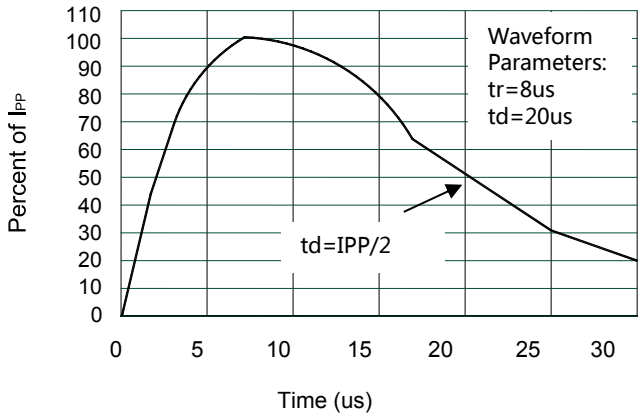
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	5.5	6.4		V
Reverse Leakage Current	I_R	V_{RWM} = 5V			0.5	uA
Clamping Voltage	Vc	I_{PP} = 1A (8 x 20μs pulse)			10	V
Clamping Voltage	Vc	I_{PP} = 8A (8 x 20μs pulse)			12	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		13		pF

Portion Electronics Parameter

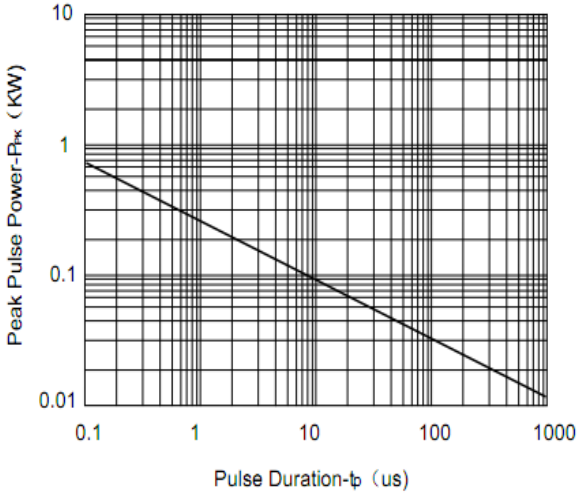
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



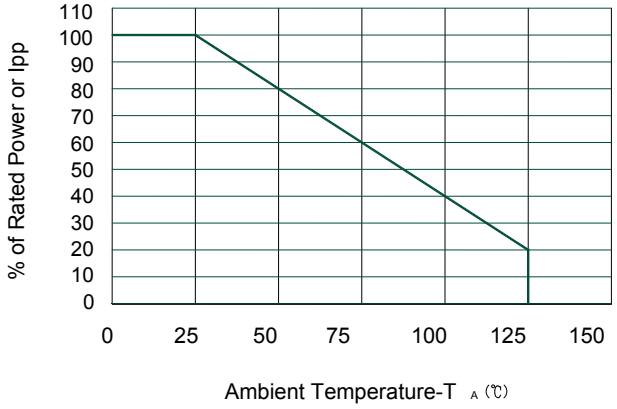
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



Pulse Waveform

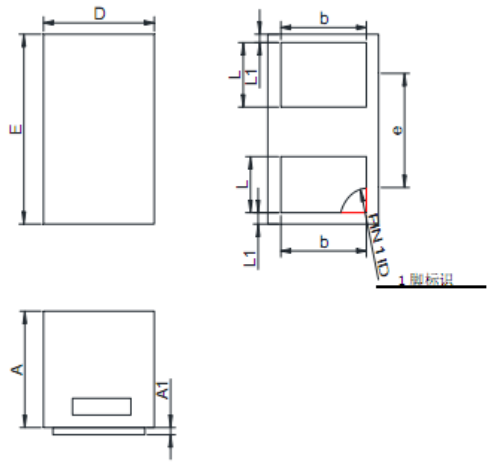


Non-Repetitive Peak Pulse Power vs. Pulse Time



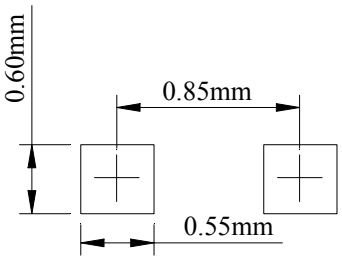
Power Derating Curve

DFN1006-2 Package Outline Drawing (Dimensions in millimeters)



DIM	Millimeters	
	Min	Max
A	0.37	0.55
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.45	0.55
e	0.65TYP	
L	0.2	0.32
L1	0.05REF	

Suggested Land Pattern



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