JE36B1UD20-2L

1-Line Bi-directional Diode

Description

The JE36B1UD20-2L is designed to replace multilayer varistors 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 JE36B1UD20-2L complies with the IEC61000-4-2 (ESD) standard with ±30kV air and ±30kV contact discharge. The JE36B1UD20-2L is assembled into a lead -free DFN1006-2 package and will protect one unidirectional line.

Features

* 250W peak pulse power (8/20μs)
* Protects one data or power line
* Ultra low leakage: nA level
* Operating voltage: 36V
* Ultra low clamping voltage
* Complies with following standards:

– IEC61000-4-2 (ESD) immunity test

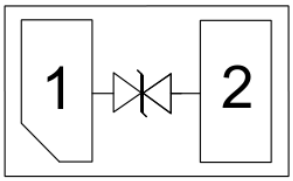
Air discharge: ±30kV

Contact discharge: ±30kV

– IEC61000-4-5 (Lightning) 4A (8/20ns)

* RoHS Compliant
* Package: DFN1006-2

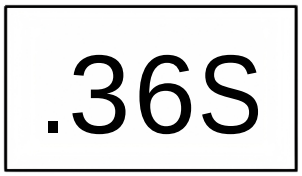
Circuit Diagram



Applications

* Cellular Handsets and Accessories
* Personal Digital Assistants
* Notebooks and Handhelds
* Portable Instrumentation
* Peripherals
* Pagers Peripherals
* Desktop and Servers

Marking Diagram



Ordering Information

Part Number	Packaging	Reel Size
JE36B1UD20-2L	10000/Tape & Reel	7 inch

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

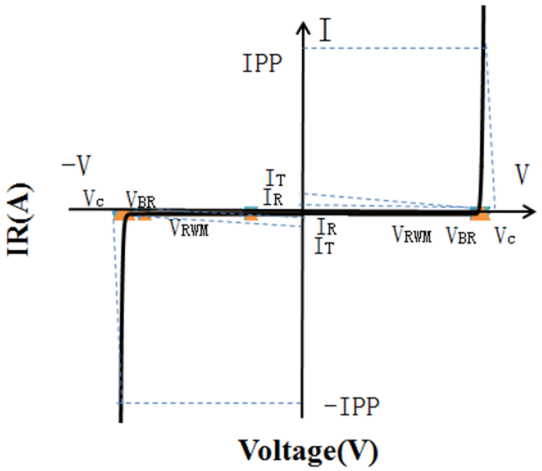
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	250	W
Peak Pulse Current (8/20μs)	IPP	4	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

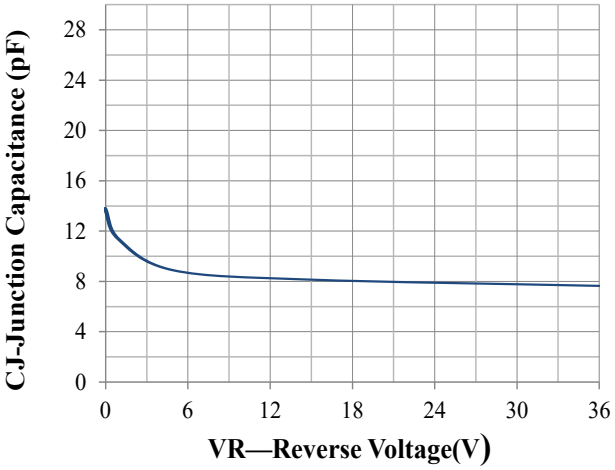
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				36	V
Breakdown Voltage	V_{BR}	I_T = 1mA	38.0	40.0		V
Reverse Leakage Current	I_R	V_{RWM} = 36V			0.5	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse)		50		V
Clamping Voltage	V_C	I_{PP} = 4A (8 x 20μs pulse)		60	65	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		12	15	pF

Portion Electronics Parameter

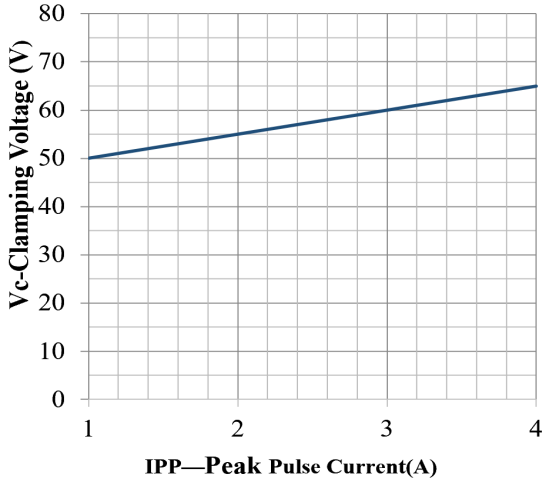
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



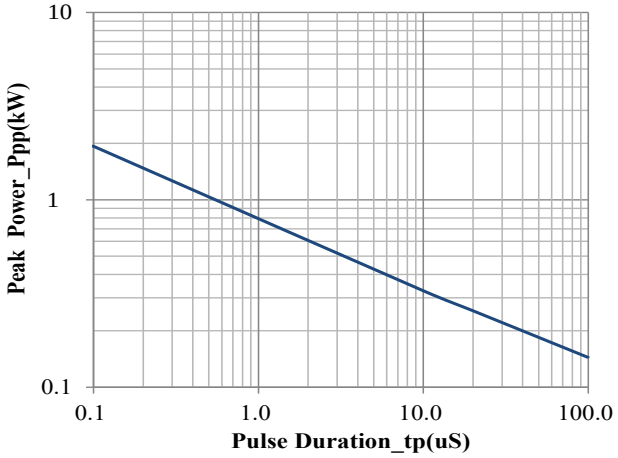
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



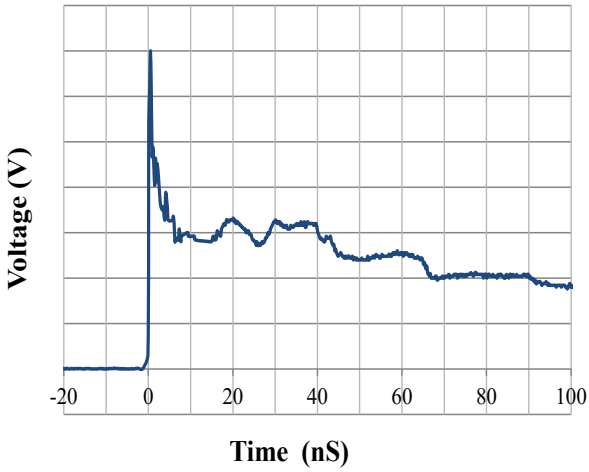
Junction Capacitance vs. Reverse Voltage



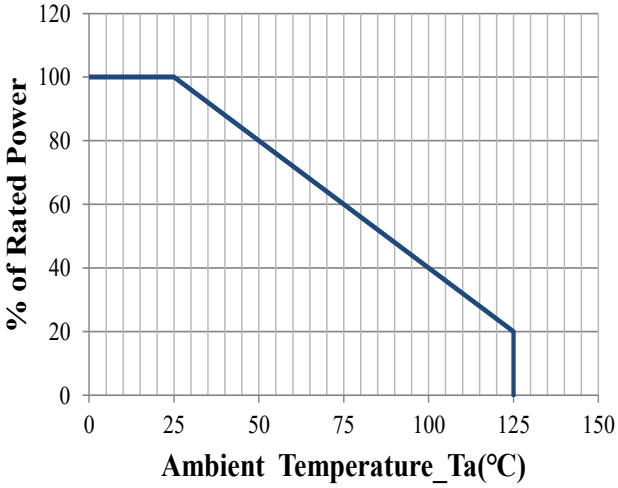
Clamping Voltage vs. Peak Pulse Current



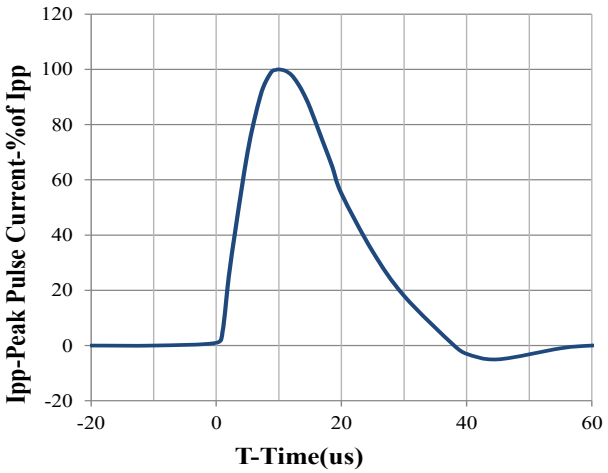
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

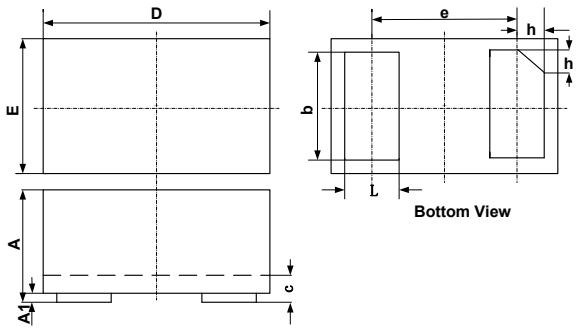


Power Derating Curve



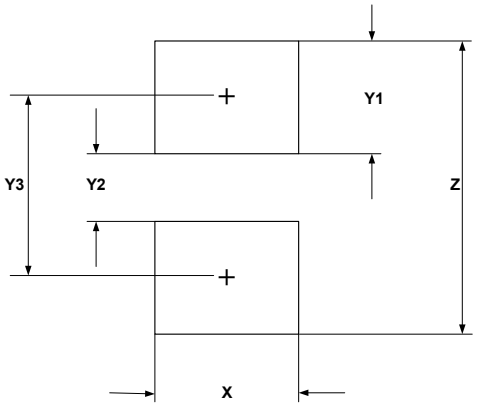
8 X 20us Pulse Waveform

DFN1006-2 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.4	0.45	0.55	0.016	0.018	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

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