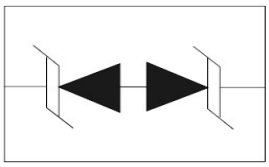
Description

The PESDNC2FD5VB protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, low operating voltage. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



Feature

- 80W peak pulse power per line (t_P = 8/20μs)
- DFN1006 package
- Replacement for MLV(0402)
- Bidirectional configurations
- Response time is typically < 1ns
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC61000-4-2(ESD) ±30KV(air), ±30KV(contact); IEC61000-4-4 (EFT) 40A (5/50ns)

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

Absolute maximum rating@25℃

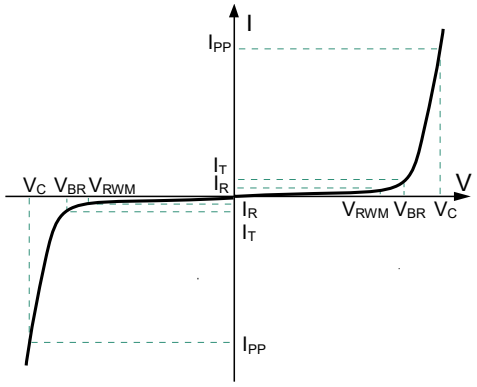
Rating	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs)	P_{pp}	80	W
Operating Temperature	T_J	-55 to +150	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical characteristics per line@25℃ (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_t = 1mA	5.6	6.7	7.8	V
Reverse Leakage Current	I_R	V_{RWM} = 5V T=25℃			1.0	μA
Maximum Reverse Peak Pulse Current	I_{PP}			5.5		A
Clamping Voltage	V_C	I_{PP}=1A			10	V
Clamping Voltage	V_C	I_{PP}=3A			13	V
Clamping Voltage	V_C	I_{PP}=5A			15	V
Junction Capacitance	C_j	V_R=0V f = 1MHz		15	20	pF

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



Typical Characteristics

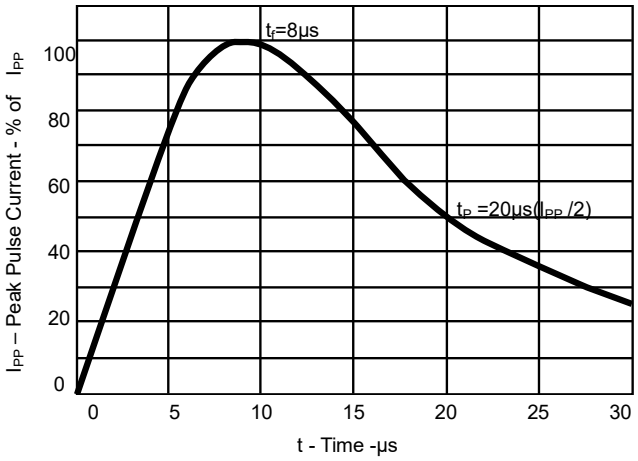


Fig 1.Pulse Waveform

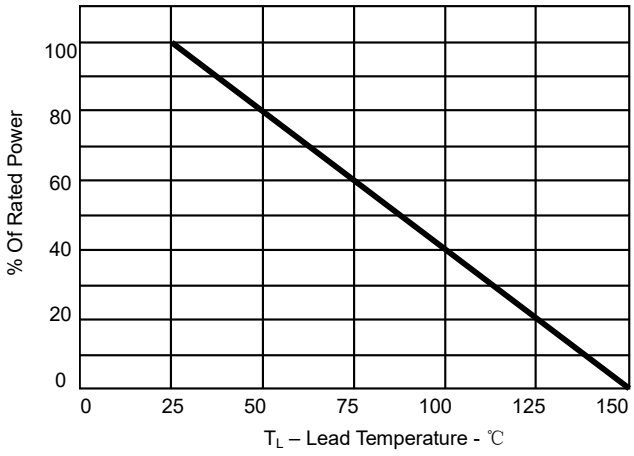


Fig 2.Power Derating Curve

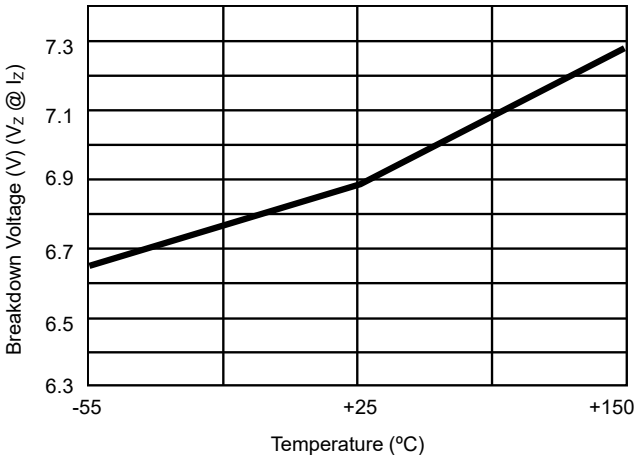


Fig 3.Typical Breakdown Voltage vs. Temperature

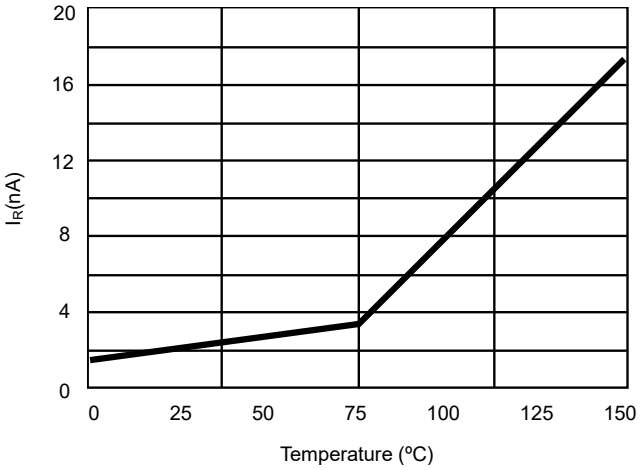


Fig 4.Typical Leakage Current vs. Temperature

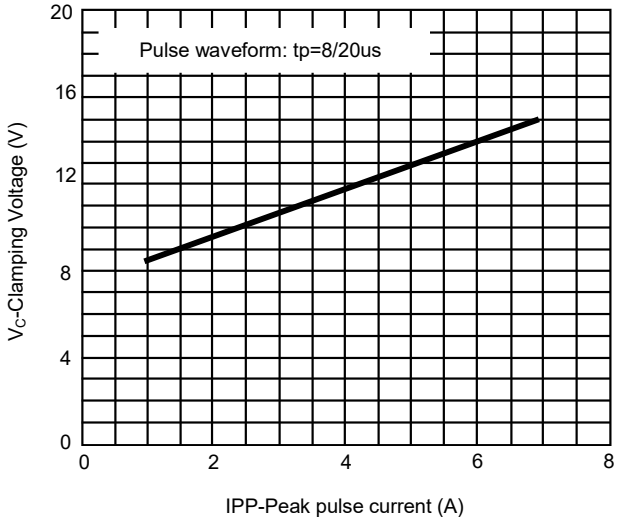


Fig 5. Clamping voltage vs. Peak pulse current

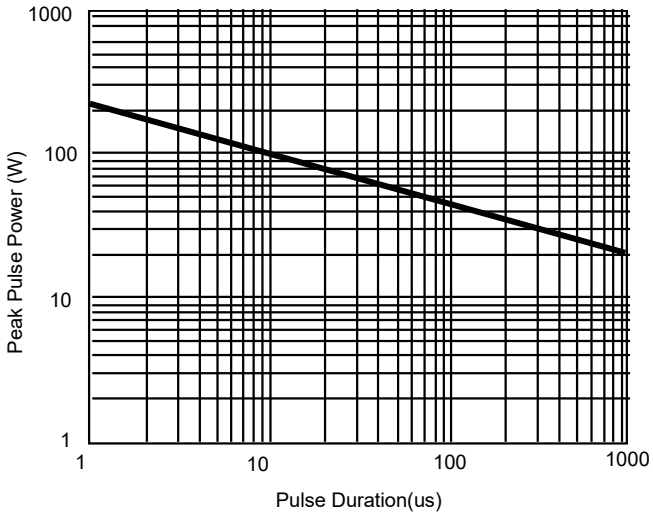


Fig 6. Non-Repetitive Peak Pulse Power vs. Pulse time

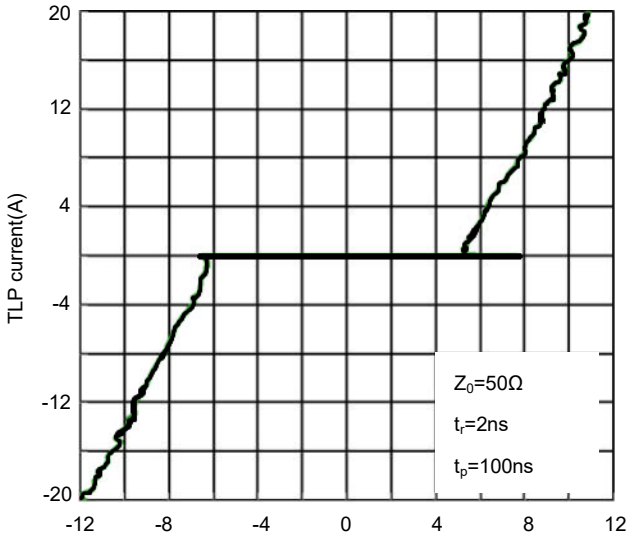
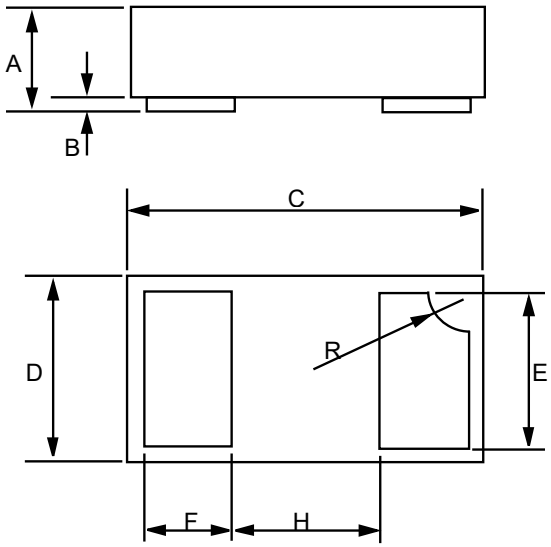


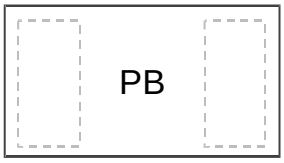
Fig 7 TLP Measuremen

DFN1006 PACKAGE OUTLINE DIMENSIONS



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.013	0.020	0.34	0.50
B	0.000	0.002	0.00	0.05
C	0.037	0.042	0.95	1.075
D	0.021	0.026	0.55	0.675
E	0.017	0.021	0.45	0.55
F	0.007	0.011	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
PESDNC2FD5VB	DFN1006	10000	Tape and reel