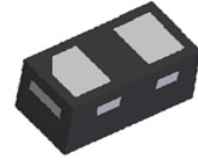


Description

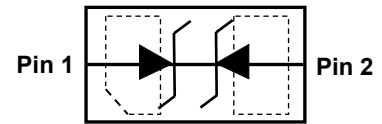
The PESDNC2XD4V5B protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for 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.



DFN0603-2L(Bottom View)

Feature

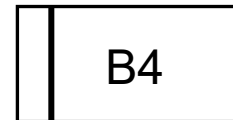
- 70W peak pulse power per line ($t_P = 8/20\mu s$)
- DFN0603-2L package
- Replacement for MLV(0201)
- Bidirectional configurations
- Response time is typically < 1ns
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to
IEC61000-4-2(ESD) $\pm 30KV$ (air), $\pm 30KV$ (contact);
IEC61000-4-4 (EFT) 40A (5/50ns)
IEC61000-4-5 (Surge) 8A (8/20us)



Circuit Diagram

Applications

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



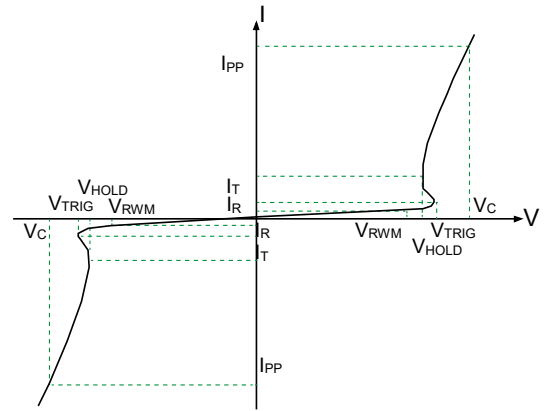
Marking (Top View)

Mechanical Characteristics

- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- DFN0603-2L without plating

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{TRIG}	Reverse trigger Current
V_{HOLD}	Reverse holding voltage
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



Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				4.5	V
Reverse trigger voltage	V_{TRIG}	$I_{TRIG}=5\mu A$	4.7	5.6	6.5	V
Reverse holding voltage	V_{HOLD}	$I_{HOLD}=50mA$	4.6	5.1	6.0	
Reverse Leakage Current	I_R	$V_{RWM} = 4.5V$ $T=25^\circ C$			500	nA
Clamping Voltage	V_C	$I_{PP}=2A$		7.0	8.0	V
Clamping Voltage	V_C	$I_{PP}=8A$		8.0	9.0	V
Junction Capacitance	C_j	$V_R=0V$ $f = 1MHz$		16	20	pF

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{pp}	60	W
Operating Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

Typical Characteristics

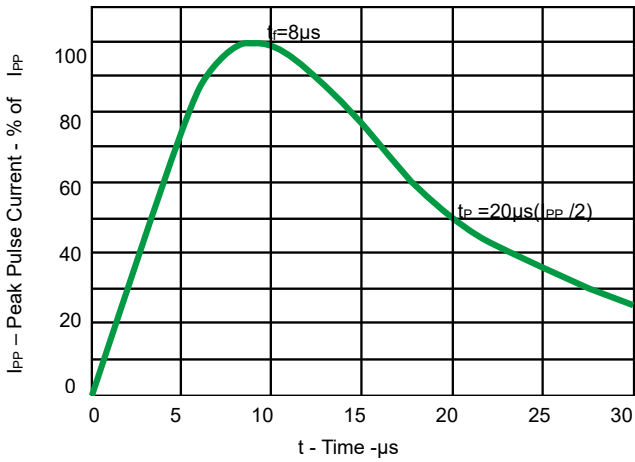


Fig 1. Pulse Waveform

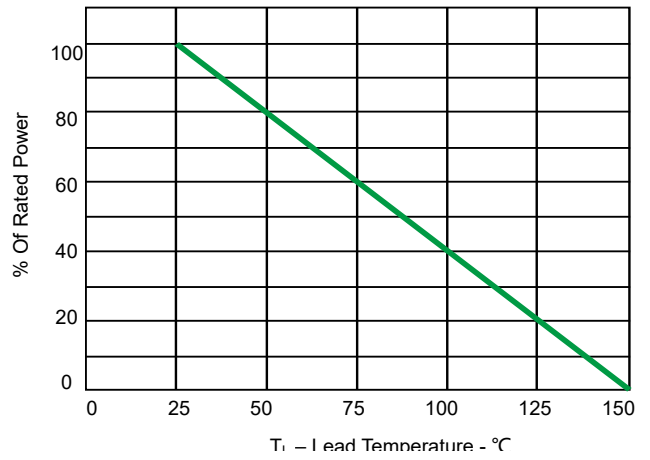


Fig 2. Power Derating Curve

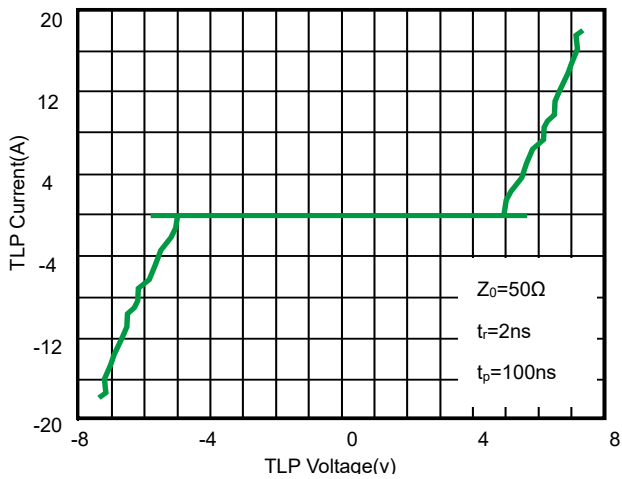


Fig 3. TLP Measurement

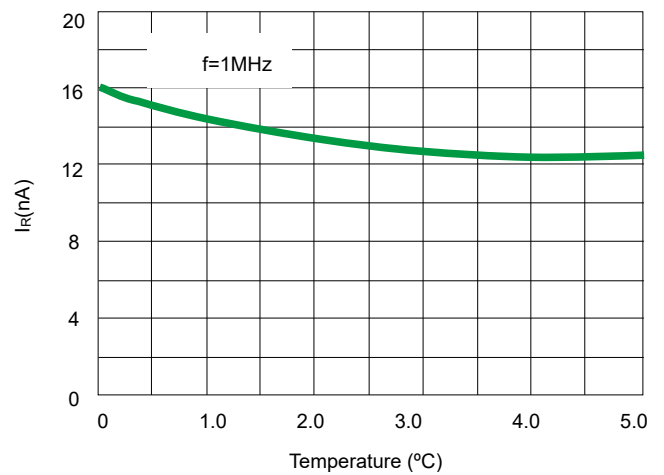


Fig 4. Typical Leakage Current vs. Temperature

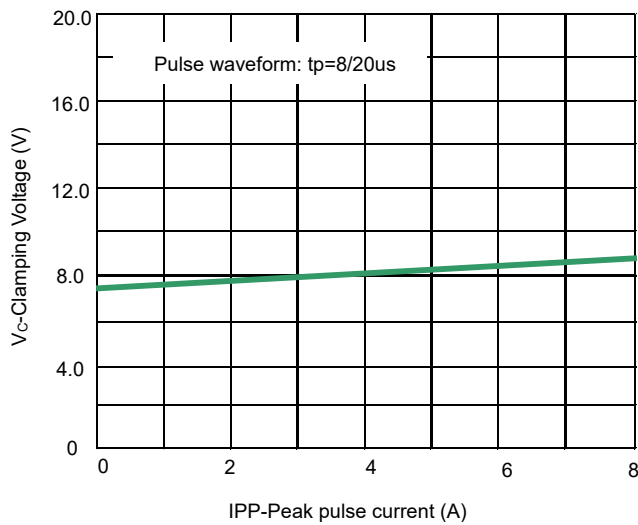


Fig 5. Clamping voltage vs. Peak pulse current

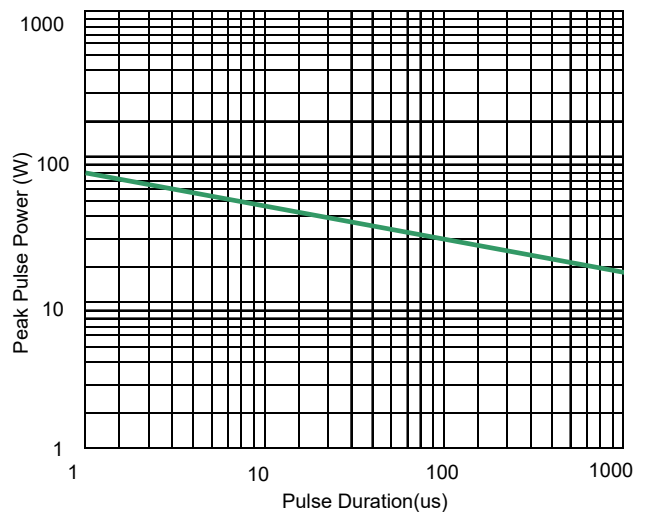


Fig 6. Non-Repetitive Peak Pulse Power vs. Pulse time

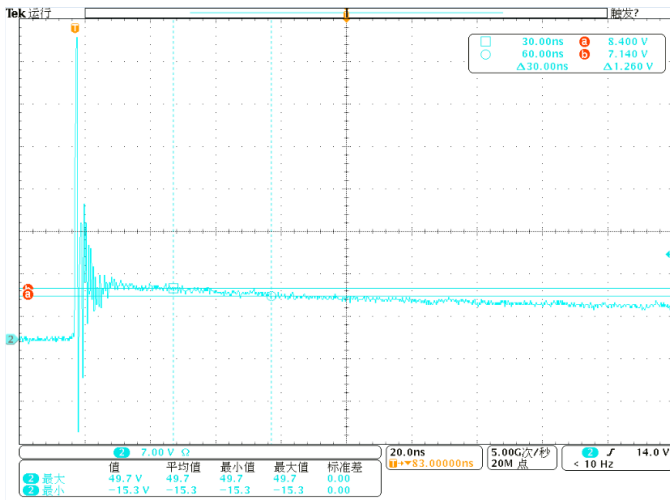


Fig 7. ESD clamping voltage (IEC61000-4-2 +8KV contact)

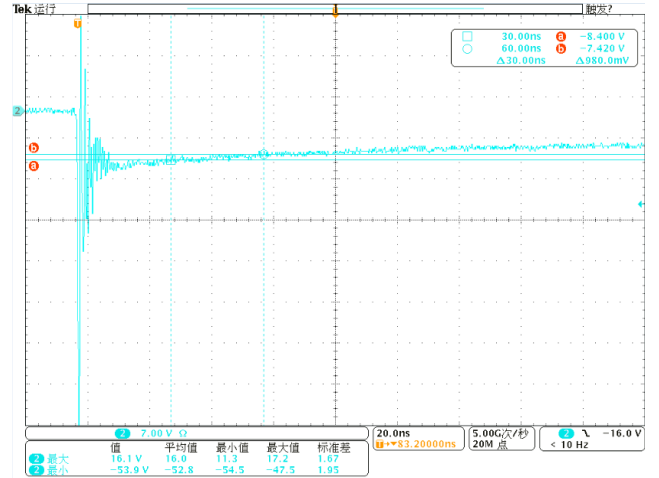
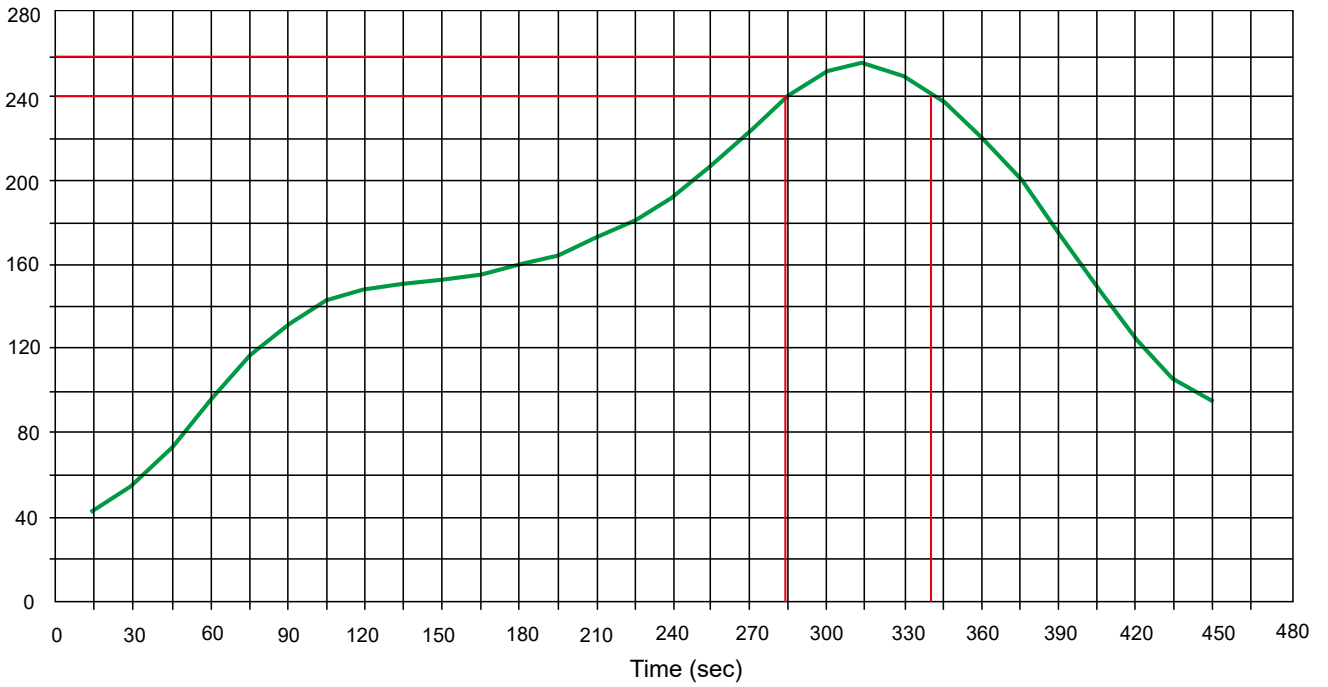


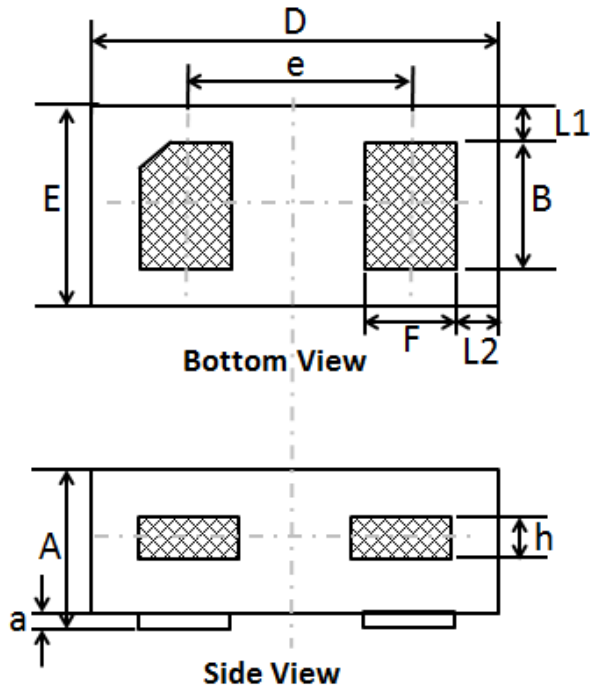
Fig 8. ESD clamping voltage (IEC61000-4-2 -8KV contact)

Solder Reflow Recommendation

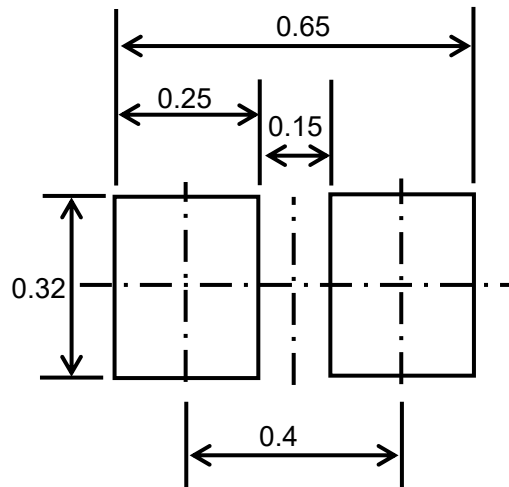
Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Product dimension (DFN0603-2L)



Dim	Millimeters		
	MIN	Typ.	MAX
A	0.26	0.30	0.35
B	0.20	0.25	0.30
D	0.55	0.60	0.65
E	0.25	0.30	0.35
F	0.13	0.18	0.23
L1	0.025BSC		
L2	0.035BSC		
a	0.00	0.02	0.05
e	0.35BSC		
h	0.05BSC		



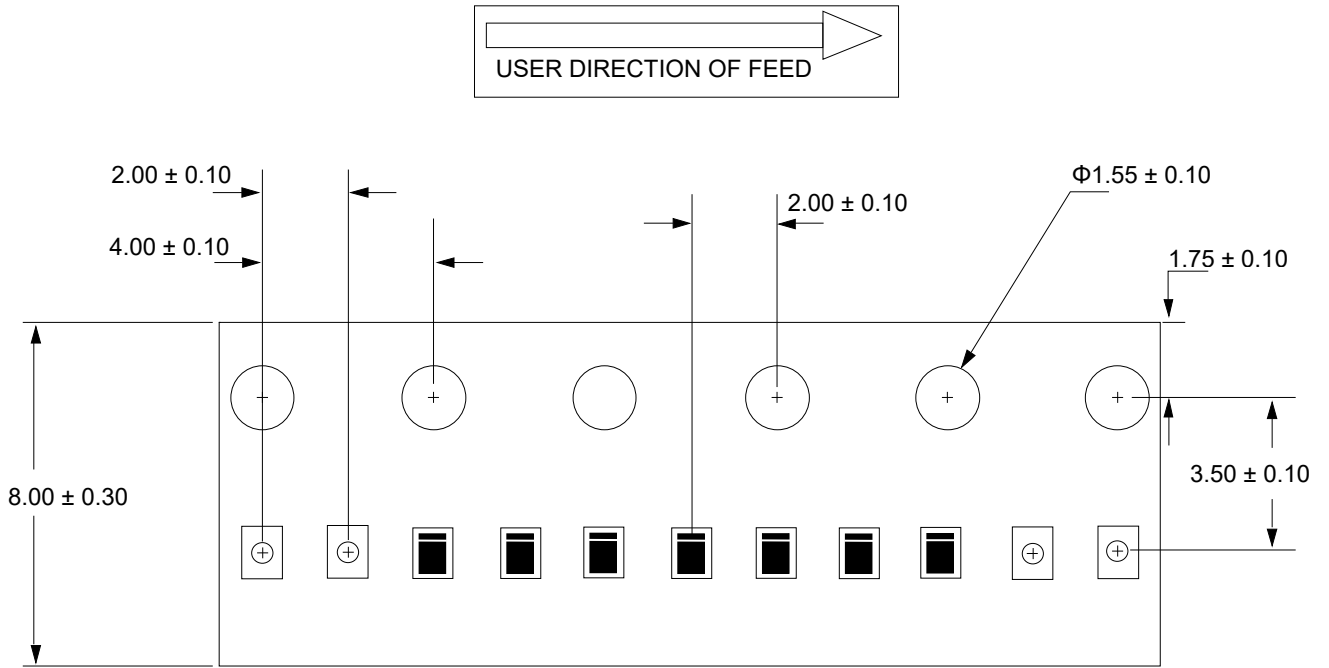
Suggested PCB Layout

Unit:mm

Ordering information


Device	Package	Reel	Shipping
PESDNC2XD4V5B	DFN0603-2L (Pb-Free)	7"	10000 / Tape & Reel

Load with information



Unit: mm


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