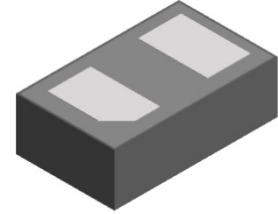
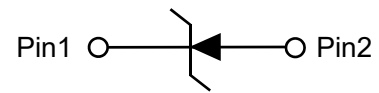
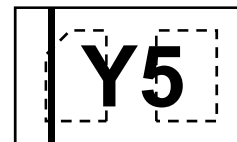


Uni-directional 15V High Capacitance ESD Protector**Description**

The PESDHC2FD15VU ESD protector is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. 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, lower operating voltage, lower clamping voltage and no device degradation when compared to MLVs. The PESDHC2FD15VU protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. The PESDHC2FD15VU is available in a DFN1006-2L package with working voltages of 15 volt. It gives designer the flexibility to protect one unidirectional line in applications where arrays are not practical. Additionally, it may be "sprinkled" around the board in applications where board space is at a premium.

**DFN1006-2L(Bottom View)****Circuit Diagram****Feature**

- 450W peak pulse power per line ($t_p = 8/20\mu s$)
- DFN1006-2L package
- Response time is typically < 1 ns
- Unidirectional configurations
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC 61000-4-2(ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact); IEC 61000-4-5 (Lightning) 18A (8/20us)

**Marking (Top View)****Applications**

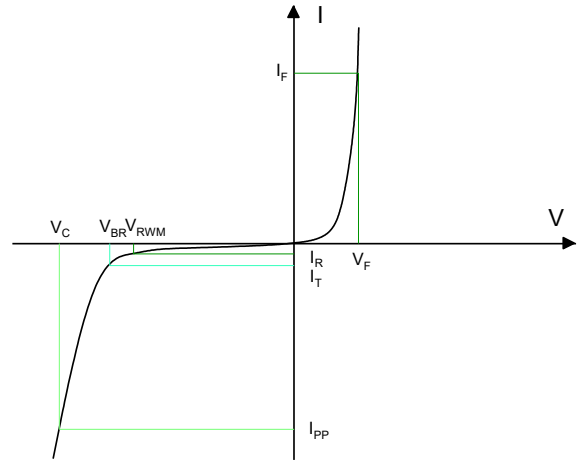
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals

Mechanical Characteristics

- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- DFN1006-2L without plating

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



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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}	-	-	-	15	V
Breakdown Voltage	V_{BR}	$I_t = 1\text{mA}$	16	-	18.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 15\text{V}$	-	-	1	μA
Clamping Voltage ¹⁾	V_C	TLP = 16A, $t_p = 100\text{ns}$	-	20	-	V
Dynamic resistance ¹⁾	R_{DYN}	-	-	0.15	-	Ω
Clamping Voltage ²⁾	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	-	18.5	20	V
		$I_{PP} = 18\text{A}, t_p = 8/20\mu\text{s}$	-	25	28	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	-	100	130	pF

Notes:

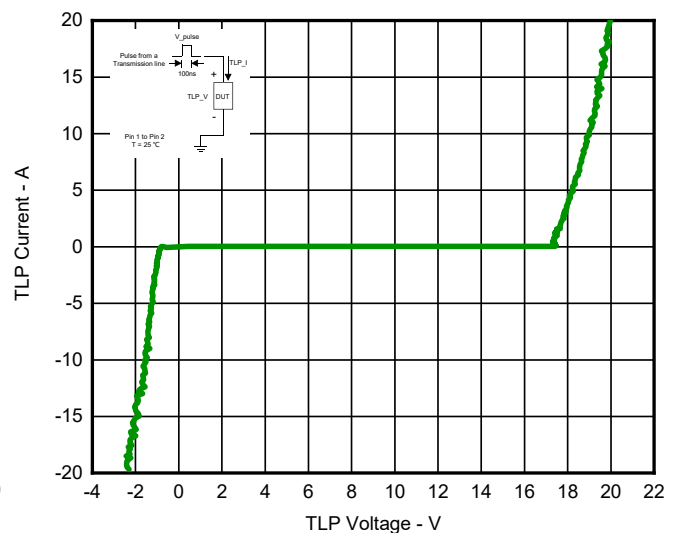
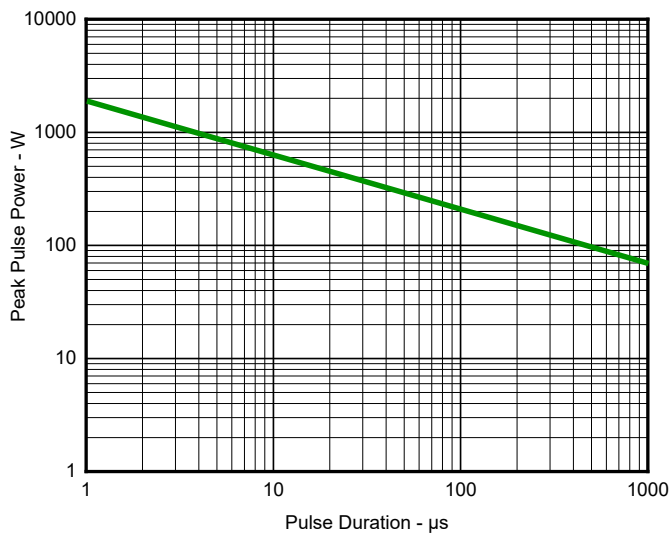
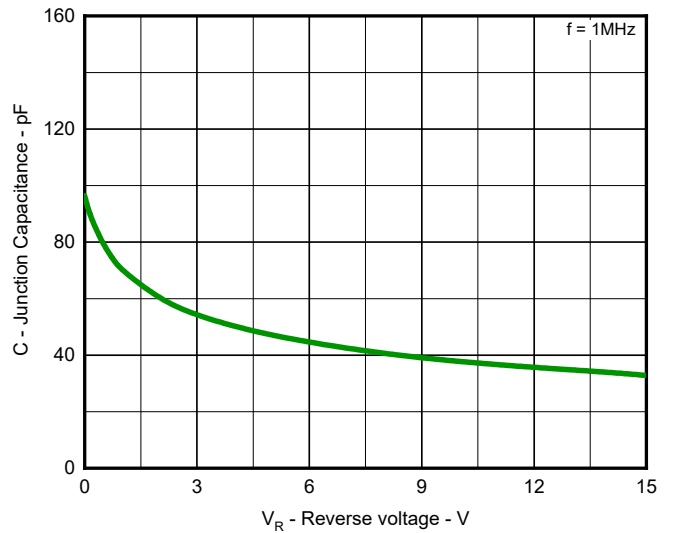
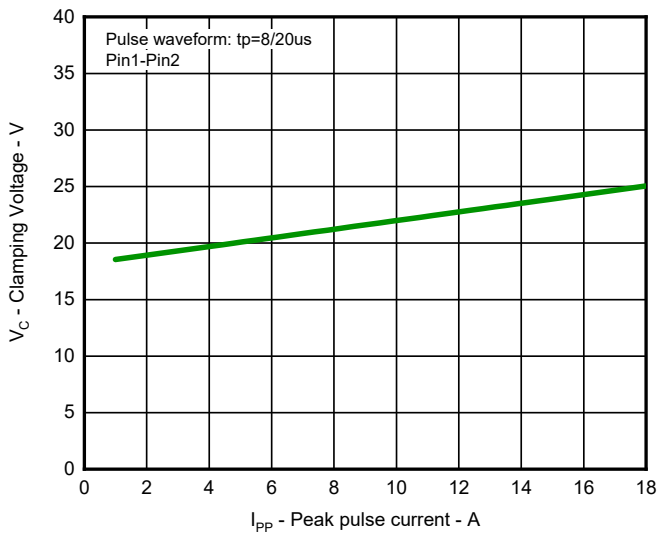
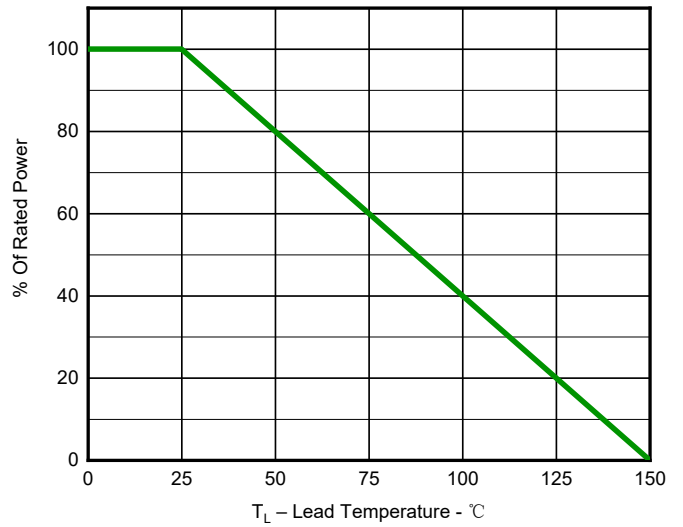
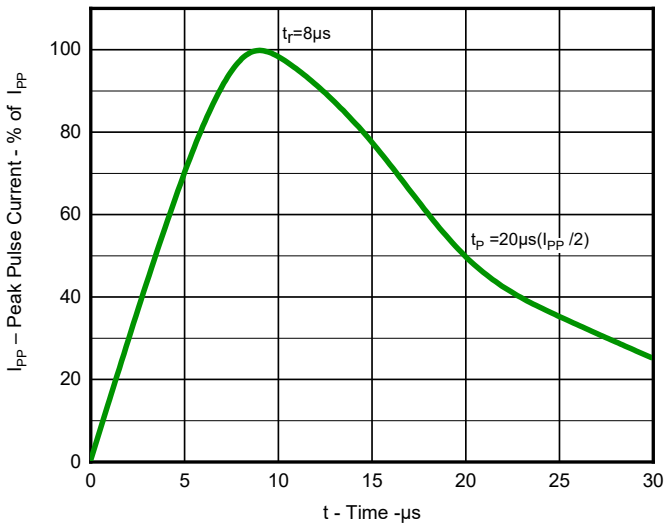
1. TLP parameter: $Z_0=50\Omega$, $t_p=100\text{ns}$, $t_r=2\text{ns}$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

2. Non-repetitive current pulse, according to IEC61000-4-5.

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	450	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	18	A
Lead Soldering Temperature	T_L	260 (10 sec)	$^{\circ}\text{C}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}\text{C}$
ESD Protection-Contact Discharge	V_{ESD}	± 30	kV
ESD Protection-Air Discharge	V_{ESD}	± 30	kV

Typical Characteristics



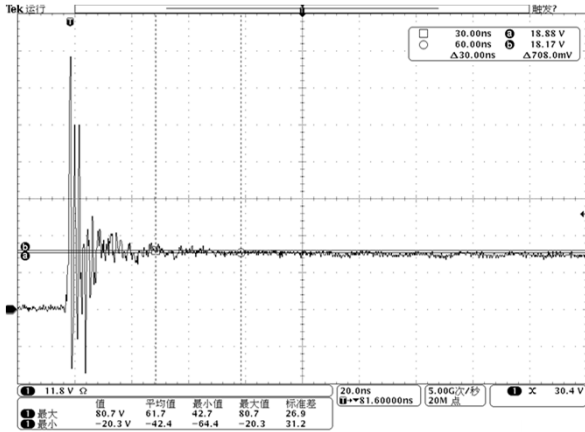


Fig 7. Clamping Voltage at IEC61000-4-2 +8kV Pulse Waveform

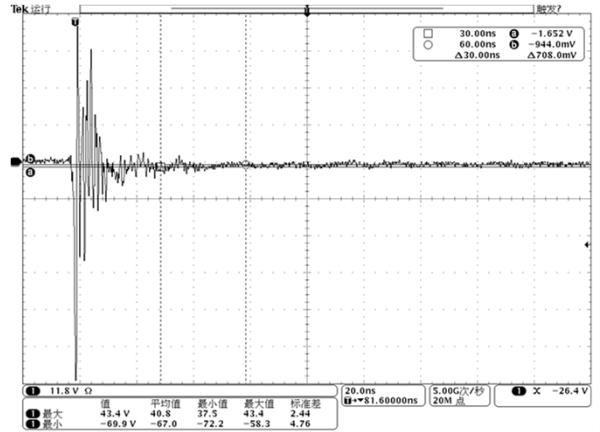
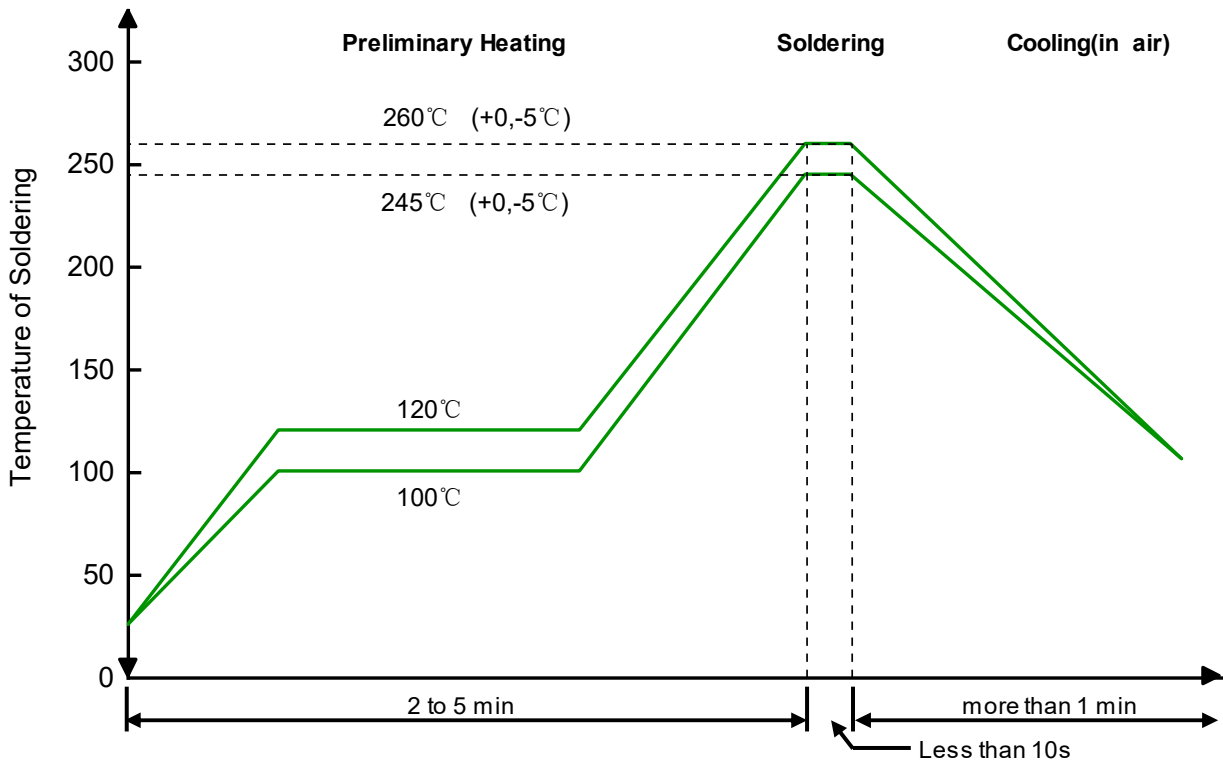


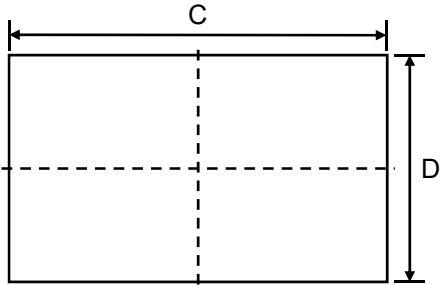
Fig 8. Clamping Voltage at IEC61000-4-2 -8kV Pulse Waveform

Solder Reflow Recommendation

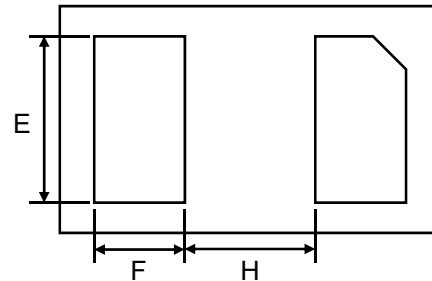


Remark: Pb free for 260°C; Pb for 245°C.

Product dimension (DFN1006-2L)



Top View

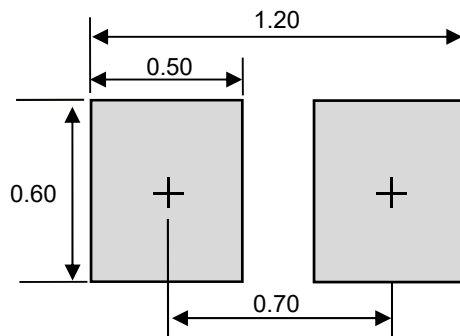


Bottom View



Side View


Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.340	0.498	0.013	0.020
B	0.000	0.050	0.000	0.002
C	0.950	1.080	0.037	0.043
D	0.550	0.680	0.022	0.027
E	0.400	0.600	0.016	0.024
F	0.200	0.300	0.008	0.012
H	0.400 Typ.		0.015 Typ.	



Unit:mm

Suggested PCB Layout


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