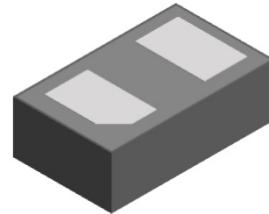
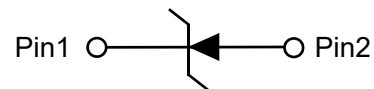


## Description

The PESDLC2FD5VUHA 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.



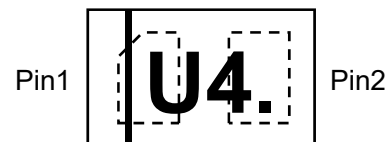
**DFN1006-2L(Bottom View)**



**Circuit Diagram**

## Feature

- 195W peak pulse power per line ( $t_p = 8/20\mu s$ )
- DFN1006-2L package
- Response time is typically  $< 1\text{ ns}$
- Unidirectional configurations
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to  
IEC 61000-4-2(ESD)  $\pm 30\text{kV}$ (air),  $\pm 30\text{kV}$ (contact);  
IEC 61000-4-5 (Lightning) 15A (8/20us)



**Marking (Top View)**

## Applications

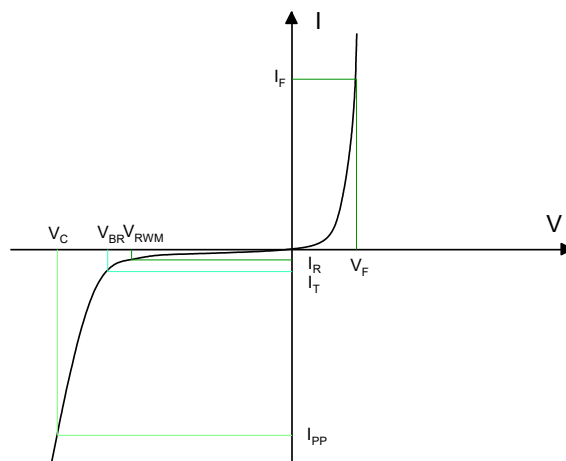
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals

## Mechanical Characteristics

- Mounting position: Any
- Qualified max reflow temperature:  $260^{\circ}\text{C}$
- Device meets MSL 1 requirements

## 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	$V_{RWM}$	-	-	-	5.0	V
Breakdown Voltage	$V_{BR}$	$I_t = 1\text{mA}$	5.5	-	-	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$	-	-	1.0	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 10\text{A}, t_p = 8/20\mu\text{s}$	-	11	-	V
		$I_{PP} = 15\text{A}, t_p = 8/20\mu\text{s}$	-	13	15	
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$	-	1.0	-	pF

## Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	195	W
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{PP}$	15	A
Lead Soldering Temperature	$T_L$	260 (10 sec)	°C
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~+150	°C
ESD Protection-Contact Discharge	$V_{ESD}$	$\pm 30$	kV
ESD Protection-Air Discharge	$V_{ESD}$	$\pm 30$	kV

## Typical Characteristics

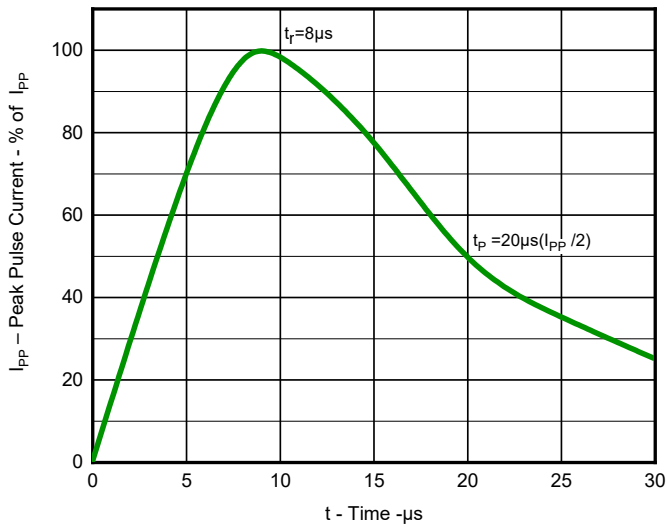
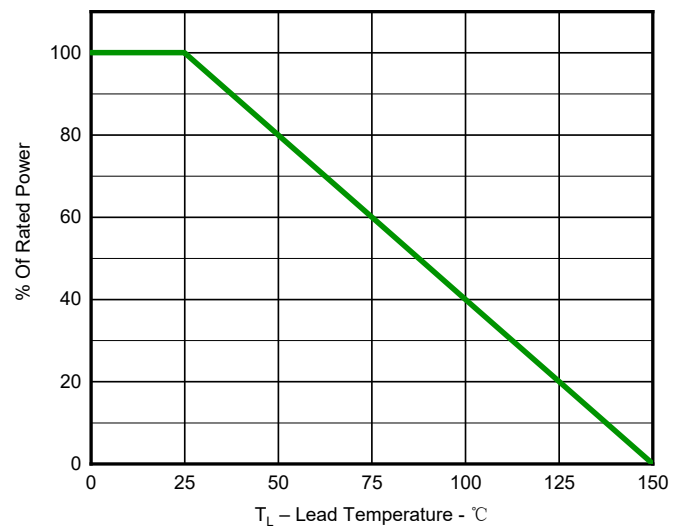
Fig 1. Pulse Waveform(8/20 $\mu s$ )

Fig 2. Power Derating Curve

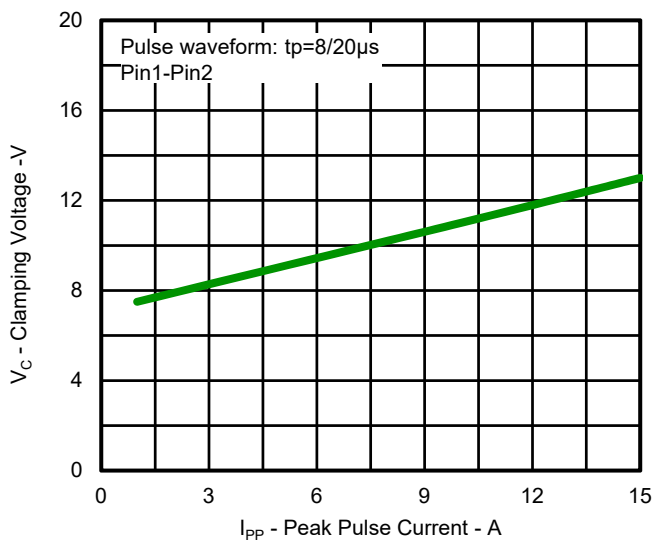


Fig.3 Clamping Voltage vs. Peak Pulse Current

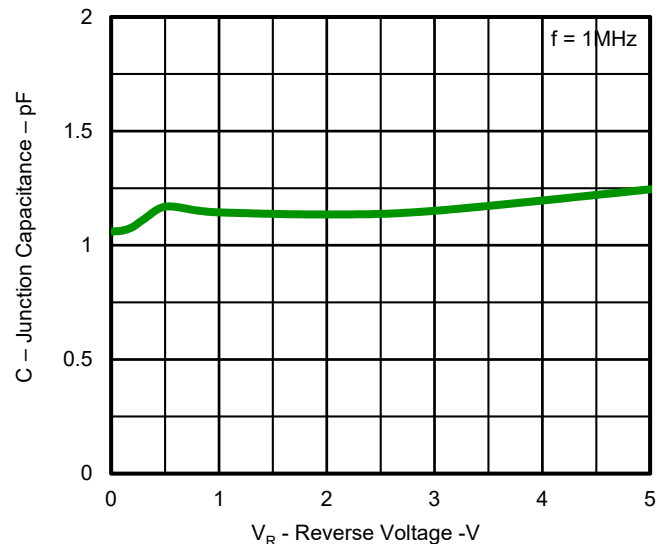


Fig.4 Capacitance vs. Reverse Voltage

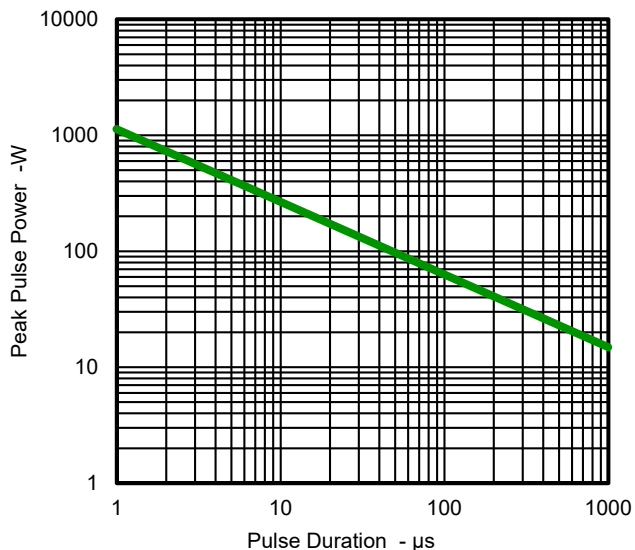


Fig.5 Non-Repetitive Peak Pulse Power vs. Pulse Time

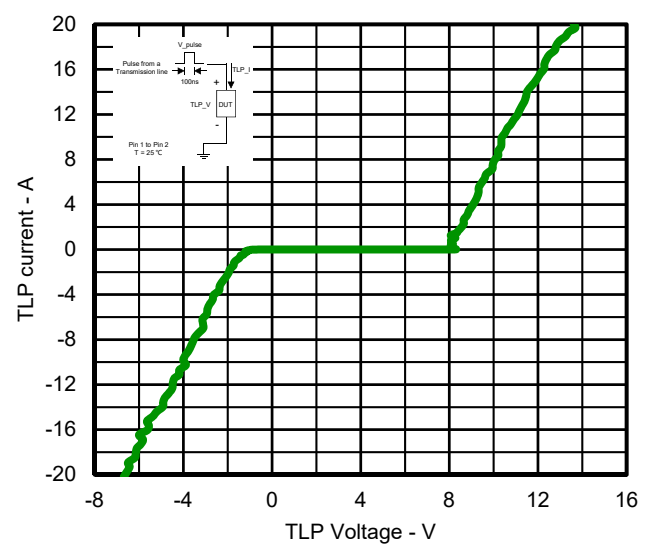
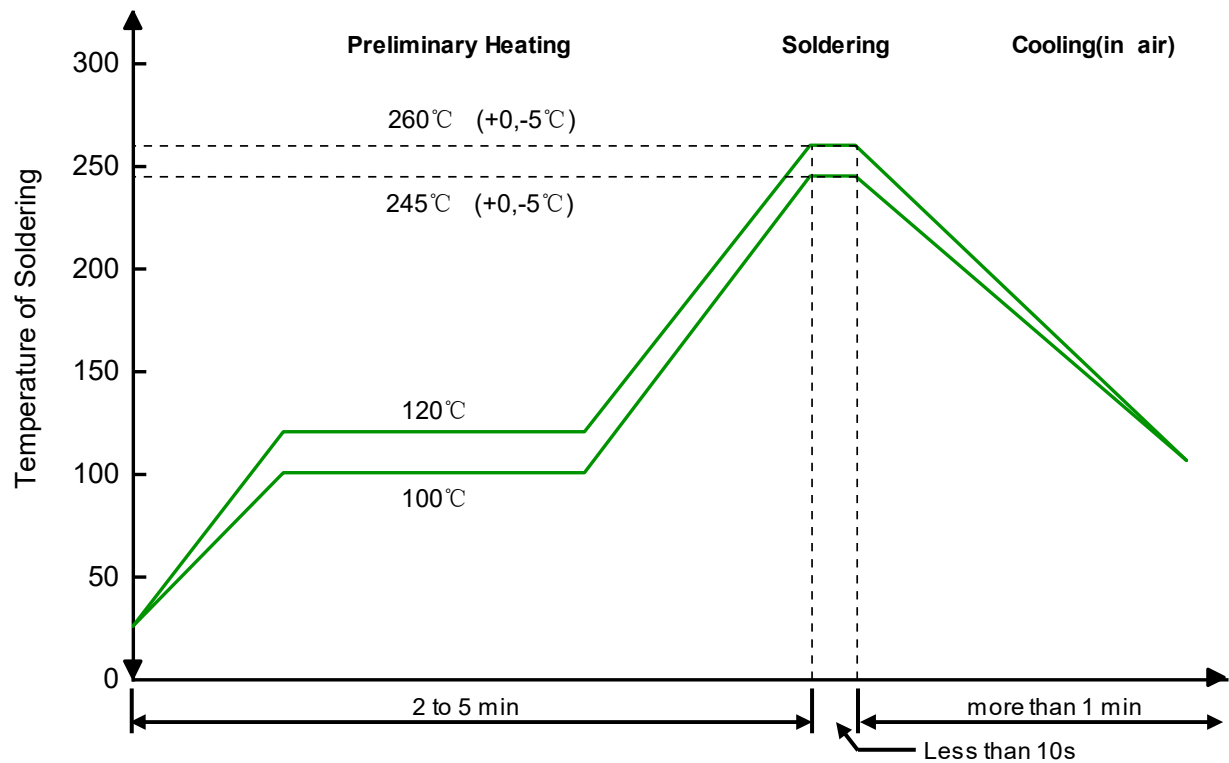


Fig.6 TLP Measurement

## Solder Reflow Recommendation



## PCB Design

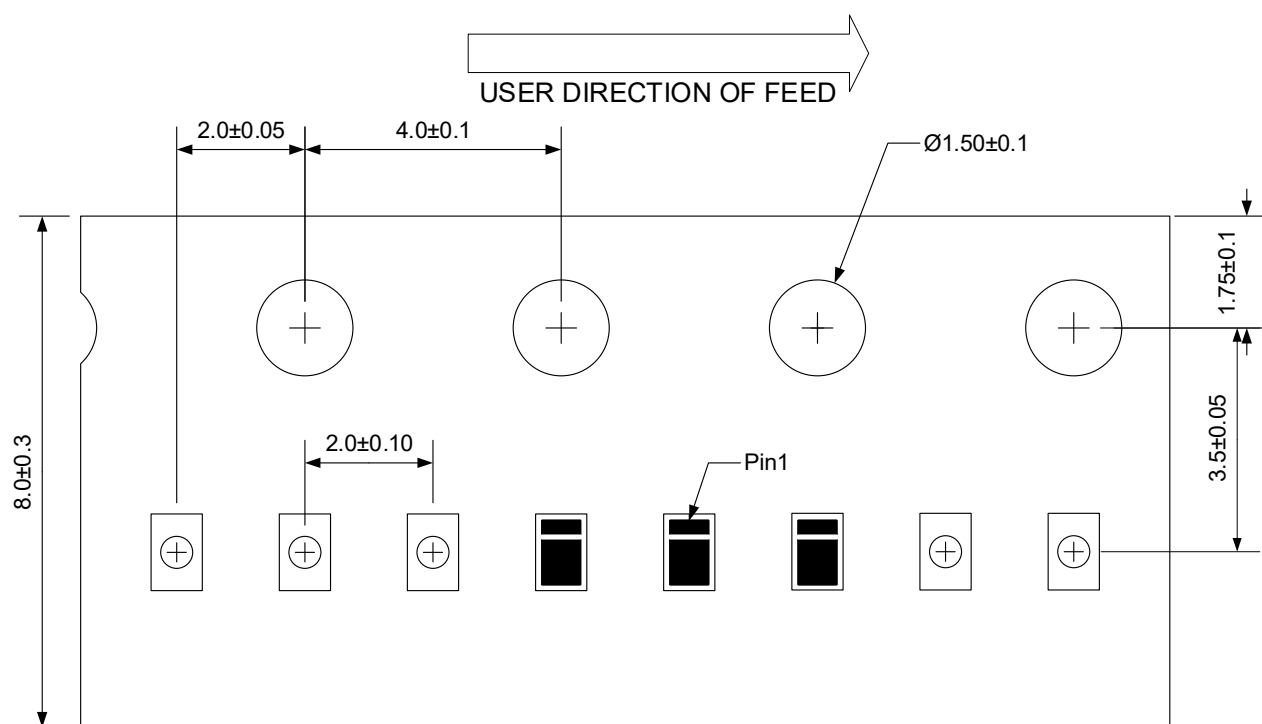
For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.

## Ordering information

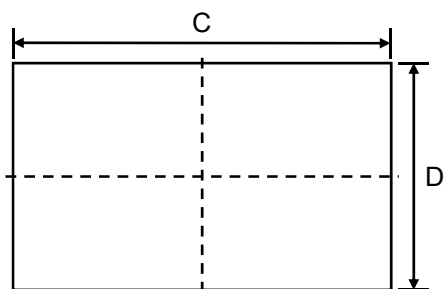
Package	Reel	Shipping
DFN1006-2L	7"	10000 / Tape & Reel

## Load with information

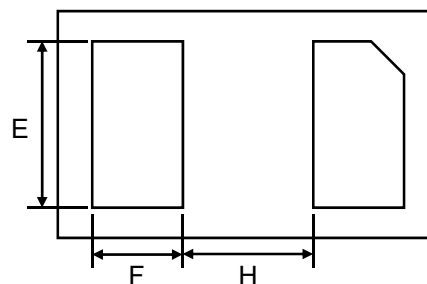


Unit:mm

## Product Dimension (DFN1006-2L)



Top View

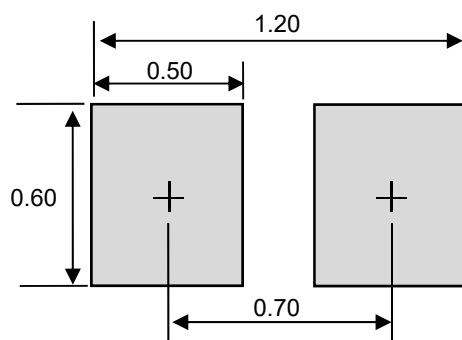


Bottom View



Side View


Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.40	0.55	0.016	0.022
B	0.00	0.05	0.000	0.002
C	0.90	1.10	0.035	0.043
D	0.55	0.65	0.022	0.026
E	0.35	0.60	0.014	0.024
F	0.15	0.30	0.006	0.012
H	0.40 Typ.		0.015 Typ.	



Unit:mm

Suggested PCB Layout


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