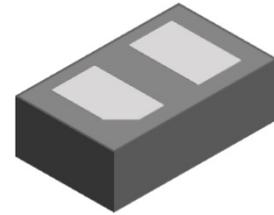


Bi-directional 5V LOW Capacitance ESD Protector

Description

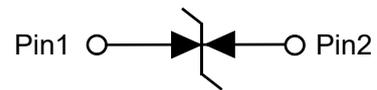
The PESDUC2FD5VBN protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for 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.



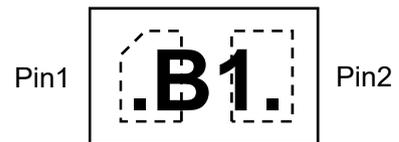
DFN1006-2L(Bottom View)

Feature

- 80W peak pulse power per line ( $t_p = 8/20\mu s$ )
- DFN1006-2L package
- Response time is typically < 1 ns
- Bidirectional configurations
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC 61000-4-2(ESD)  $\pm 25kV$ (air),  $\pm 25kV$ (contact); IEC 61000-4-5 (Lightning) 4A (8/20us)



Circuit Diagram



Marking (Top View)

Applications

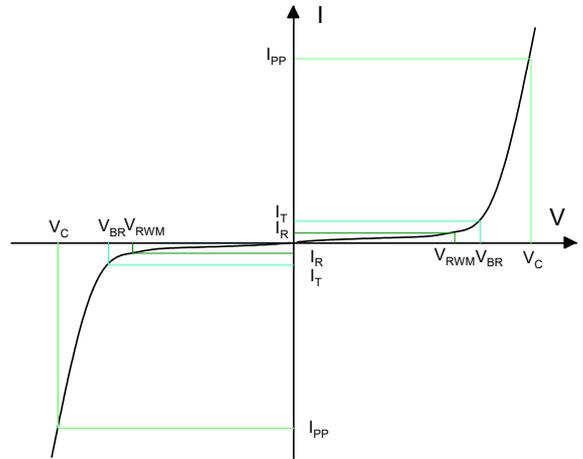
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals

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 @ $I_F$



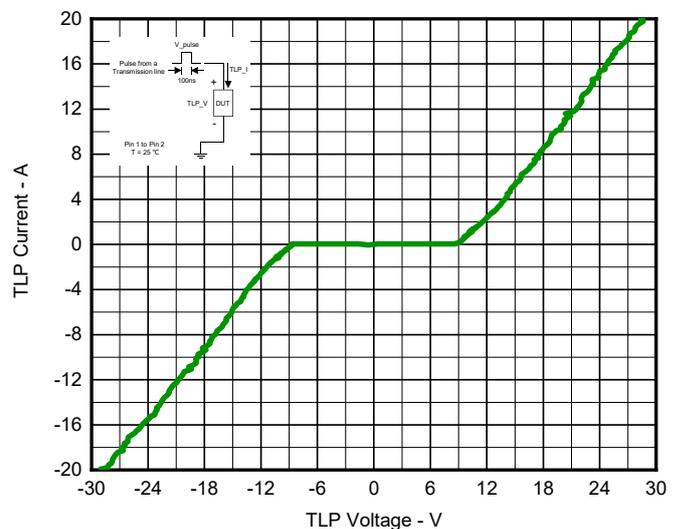
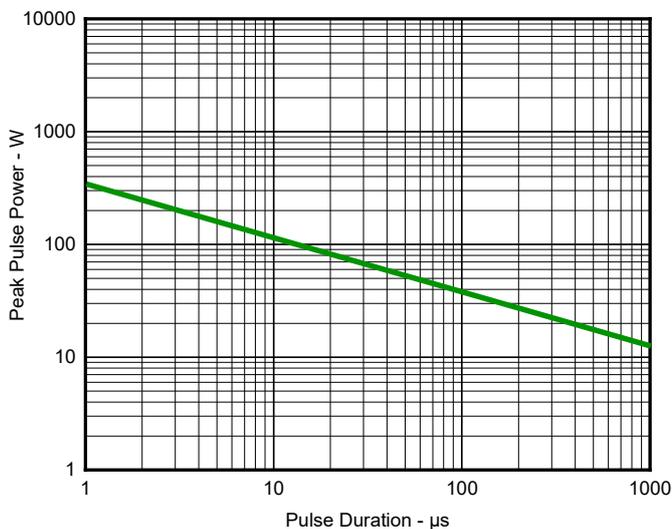
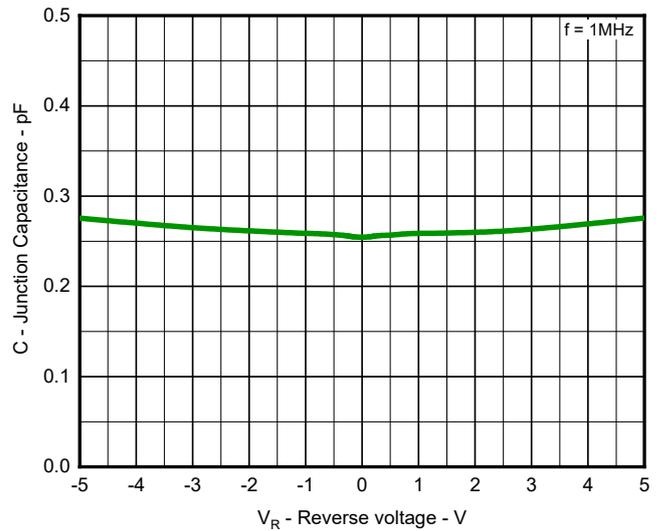
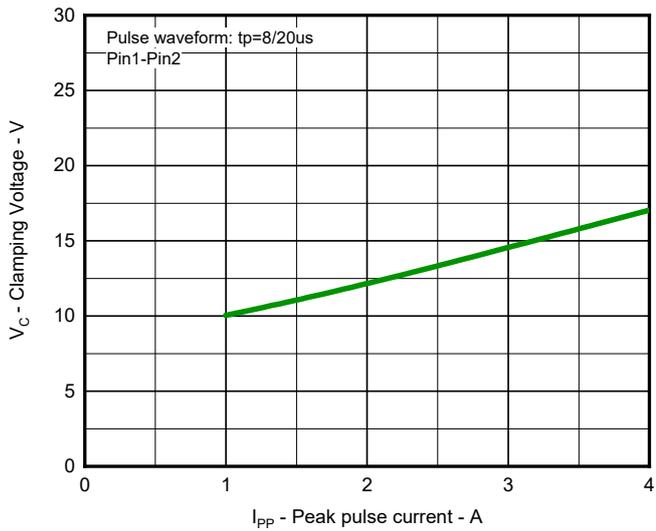
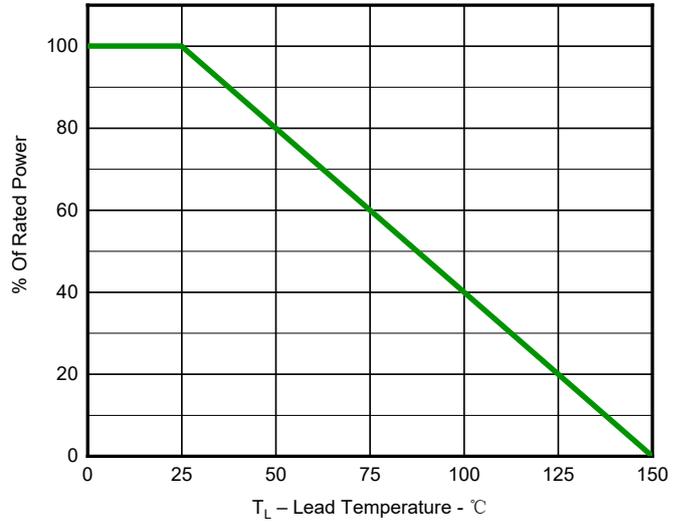
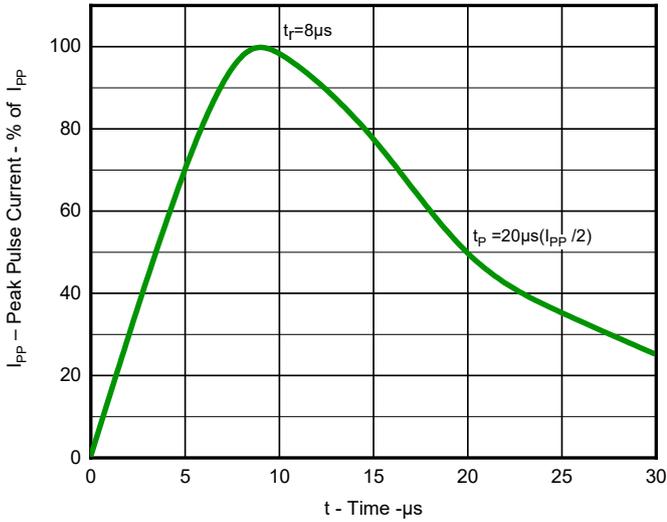
## Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	$V_{RWM}$	-	-	-	5.0	V
Breakdown Voltage	$V_{BR}$	$I_t = 1\text{mA}$	5.6	-	9.0	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$	-	-	100	nA
Clamping Voltage	$V_C$	$I_{PP} = 4\text{A}, t_p = 8/20\mu\text{s}$	-	-	21	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$	-	0.25	0.5	pF

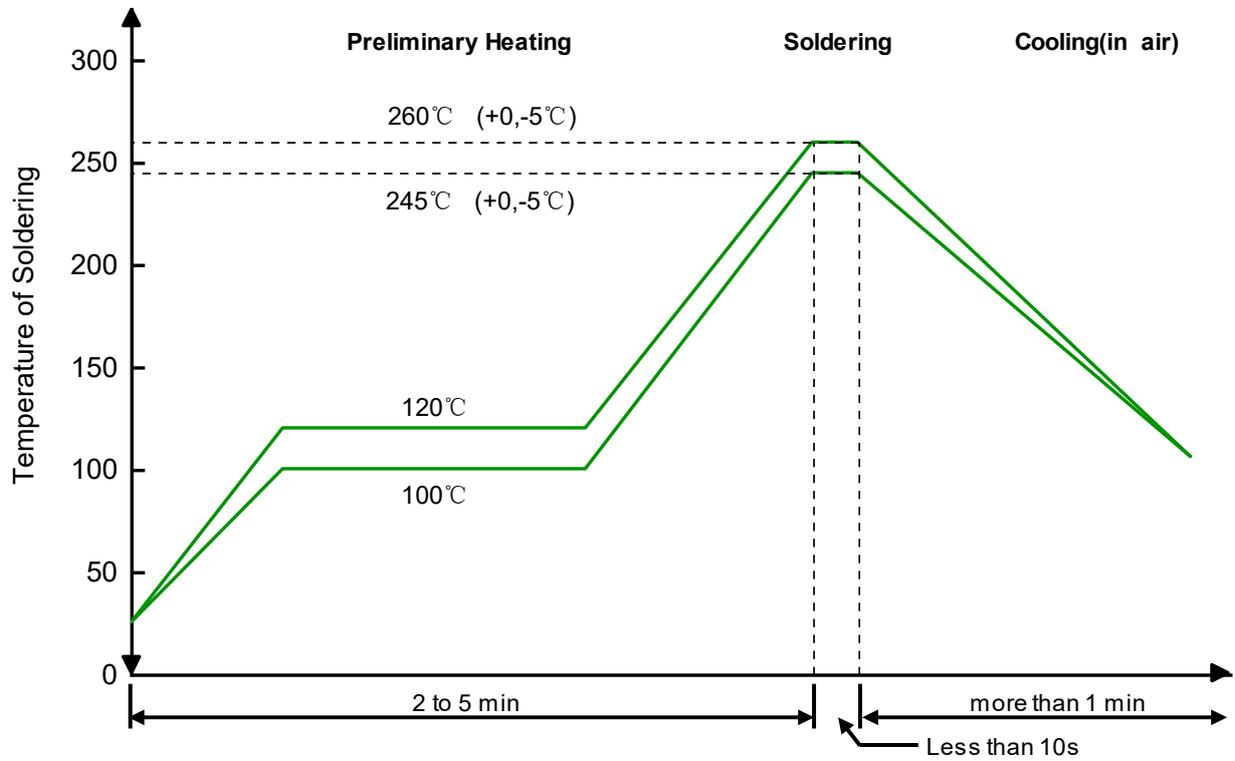
## Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	80	W
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{PP}$	4.0	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	$V_{ESD}$	±25	kV
ESD Protection-Air Discharge	$V_{ESD}$	±25	kV

Typical Characteristics



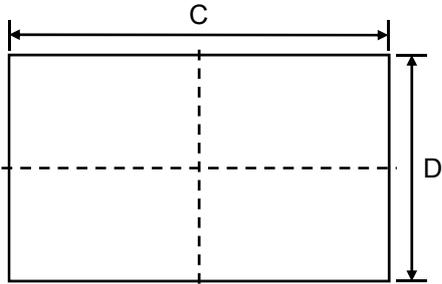
Solder Reflow Recommendation



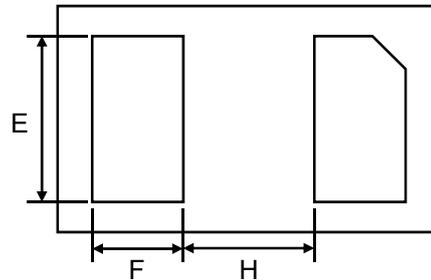
Remark: Pb free for 260°C; Pb for 245°C.



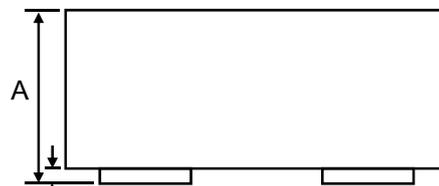
Product dimension (DFN1006-2L)



Top View

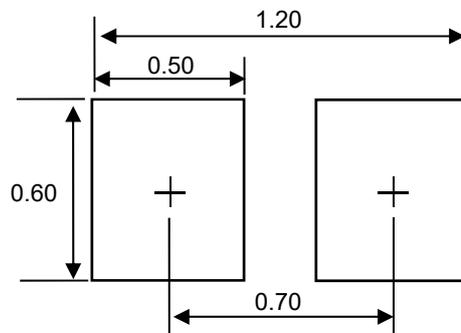


Bottom View



Side View

Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.40	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	0.55	0.014	0.022
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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