

## Features

Bi-directional ESD protection of one line  
Reverse stand-off voltage: 5V  
Low reverse clamping voltage  
Low leakage current  
Fast response time  
IEC 61000-4-2 (ESD) immunity test :  
Air discharge: ±30kV  
Contact discharge: ±30kV

## Applications

Computers and peripherals  
High speed data lines  
Audio and video equipment  
Cellular handsets and accessories  
Subscriber identity module(SIM) card protection  
Portable electronics  
FireWire  
Other electronics equipments communi- cation systems



DFN1006-2L(Pb-Free)



Schematic Diagram

## Absolute Maximum Rating

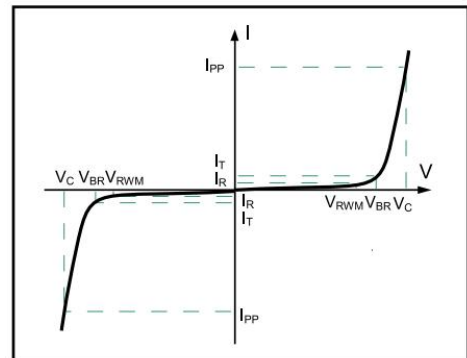
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	80	W
Peak Pulse Current (8/20μs)	IPP	8	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

**Electrical Characteristics** (TA=25°C unless otherwise specified)

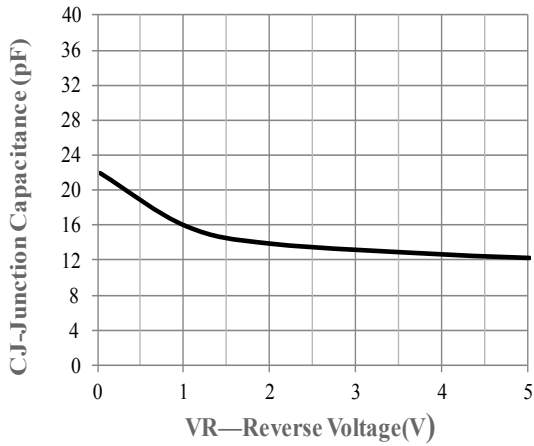
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VR <sub>WM</sub>				5	V
Breakdown Voltage	VBR	I <sub>T</sub> = 1mA	5.6			V
Reverse Leakage Current	I <sub>R</sub>	VR <sub>WM</sub> = ±5V			0.2	uA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 8A (8 x 20μs pulse)			11	V
Junction Capacitance	C <sub>j</sub>	VR = 0V, f = 1MHz			22	pF

**Electrical Parameters** (TA = 25°C unless otherwise noted)

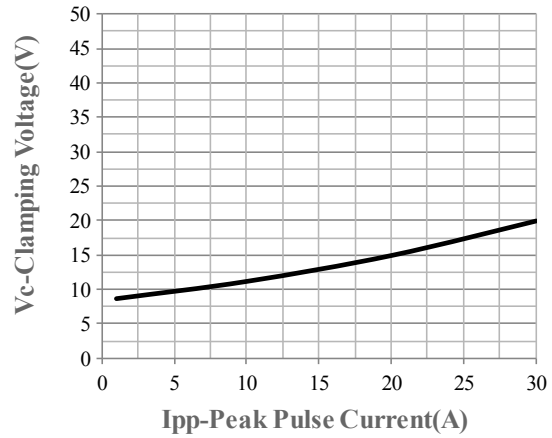
Symbol	Parameter
I <sub>T</sub>	Test Current
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @I <sub>C</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>R</sub>	Reverse Leakage Current @ VR <sub>WM</sub>
VR <sub>WM</sub>	Reverse Standoff Voltage



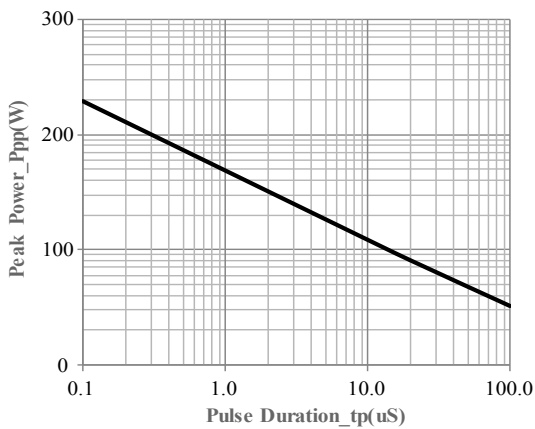
**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**



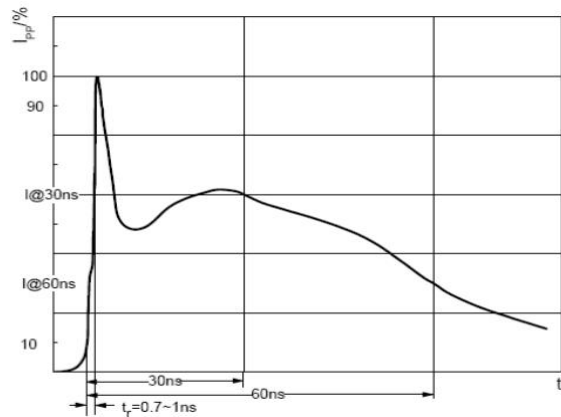
Junction Capacitance vs. Reverse Voltage



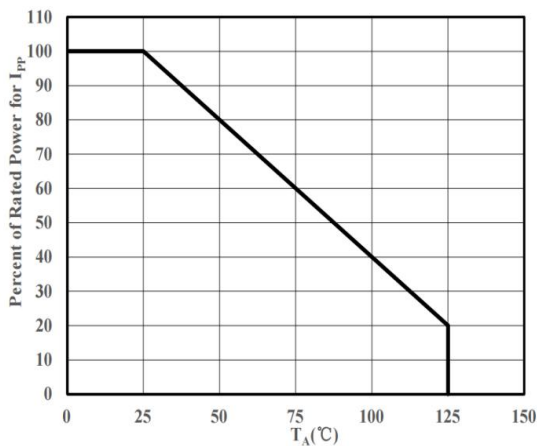
Clamping Voltage vs. Peak Pulse Current



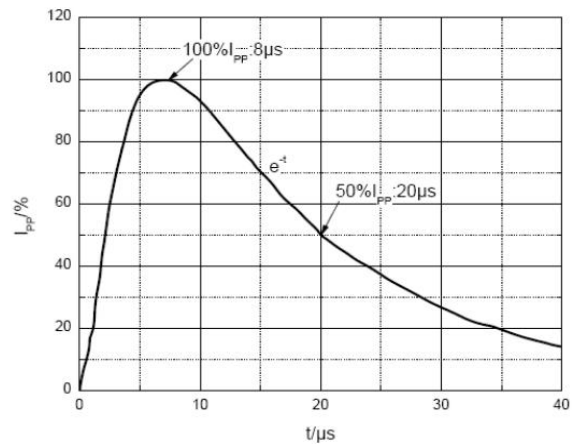
Peak Pulse Power vs. Pulse Time



ESD pulse waveform according to IEC61000-4-2



Power Derating Curve



8/20uS pulse waveform according to IEC 61000-4-5

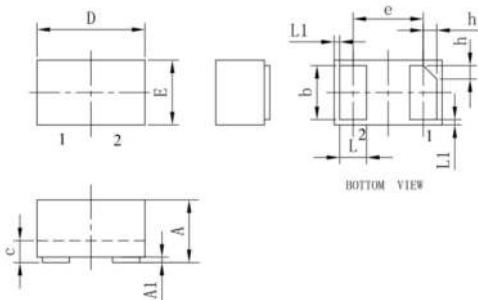
**Soldering parameters**

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquid us)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C



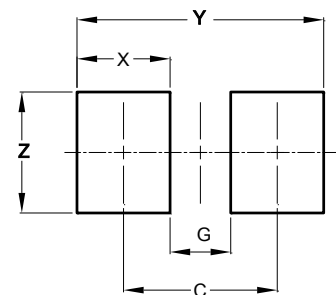
**Package Dimensions & Suggested Pad Layout**

DFN1006-2L



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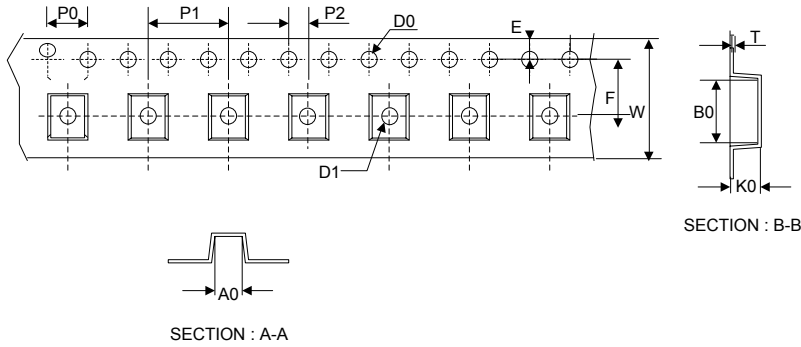
	Millimeters			Inches		
	Min. (mm)	Typ. (mm)	Max. (mm)	Min. (mm)	Typ. (mm)	Max. (mm)
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.59BSC			0.026BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.25	0.30	0.35	0.010	0.012	0.013
L1	0.05REF			0.002REF		
h	0.07	0.12	0.17	0.003	0.005	0.007



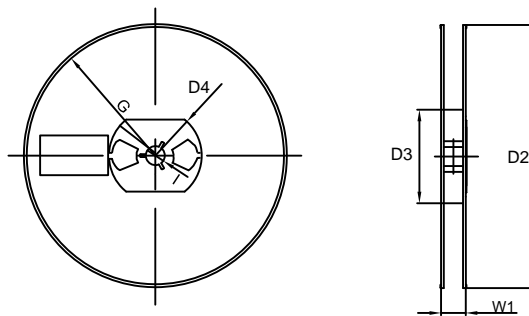
Dimensions	Value (in mm)
C	0.70
G	0.30
X	0.40
Y	1.10
Z	0.65

Tape & reel specification

Tape



7" Reel



Symbol	Dimension (mm)
P0	4.00±0.20
P1	2.00±0.20
P2	1.55±0.20
D0	1.55±0.20
D1	0.40±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	1.00±0.20
B0	1.40±0.20
K0	0.75±0.20
T	0.20±0.20
D2	177.0±5.0
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0

Quantity: 3000PCS