

Features

Bi-directional ESD protection of one line
Reverse stand-off voltage: 12V
Low reverse clamping voltage
Low leakage current
Fast response time
IEC 61000-4-2 (ESD) immunity test :
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$

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

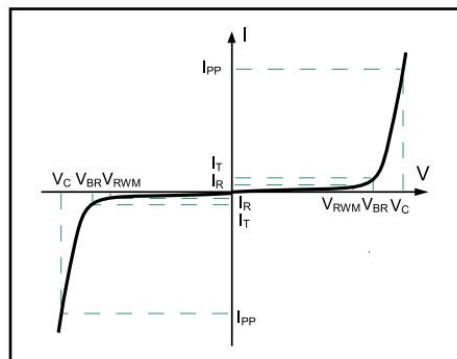
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	90	W
Peak Pulse Current (8/20 μs)	IPP	3.5	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

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

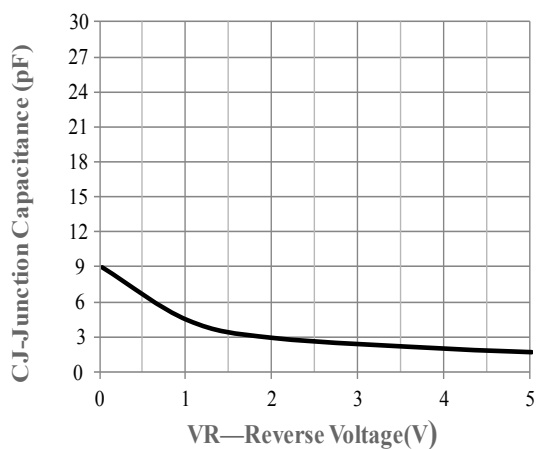
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	13.5		16	V
Reverse Leakage Current	I_R	$V_{RWM} = \pm 12\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 3.5\text{A}$ (8 x 20 μs pulse)			24	V
Junction Capacitance	C_j	$V_R = 0\text{V}$, $f = 1\text{MHz}$			9	pF

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

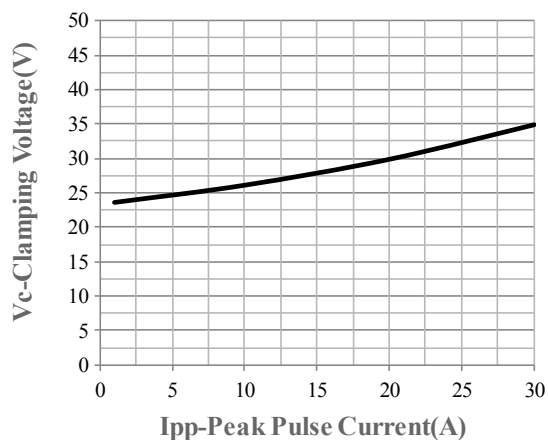
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C
V_{BR}	Breakdown Voltage @ I_T
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



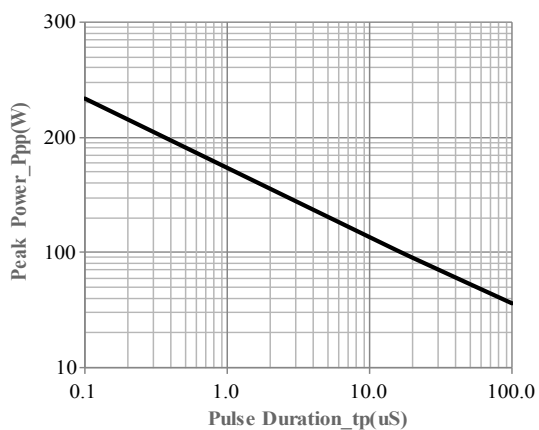
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



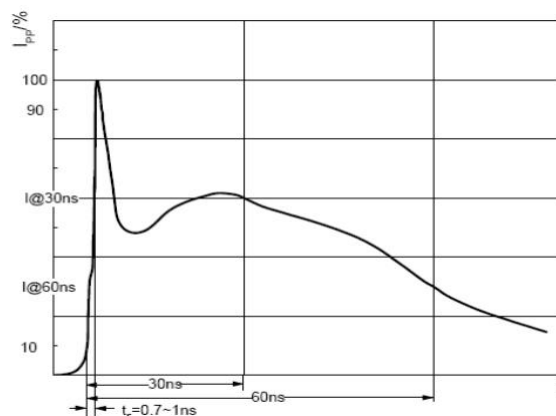
Junction Capacitance vs. Reverse Voltage



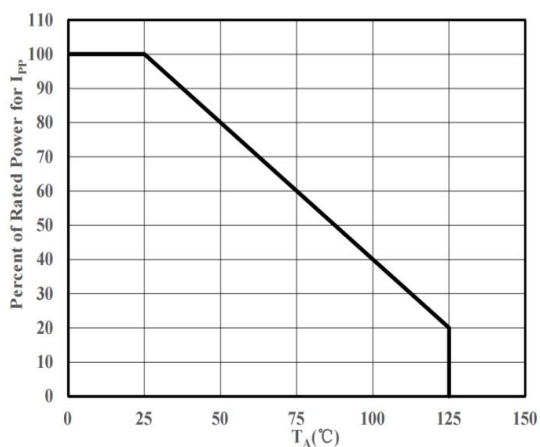
Clamping Voltage vs. Peak Pulse Current



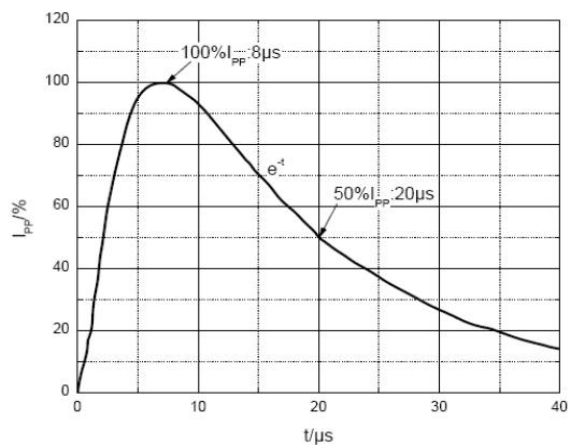
Peak Pulse Power vs. Pulse Time



ESD pulse waveform according to IEC61000-4-2



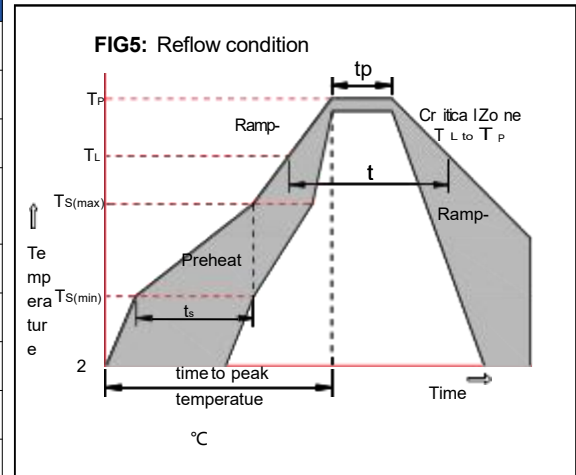
Power Derating Curve



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

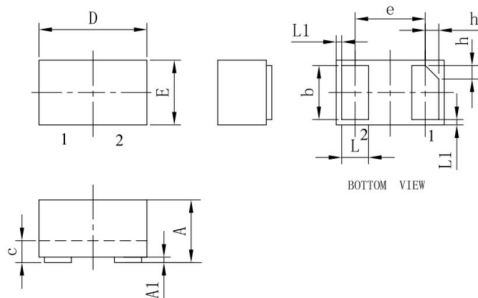
Soldering parameters

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



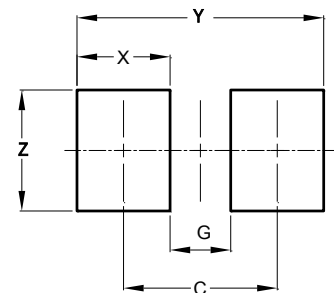
Package Dimensions & Suggested Pad Layout

DFN1006-2L



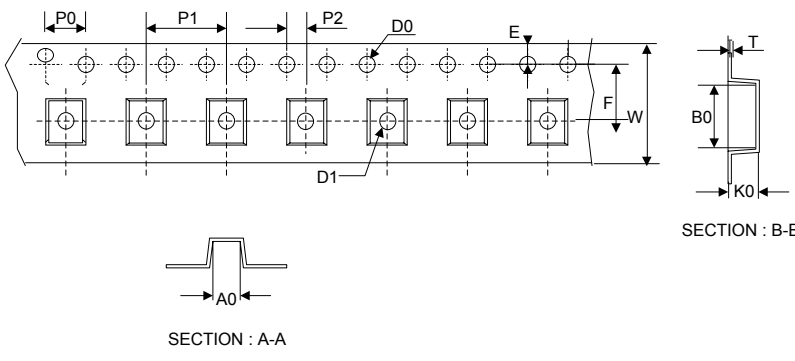
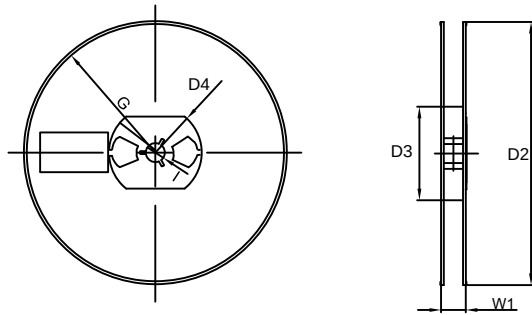
DFN1006-2L

	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		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
7" Reel		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	