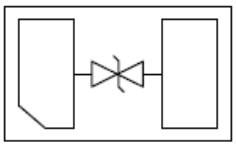
1-Line, Bi-directional, Transient Voltage Suppressor



DFN1006-2L

Features

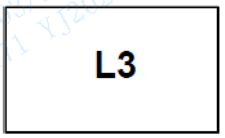
- 320W peak pulse power (8/20μs)
- Stand-off voltage: 30V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): ±25kV (air)
IEC61000-4-2(ESD): ±20kV (contact)
IEC61000-4-5(surge): 5A (8/20μs)
- Low leakage current
- RoHS Compliant

Applications

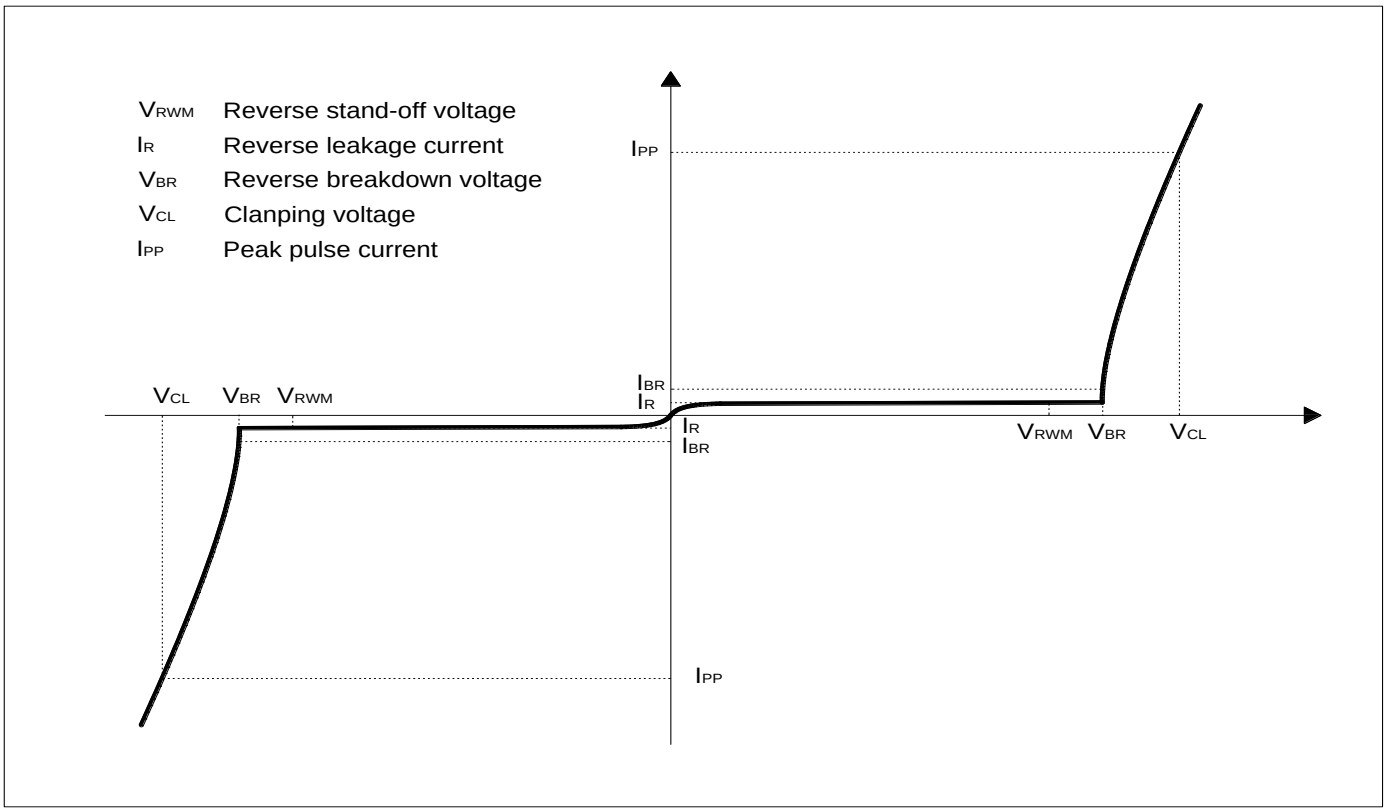
- Cellular Handsets and Accessories
- Set Top Box
- Notebooks and Handhelds
- Portable Instrumentation
- Industrial Controls
- Server and Desktop PC
- ESD protection of LIN bus

Mechanical Characteristics

- Package: DFN1006-2L
- Case Material: “Green” Molding Compound.
- Marking Information: See Below



■Definitions of electrical characteristics



■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	320	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±25	KV
ESD according to IEC61000-4-2 contact discharge		±20	KV
Junction temperature	T_J	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (T_a=25℃ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				30
Punch-Through Voltage	V_{PT}	V	I_T=1mA	32		
Reverse leakage current	I_R	μA	V_{RWM} =30V			0.2
Clamping voltage [1)]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs			42
		V	I_{PP} = 5A, t_p = 8/20μs			64
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		15	

(1). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDLC30VLB	Approximate 0.9	10000	40000	400000	Tae& reel

■ Typical Performance Characteristics (Ta=25℃ unless otherwise Specified)

Fig1, 8/20μs waveform per IEC61000-4-5

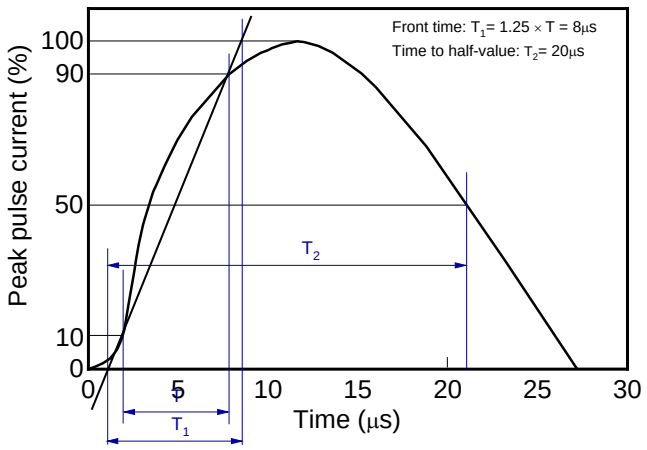


Fig2, Contact discharge current waveform per IEC61000-4-2

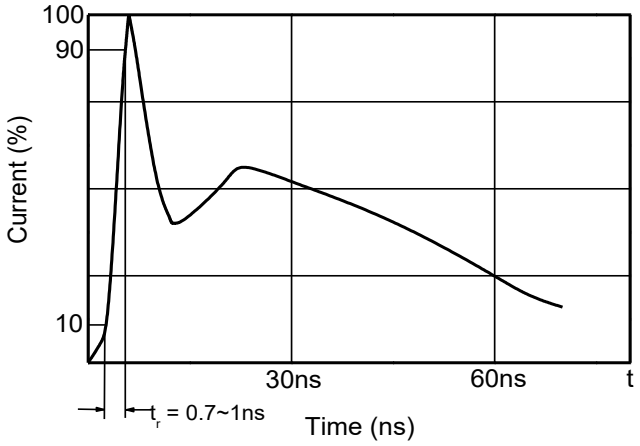


Fig3, Clamping voltage vs. Peak pulse current

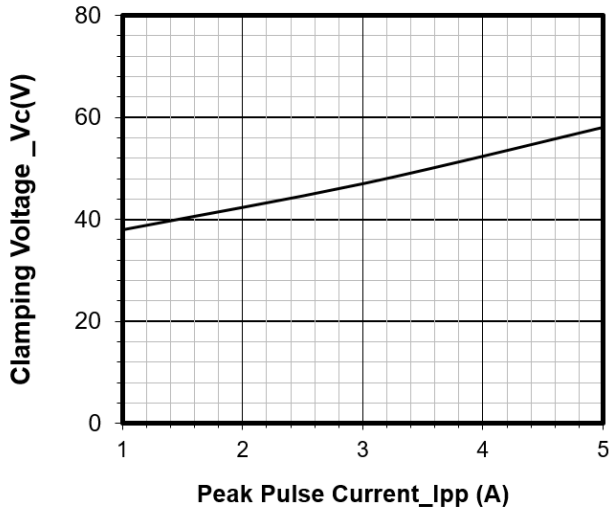


Fig4, Capacitance vs. Reverse voltage

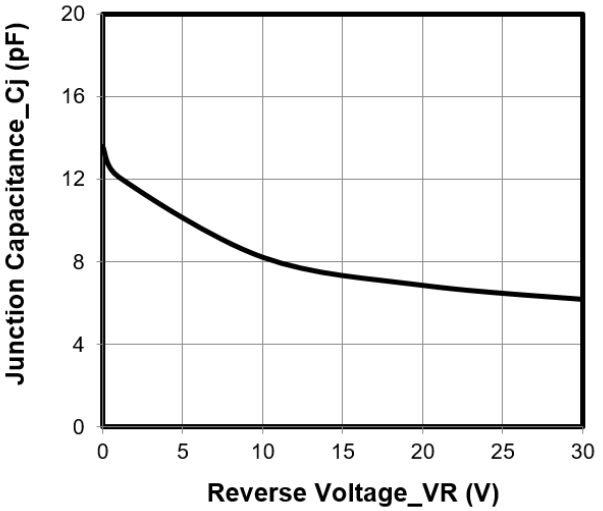


Fig5, Non-repetitive peak pulse power vs. Pulse time

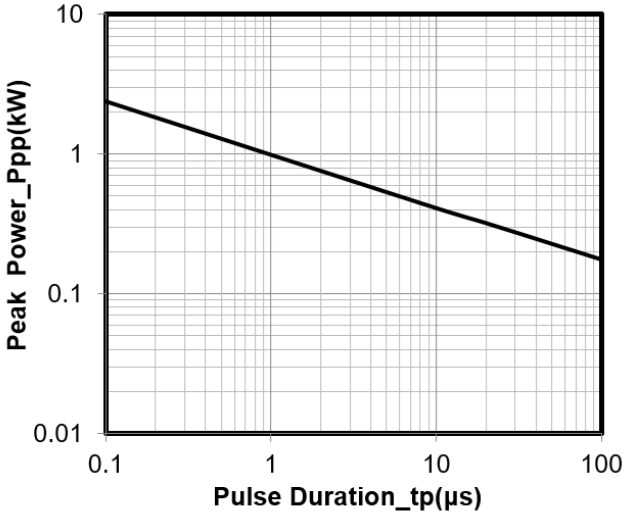


Fig6, Power derating vs. Ambient temperature

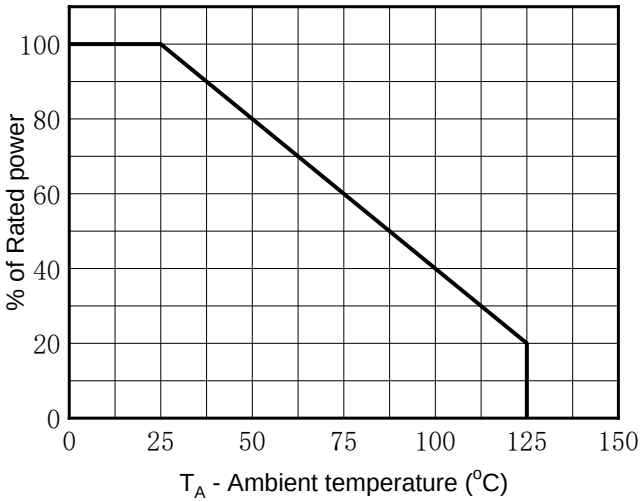


Fig.7 TLP Measurment

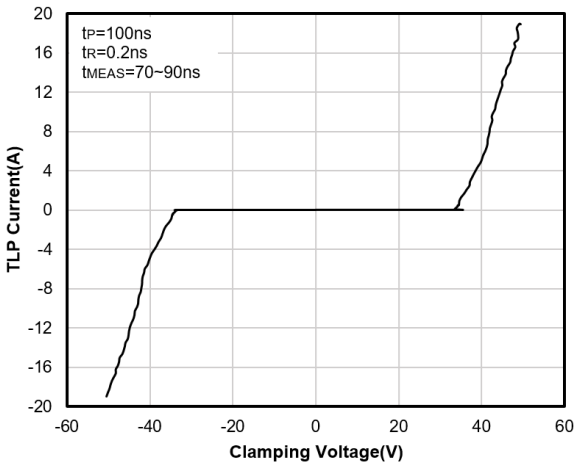
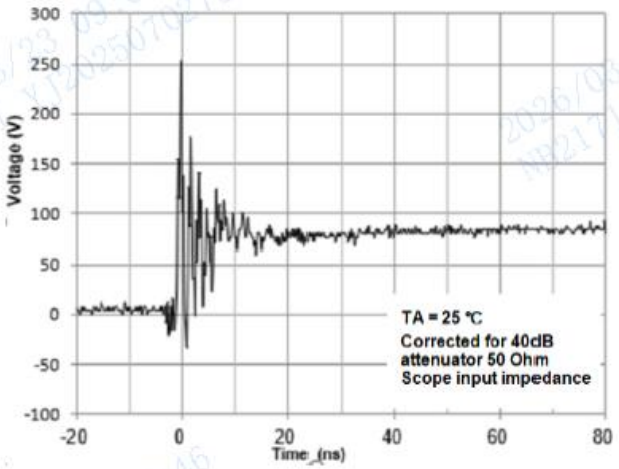
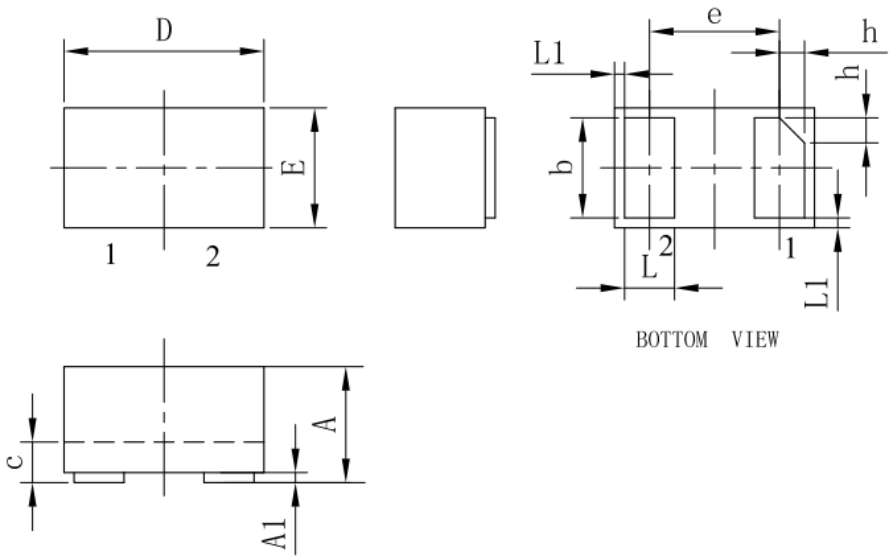


Fig.8 ESD clamping
(8kV contact discharge per IEC61000-4-2)

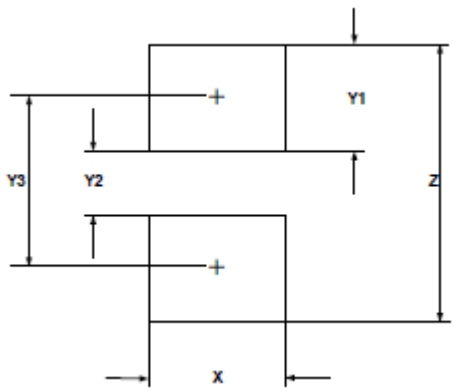


■ Outline Dimensions



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
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	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
L1	0.05REF			0.002REF		
h	0.07	0.12	0.17	0.003	0.005	0.007

■ Recommend land pattern (Unit:mm)



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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