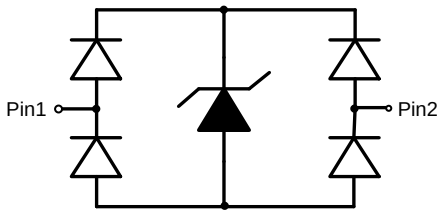
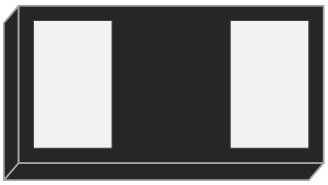
1-Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor





DFN1006-2L

Features

- Stand-off voltage: 5V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-2(ESD): ±30kV (air)
  IEC61000-4-5(surge): 12A (8/20μs)
- Low capacitance: CJ = 0.5pF typ
- Ultra-low leakage current
- Low clamping voltage:
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

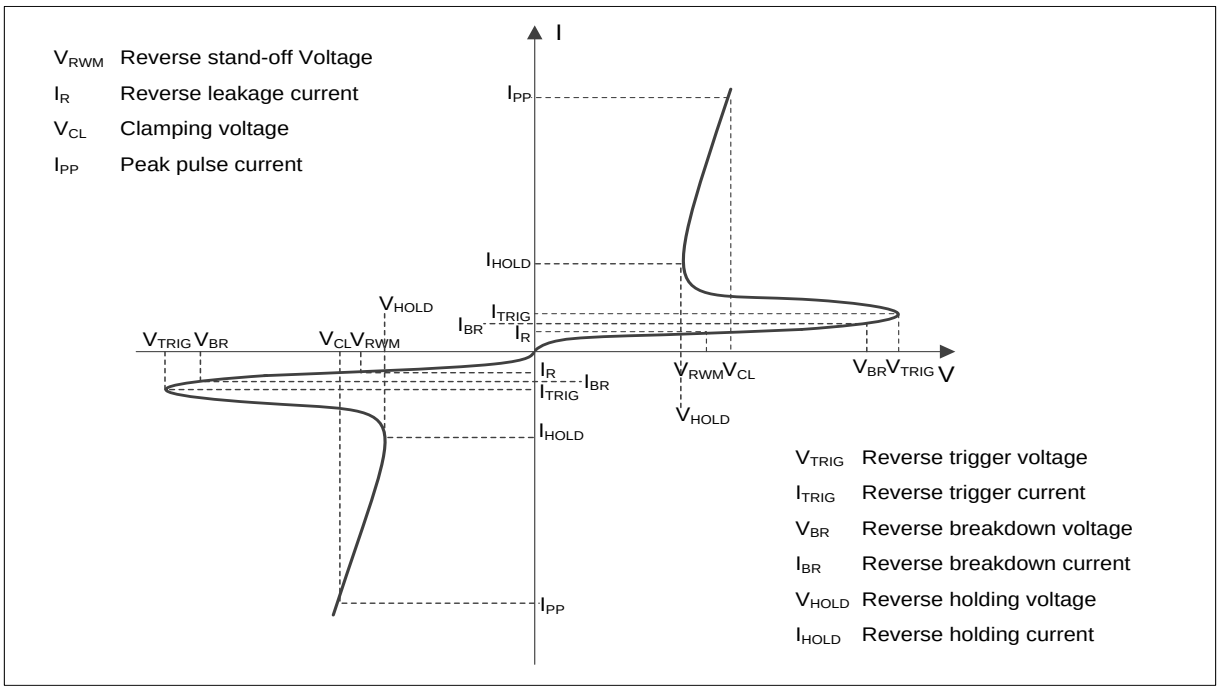
Caution:
This Device is designed for signal line protection only.
Do not operate under electrical bias or connect to a power line.

Mechanical Data

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

.

■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	72	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	12	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	
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				5.0
Reverse leakage current	I_R	nA	V_{RWM} = 5.0V			200
Reverse breakdown voltage	V_{BR}	V	I_T =1mA	6		9
Dynamic resistance 1)	R_{DYN}	Ω	tp = 0.2/100ns (TLP)		0.23	
Clamping voltage 2)	V_{CL}	V	IPP = 1A, tp = 0.2/100ns (TLP)		2.5	
		V	IPP = 4A, tp = 0.2/100ns (TLP)		3.5	
		V	IPP = 16A, tp = 0.2/100ns (TLP)		6.3	
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		0.5	

Notes:
(1). Dynamic resistance calculated from ITLP = 4A to ITLP = 16A
(2). Transmission Line Pulse Test (TLP) Settings: tp = 100ns, tr = 0.2ns

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SESDSLC5V0LBA	F1	Approximate 0.9	10000	100000	400000	7” reel

■ Characteristics (Typical)

Fig.1 8/20μs waveform per IEC61000-4-5

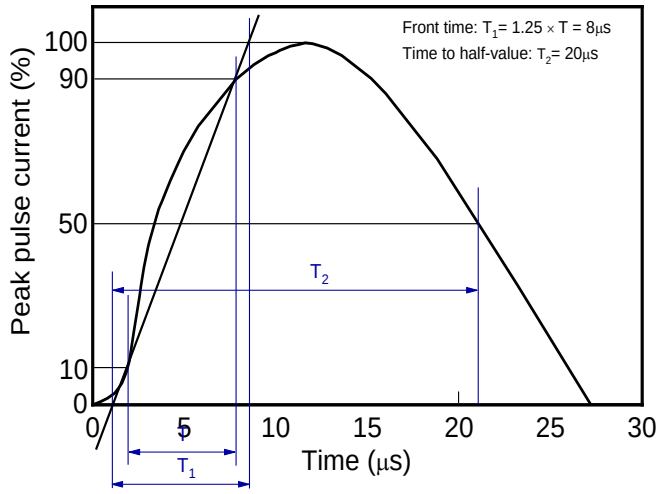


Fig.2 Contact discharge current waveform per IEC61000-4-2

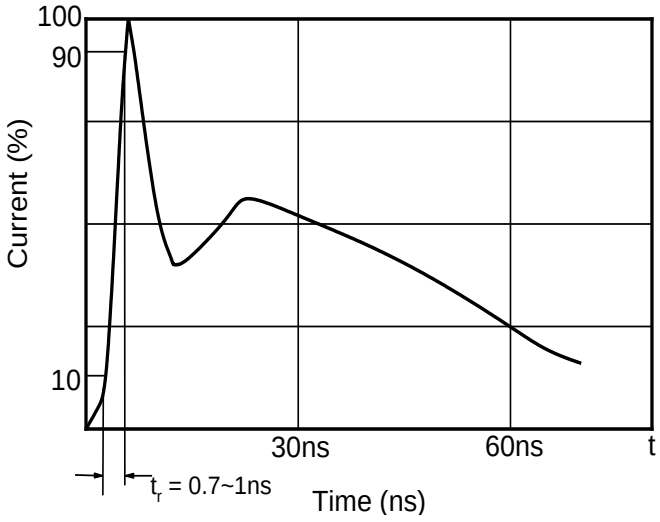


Fig.3 Clamping Voltage vs. Peak Pulse Current

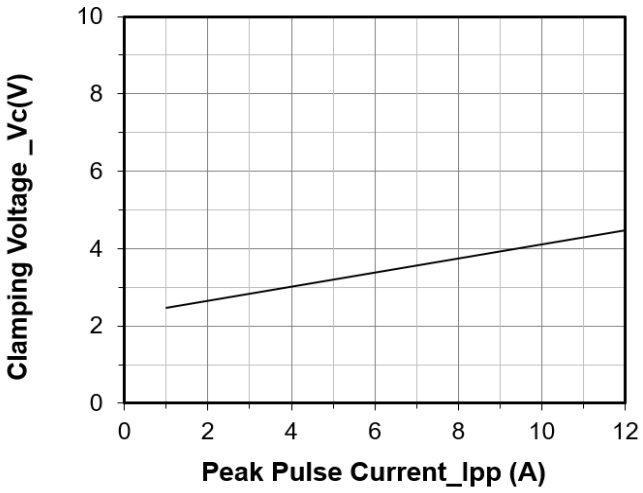


Fig.4 Capacitance vs. Reverse Voltage

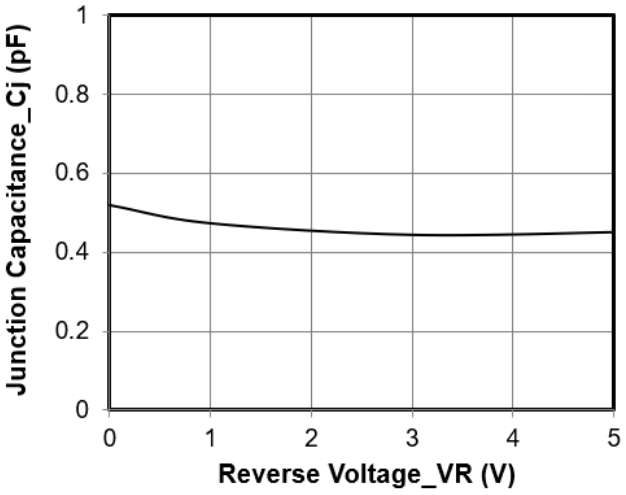


Fig.5 Non-repetive peak lulse power vs.Pulse time

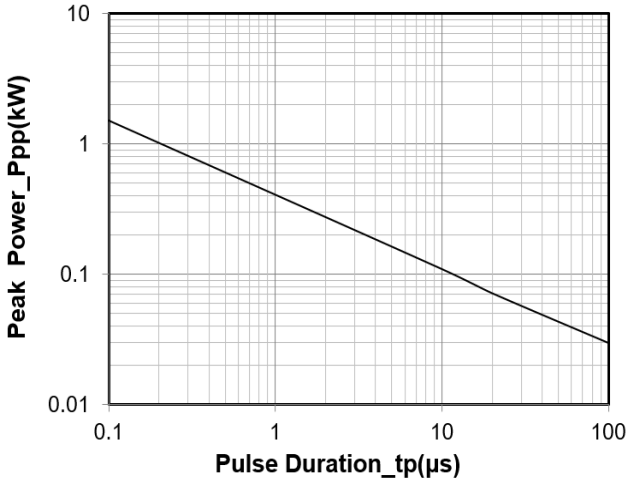


Fig.6 Power derating vs. Ambient temperature

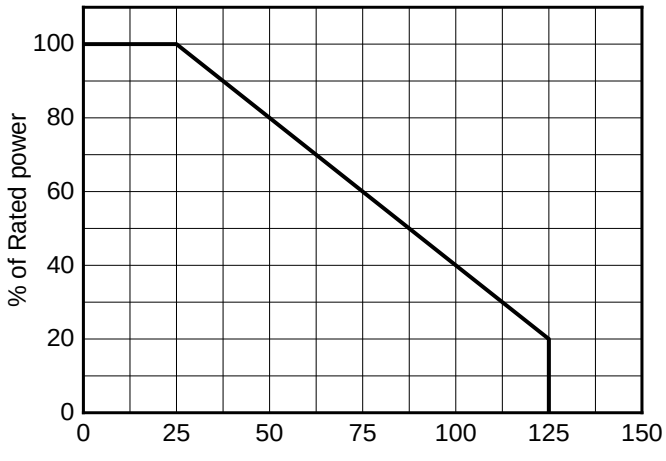
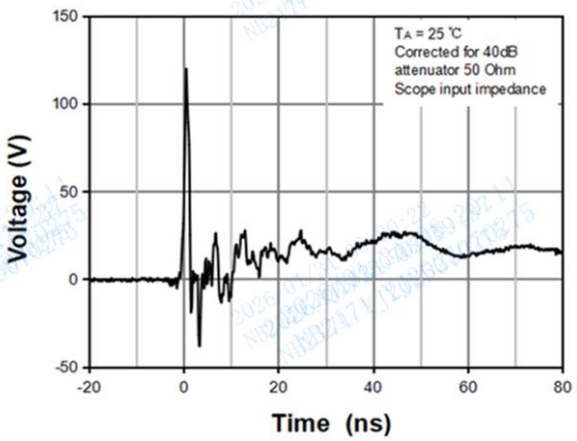
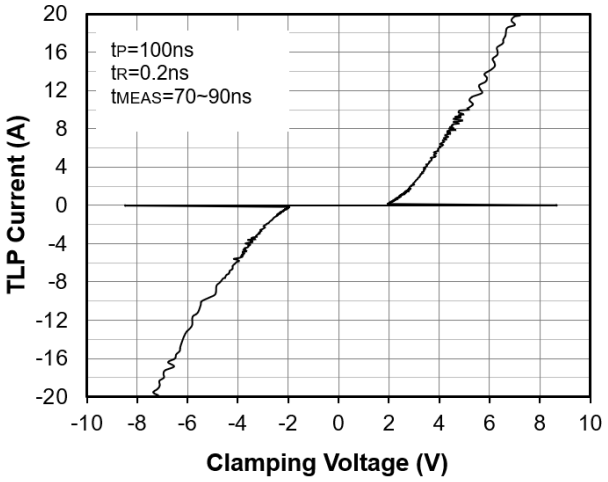


Fig.7 ESD Clamping

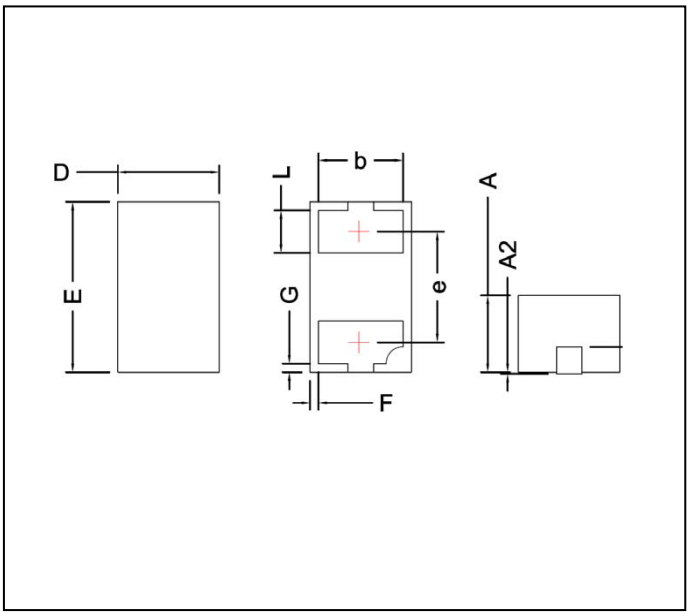
Fig.9 TLP Measurement

（+8kv contact discharge per IEC61000-4-2）



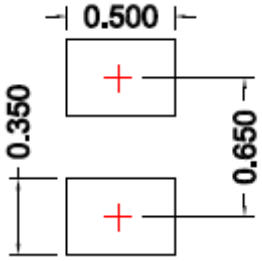


■ Outline Dimensions



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	0.50	0.60	0.70
E	0.90	1.00	1.10
A	0.35	0.45	0.55
A2			0.10
F	0.005		
G	0.005		
L	0.15	0.25	0.35
b	0.41	0.50	0.59
e	0.65 BSC		

■ Recommended PCB Layout



Unit:mm

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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