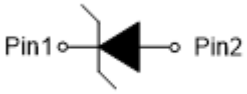
1-Line, Uni-directional, Transient Voltage Suppressor





DFN1610-2L

Features

- Stand-off voltage: 3.3 V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 90A (8/20μs)
- Low leakage current
- Ultra-low capacitance: CJ = 250 pF typ
- Low clamping voltage
- RoHS Compliant

Applications

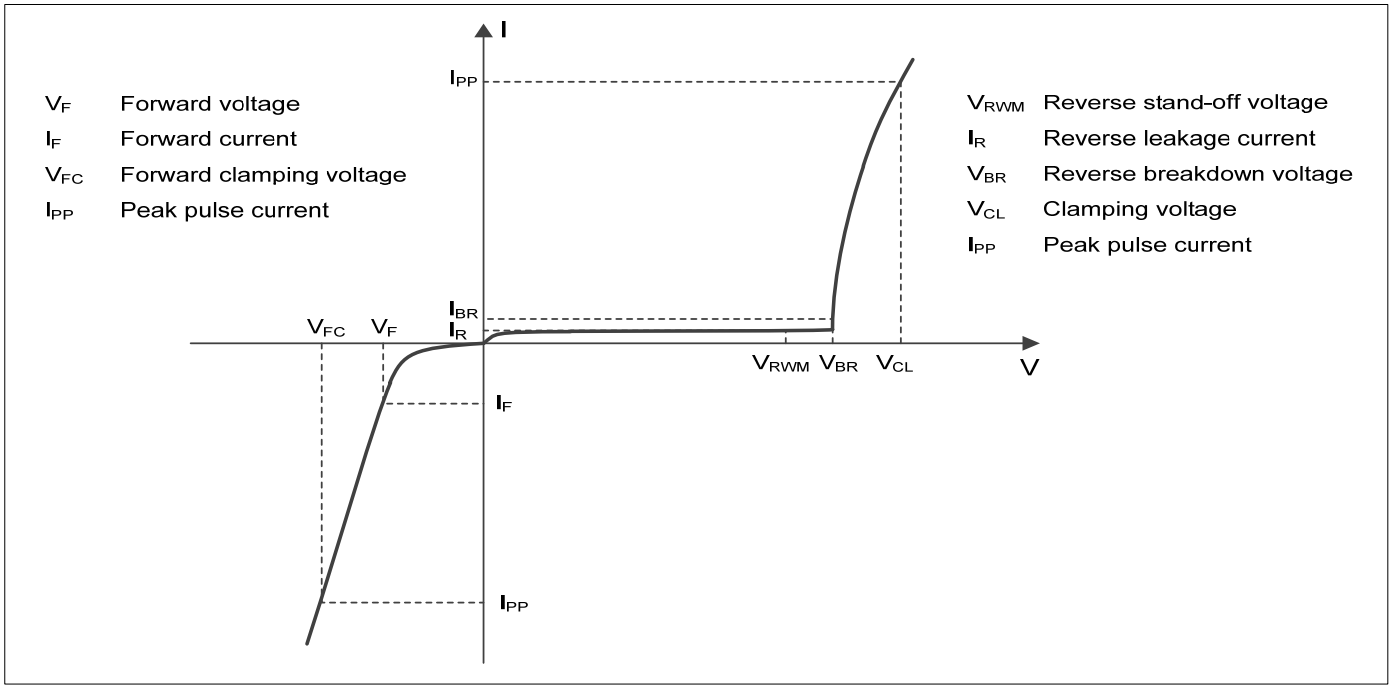
- Power Line Protection
- Power Management Systems
- Hand Held Portable Applications
- Mobile Device Applications
- Control Signal Lines Protection
- Microprocessors Protection
- Latchup Protection
- Network communication devices

Mechanical Data

- Package: DFN1610-2L
- 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)，any I/O pin to ground	P_{pk}	900	W
Peak pulse current (t_p = 8/20μs)，any I/O pin to ground	I_{PP}	90	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	℃
Storage temperature	T_{STG}	-55~150	℃

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				3.3
Reverse breakdown voltage	$V_{(BR)}$	V	I_T = 1mA	3.4		
Reverse leakage current	I_R	uA	V_{RWM} = 3.3V			1
Clamping voltage	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		4.2	6
		V	I_{PP} = 90A, t_p = 8/20μs		7.5	10
Junction capacitance	CJ	pF	VR = 0V, f = 1MHz		250	320

Notes:

(1). TLP parameter: Z0 = 50Ω, tp = 100ns, tr = 2ns, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.

(2). Contact discharge mode, according to IEC61000-4-2.

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

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD3V3P6	F1	Approximate 2.8	3000	30000	120000	7 reel

■ Characteristics (Typical)

Fig1.8/20μs waveform per IEC61000-4-5

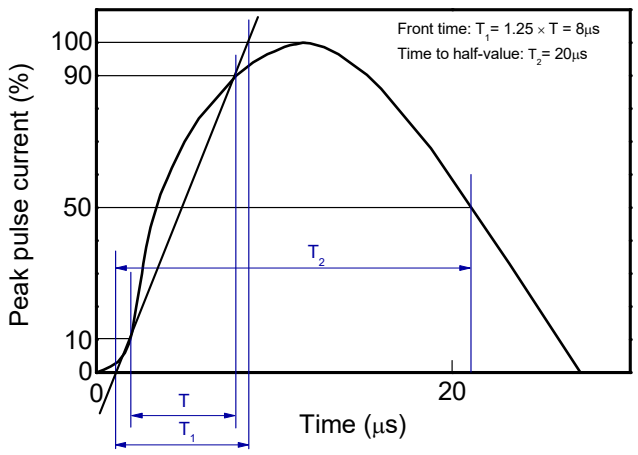


Fig2. Contact discharge current waveform per IEC61000-4-2

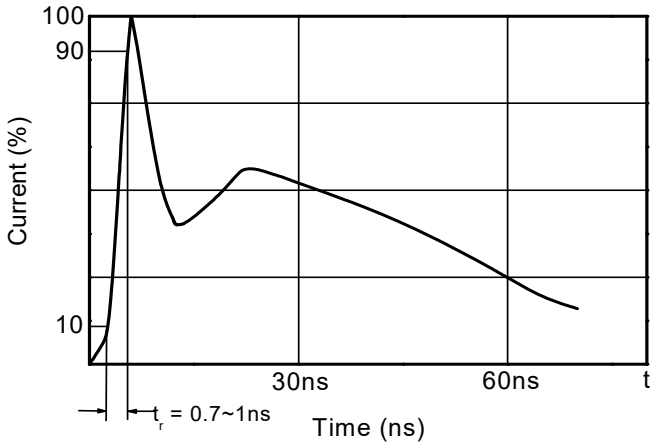


Fig3. Clamping voltage vs. Peak pulse current

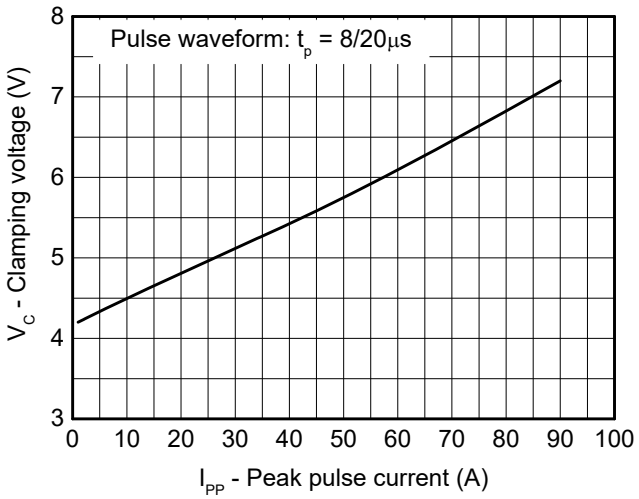


Fig4.Capacitance vs. Reverse voltage

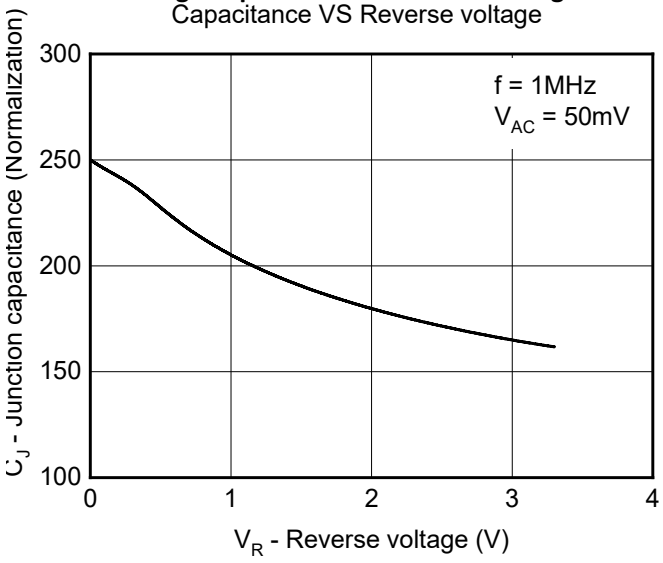


Fig5.Non-repetitive peak pulse power vs. Pulse time

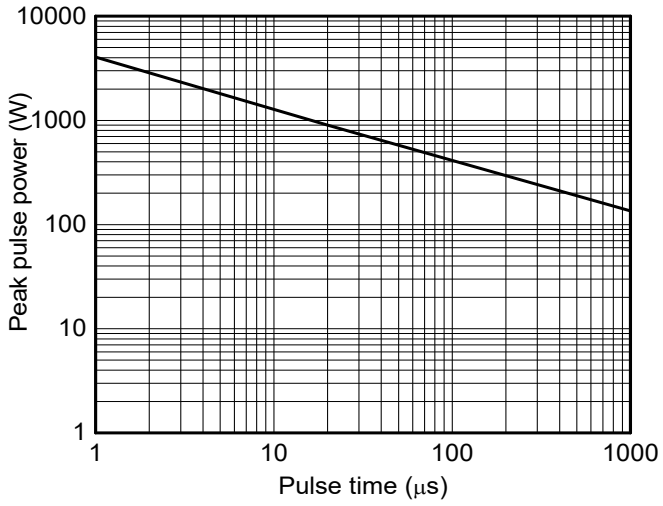


Fig6.Power derating vs. Ambient temperature

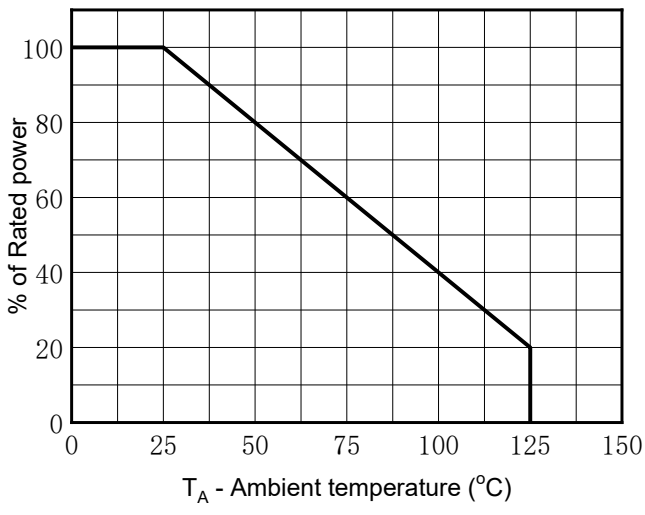
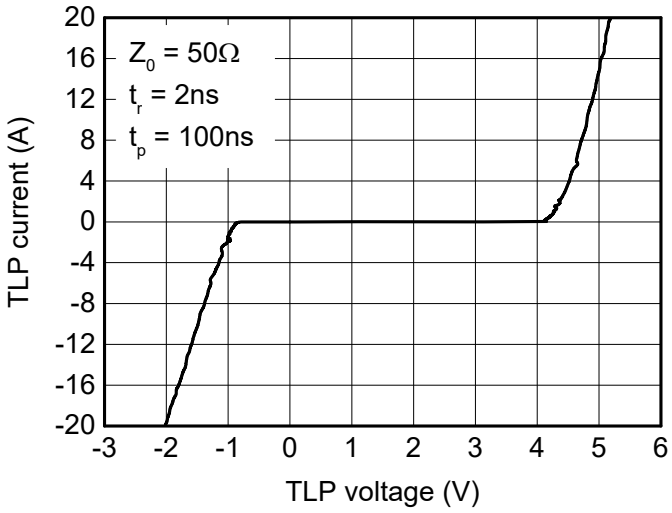
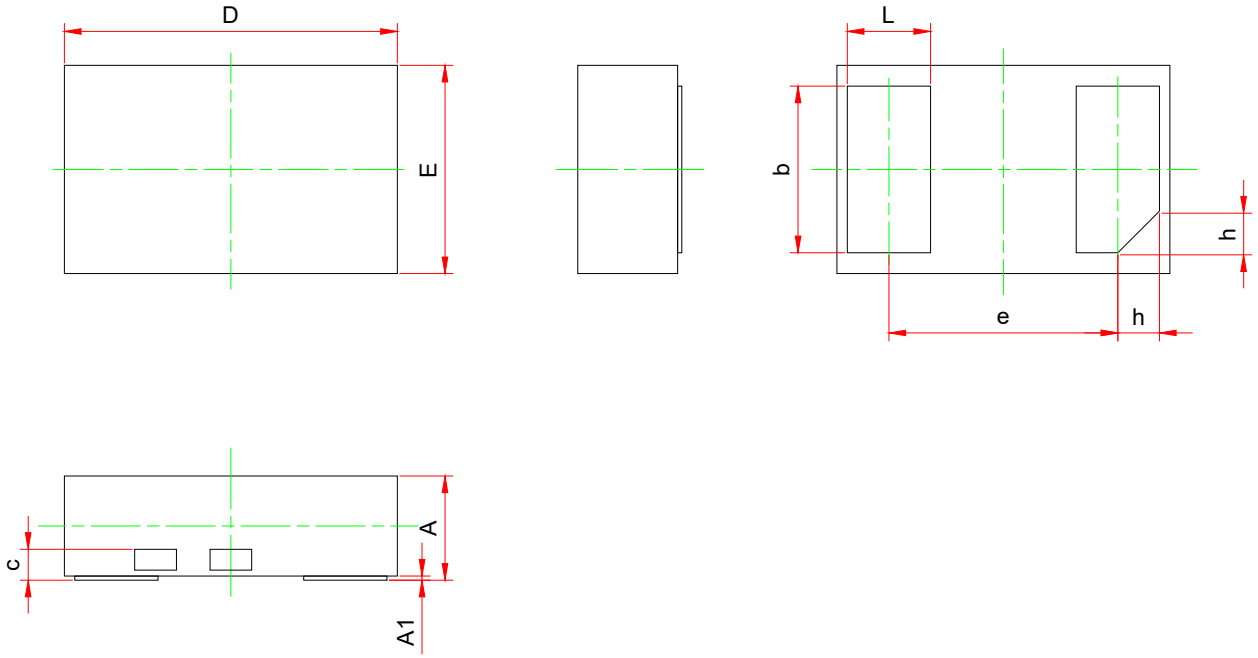


Fig7.TLP Measurement

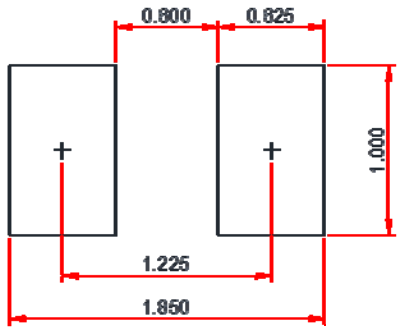


■ Outline Dimensions



Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
c		0.15 Ref.	
b	0.75	0.80	0.85
L	0.35	0.40	0.45
D	1.55	1.60	1.65
E	0.95	1.00	1.05
e		1.10 BSC	
h		0.20 Ref.	

■ Soldering Footprint



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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