

1- Line, Bi-directional, Transient Voltage Suppressor



DFN1006-2L

Features

- Stand-off voltage: 2.5V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 22A (8/20 μs)
- Low leakage current
- Ultra-low capacitance: $C_J = 55\text{pF}$ typ
- Low clamping voltage
- RoHS Compliant

Applications

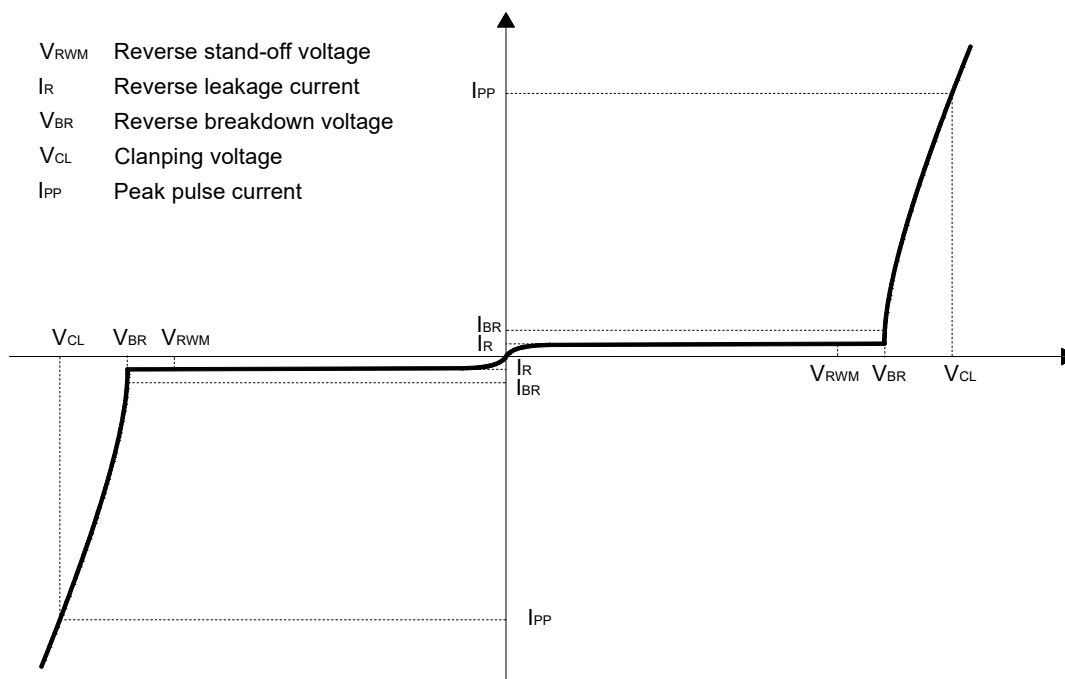
- Hand Held Portable Applications
- Computer Interfaces Protection
- Microprocessors Protection
- Serial and Parallel Ports Protection
- Control Signal Lines Protection
- Power lines on PCB Protection
- Latchup Protection

Mechanical Data

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

2V5

■ Definitions of electrical characteristics





ESD2V5LBA

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	220	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	22	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	125	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				2.5
Reverse leakage current	I_R	μA	$V_{RWM} = 2.5V$,			1
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$,	3.4		
Clamping voltage	V_{CL}	V	$I_{PP} = 5A$, $t_p = 8/20\mu s$		5	7
		V	$I_{PP} = 22A$, $t_p = 8/20\mu s$		8	10
Junction capacitance	CJ	pF	$V_R = 0V$, $f = 1MHz$		55	

Notes:

- (1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, 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

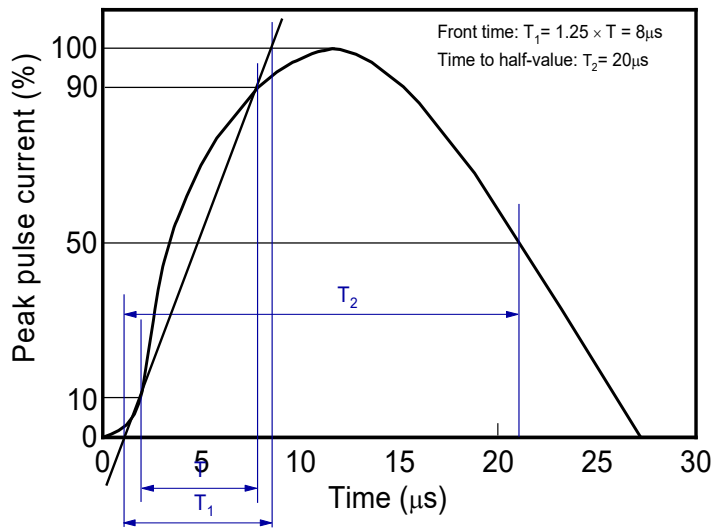
■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD2V5LBA	F1	Approximate 0.9	10000	100000	400000	7 reel

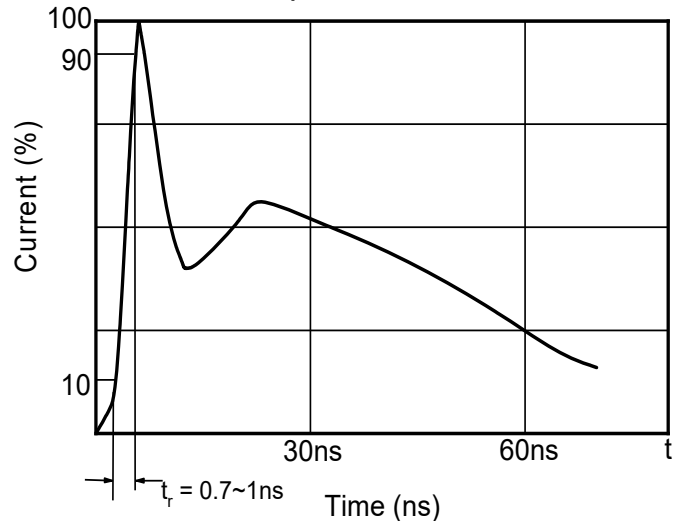


■ Characteristics (Typical)

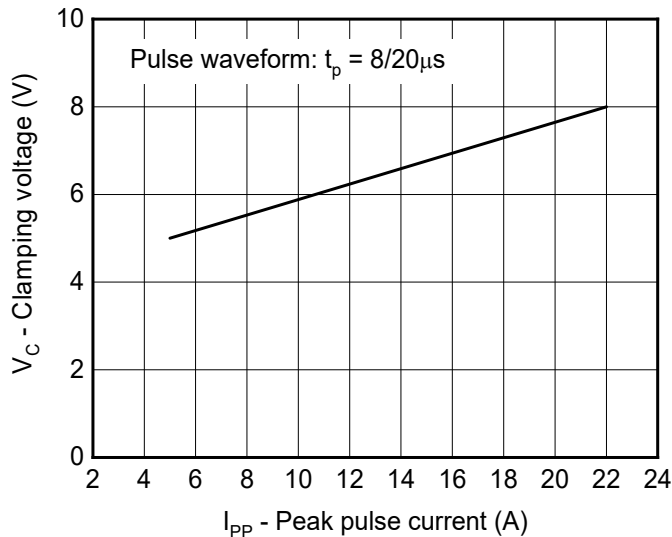
8/20 μ s waveform per IEC61000-4-5



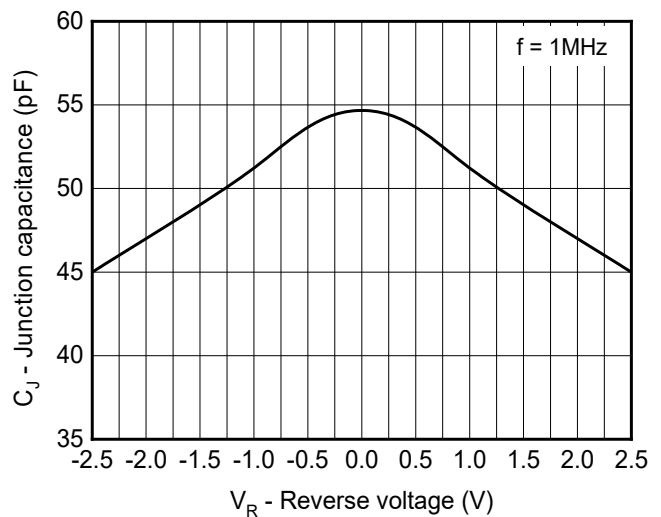
Contact discharge current waveform per IEC61000-4-2



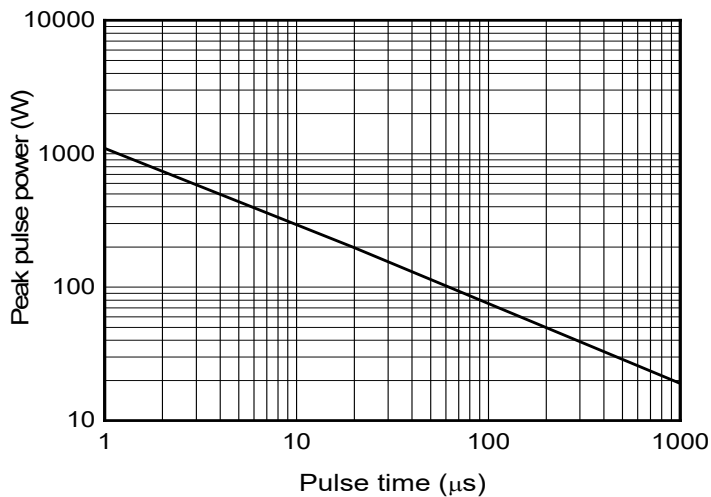
Clamping voltage VS Peak pulse current



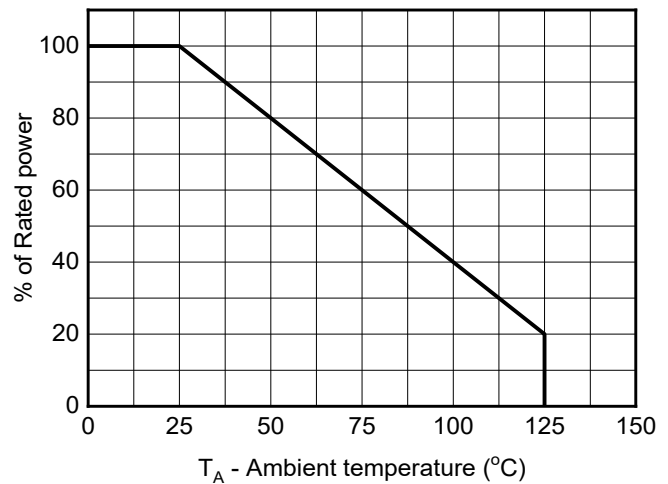
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time

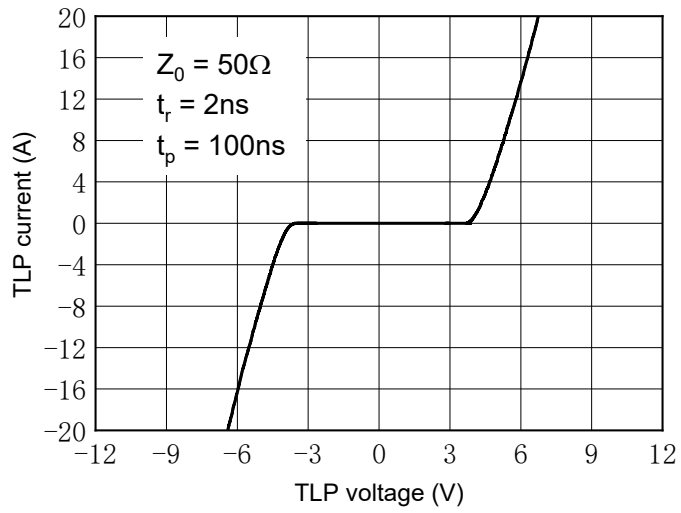


Power derating vs. Ambient temperature





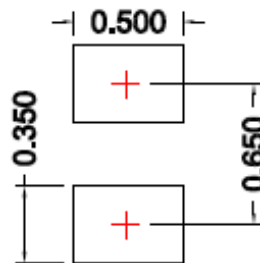
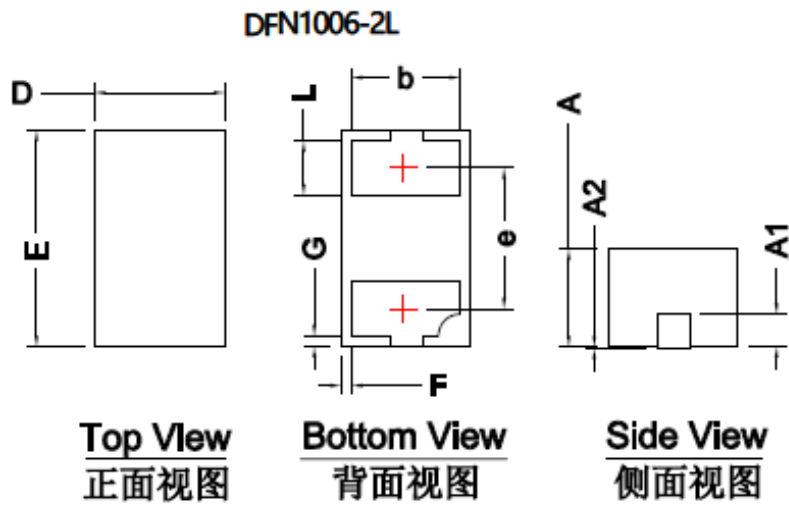
TLP Measurement





ESD2V5LBA

■ Outline Dimensions



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: ± 0.10 mm.
3. The pad layout is for reference purposes only.

Suggested Solder Pad Layout
Top View



ESD2V5LBA

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