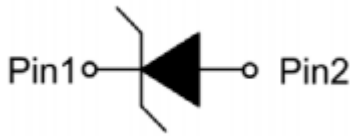


1-Line, Bi-directional, Transient Voltage Suppressor



DFN1006-2L

Features

- Ultra small package
- Stand-off voltage: 48V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
- IEC61000-4-5(surge): 4A (8/20 μs)
- Ultra-low capacitance: $C_J = 20\text{ pF}$ typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

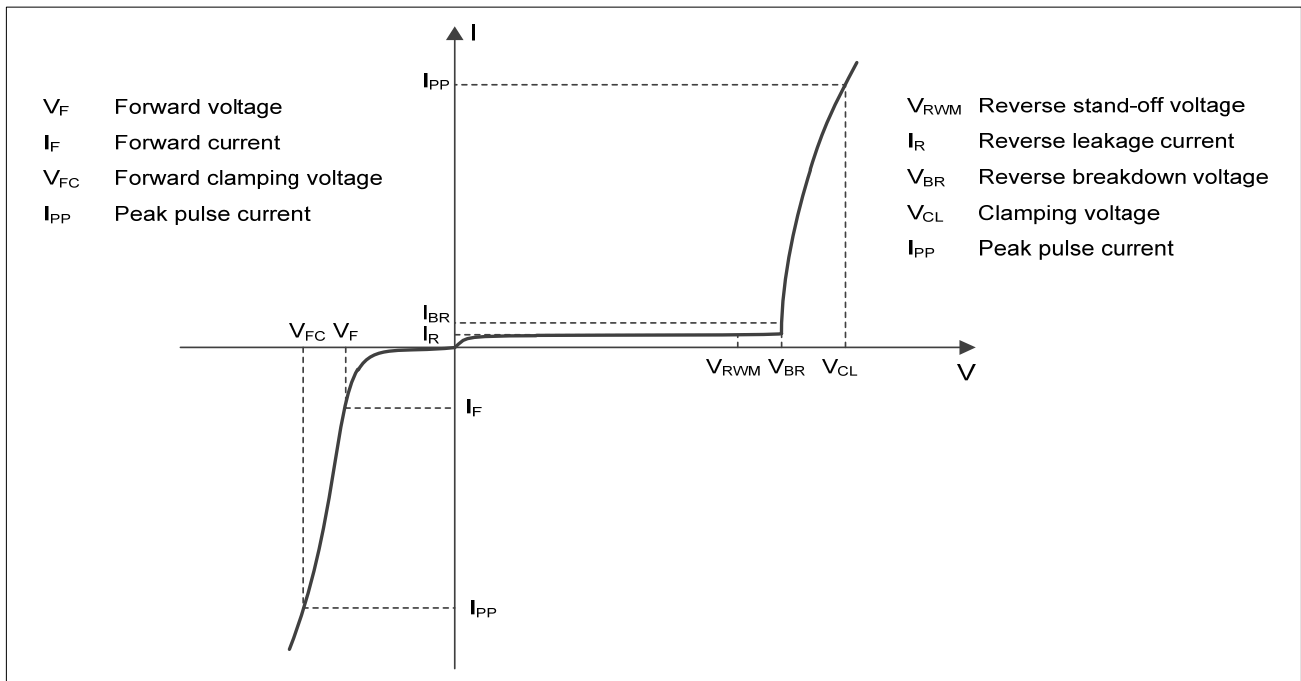
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

Mechanical Characteristics

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



■Definitions of electrical characteristics





ESD48VL

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	380	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	4	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	KV
Junction temperature	T_J	125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				48
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	50		61
Reverse leakage current	I_R	nA	$V_{RWM} = 48V$			500
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$			75
		V	$I_{PP} = 4A, t_p = 8/20\mu s$			95
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		20	25

(1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. R_{DYN} 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)

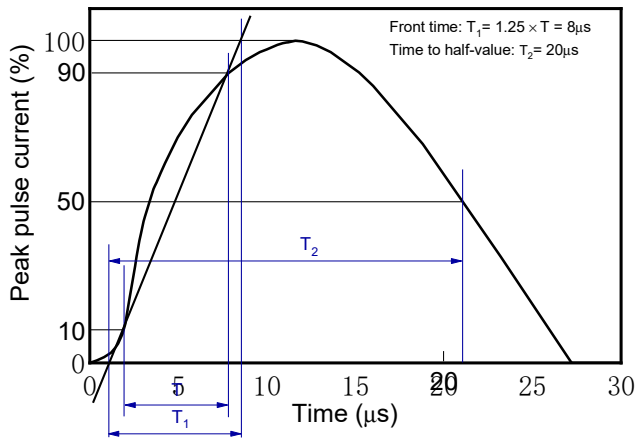
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD48VD3B	Approximate 4	3000	30000	120000	Tae& reel



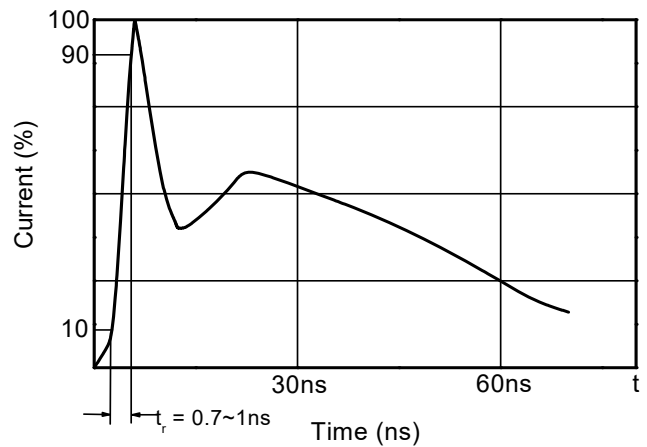
ESD48VL

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

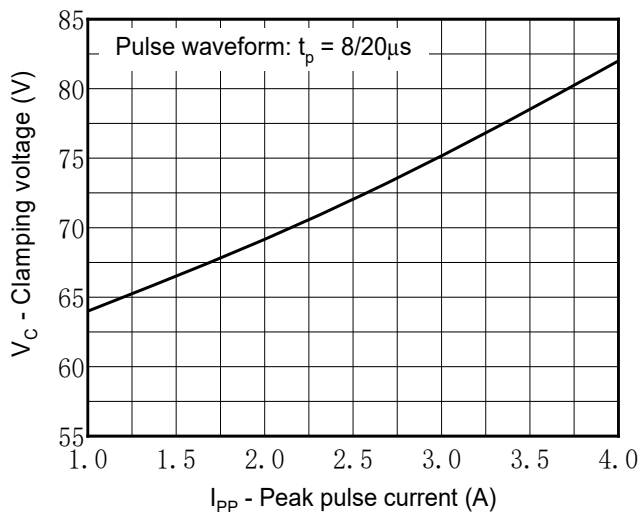
8/20μs waveform per IEC61000-4-5



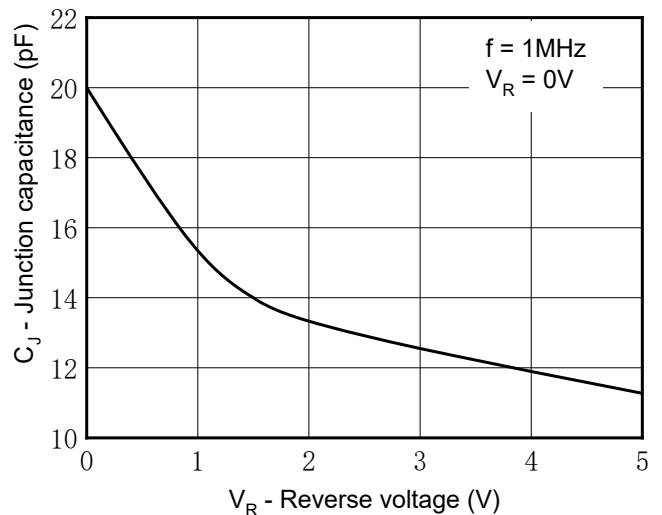
Contact discharge current waveform per IEC61000-4-2



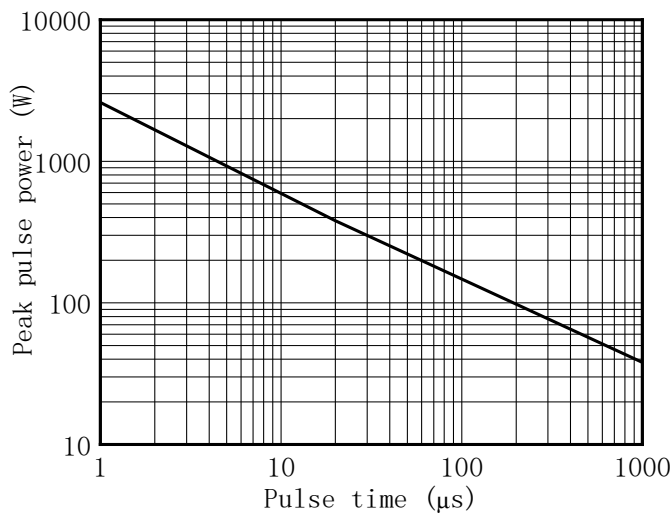
Clamping voltage vs. Peak pulse current



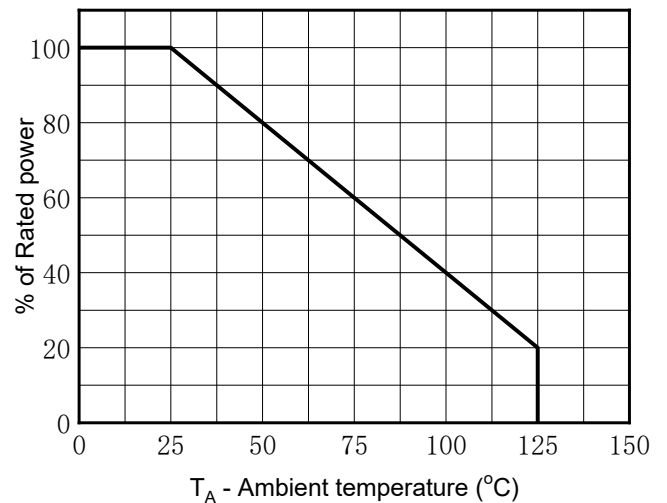
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time

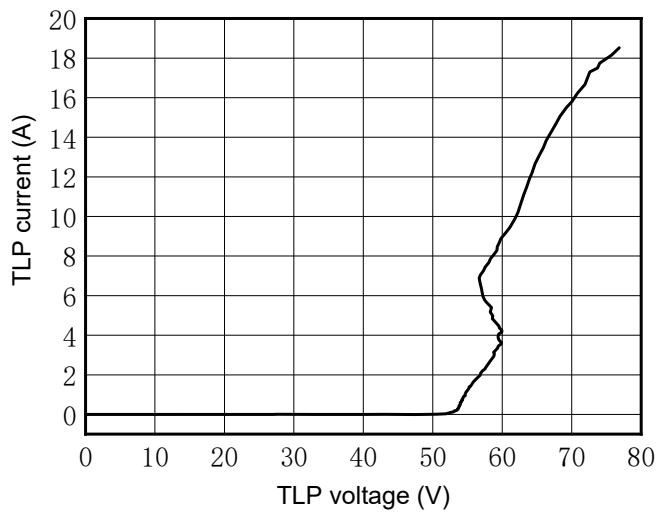


Power derating vs. Ambient temperature

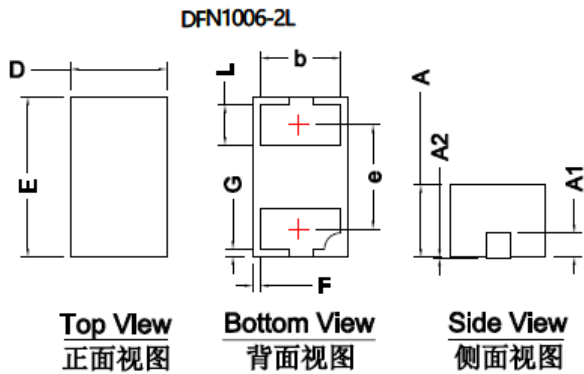




TLP Measurement



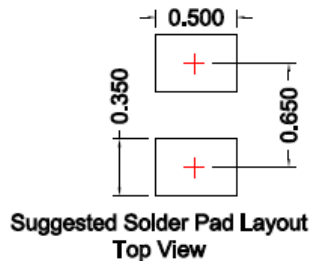
■ Outline Dimensions



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
A1	0.15 BSC		
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		

Note:

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





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