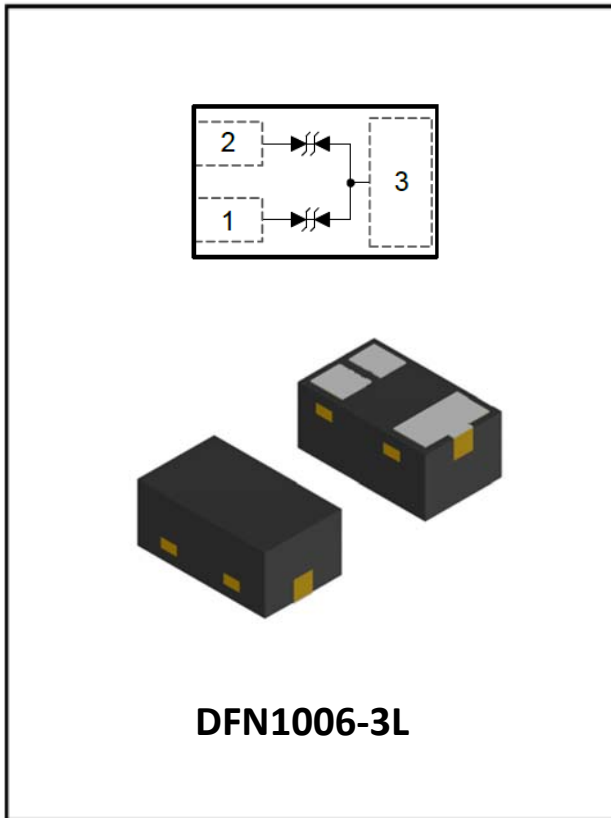


1-Line, Bi-directional, Transient Voltage Suppressor



Features

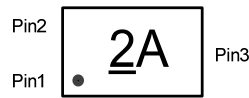
- Stand-off voltage: 5V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 8A (8/20 μs)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

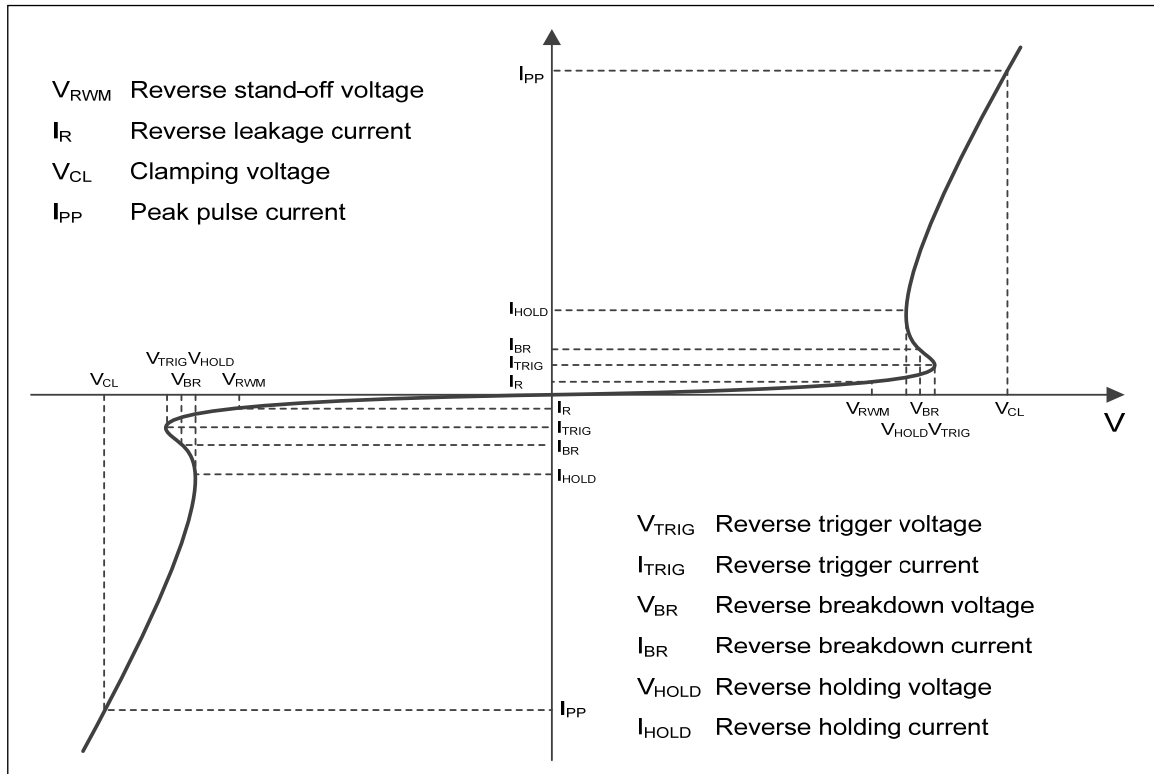
- Cellular handsets
- Tablets
- Laptops
- Network communication devices
- Other portable devices

Mechanical Data

- Package: DFN1006-3L
- Case Material: "Green" Molding Compound
- Marking Information: See Below
- Marking:



Definitions of electrical characteristics





ESD5V0LTB1

■Maximum Ratings

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	96	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{pp}	8	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	$^{\circ}C$
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				± 5
Reverse leakage current	I_R	nA	$V_{RWM} = 5V$			100
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	5.3	6	
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$			8
		V	$I_{PP} = 8A, t_p = 8/20\mu s$			12
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		17	20

(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)

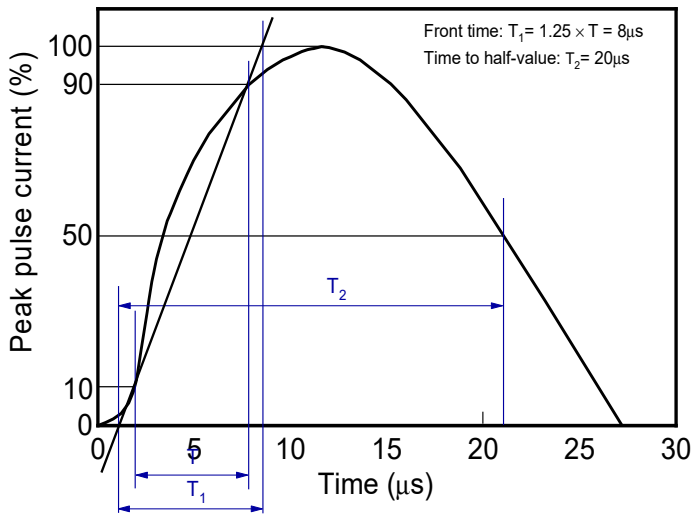
PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD5V0LTB1	Approximate 0.9	10000	100000	400000	Tape & reel



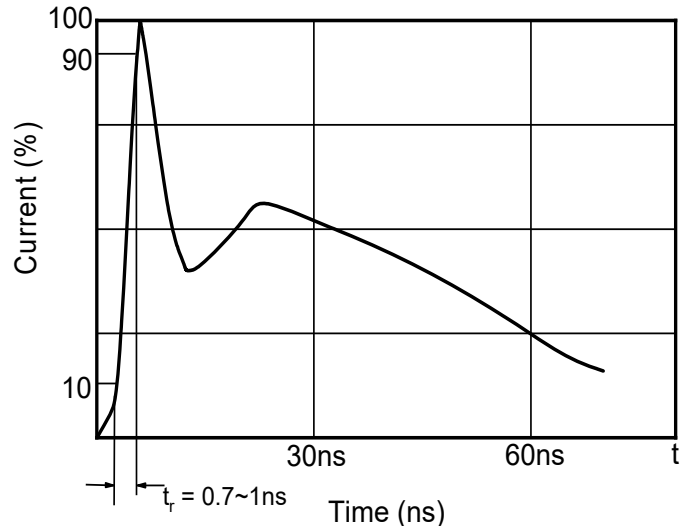
ESD5V0LTB1

■ Characteristics (Typical)

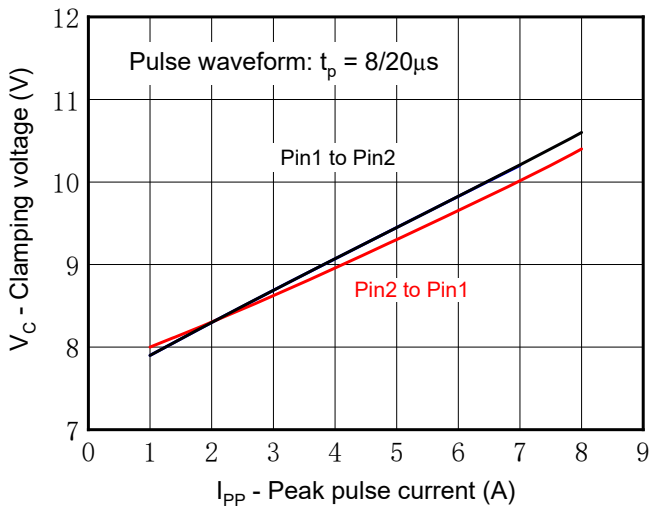
8/20 μ s waveform per IEC61000-4-5



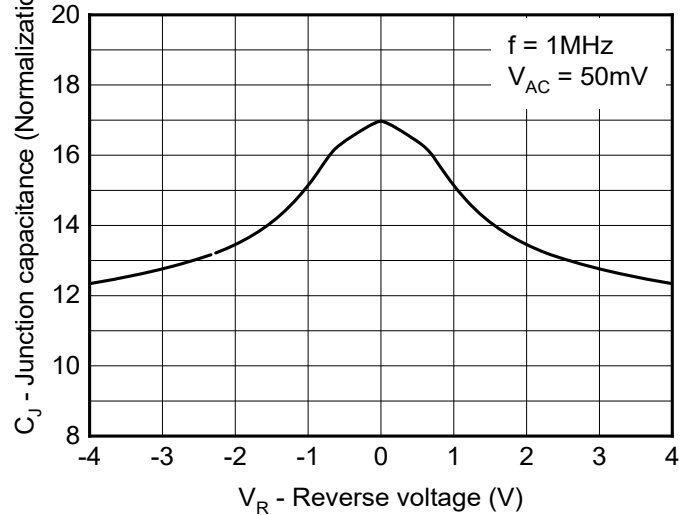
Contact discharge current waveform per IEC61000-4-2



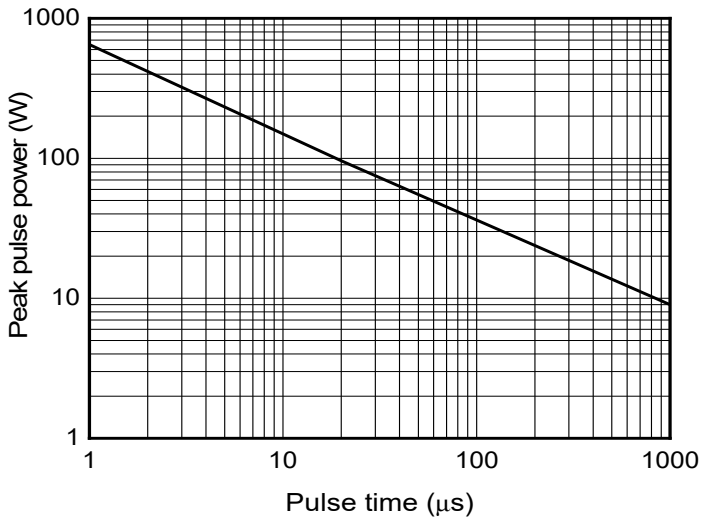
Clamping voltage vs. Peak pulse current



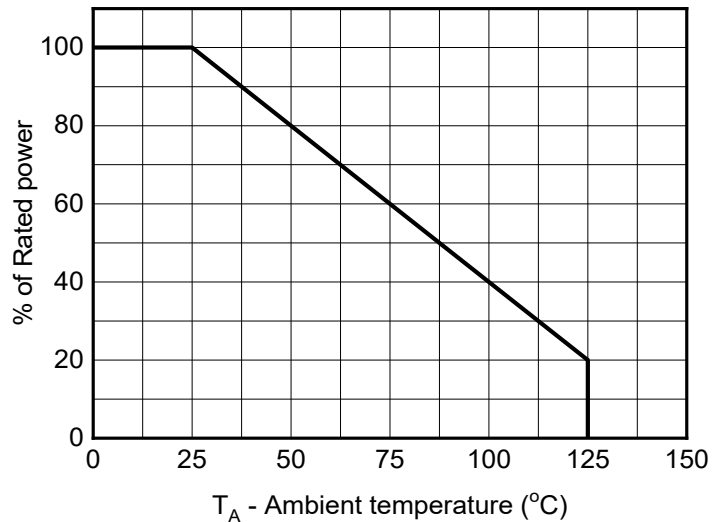
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time



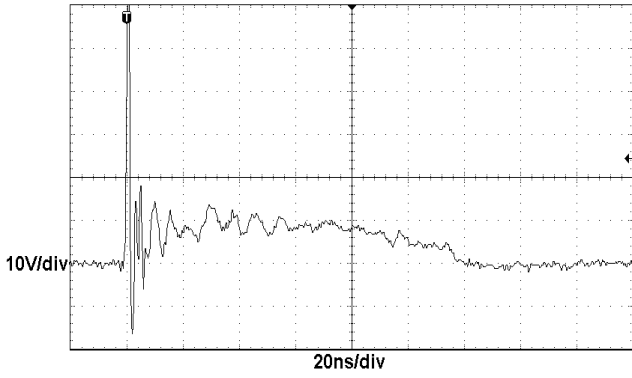
Power derating vs. Ambient temperature



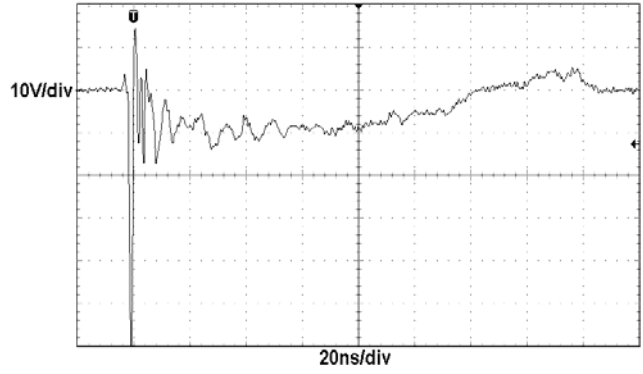


ESD5V0LTB1

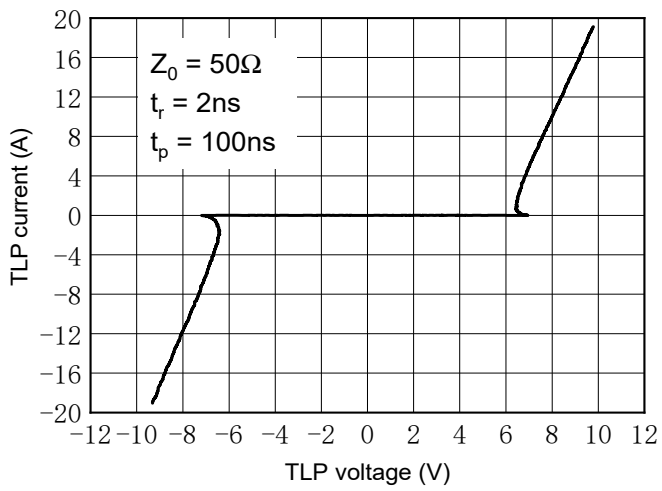
ESD clamping
(+8kV contact discharge per IEC61000-4-2)



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



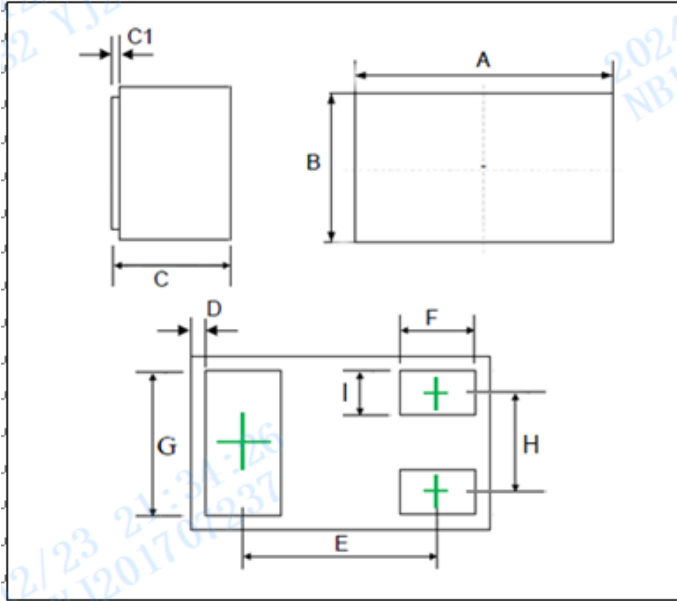
TLP Measurement





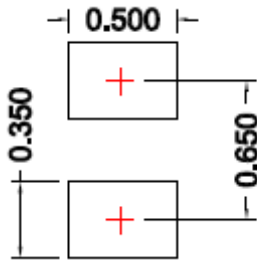
ESD5V0LTB1

■ Outline Dimensions



Symbol ↵	min. (mm) ↵	Max. (mm) ↵
A ↵	0.90 ↵	1.05 ↵
B ↵	0.50 ↵	0.65 ↵
C ↵	0.35 ↵	0.55 ↵
C1 ↵	↵	0.05 ↵
D ↵	0.01 ↵	0.08 ↵
E ↵	↵	0.675 ↵
F ↵	0.20 ↵	0.30 ↵
G ↵	0.40 ↵	0.60 ↵
H ↵	0.35 BSC ↵	
I ↵	0.10 ↵	0.20 ↵

■ Recommended PCB Layout



Notes:

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

Unit:mm



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