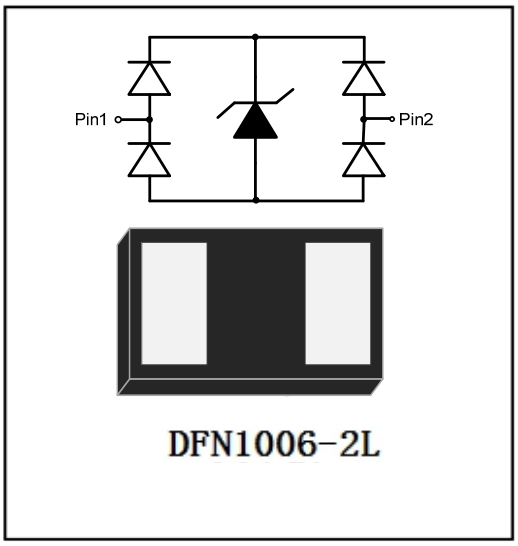
1- Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor



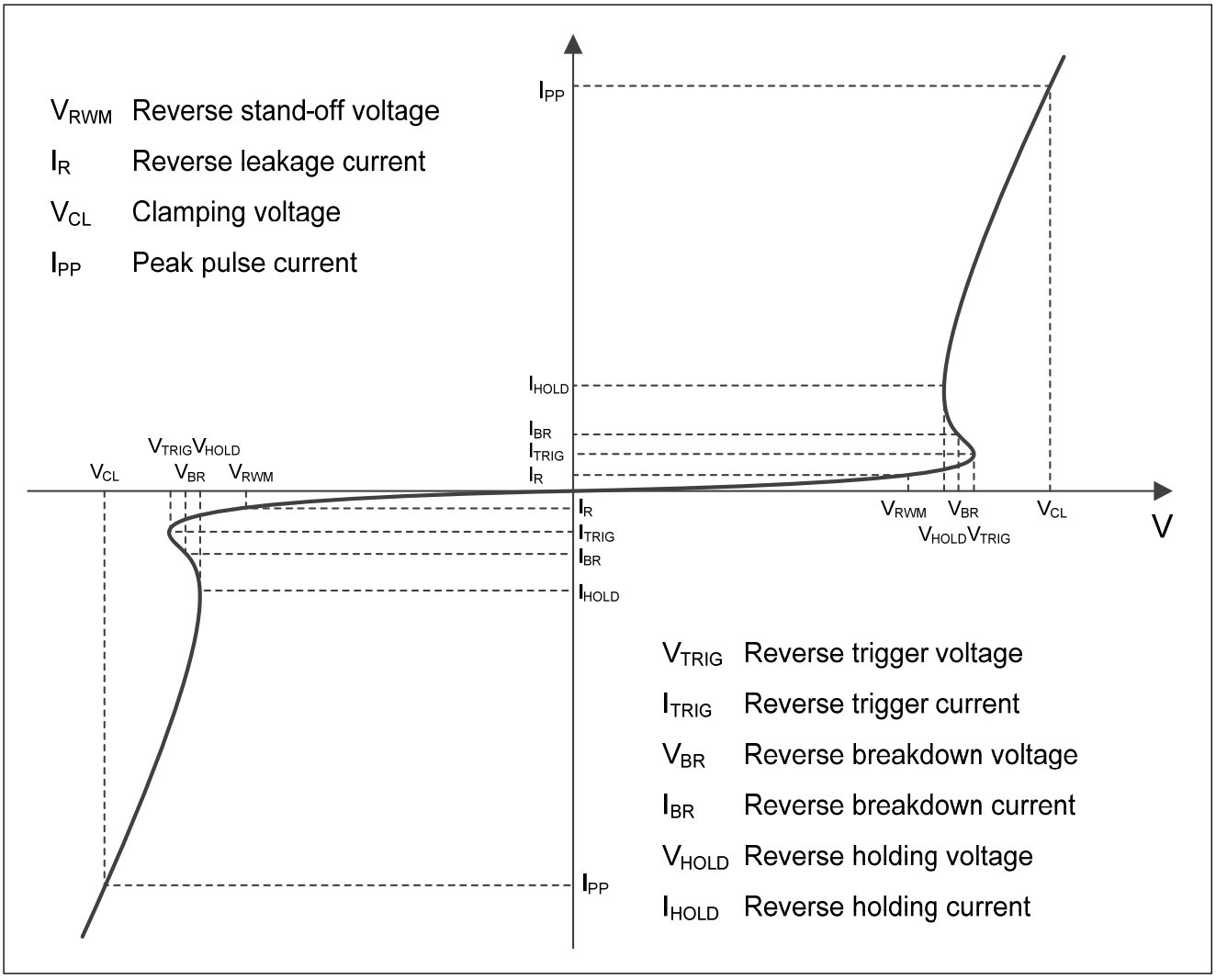
Features

- Stand-off voltage: 5V Max
- Transient protection for each line according to IEC61000-4-2(ESD): ±15kV (contact) IEC61000-4-5(surge): 4A (8/20μs)
- Ultra-low capacitance: C_J = 0.35pF typ
- Ultra-low leakage current: I_R < 1nA typ.
- Low clamping voltage: V_{CL} =14V typ. @ I_{PP} = 16A (TLP)
- Solid-state silicon technology

Mechanical Data

- **Package**: DFN1006-2L
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** 5U

■Definitions of Electrical Characteristics



■Maximum Ratings

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	48	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	4	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±15	KV
ESD according to IEC61000-4-2 contact discharge		±15	KV
Junction temperature	T_J	125	°C
Operating temperature	T_{OP}	-40~85	°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} =5V		<1	50
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	6.0	8.0	
Clamping voltage [1]	V_{CL}	V	I_{PP} = 16A, t_p = 100ns		14	
Dynamic resistance [1]	R_{DYN}	Ω			0.55	
Clamping voltage [2]	V_{CL}	V	V_{ESD} = 8kV		14	
Clamping voltage [3]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		8.3	
		V	I_{PP} = 4A,t_p = 8/20μs		10	
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		0.35	0.5

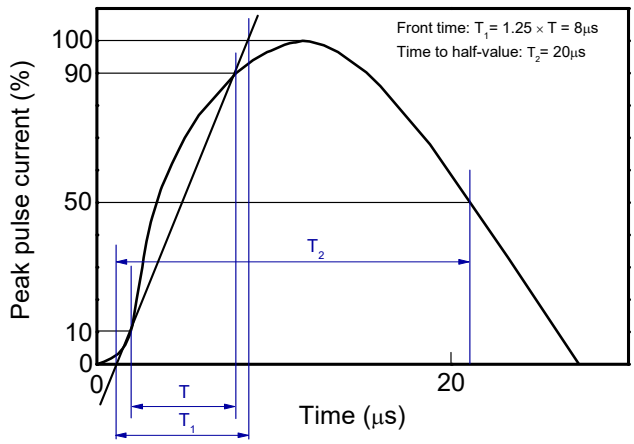
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

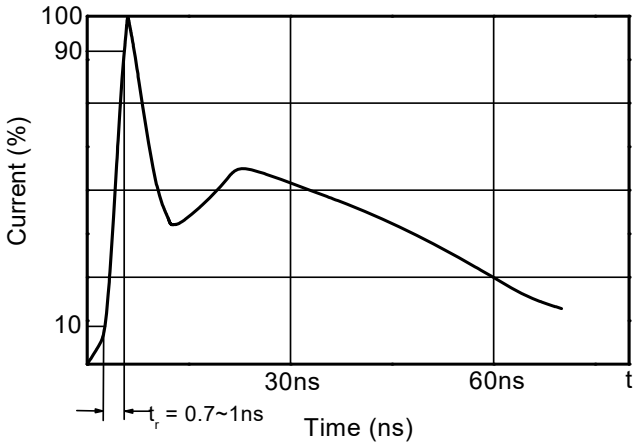
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDULC5V0LBS	Approximate 0.9	10000	100000	400000	Tape& reel

■ Characteristics (Typical)

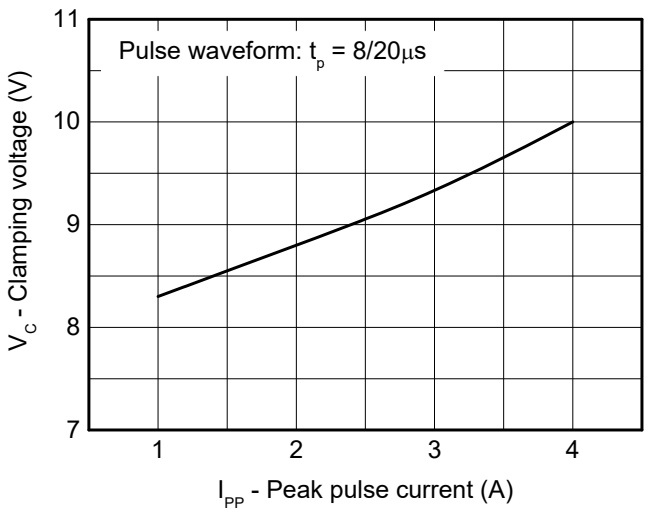
8/20μs waveform per IEC61000-4-5



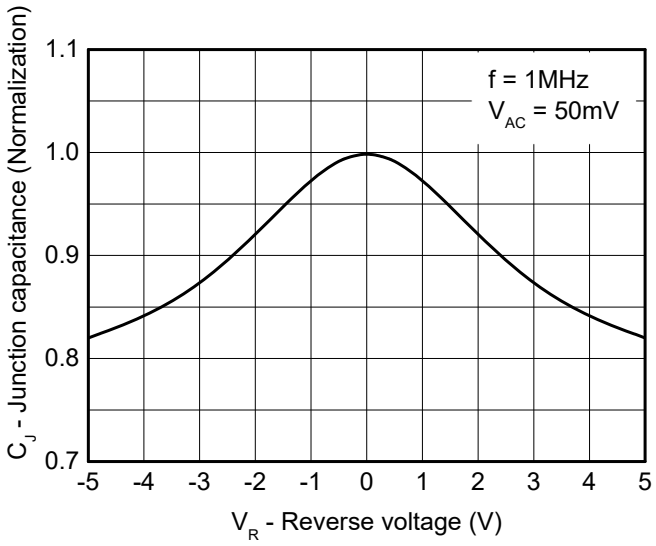
Contact discharge current waveform per IEC61000-4-2



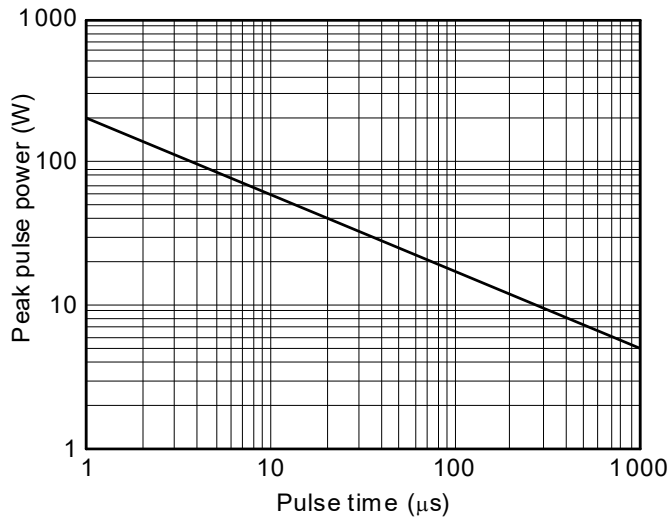
Clamping voltage vs. Peak pulse current



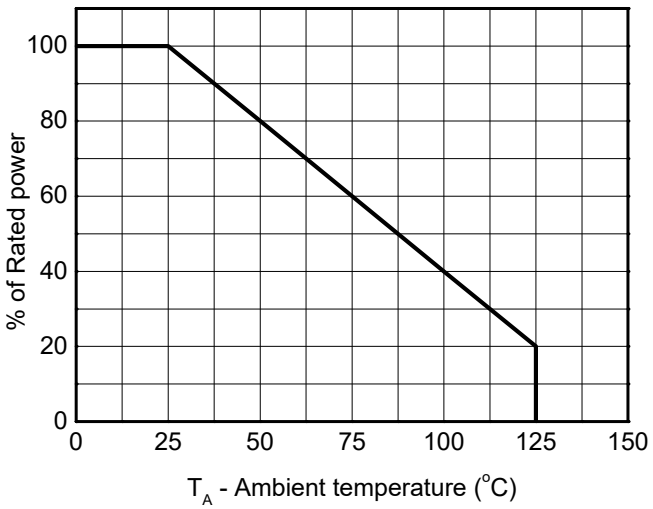
Capacitance vs. Reverse voltage



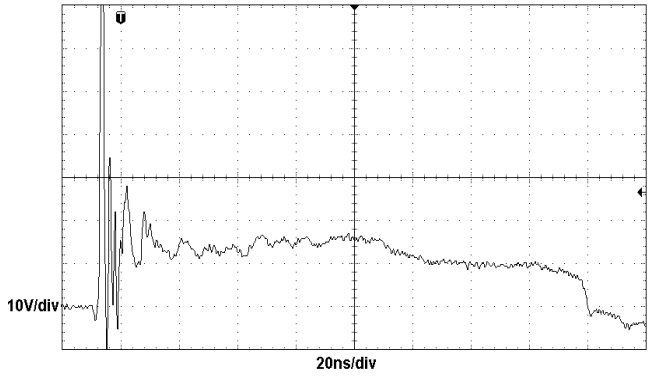
Non-repetitive peak pulse power vs. Pulse time



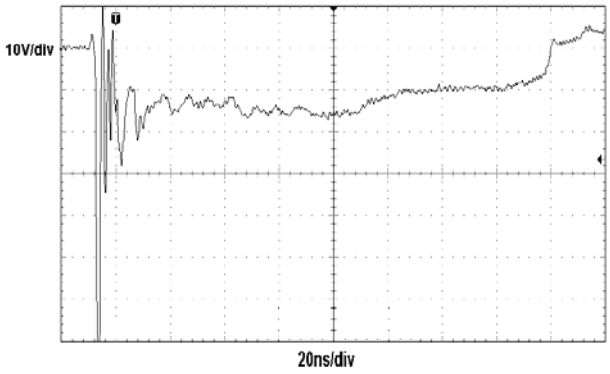
Power derating vs. Ambient temperature



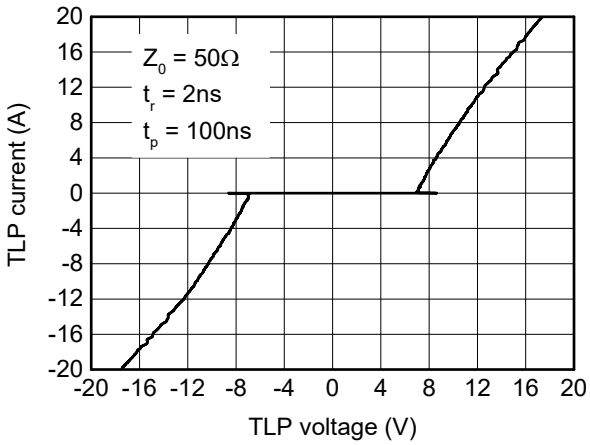
ESD clamping
(+8kV contact discharge per IEC61000-4-2)



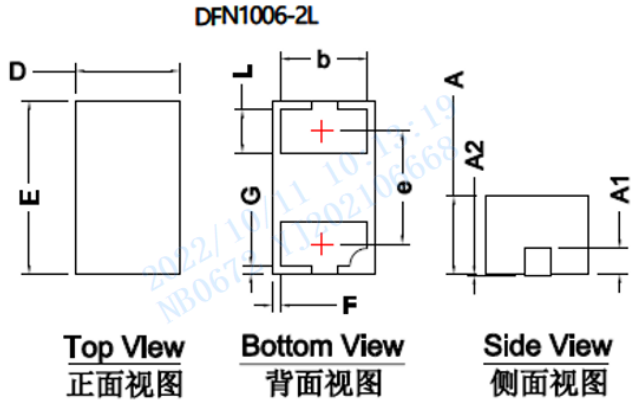
ESD clamping
(-8kV contact discharge per IEC61000-4-2)



TLP Measurement

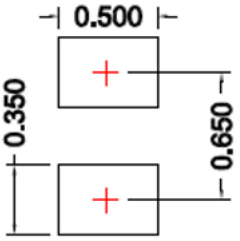


■ Outline Dimensions



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	

■ Recommend land pattern (Unit:mm)



Suggested Solder Pad Layout
Top View

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

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