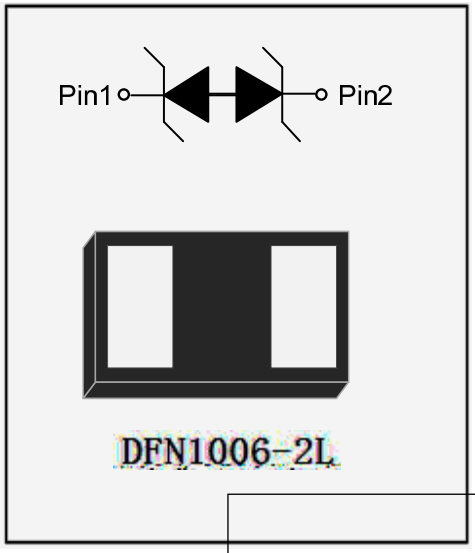
1-Line, Bi-directional, Transient Voltage Suppressor



Features

- Stand-off voltage: ±5V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-4 (EFT): 80A (5/50ns)
  IEC61000-4-5(surge): 85A (8/20μs)
- Ultra-low capacitance: C_J = 180pF typ
- Low leakage current
- Low clamping voltage: V_{CL} =7V 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:** No marking on bi-directional types
- **Marking:**



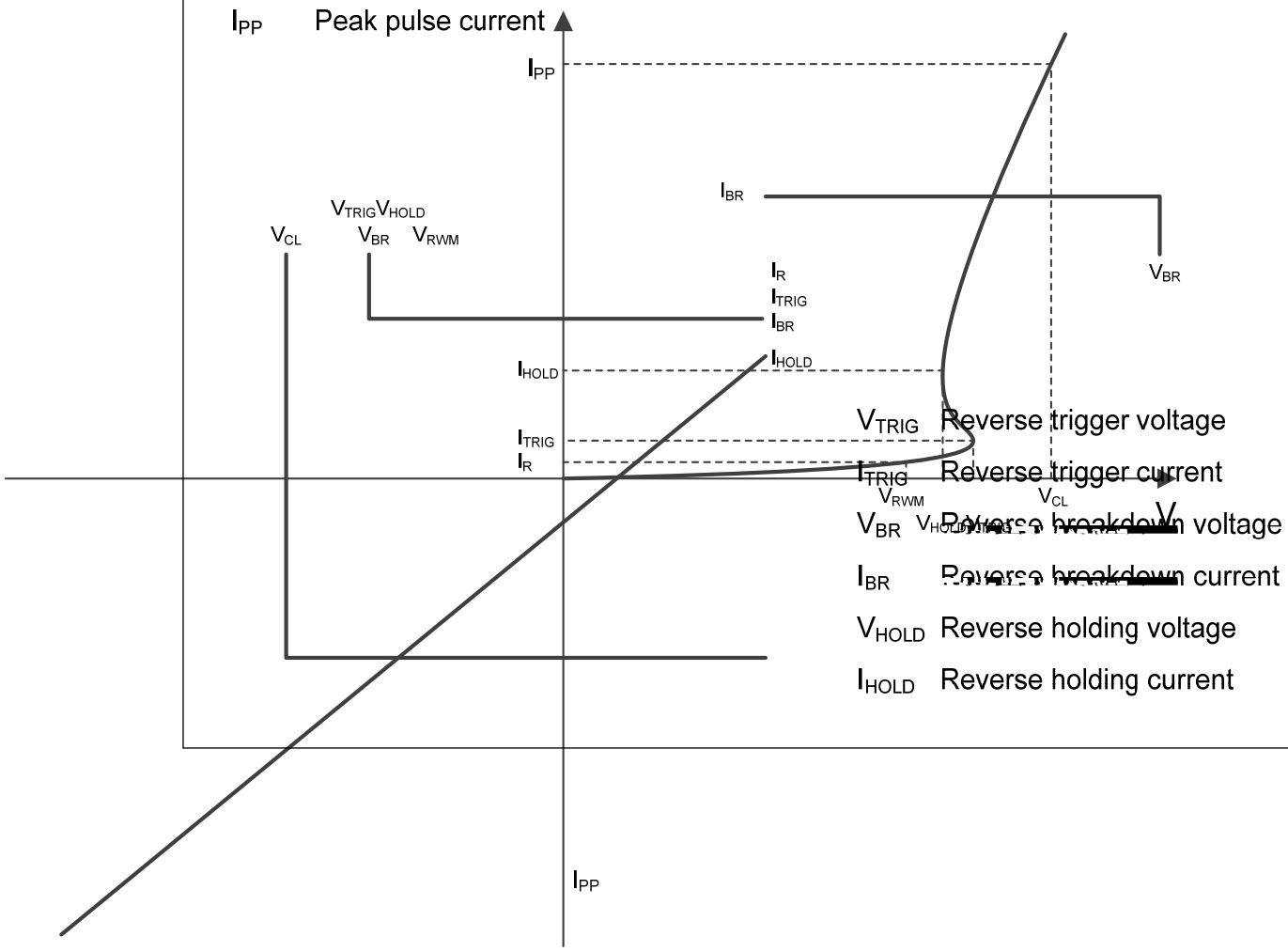
■Definitions of electrical characteristics

V_{RWM} Reverse stand-off voltage

I_R Reverse leakage current

V_{CL} Clamping voltage

I_{PP} Peak pulse current



V_{TRIG} Reverse trigger voltage

I_{TRIG} Reverse trigger current

V_{BR} Reverse breakdown voltage

I_{BR} Reverse breakdown current

V_{HOLD} Reverse holding voltage

I_{HOLD} Reverse holding current

■Maximum Ratings

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	980	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	85	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
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
Reverse leakage current	I_R	μA	V_{RWM} =5V			1
Reverse breakdown voltage	V_{BR}	V	I_T = 1mA	5.1		
Clamping voltage 1)	V_{CL}	V	I_{PP} = 16A, t_p = 100ns		7	
Dynamic resistance 1)	R_{DYN}	Ω			0.05	
Clamping voltage 2)	V_{CL}	V	V_{ESD} = 8kV		8	
Clamping voltage 3)	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		5.5	7.5
		V	I_{PP} = 40A, t_p = 8/20μs		7	9
		V	I_{PP} = 85A, t_p = 8/20μs		9.5	11.5
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		180	200

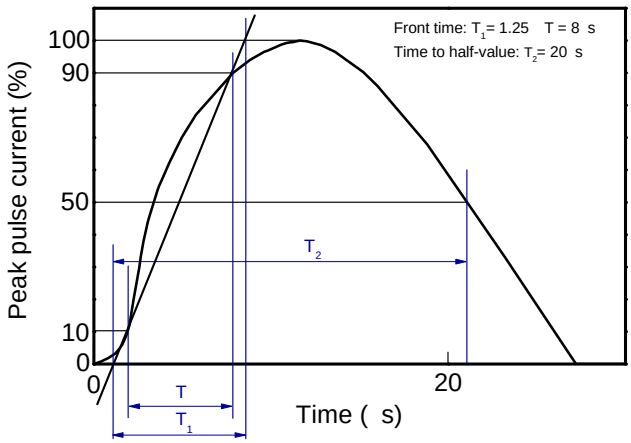
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

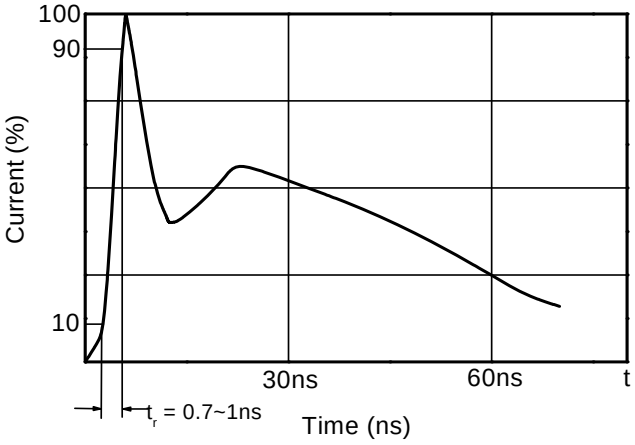
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD5V0LBA3	Approximate 0.9	10000	100000	400000	Tape & reel

■ Characteristics (Typical)

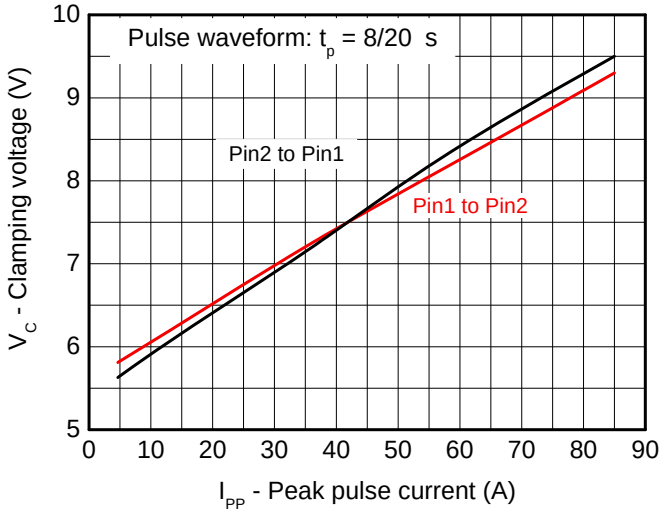
8/20 μs pulse waveform per IEC61000-4-5



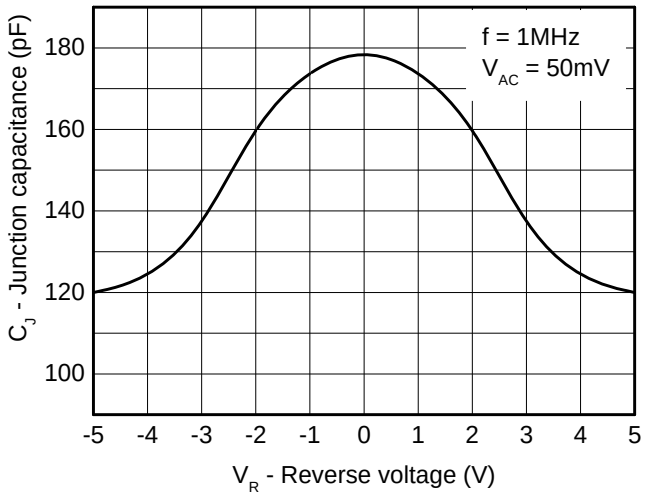
Contact discharge current waveform per IEC61000-4-2



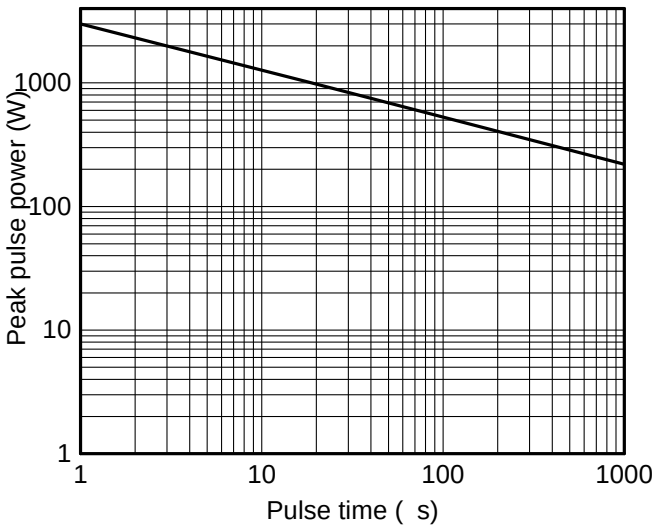
Clamping voltage vs. Peak pulse current



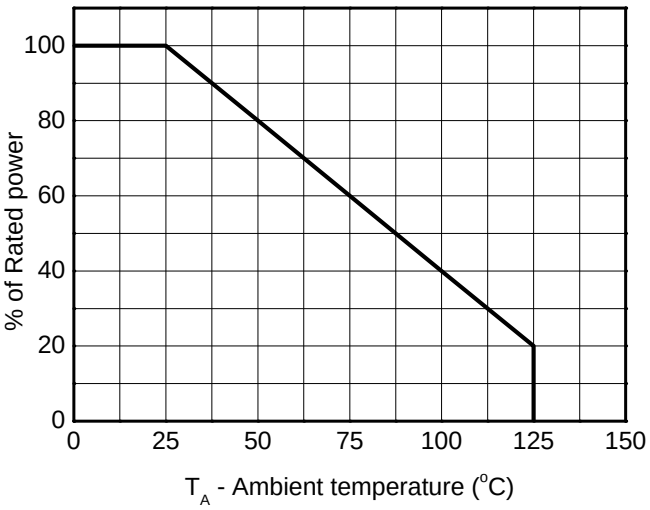
Capacitance vs. Reverse voltage



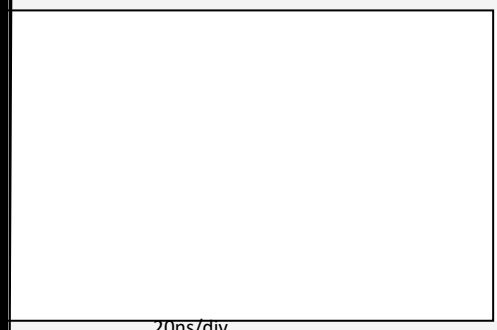
Non-repetitive peak pulse power vs. Pulse time



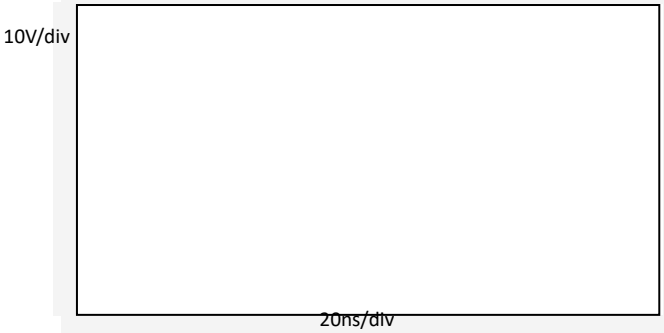
Power derating vs. Ambient temperature



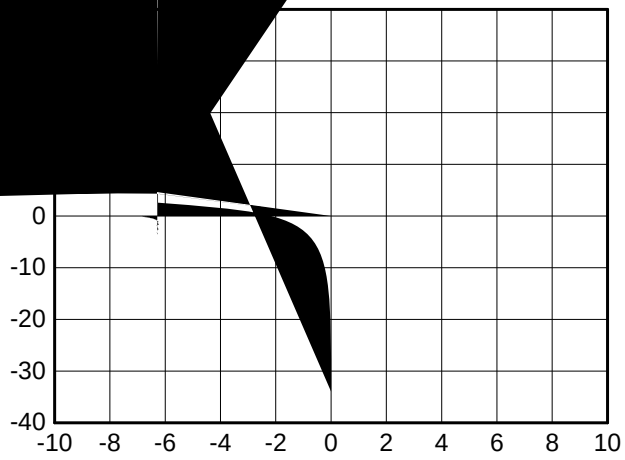
ESD clamping
contact discharge per IEC61000-4-2)



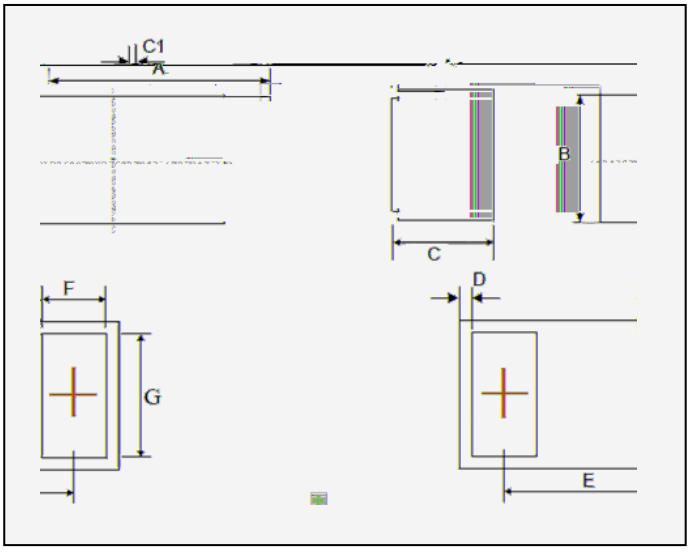
ESD clamping
(-8kV contact discharge per IEC61000-4-2)



TLP Measurement

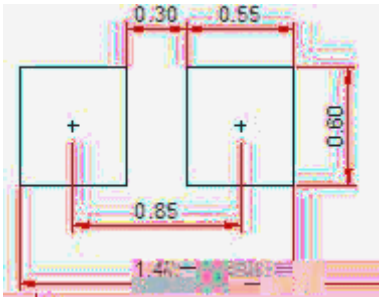


■ Outline Dimensions



Symbol	min.(mm)	Max.(mm)
A	0.95	1.05
B	0.55	0.65
C	0.4	0.5
C1		0.05
D	0.01	0.08
E		0.65
F	0.2	0.3
G	0.45	0.55

■ **Recommend land pattern** (Unit:mm)



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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