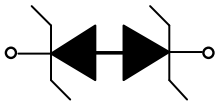
ESDLC15VLB

1-Line, Bi-directional, Transient Voltage Suppressor



Features

- Ultra small package
- Stand-off voltage: ±15V Max
- Transient protection for each line according to
  - IEC61000-4-2(ESD): ±30kV (contact)
  - IEC61000-4-4 (EFT): 40A (5/50ns)
  - IEC61000-4-5(surge): 6A (8/20 s)
- Ultra-low capacitance: CJ = 5pF typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

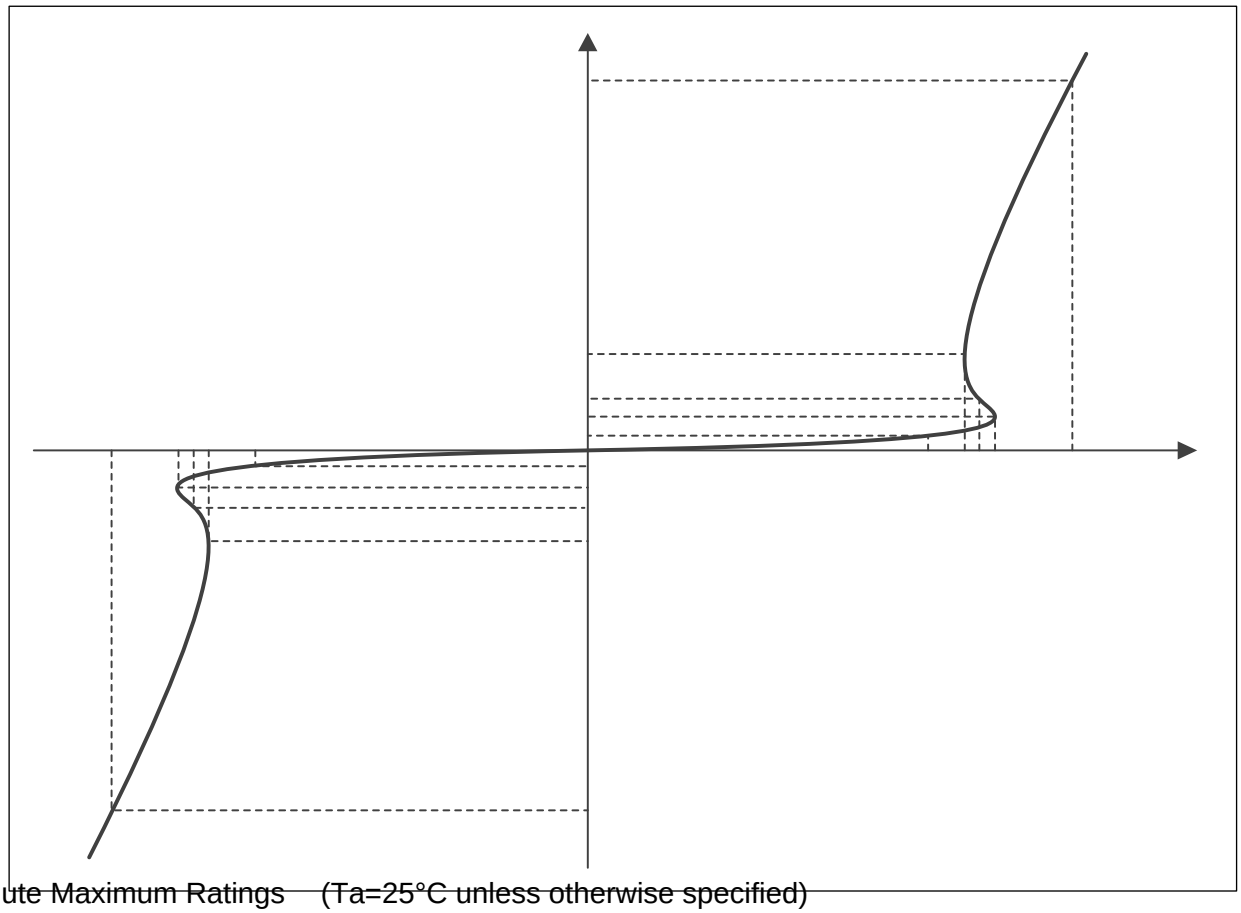
- Cellular handsets
- USB VBUS and CC Line Protection
- Microphone Line Protection
- GPIO Protection

DFN1006-2L

Mechanical Characteristics

- Package: DFN1006-2L
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below

Definitions of electrical characteristics



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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20 s)	P_{pk}	140	W
Peak pulse current (t_p = 8/20 s)	I_{PP}	6	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	^oC
Operating temperature	T_{OP}	-40~85	^oC
Storage temperature	T_{STG}	-55~150	^oC

vElectrical Characteristics (Ta=25 Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				±15
Reverse leakage current	I_R	nA	V_{RWM} =15V			100
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	15.5		20
Reverse holding voltage	V_{HOLD}	V	I_{HOLD} = 50mA	15.5		20
Clamping voltage *1)*	V_{CL}	V	I_{PP} = 16A, t_p = 100ns		21.0	
Dynamic resistance *1)*	R_{DYN}				0.35	
Clamping voltage *2)*	V_{CL}	V	V_{ESD} = 8kV		21.0	
Clamping voltage *3)*	V_{CL}	V	I_{PP} = 1A, t_p = 8/20 s		16	18
		V	I_{PP} = 6A, t_p = 8/20 s		21	23
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		5	7
		pF	V_R = 2.5V, f = 1MHz		4	6

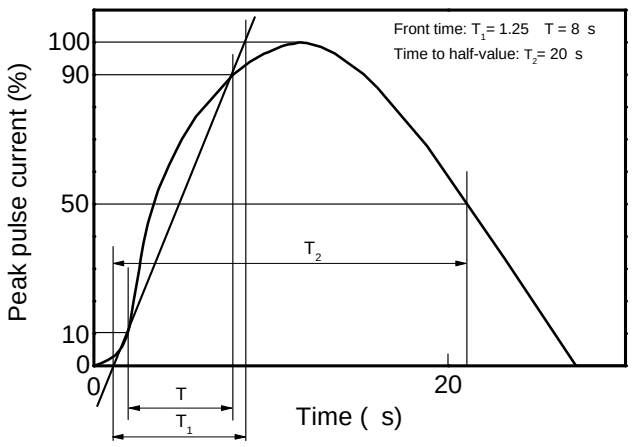
(1). TLP parameter: Z_0 = 50 , t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

vOrdering Information (Example)

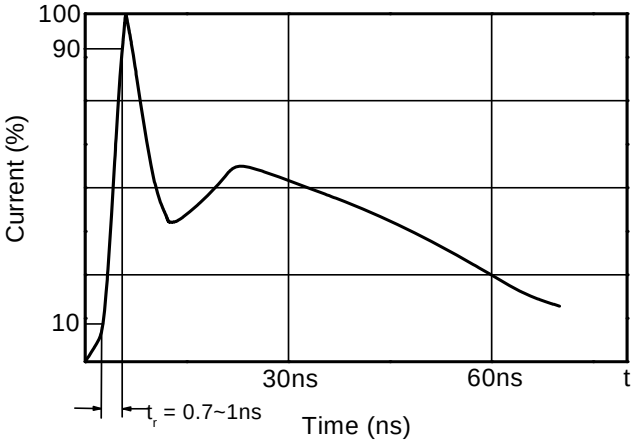
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDLC15VLB	Approximate 0.9	10000	100000	400000	Tae& reel

v Typical Performance Characteristics (Ta=25 unless otherwise Specified)

8/20 s waveform per IEC61000-4-5

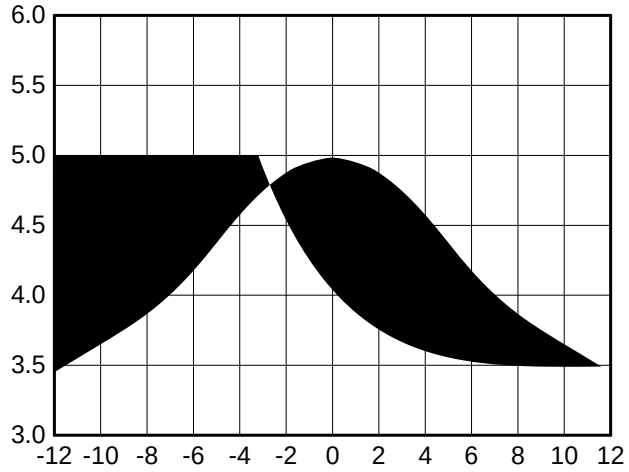


Contact discharge current waveform per IEC61000-4-2



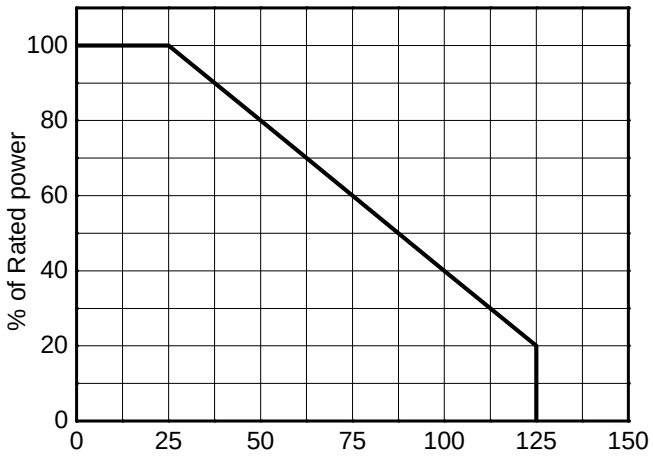
Clamping voltage vs. Peak pulse current

Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time

Power derating vs. Ambient temperature

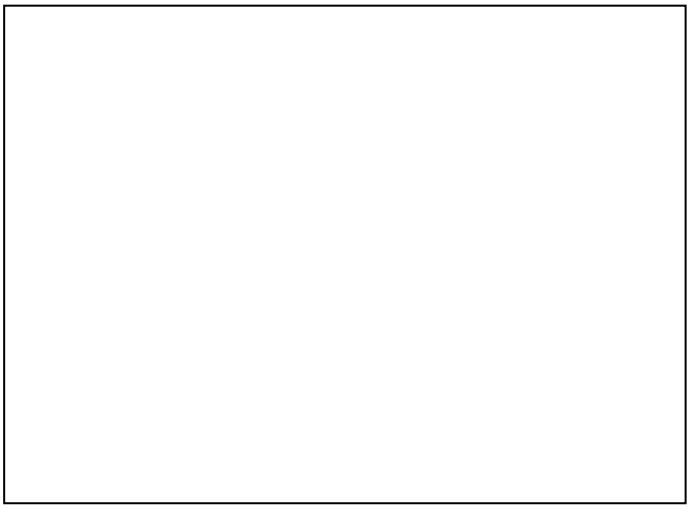


ESD clamping
(+8kV contact discharge per IEC61000-4-2)

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

TLP Measurement

v Outline Dimensions



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■ Recommend land pattern (Unit:mm)

Disclaimer

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