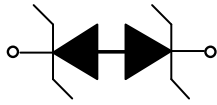


ESDLC15VLB

1-Line, Bi-directional, Transient Voltage Suppressor



Features

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

Applications

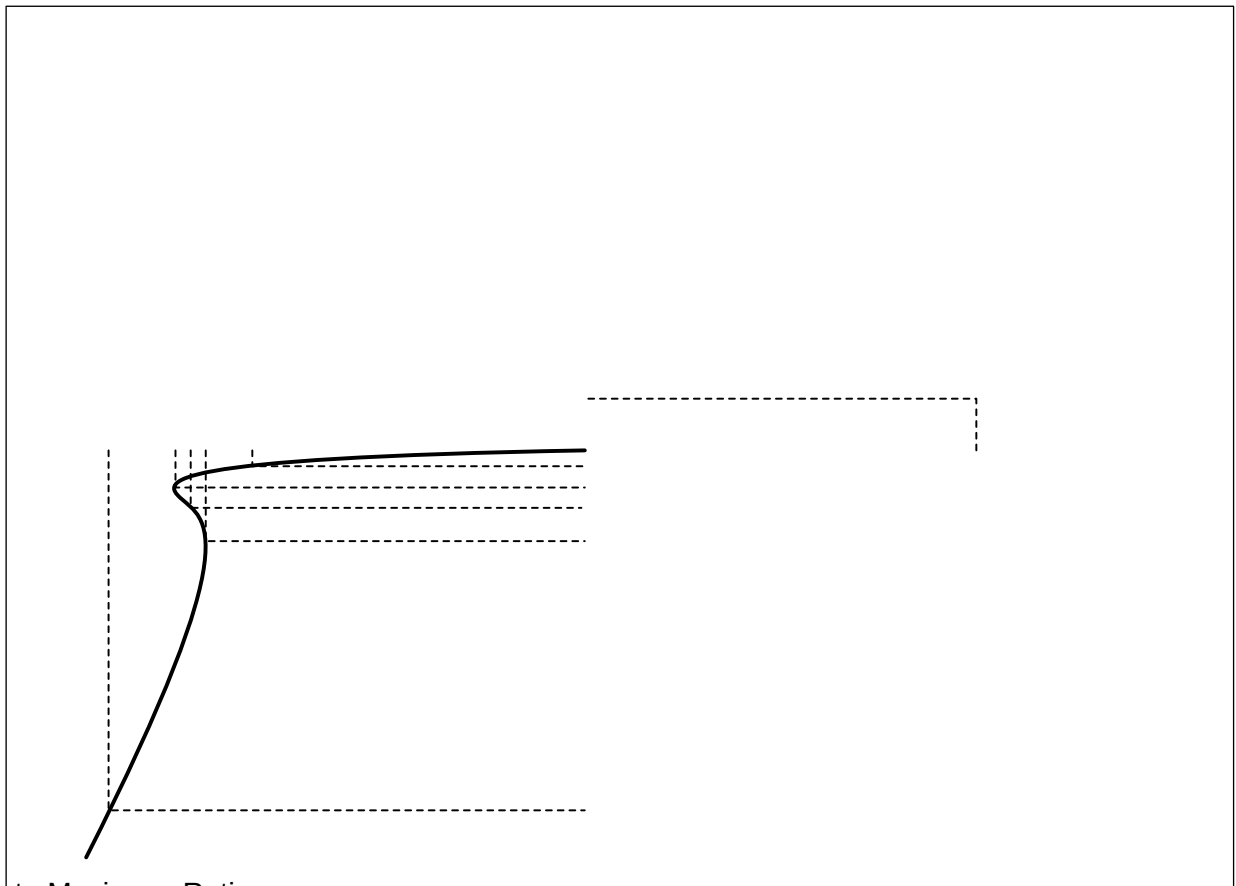
- " Cellular handsets
- " USB VBUS and CC Line Protection
- " Microphone Line Protection
- " GPIO Protection

DFN10062L

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

ESDLC15VLB

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20 \text{ s}$)	P_{pk}	140	W
Peak pulse current ($t_p = 8/20 \text{ s}$)	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	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40~85	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55~150	$^{\circ}\text{C}$

Electrical Characteristics ($T_a=25$ Unless otherwise specified)

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

(1). TLP parameter: $Z_0 = 50$, $t_p = 100\text{ns}$, $t_r = 2\text{ns}$, 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)

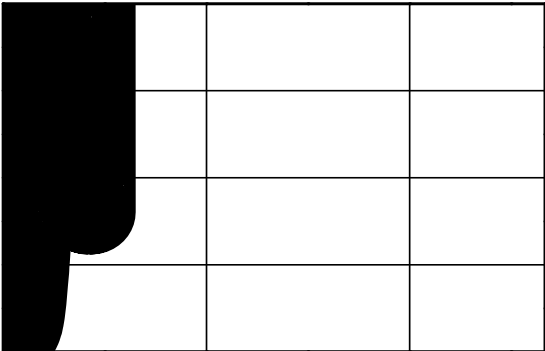
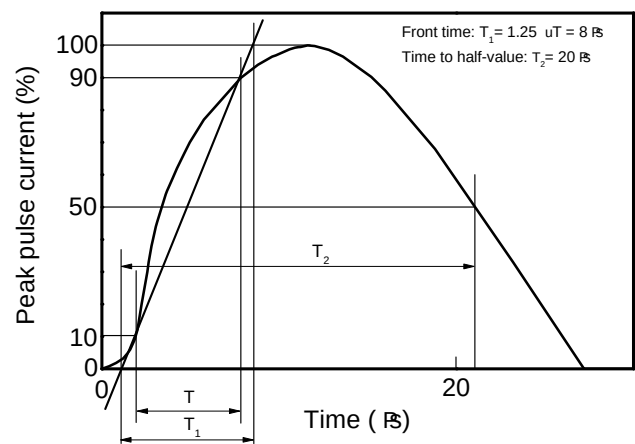
PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDLC15VLB	Approximate 0.9	10000	100000	400000	Tape& reel

ESDLC15VLB

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

820 is 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

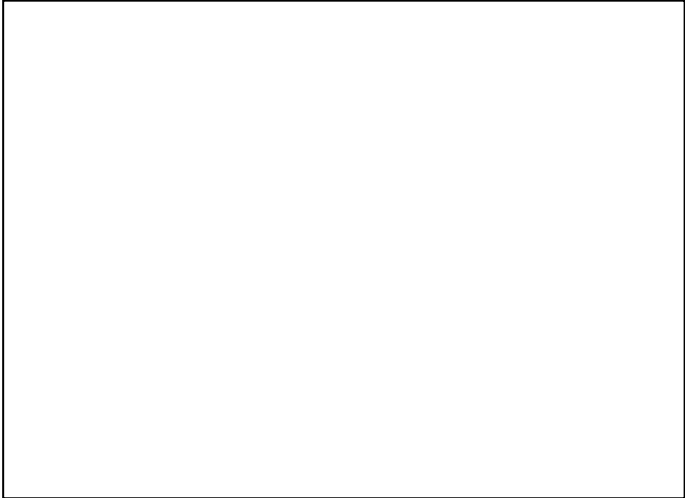
ESDLC15VLB

ESDclamping
(+8kVcontactdischargeper IEC61000-4-2)

ESDclamping
(8kVcontactdischargeper IEC61000-4-2)

TLPMeasurement

vOutline Dimensions



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P P

■ 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

Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety