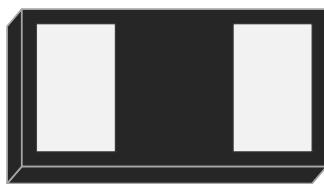
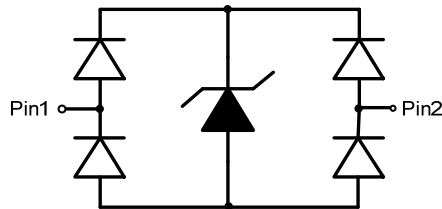


1-Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor



DFN0603-2L

Features

- Stand-off voltage: 3.3V Max.
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 20\text{kV}$ (contact)
IEC61000-4-5(surge): 3.5A (8/20 μs)
- Ultra-low capacitance: $C_J = 0.25\text{ pF}$ typ
- Ultra-low leakage current: $I_R < 1\text{ nA}$ typ.
- Low clamping voltage: $V_{CL} = 20\text{V}$ typ. @ $I_{PP} = 16\text{A}$ (TLP)
- Solid-state silicon technology

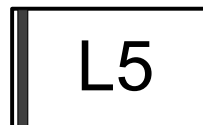
Applications

- USB 2.0 and USB 3.0
- HDMI 1.3, HDMI 1.4 and HDMI 2.0
- SATA and eSATA interface
- DVI
- IEEE 1394
- Portable Electronics and Notebooks

Mechanical Characteristics

- Package: DFN0603-2L
- Case Material: "Green" Molding Compound.
- Marking Information: See Below

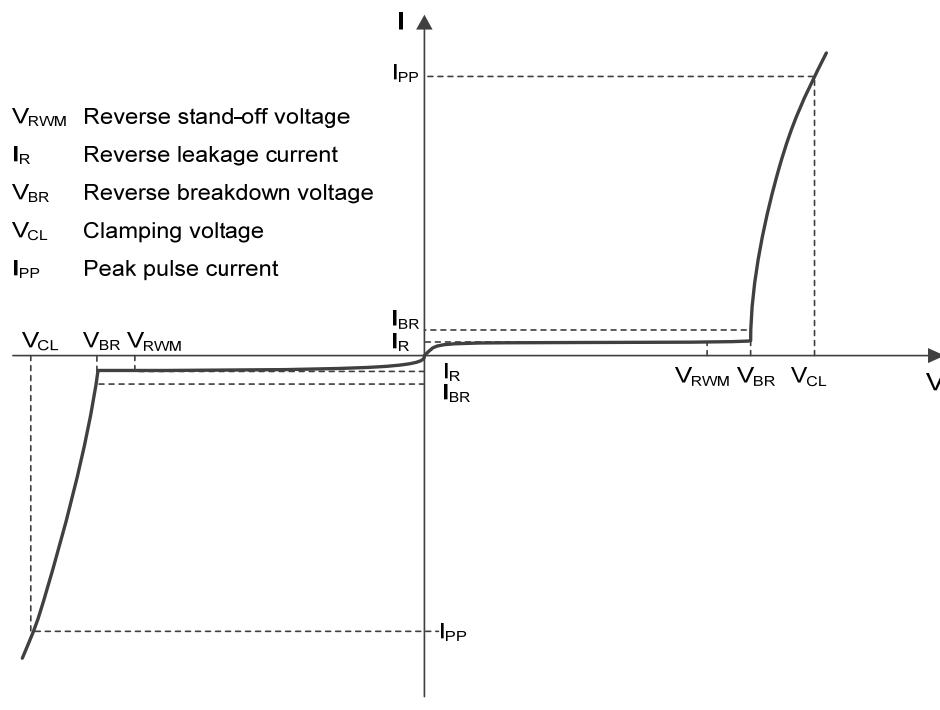
Pin1



Pin2

■ Definitions of electrical characteristics

- V_{RWM} Reverse stand-off voltage
 I_R Reverse leakage current
 V_{BR} Reverse breakdown voltage
 V_{CL} Clamping voltage
 I_{PP} Peak pulse current





ESDSL3V3LZBS

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	56	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	3.5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±20	KV
ESD according to IEC61000-4-2 contact discharge		±20	KV
Junction temperature	T_J	125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				3.3
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	7		10.5
Reverse leakage current	I_R	nA	$V_{RWM} = 3.3V$			50
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$		10.5	12
		V	$I_{PP} = 3.5A, t_p = 8/20\mu s$		14.3	16
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		0.3	0.5
	C_J	pF	$V_R = 2.5V, 1MHz$		0.25	0.4

(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)

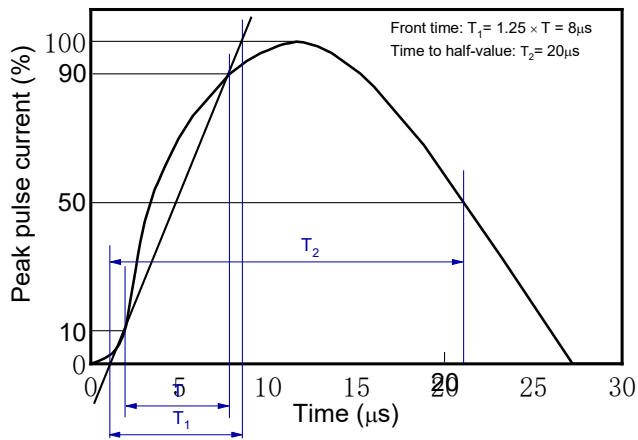
PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSL3V3LZBS	Approximate 0.15	10000	100000	400000	Tae& reel



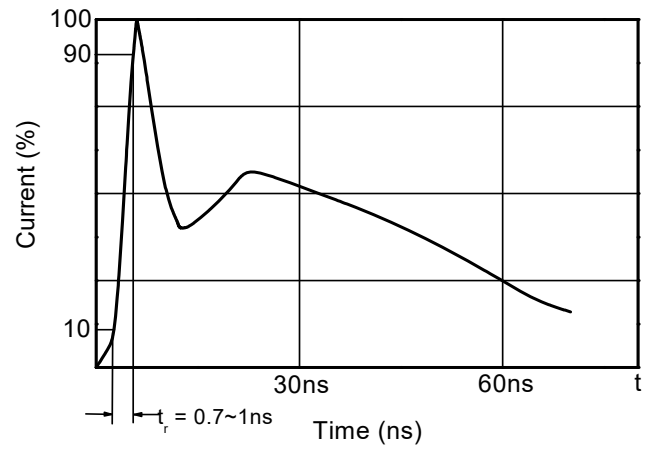
ESDLC3V3LZBS

■ Typical Performance Characteristics (Ta=25°C unless otherwise Specified)

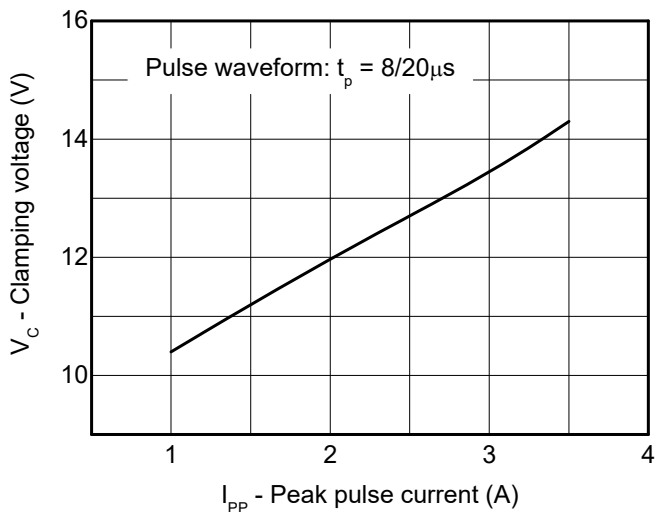
8/20μs waveform per IEC61000-4-5



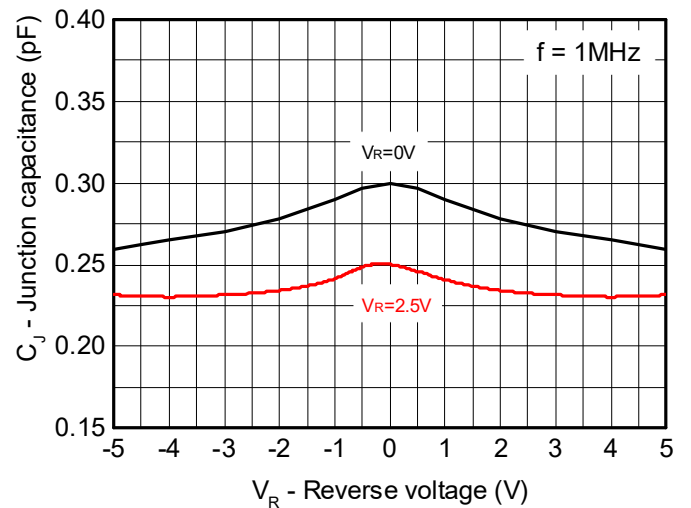
Contact discharge current waveform per IEC61000-4-2



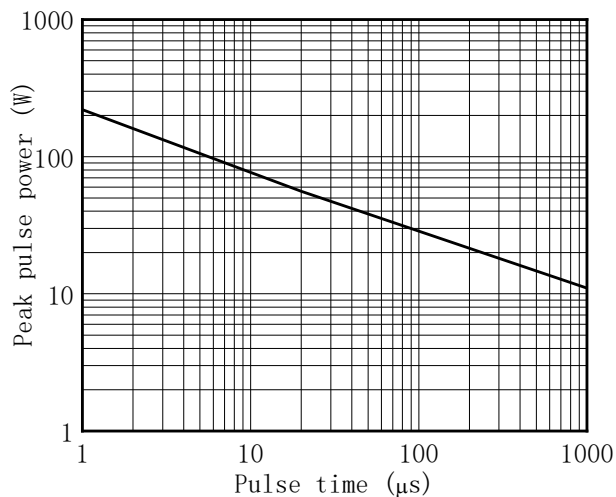
Clamping voltage vs. Peak pulse current



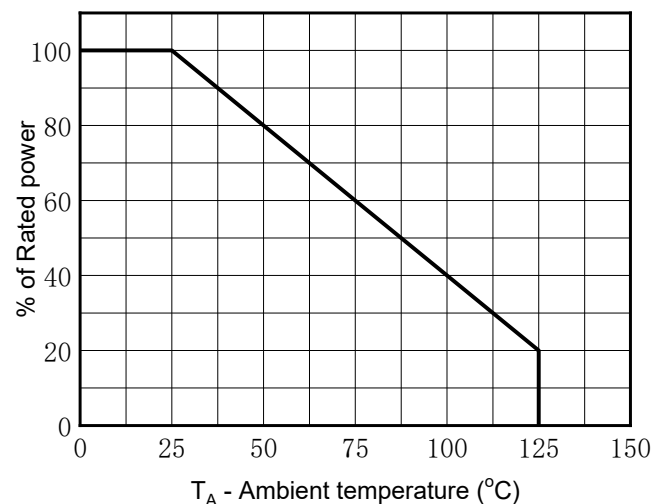
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time



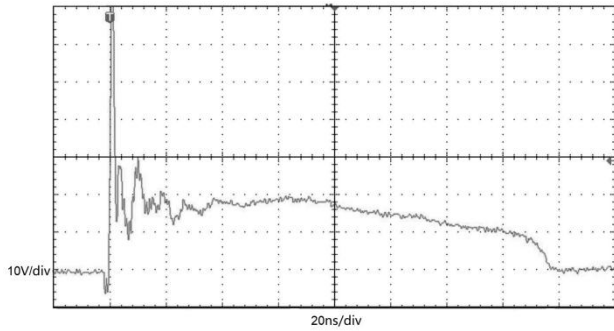
Power derating vs. Ambient temperature



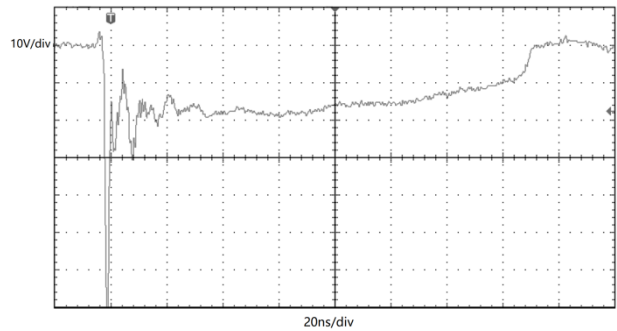


ESDSLC3V3LZBS

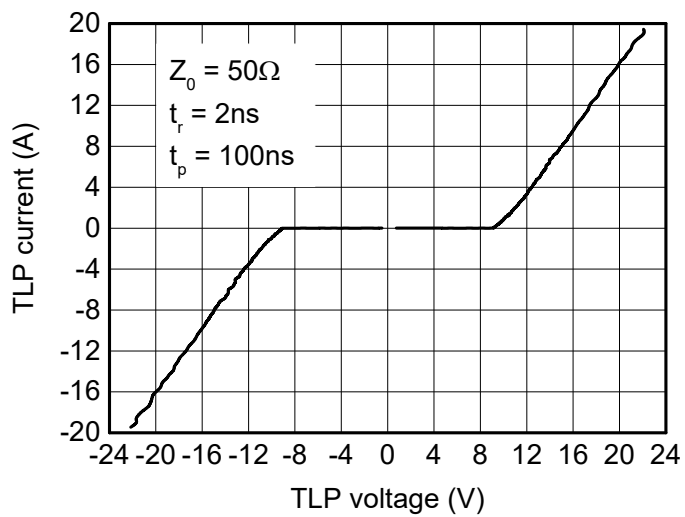
ESD clamping
(+8kV contact discharge per IEC61000-4-2)



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



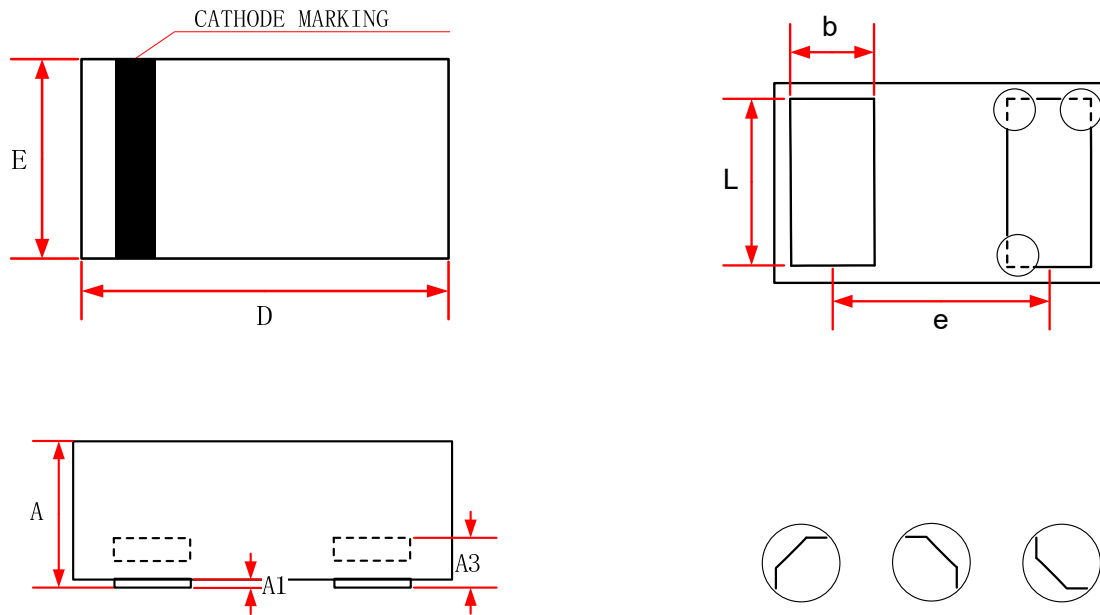
TLP Measurement





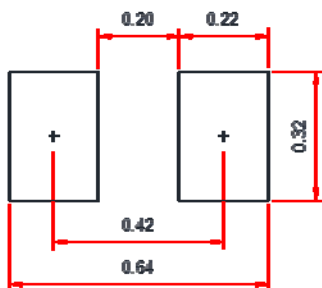
ESDSLC3V3LZBS

■ Outline Dimensions



Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.230	0.300	0.350
A1	0.000	-	0.050
A3	0.102REF.		
D	0.550	0.600	0.670
E	0.250	0.300	0.370
b	0.100	0.170	0.250
L	0.180	0.240	0.280
e	0.360 BSC		

■ 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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