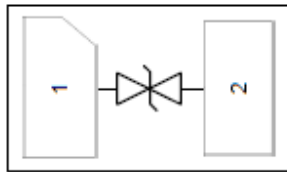


1-Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor



DFN0603-2L

Features

- Stand-off voltage: 3.3V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 10A (8/20 μs)
- Ultra-low leakage current
- Ultra low clamping voltage
- Low clamping voltage:
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

Caution:

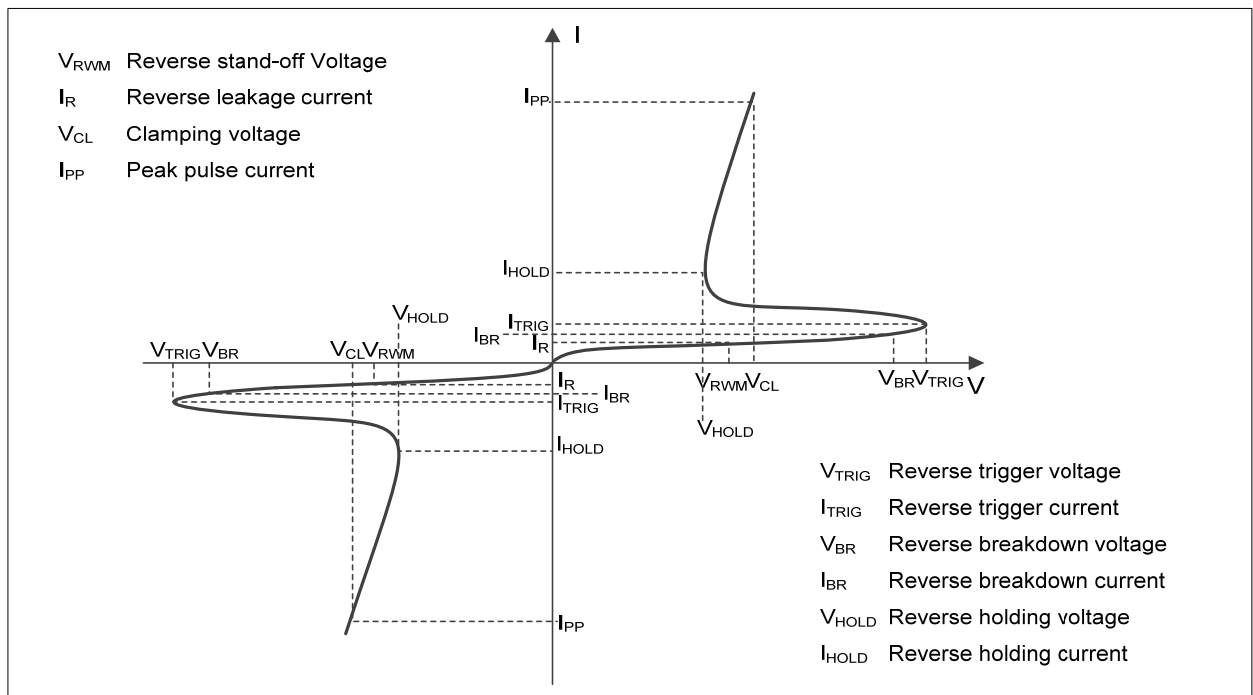
This Device is designed for signal line protection only. Not intended to be used under bias, not for application with a power line.

Mechanical Data

- Package: DFN0603-2L
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below

4S

■Definitions of electrical characteristics





ESDSLC3V3LZBA2

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	60	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	10	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	
Junction temperature	T_J	-40~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics ($T_a=25^\circ C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				3.3
Punch-Through Voltage	V_{PT}	V	$I_{PT} = 2\mu A$	3.5		
Reverse breakdown voltage	V_{BR}	V	$I_T = 1mA$	4		
Snap-Back Voltage	V_{SB}	V	$I_{SB} = 50mA$		2	
Reverse leakage current	I_R	μA	$V_{RWM} = 3.3V$			0.5
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 10A, t_p = 8/20\mu s$		4	6
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		0.45	0.55

Notes:

- (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)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSLC3V3LZBA2	F1	Approximate 0.18	10000	100000	400000	7" reel



■ Characteristics (Typical)

Fig.1 8/20 μ s waveform per IEC61000-4-5

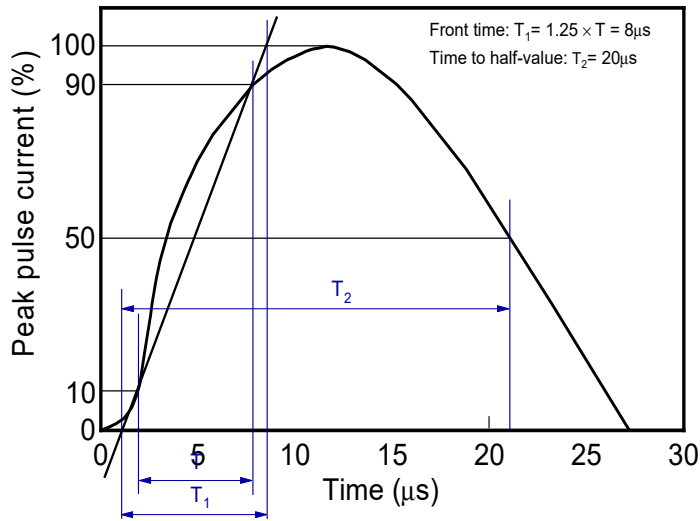


Fig.3 Clamping voltage vs. Peak pulse current

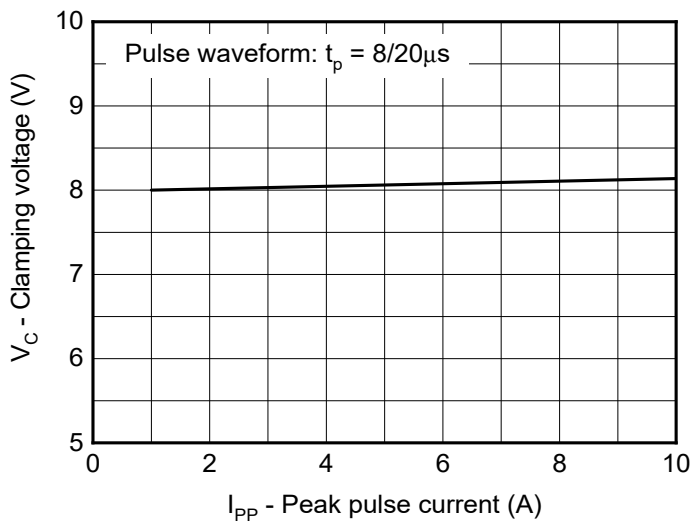


Fig.5 Non-repetitive peak pulse power vs. Pulse time

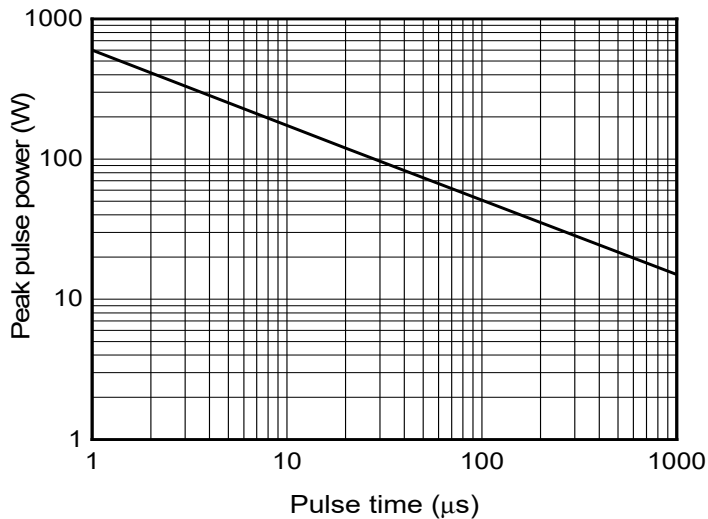


Fig.2 Contact discharge current waveform per IEC61000-4-2

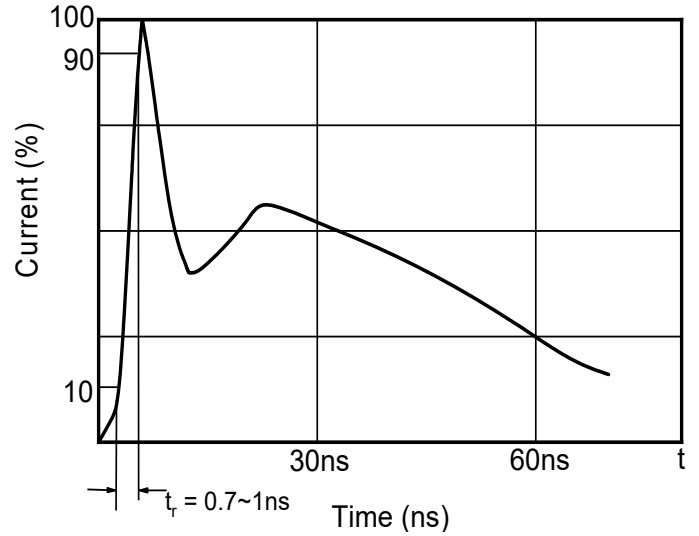


Fig.4 Capacitance vs. Reverse voltage

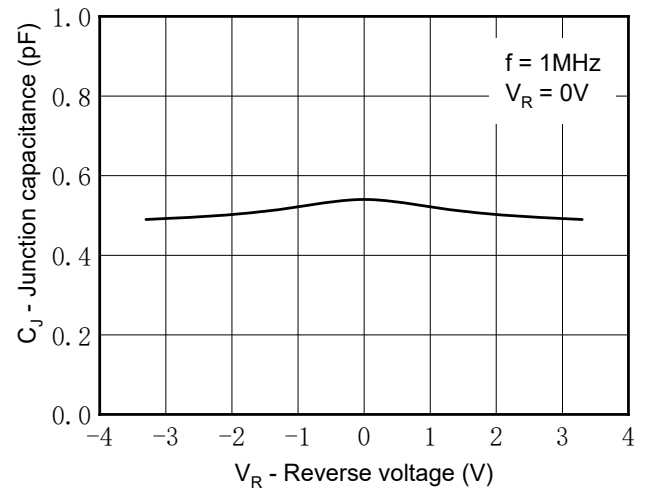


Fig.6 Power derating vs. Ambient temperature

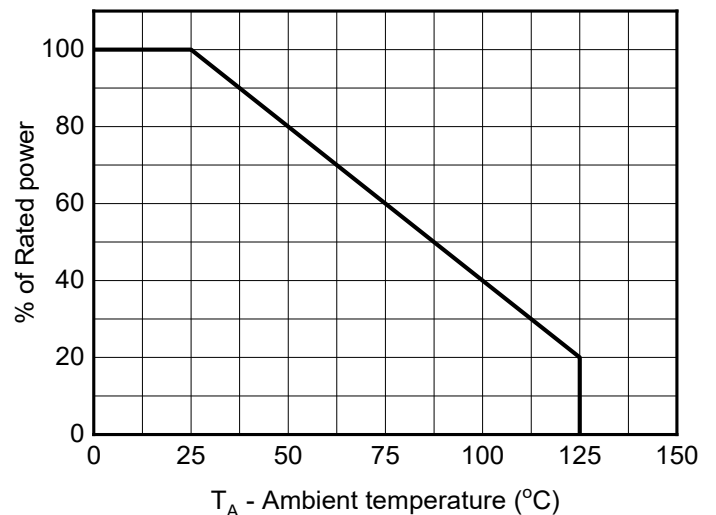
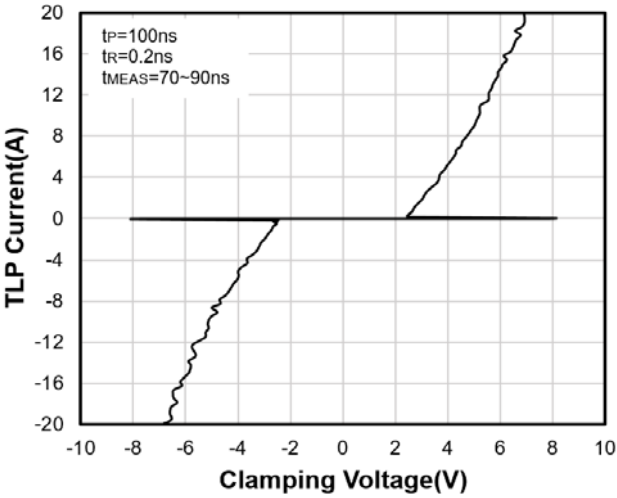


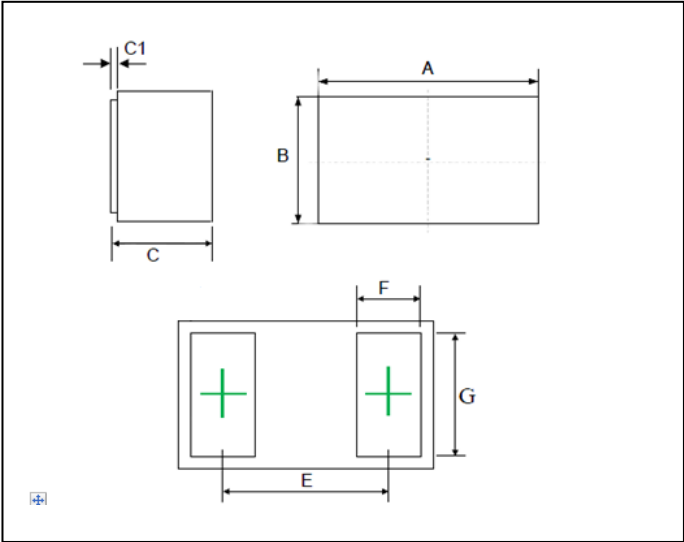


Fig.7 TLP Measurement

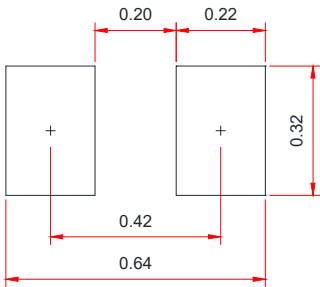




■ Outline Dimensions



■ Recommended PCB Layout



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

Symbol	min. (mm)	Max. (mm)
A	0.55	0.67
B	0.25	0.37
C	0.23	0.34
C1		0.05
E	0.4	0.4
F	0.115	0.115
G	0.215	0.295



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