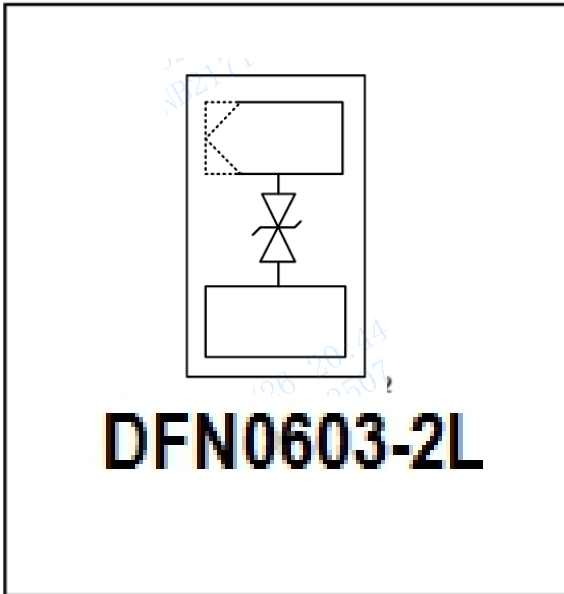


1-Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor

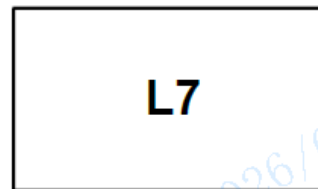


Features

- Stand-off voltage: 7.1V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 20\text{kV}$ (contact)
IEC61000-4-2(ESD): $\pm 25\text{kV}$ (Air)
IEC61000-4-5(surge): 4A (8/20 μs)
- Ultra-low capacitance: $C_J = 0.2\text{pF}$ typ
- Ultra-low leakage current
- Low clamping voltage
- Rosh compliant

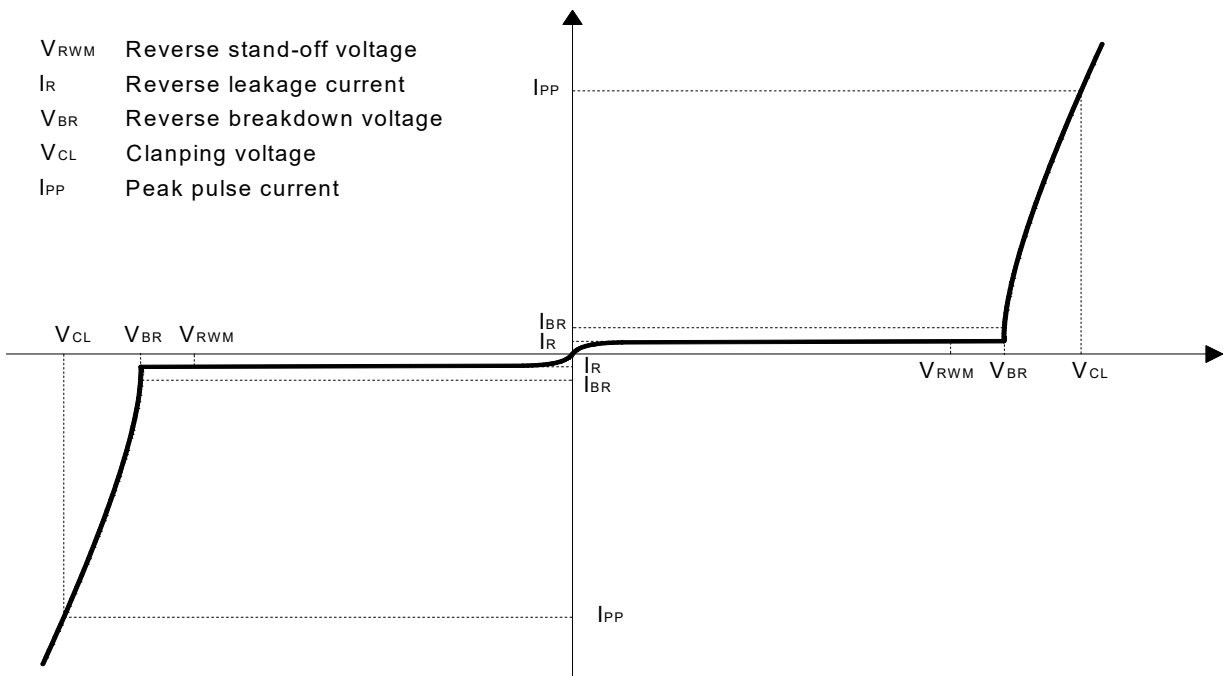
Mechanical Data

- Package: DFN0603-2L (0.6 $\times$ 0.3 $\times$ 0.3mm)
- Case Material: "Green" Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



■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





ESDULC7V1LZB

■Maximum Ratings

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	37.5	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	2.5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 25	KV
ESD according to IEC61000-4-2 contact discharge		± 20	KV
Junction temperature	T_J	125	$^{\circ}C$
Operating temperature	T_{OP}	-55~125	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				7
Reverse leakage current	I_R	nA	$V_{RWM} = 5V$			200
Reverse breakdown voltage	V_{BR}	V	$I_T = 1mA$	8.5		
Clamping voltage	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$		10.5	13
Clamping voltage	V_{CL}	V	$I_{PP} = 2.5A, t_p = 8/20\mu s$		13	15
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		0.2	0.4
Junction capacitance	C_J	pF	$V_R = 0V, f = 3GHz$		0.15	0.3

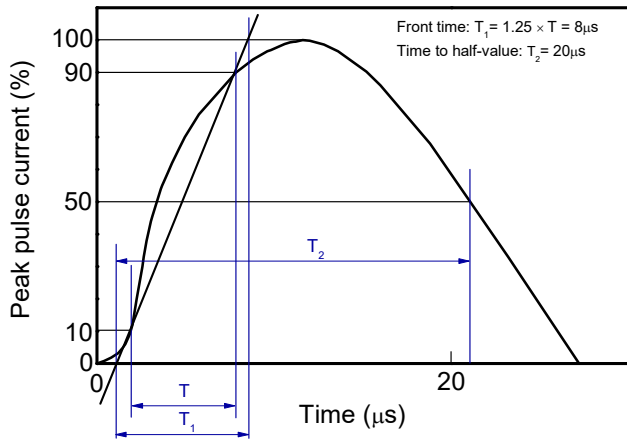
■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDULC7V1LZB	Approximate 0.18	10000	100000	400000	Tape&reel

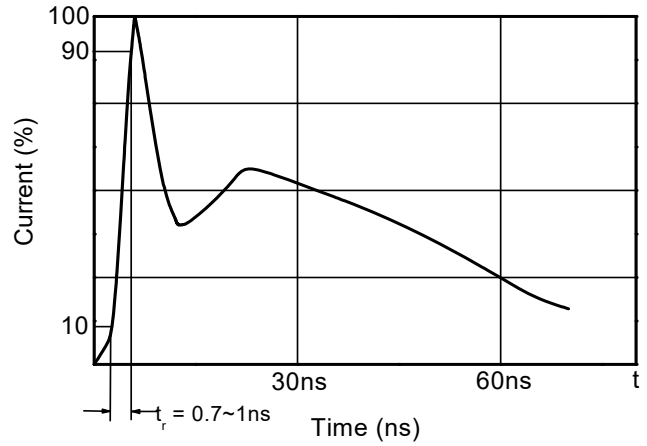


■ Characteristics (Typical)

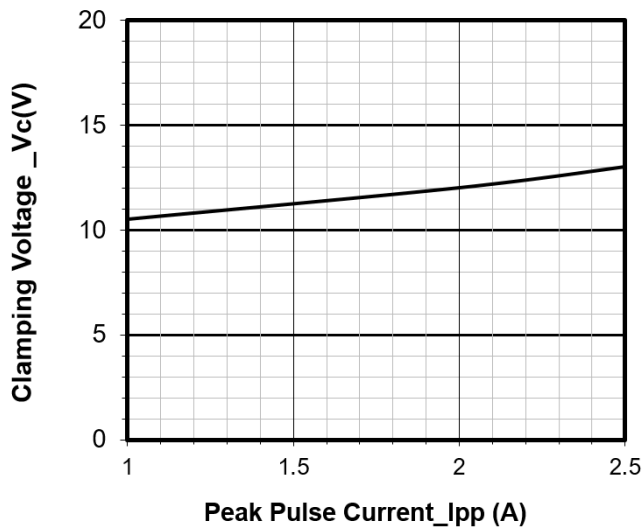
8/20 μ s waveform per IEC61000-4-5



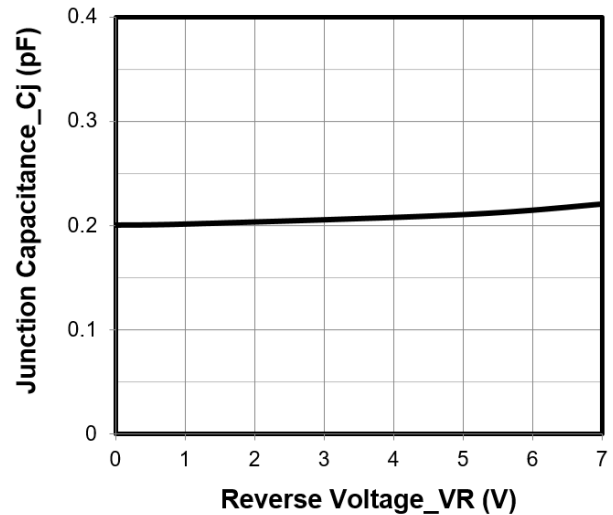
Contact discharge current waveform per IEC61000-4-2



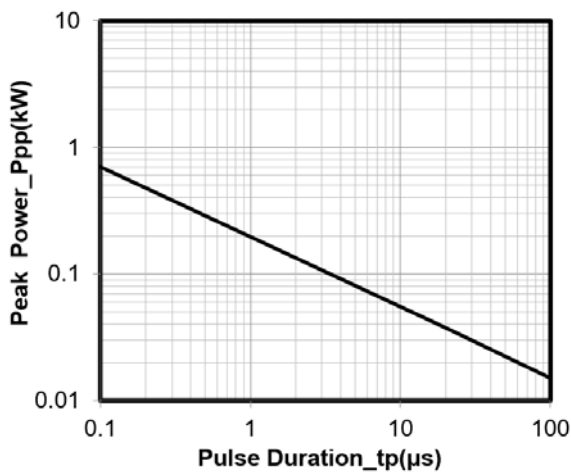
Clamping voltage vs. Peak pulse current



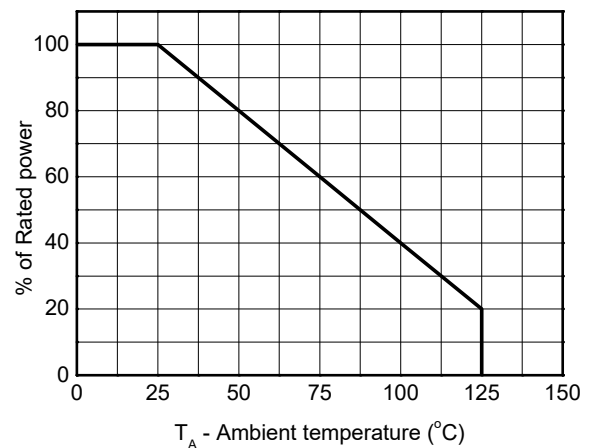
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time

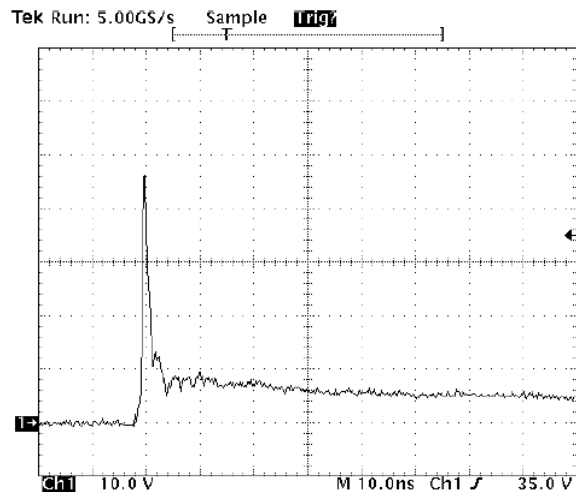


Power derating vs. Ambient temperature

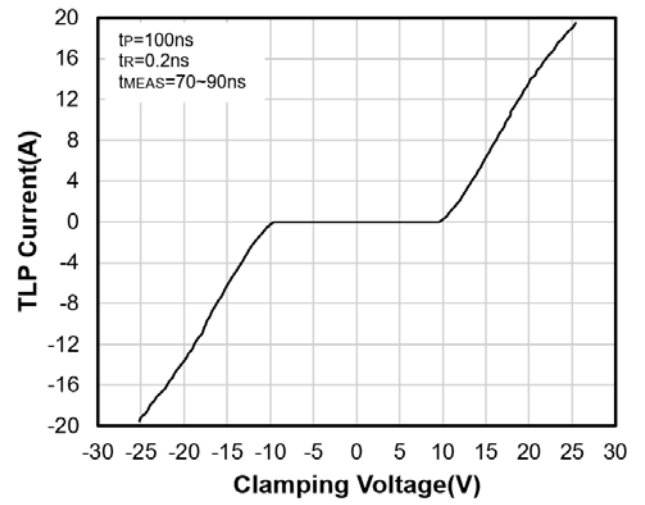




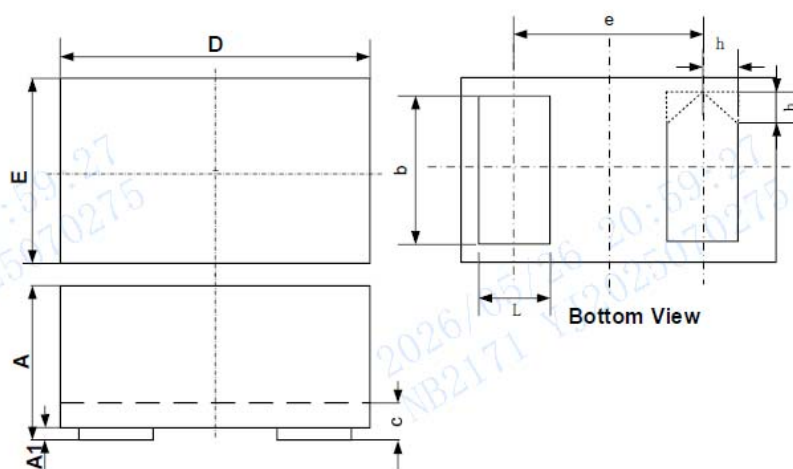
**ESD clamping
(+8kV contact discharge per IEC61000-4-2)**



TLP Measurement

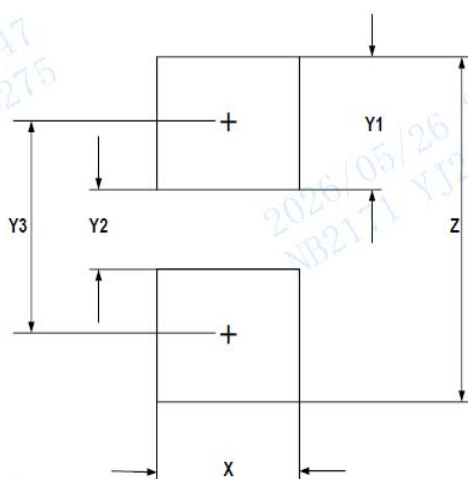


■ Outline Dimensions



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230		0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

■ Recommend Land Pattern (Unit:mm)



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026

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 devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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