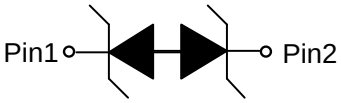
1-Line, Bi-directional, Transient Voltage Suppressor





DFN0603-2L

Features

- Ultra small package
- Stand-off voltage: 5 V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±15kV (contact)
  IEC61000-4-5(surge): 7A (8/20μs)
- Ultra-low capacitance: CJ = 0.2 pF typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

- NFC antenna protection
- Protection of high-speed and standard data lines with high signal levels
- Portable Electronics and Notebooks

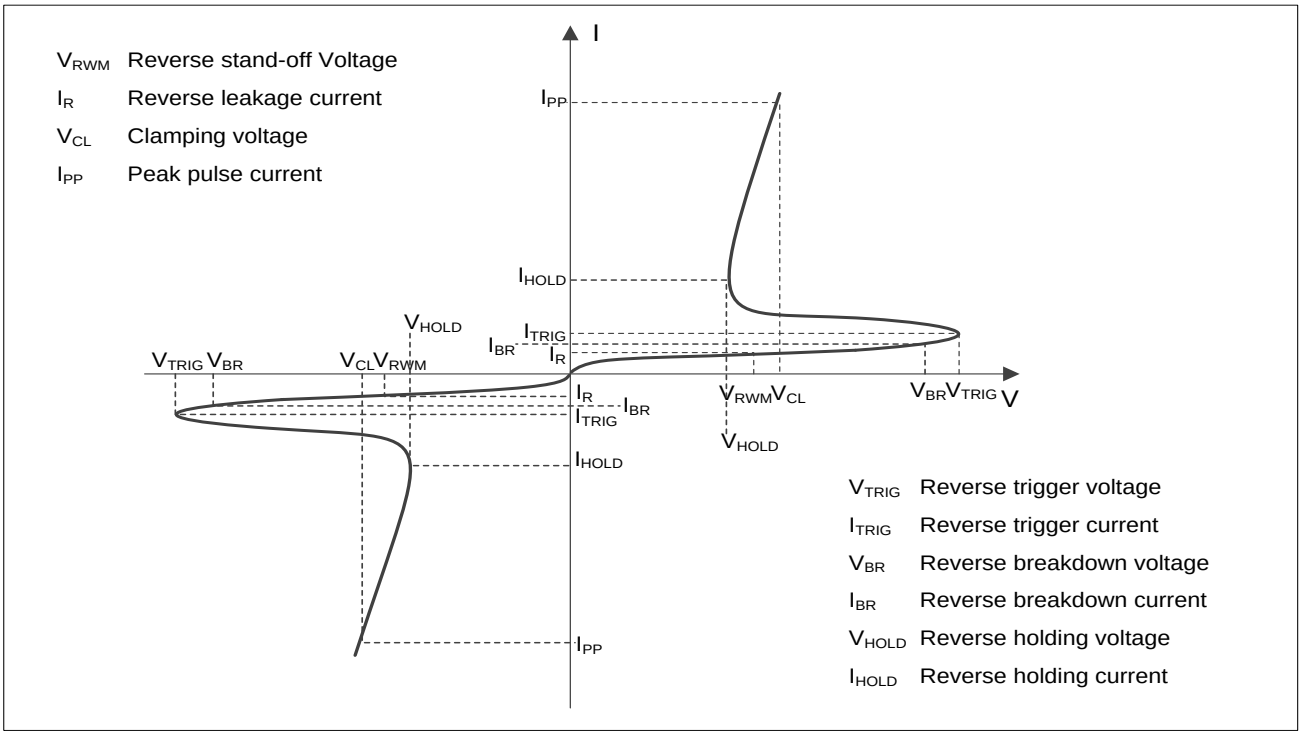
Caution:
This Device is designed for signal line protection only.
Do not operate under electrical bias or connect to a power line.

Mechanical Characteristics

- Package: DFN0603-2L
- Case Material: “Green” Molding Compound.
- 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 = 8/20μs)	P_{pk}	60	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	7	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±15	KV
ESD according to IEC61000-4-2 contact discharge		±15	KV
Junction temperature	T_J	125	°C
Operating temperature	T_{OP}	-40~85	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (T_a=25℃ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	nA	V_{RWM} =5V			50
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	8		
Clamping voltage[1)]	V_{CL}	V	I_{PP} = 16A, t_p = 100ns		8	
Clamping voltage[2)]	V_{CL}	V	V_{ESD} = 8kV		8.5	
Dynamic resistance[1)]	R_{DYN}	Ω			0.33	
Clamping voltage [3)]	V_{CL}	V	I_{PP} = 5A, t_p = 8/20μs		5	7
		V	I_{PP} = 7A, t_p = 8/20μs		6.5	8.5
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		0.20	0.30
		pF	V_R = 1.5V, f = 1MHz		0.18	0.28

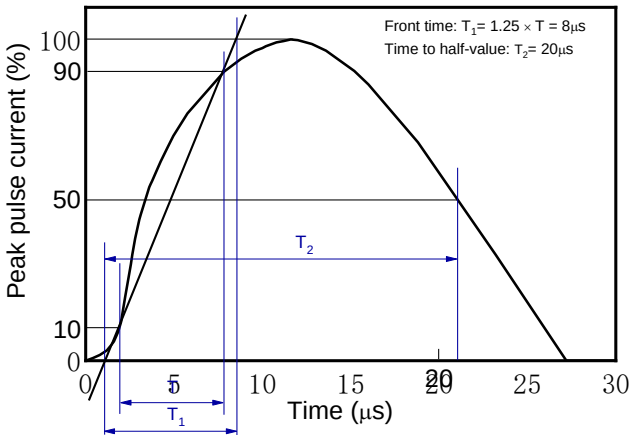
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

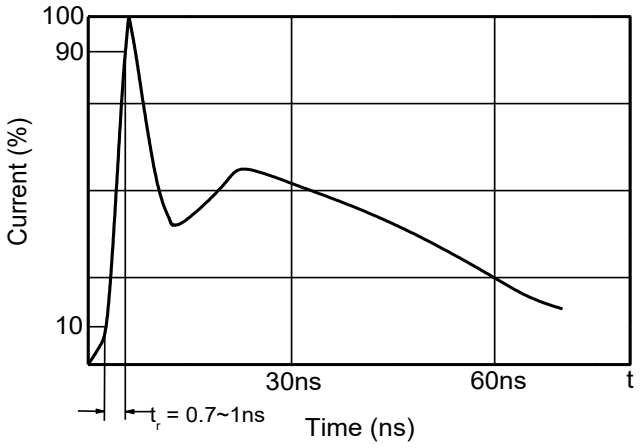
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SESDULC5V0LZBA	Approximate 0.18	3000	30000	120000	Tae& reel

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

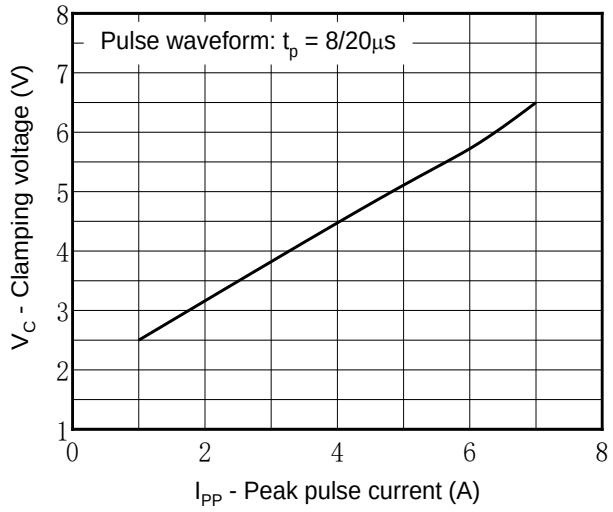
8/20μs waveform per IEC61000-4-5



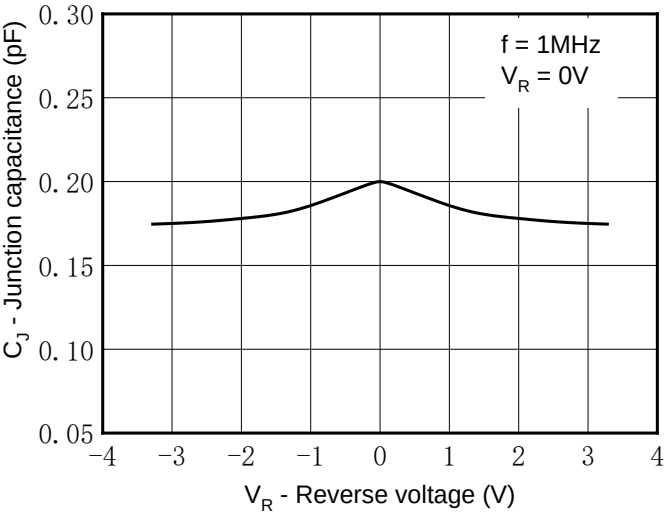
Contact discharge current waveform per IEC61000-4-2



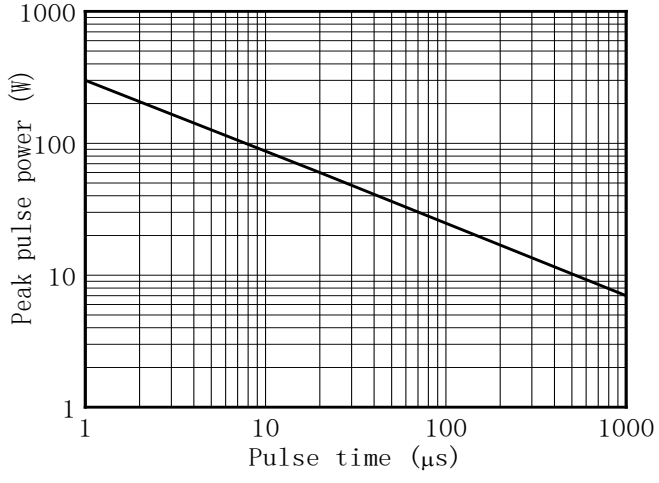
Clamping voltage vs. Peak pulse current



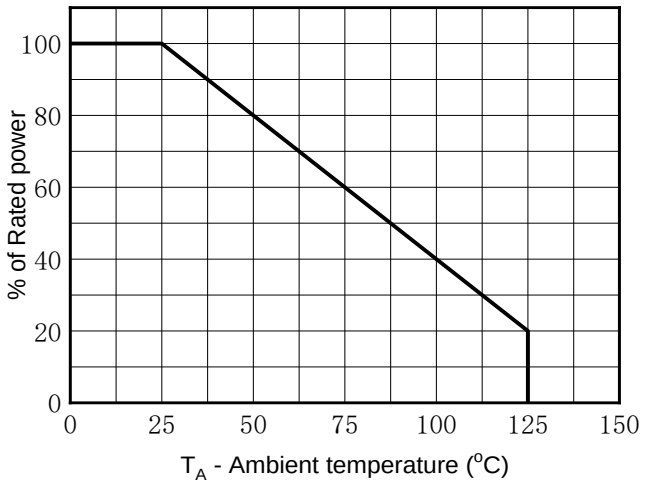
Capacitance vs. Reverse voltage



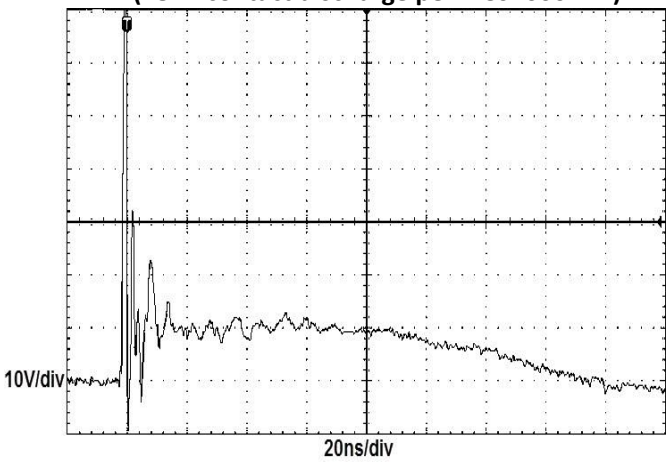
Non-repetitive peak pulse power vs. Pulse time



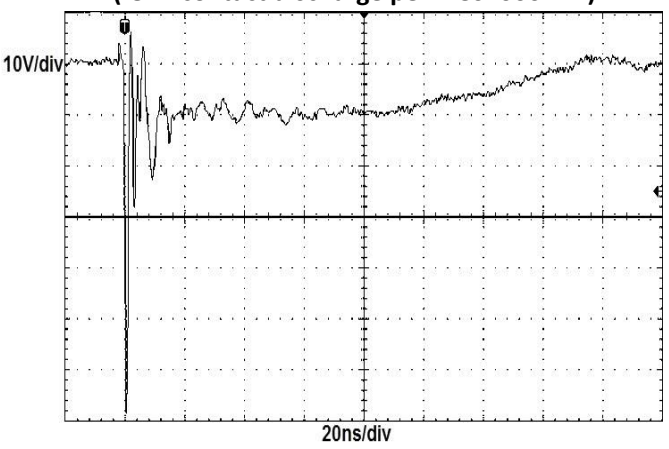
Power derating vs. Ambient temperature



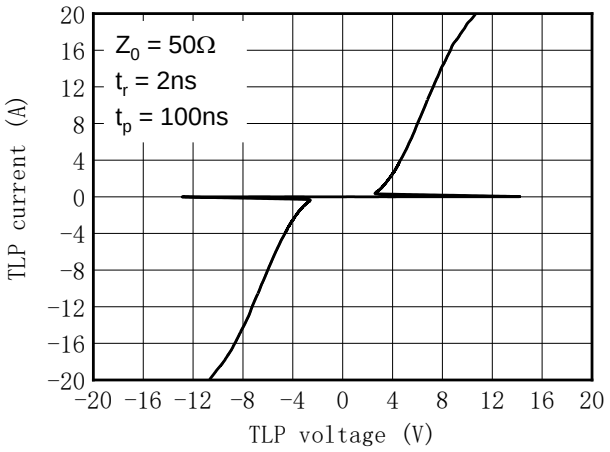
ESD clamping
(+8kV contact discharge per IEC61000-4-2)



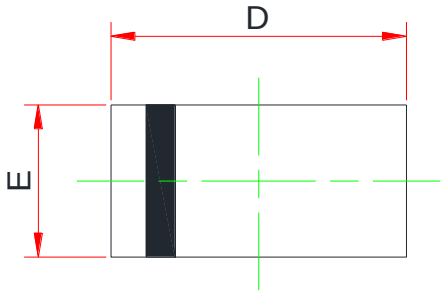
ESD clamping
(-8kV contact discharge per IEC61000-4-2)



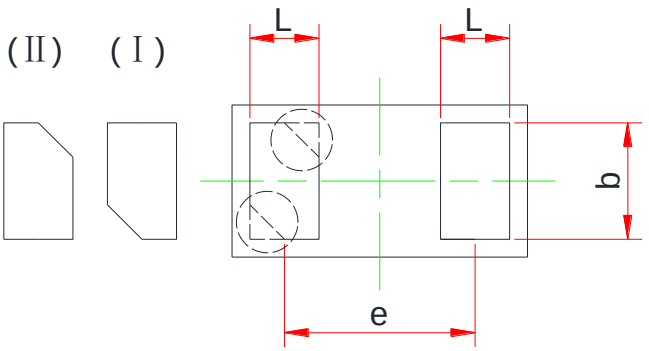
TLP Measurement



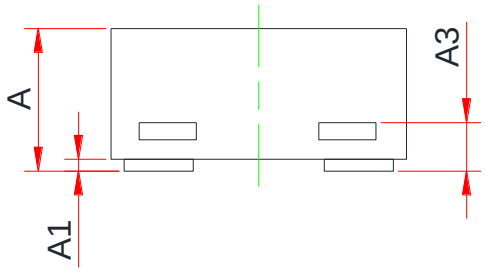
■ Outline Dimensions



Top View



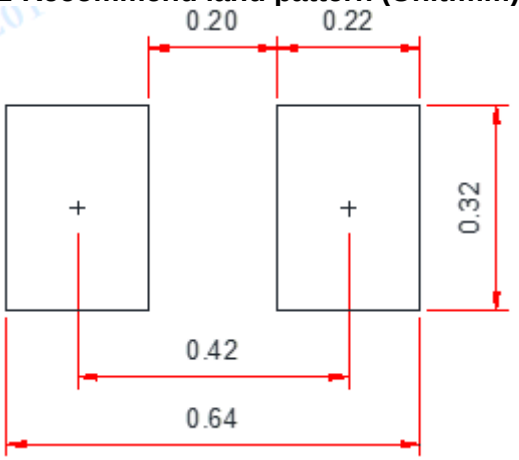
Bottom View



Side View

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

■ 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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