

1- Line, Bi-directional, Transient Voltage Suppressor



DFN0603-2L

■ Features

- Ultra small package
- Stand-off voltage: 3.3V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): 12kV (contact)
IEC61000-4-5(surge): 4A (8/20μs)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

■ Applications

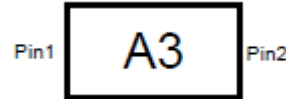
- Cellular handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

Caution:

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

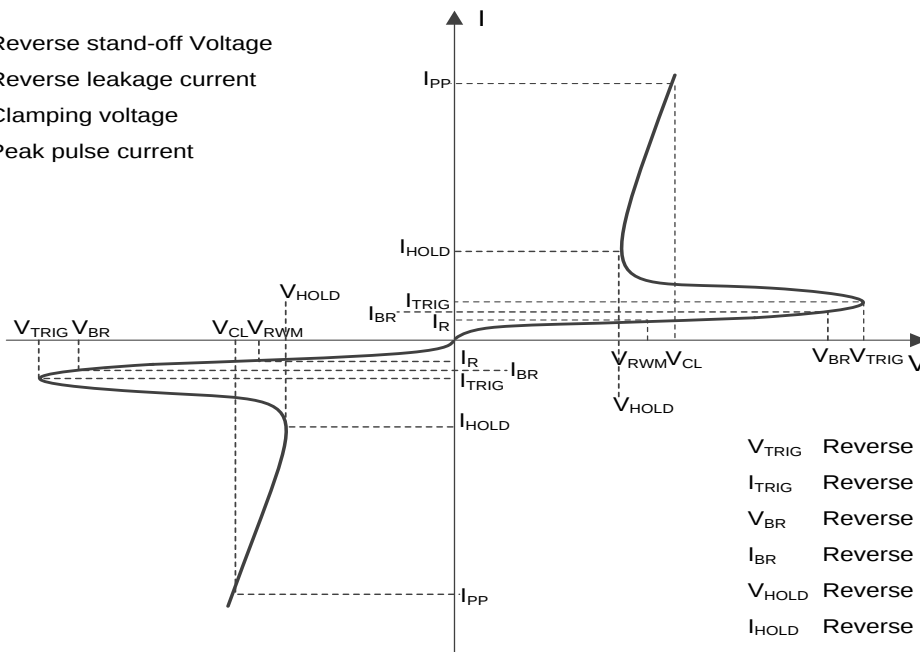
■ Mechanical Characteristics

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



■ Definitions of electrical characteristics

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



- V_{TRIG} Reverse trigger voltage
 I_{TRIG} Reverse trigger current
 V_{BR} Reverse breakdown voltage
 I_{BR} Reverse breakdown current
 V_{HOLD} Reverse holding voltage
 I_{HOLD} Reverse holding current



SESDULC3V3LZBS

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	13	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	4	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±15	KV
ESD according to IEC61000-4-2 contact discharge		±12	KV
Junction temperature	T_J	-55~125	°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	$I_{BR} = 1mA$	4.5		8
Reverse leakage current	I_R	uA	$V_{RWM} = 3.3V$			0.1
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$		1.75	
		V	$I_{PP} = 4A, t_p = 8/20\mu s$		2.9	
Junction capacitance	C_J	pF	$V_R = 1V, f = 1MHz$		0.2	

- (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)

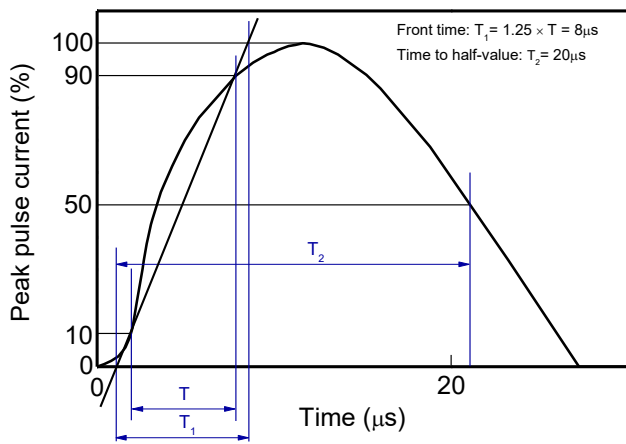
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SESDULC3V3LZBS	Approximate 0.18	10000	100000	400000	Tae& reel



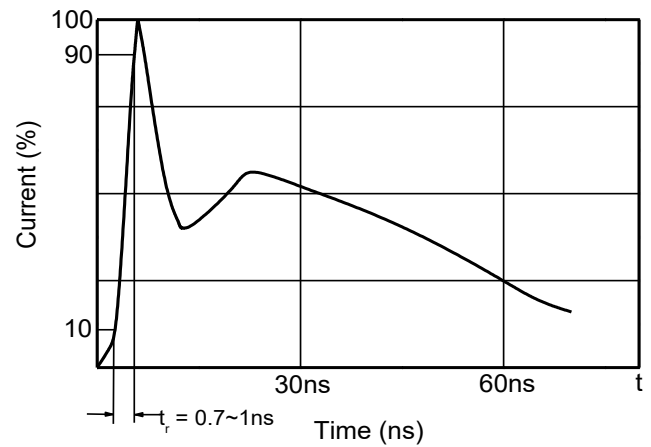
SESDULC3V3LZBS

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

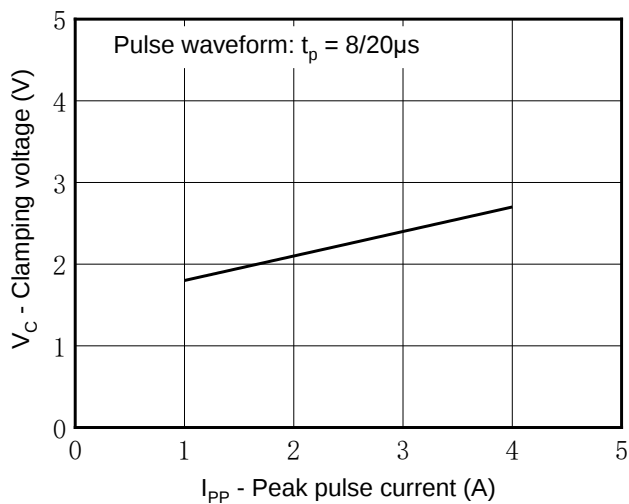
8/20μs waveform per IEC61000-4-5



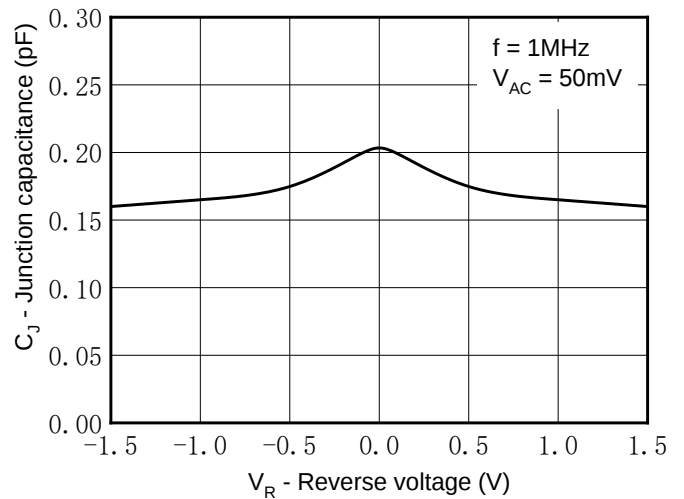
Contact discharge current waveform per IEC61000-4-2



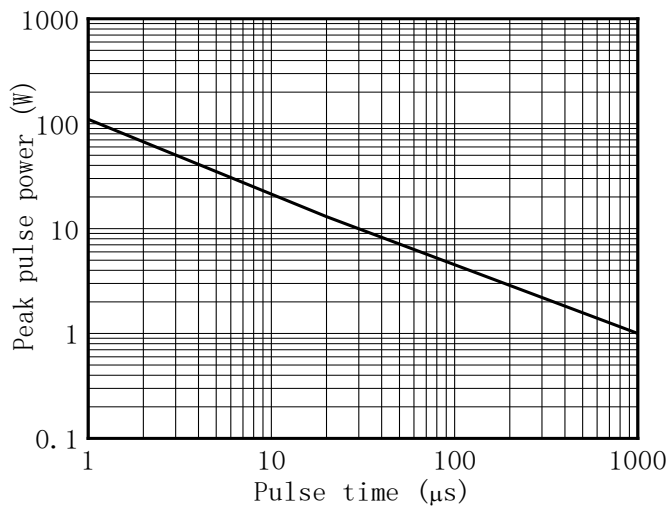
Clamping voltage vs. Peak pulse current



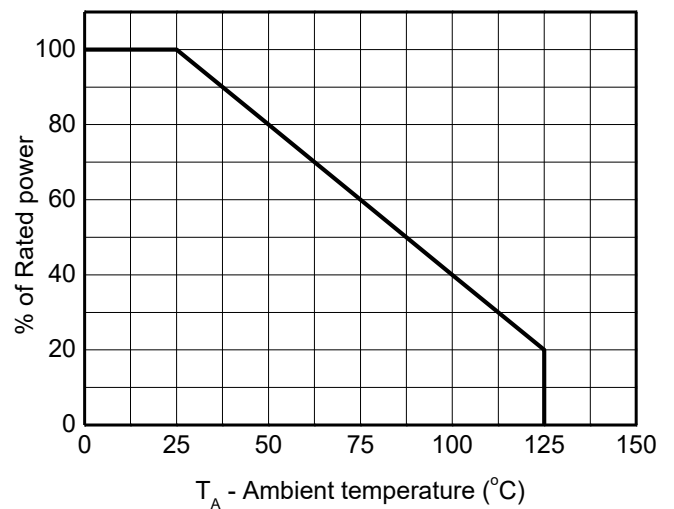
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time



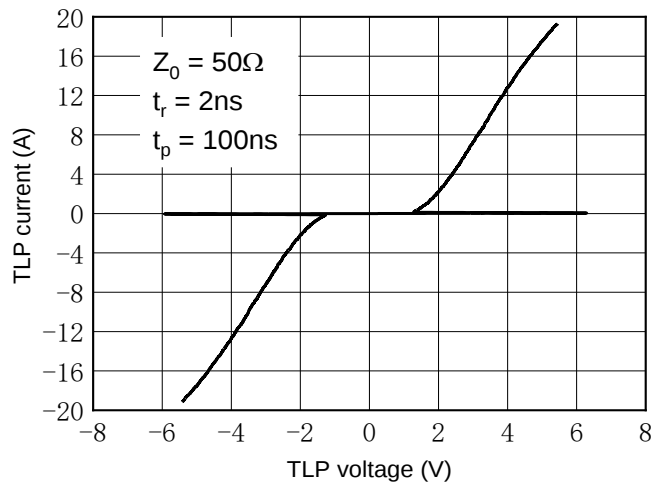
Power derating vs. Ambient temperature





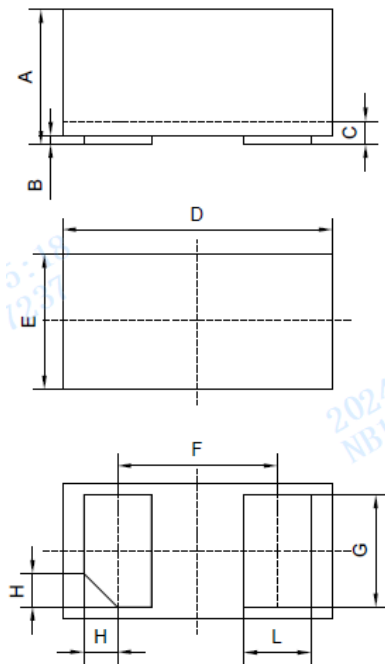
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TLP Measurement



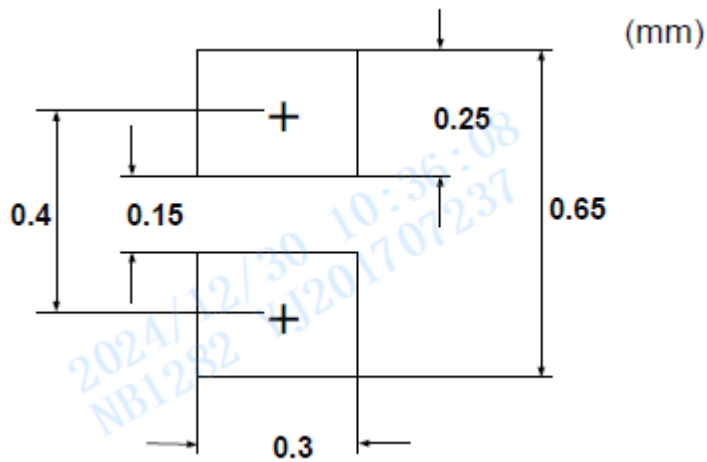


■ Outline Dimensions



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.008	0.013	0.21	0.33	
B	0.000	0.002	0.00	0.05	
C	0.005	0.007	0.12	0.18	
D	0.022	0.026	0.55	0.65	
E	0.010	0.014	0.25	0.35	
F	0.014		0.355		TYP.
G	0.008	0.011	0.215	0.28	
H	0.003		0.079		TYP.
L	0.006	0.009	0.16	0.22	

■ 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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