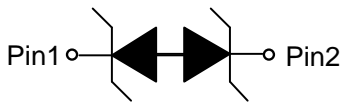


1-Line, Bi-directional, Transient Voltage Suppressor



DFN0603-2L

Features

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

Applications

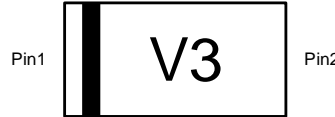
- NFC antenna protection
- Protection of high-speed and standard data lines with high signal levels
- Portable Electronics and Notebooks

Caution:

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

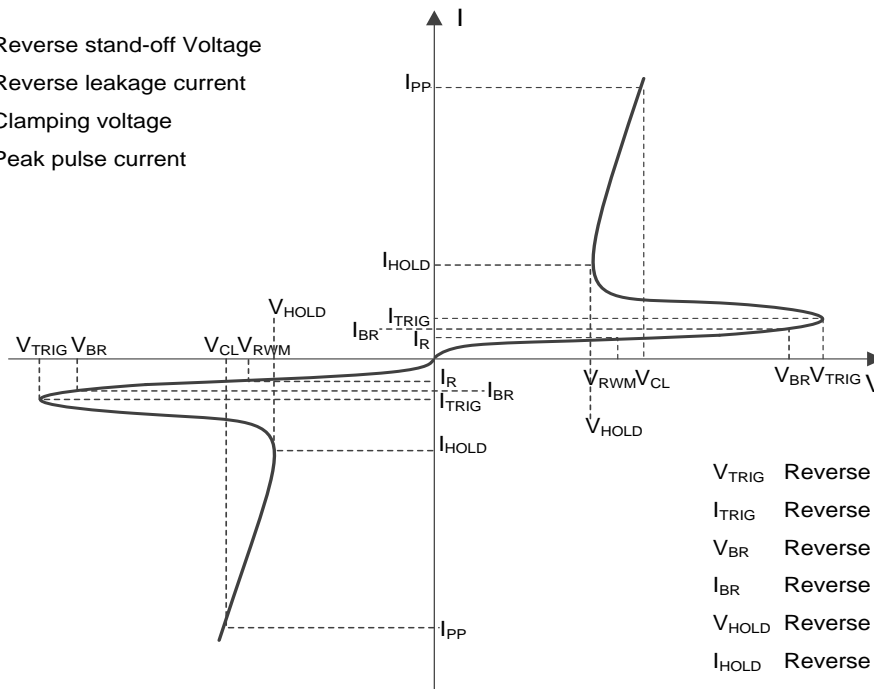
Mechanical Characteristics

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



■ Definitions of electrical characteristics

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





SESDULC5V0LZBA

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

PARAMETER	SYMBOL	Rating	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}	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 (Ta=25°C 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	$I_{PP} = 5A, t_p = 8/20\mu s$		5	7
		V	$I_{PP} = 7A, t_p = 8/20\mu s$		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: $Z_0 = 50\Omega, t_p = 100ns, t_r = 2ns$, 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)

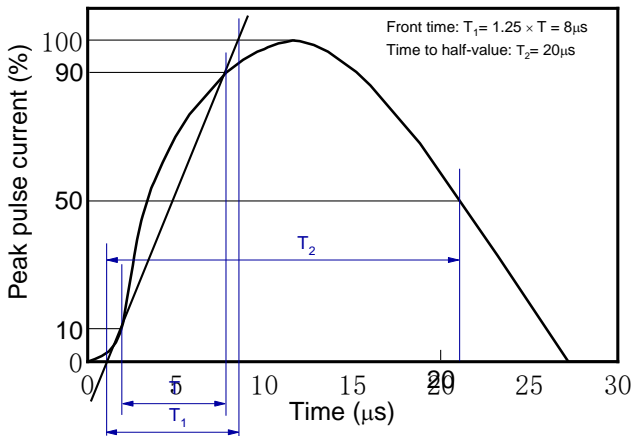
PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SESDULC5V0LZBA	Approximate 0.18	3000	30000	120000	Tae& reel



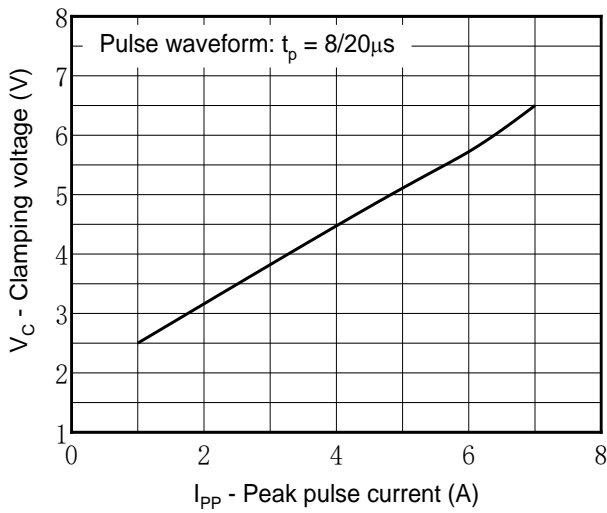
SESDULC5V0LZBA

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

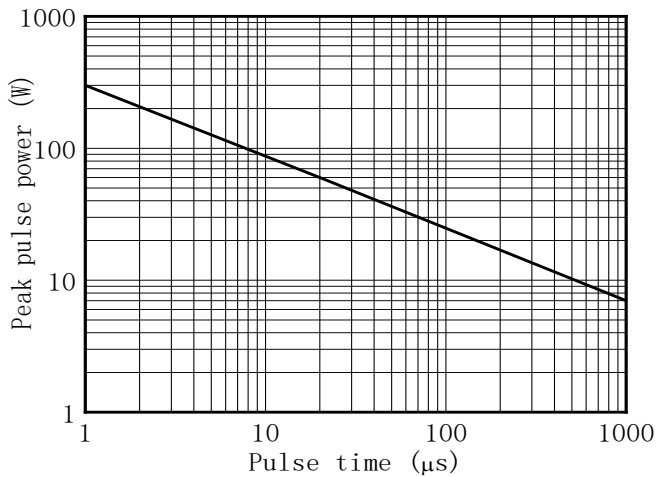
8/20μs waveform per IEC61000-4-5



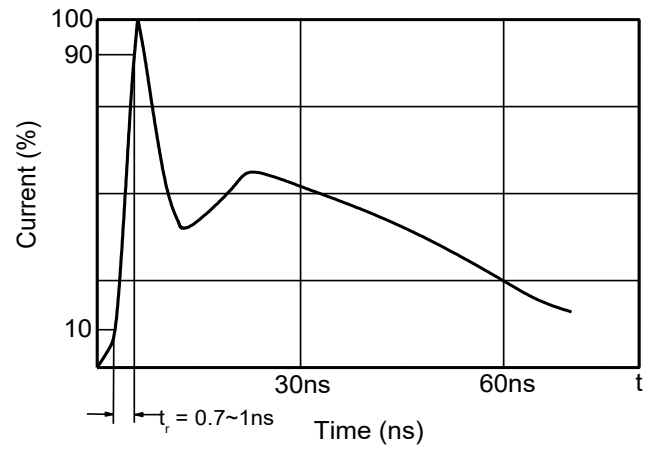
Clamping voltage vs. Peak pulse current



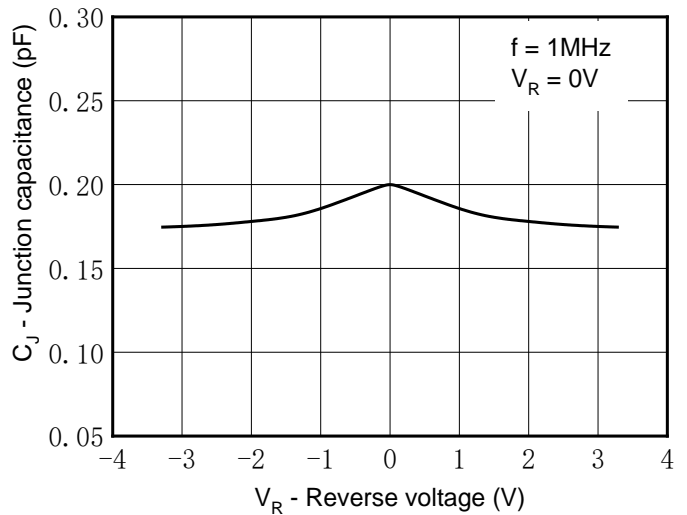
Non-repetitive peak pulse power vs. Pulse time



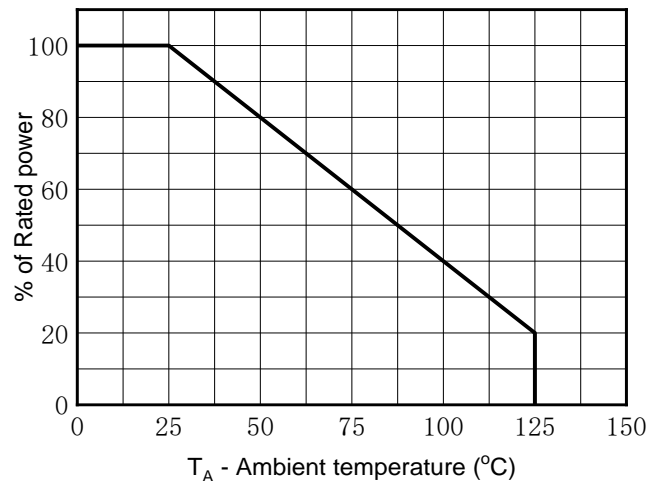
Contact discharge current waveform per IEC61000-4-2



Capacitance vs. Reverse voltage



Power derating vs. Ambient temperature

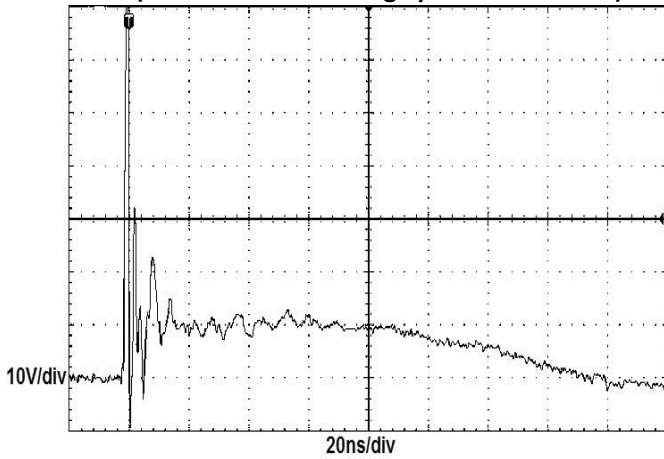




SESDULC5V0LZBA

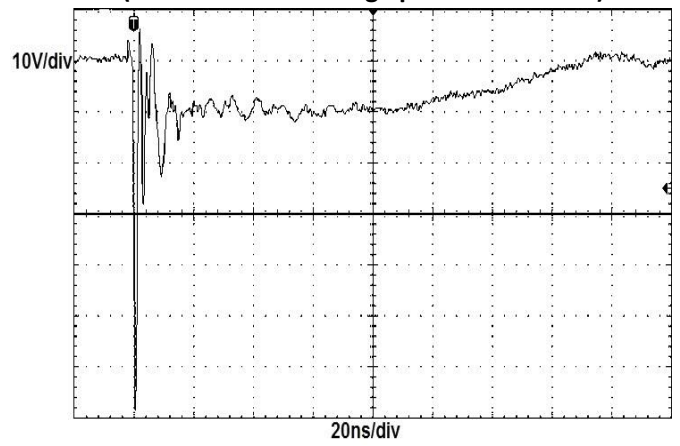
ESD clamping

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

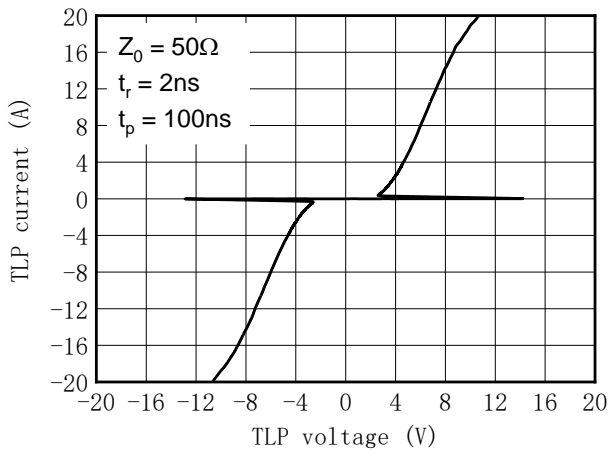


ESD clamping

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



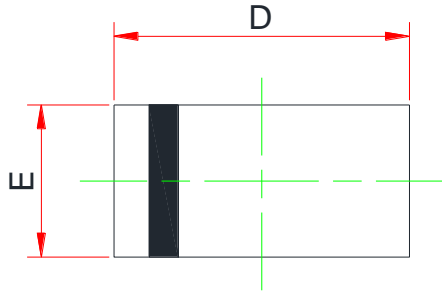
TLP Measurement



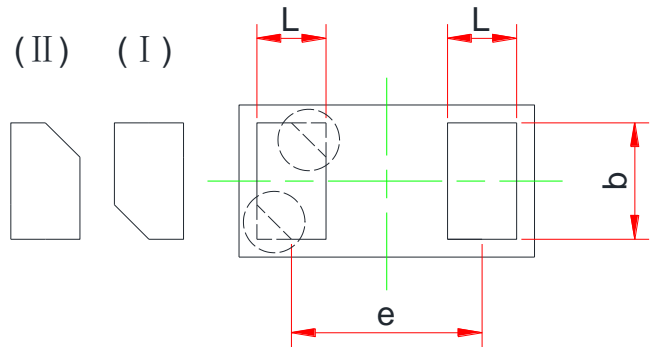


SESDULC5V0LZBA

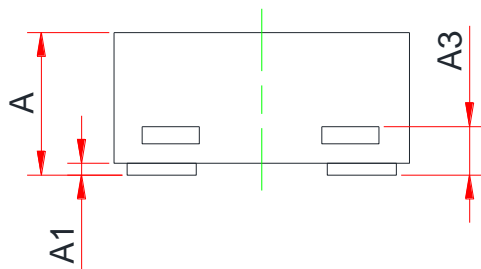
■ Outline Dimensions



Top View



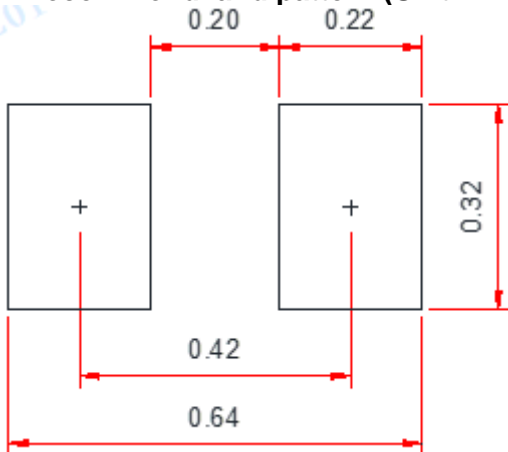
Bottom View



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



SESDULC5V0LZBA

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

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.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.