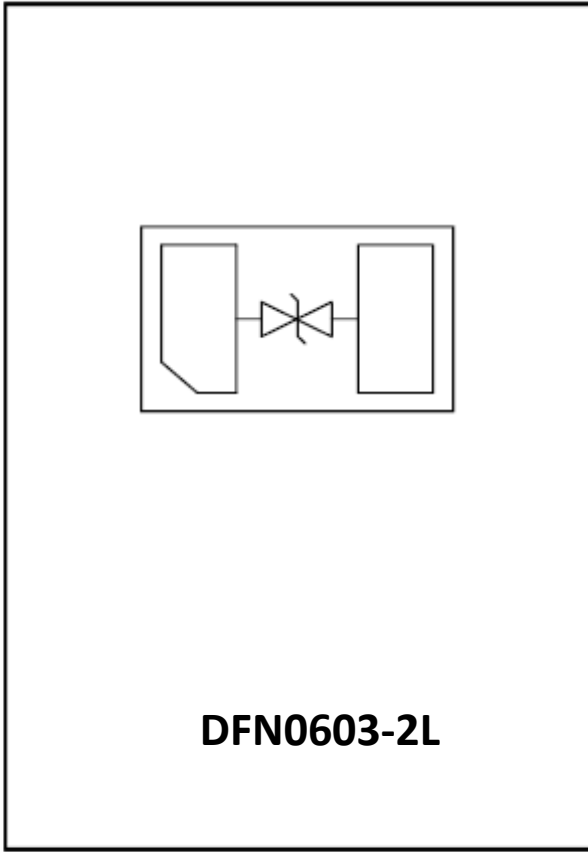


## 1-Line, Bi-directional, Transient Voltage Suppressor



### Features

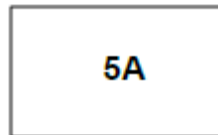
- Ultra small package
- Stand-off voltage: 5V Max
- Transient protection for each line according to
  - IEC61000-4-2(ESD):  $\pm 30\text{kV}$  (contact)
  - IEC61000-4-5(surge): 8A (8/20 $\mu\text{s}$ )
- Low leakage current
  - Low clamping voltage
- RoHS Compliant

### Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players

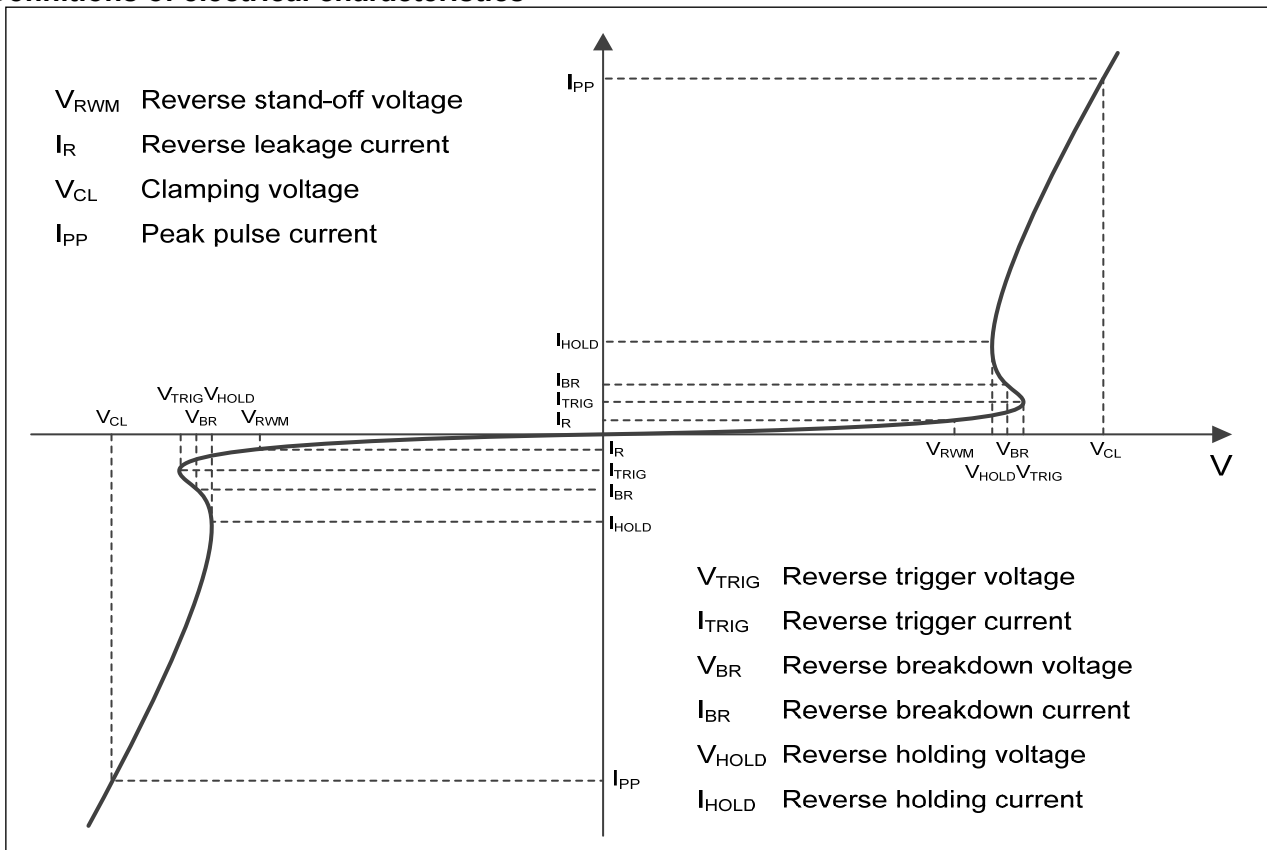
### Mechanical Characteristics

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



5A = Device Marking Code

### Definitions of electrical characteristics





# ESD5V0LZBS

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	100	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{PP}$	8	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 30$	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				5
Reverse leakage current	$I_R$	$\mu A$	$V_{RWM} = 5V$			0.1
Reverse breakdown voltage	$V_{BR}$	V	$I_{BR} = 1mA$	6		8
Clamping voltage <sup>3)</sup>	$V_{CL}$	V	$I_{PP} = 1A, t_p = 8/20\mu s$			8.5
		V	$I_{PP} = 8A, t_p = 8/20\mu s$			12.5
Junction capacitance	$C_J$	$\mu F$	$V_R = 0V, f = 1MHz$		20	

(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)

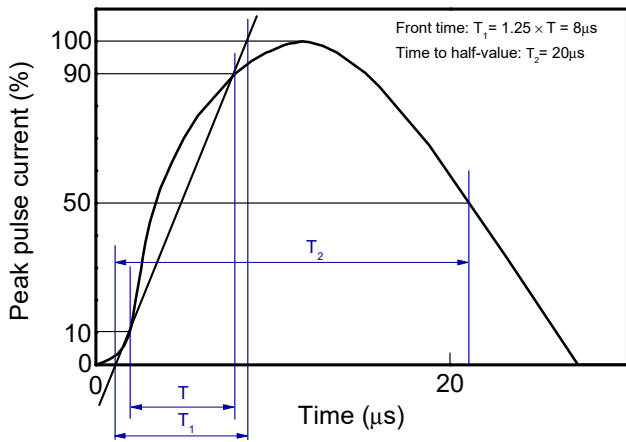
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD5V0LZBS	F1	Approximate 7	10000	100000	400000	7" reel



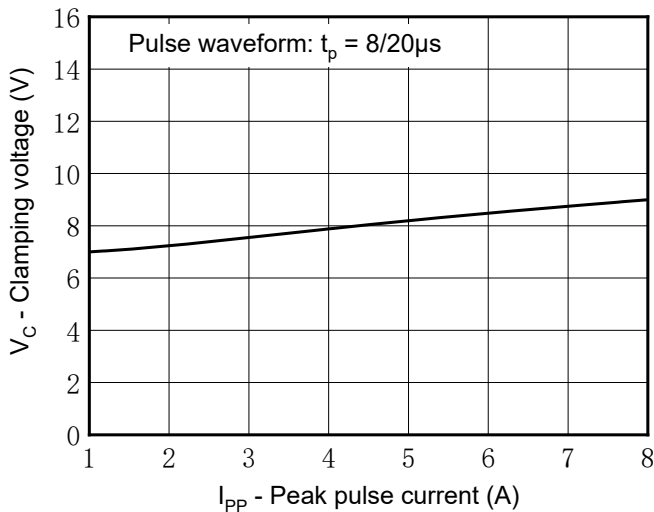
# ESD5V0LZBS

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

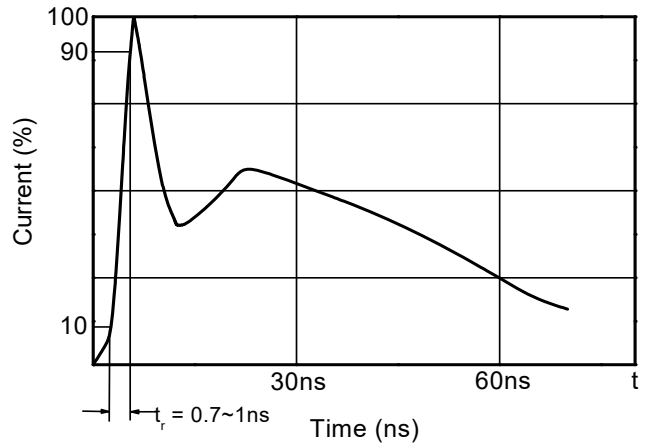
8/20μs waveform per IEC61000-4-5



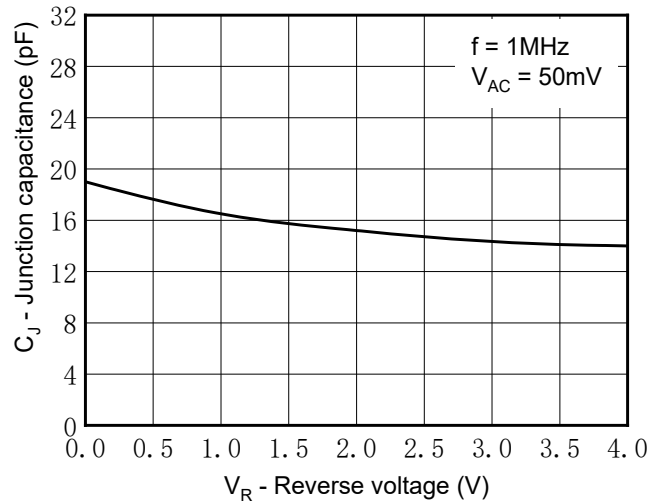
Clamping voltage vs. Peak pulse current



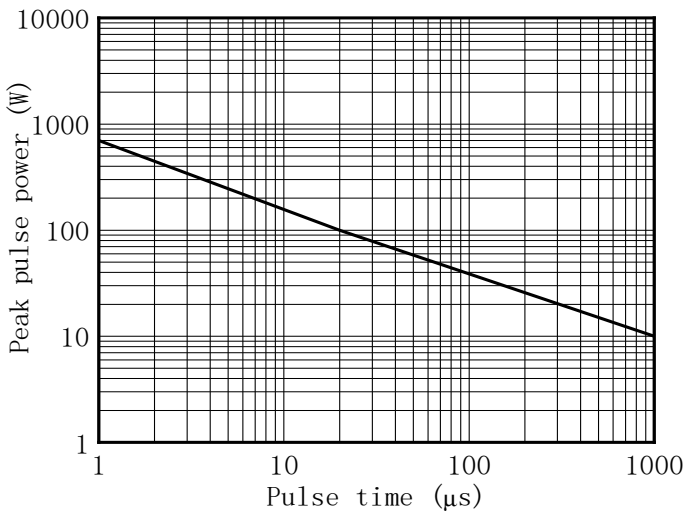
Contact discharge current waveform per IEC61000-4-2



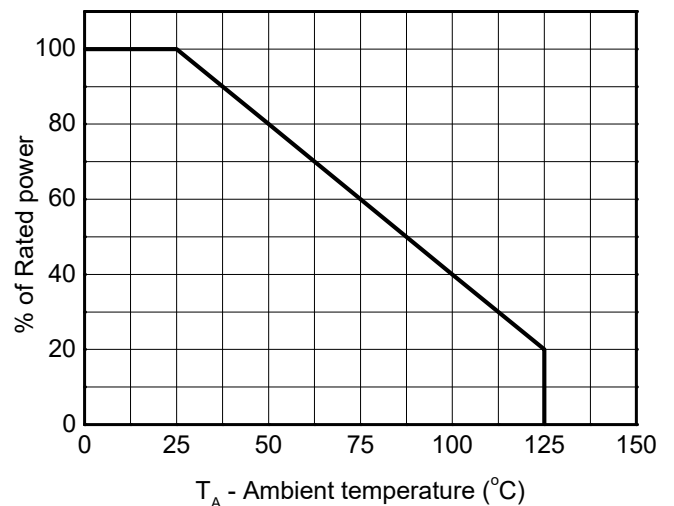
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time



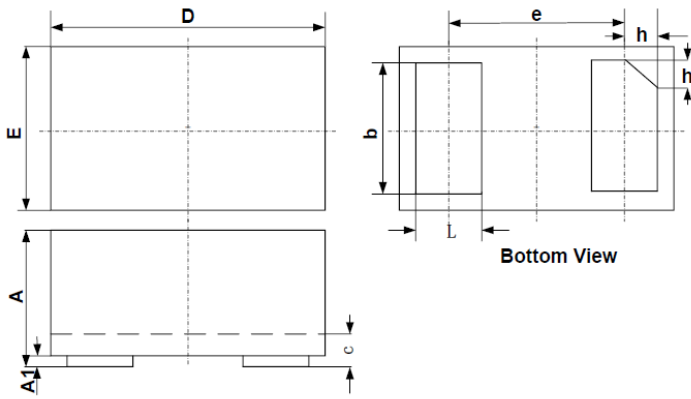
Power derating vs. Ambient temperature





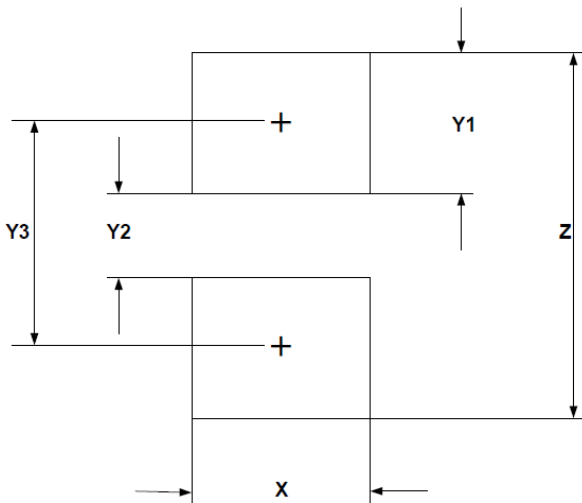
# ESD5V0LZBS

## ■ 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



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



## ESD5V0LZBS

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