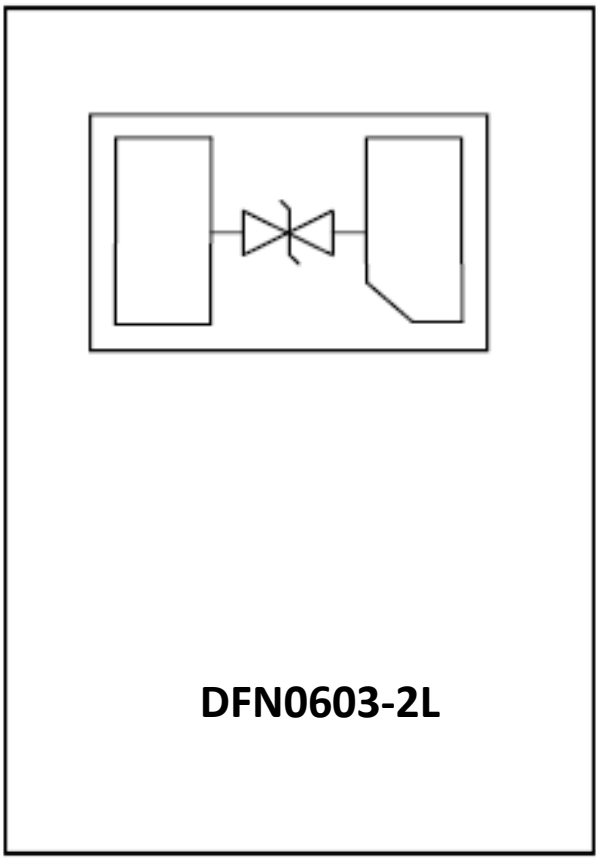
RoHS
COMPLIANT

ESDULC5V0LZBA

1-Line, Bi-directional, Transient Voltage Suppressor



Features

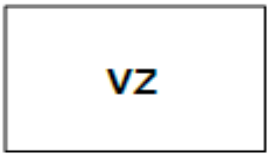
- Ultra small package
- Stand-off voltage: 5V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±25kV (contact)
  IEC61000-4-5(surge): 5A (8/20μs)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

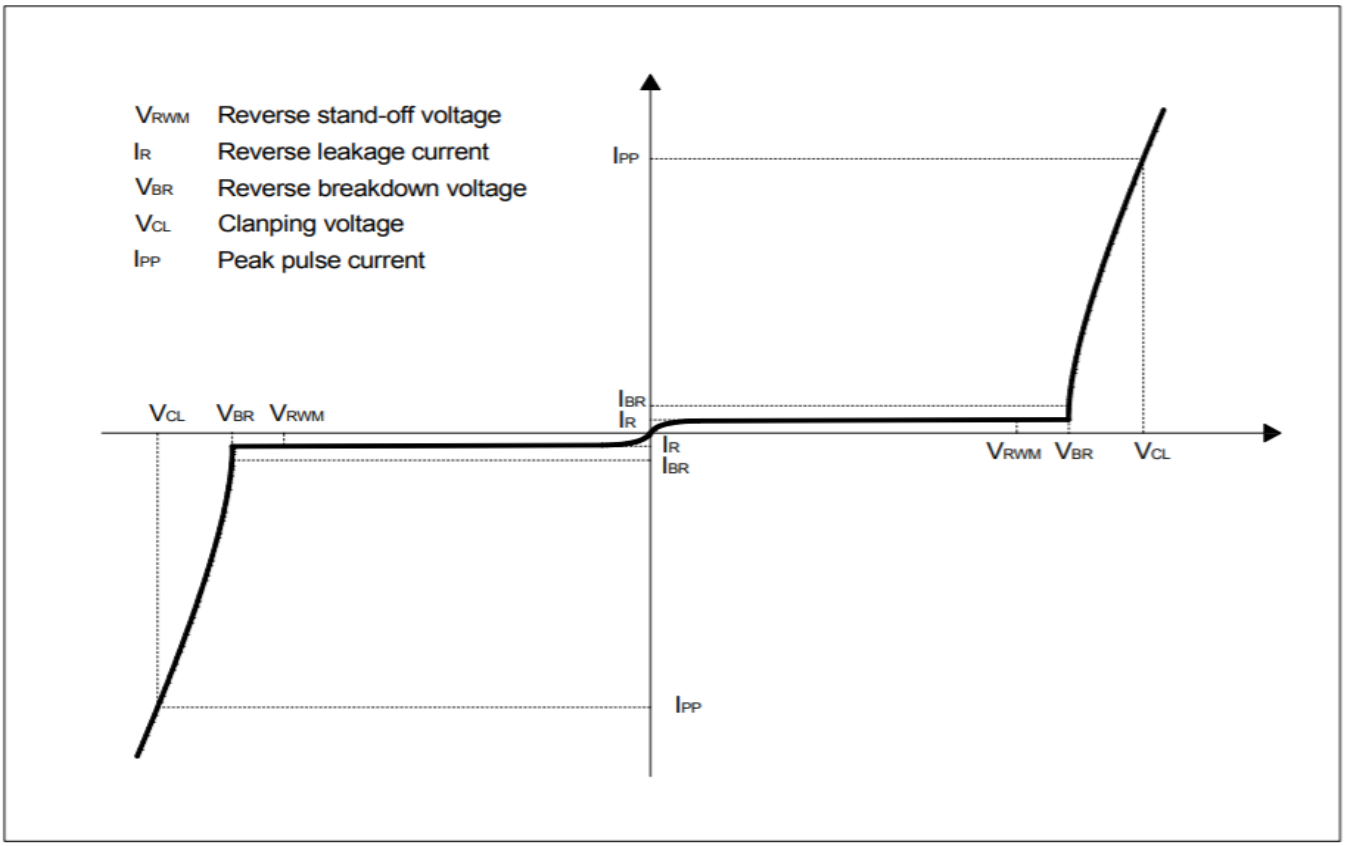
- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

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}	80	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±25	KV
ESD according to IEC61000-4-2 contact discharge		±25	KV
Junction temperature	T_J	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	uA	V_{RWM} =5V			0.2
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	6		
Clamping voltage [3]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs			10
		V	I_{PP} = 5A, t_p = 8/20μs			16
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		0.3	

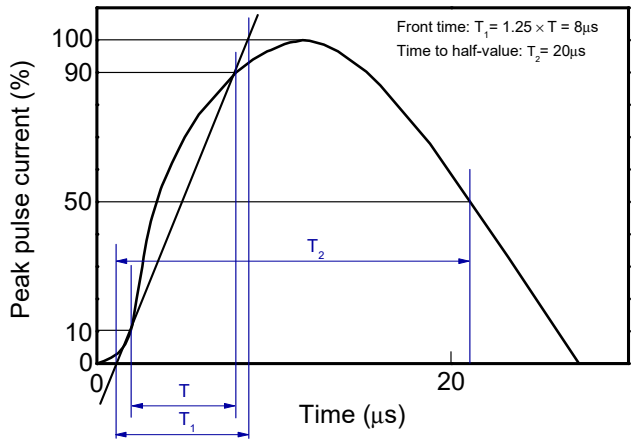
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

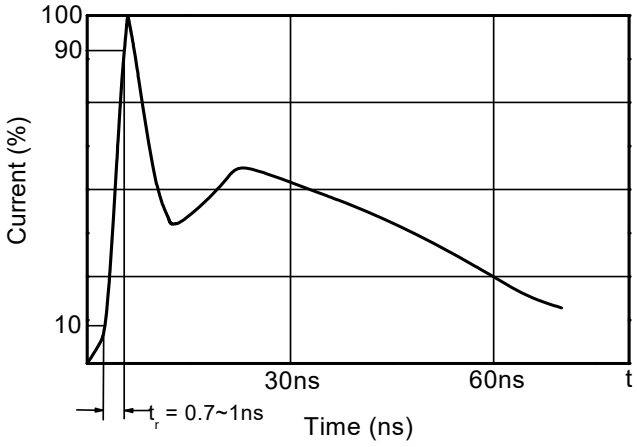
PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDULC5V0LZBA	F1	Approximate 7	10000	100000	400000	7” reel

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

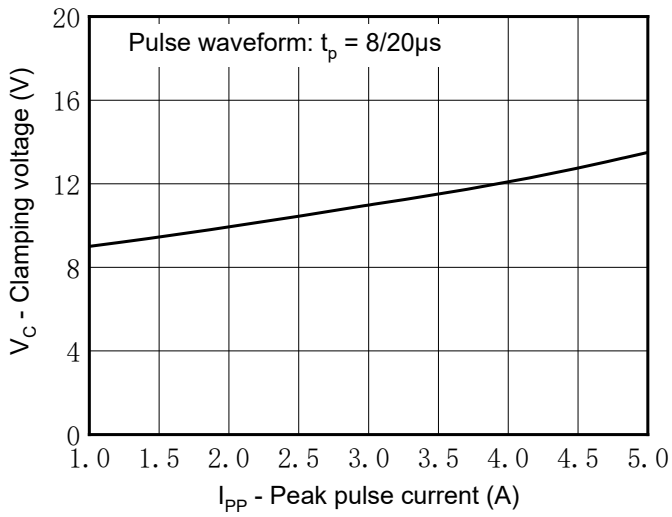
8/20μs waveform per IEC61000-4-5



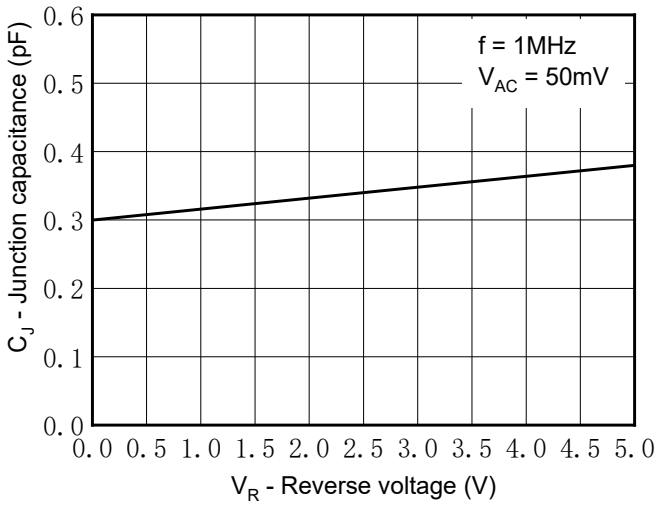
Contact discharge current waveform per IEC61000-4-2



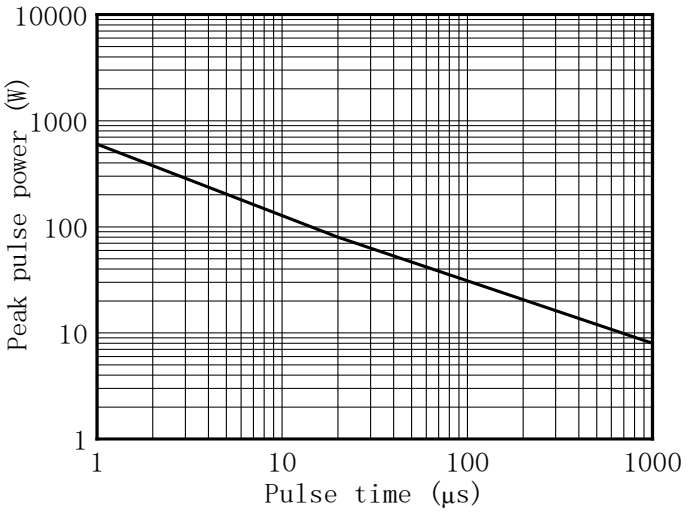
Clamping voltage vs. Peak pulse current



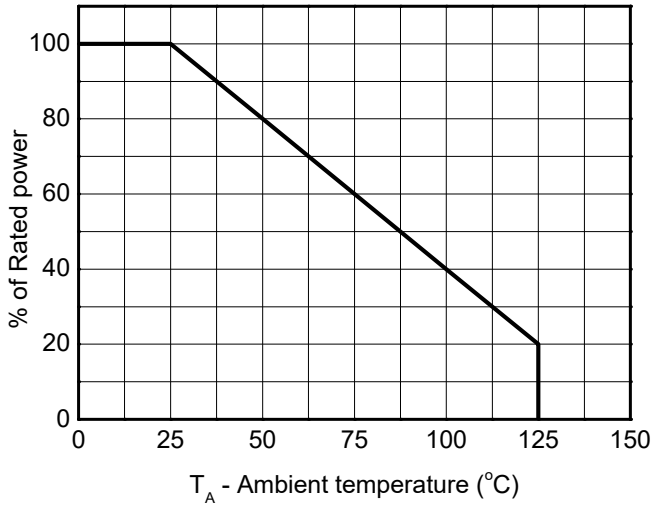
Capacitance vs. Reverse voltage



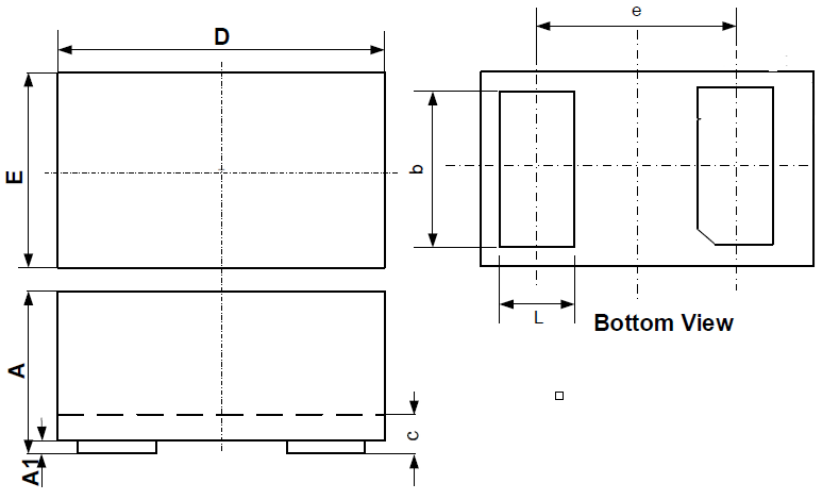
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

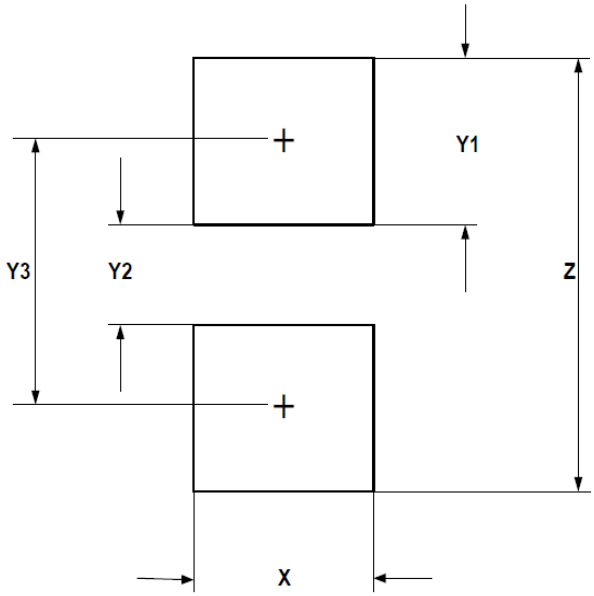


■ Outline Dimensions



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

■ 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

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