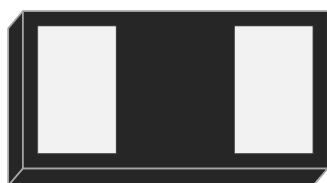


1-Line, Uni-directional, Transient Voltage Suppressor



DFN0603-2L

Features

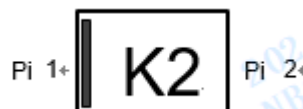
- Stand-off voltage: $\pm 2.5V$ Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30kV$ (contact)
IEC61000-4-4 (EFT): 40A (5/50ns)
IEC61000-4-5(surge): 13A (8/20 μs)
- Low leakage current
- Ultra-low capacitance: $C_j = 40pF$ typ.
- Low clamping voltage:
 $V_{CL} = 7V$ typ. @ $I_{PP} = 16A$ (TLP)
- Compliant
- Solid-state silicon technology

Applications

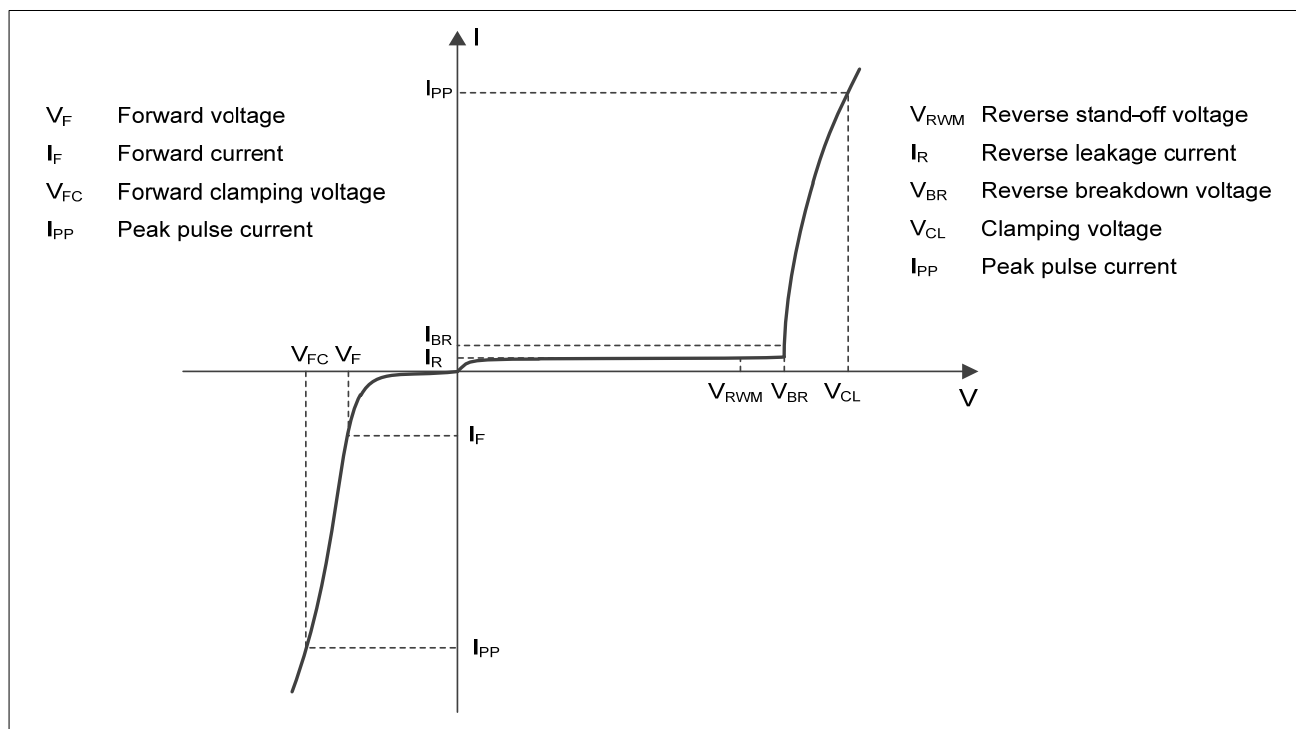
- Power supply protection
- Power management

Mechanical Data

- Package: DFN0603-2L
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	90	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	13	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	
Junction temperature	T_J	-45~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics ($T_a=25^\circ C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				2.5
Reverse leakage current	I_R	μA	$V_{RWM} = 2.5V$			0.1
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	3		
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 16A, t_p = 0.2/100ns(TLP)$		7	
Dynamic resistance ¹⁾	R_{DYN}	Ω			0.17	
Clamping voltage ²⁾	V_{CL}	V	$V_{ESD} = 8kV$		9	
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$		4.2	
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 13A, t_p = 8/20\mu s$		6.4	
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		40	55

Notes:

TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.

Contact discharge mode, according to IEC61000-4-2.

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
ESD2V5LZA	F1	Approximate 0.18	10000	100000	400000	7" reel

■ Characteristics (Typical)

Fig.1 8/20 μ s waveform per IEC61000-4-5

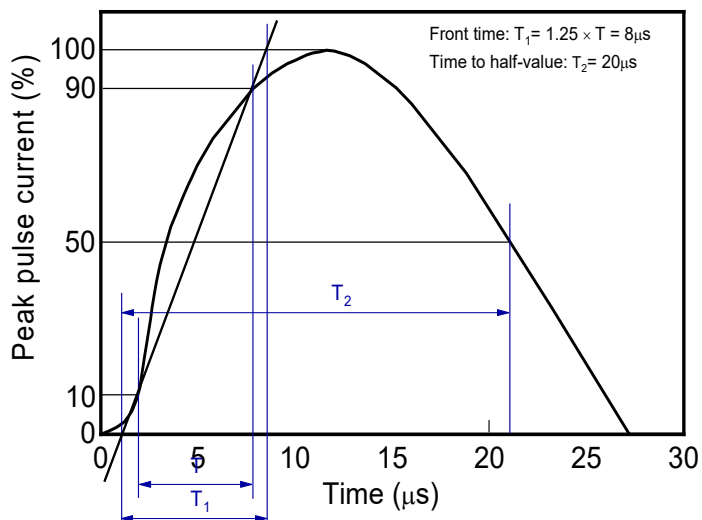


Fig.2 Contact discharge current waveform per IEC61000-4-2

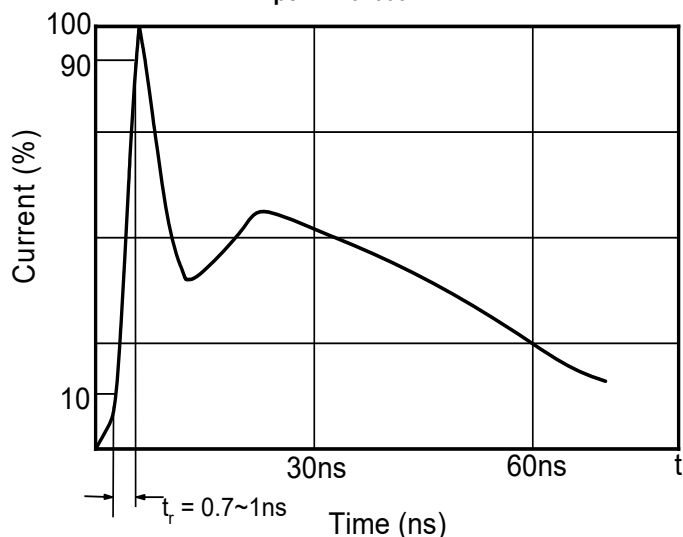


Fig.3 Clamping voltage vs. Peak pulse current

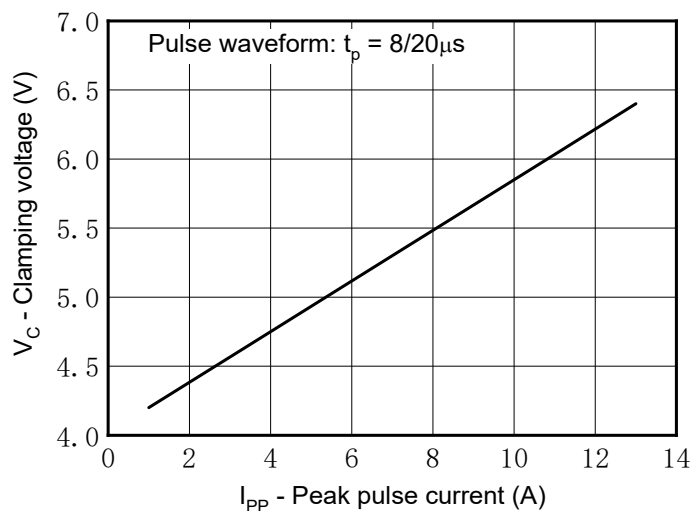


Fig.4 Capacitance vs. Reverse voltage

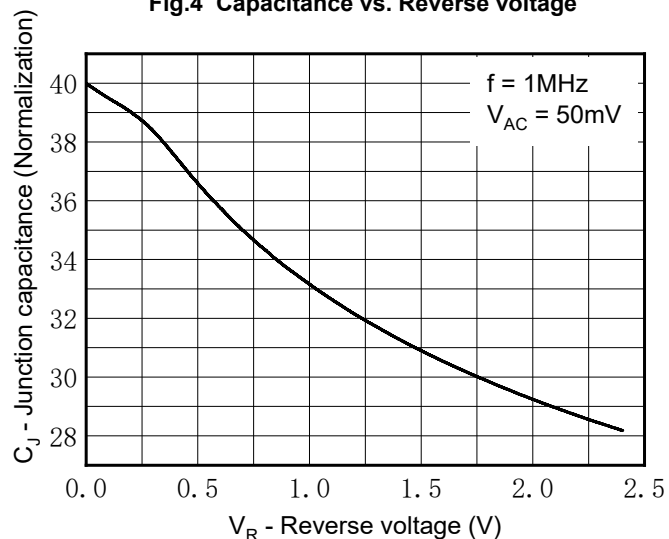


Fig.5 Non-repetitive peak pulse power vs. Pulse time

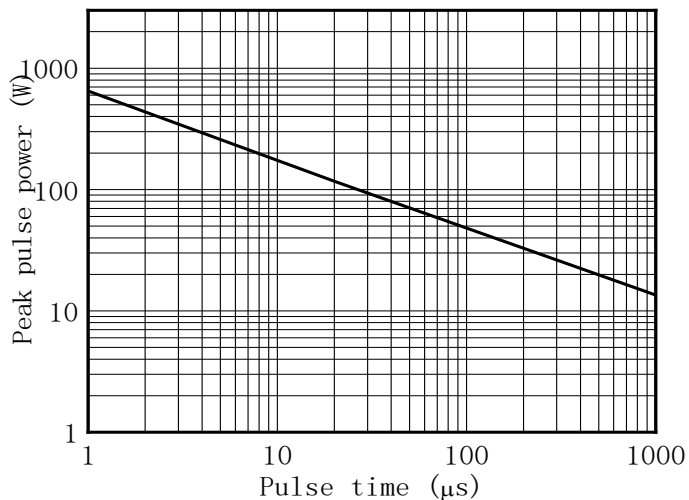
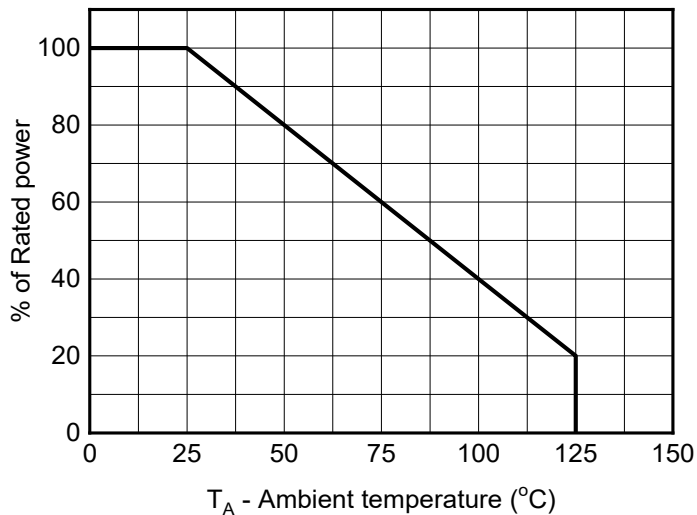
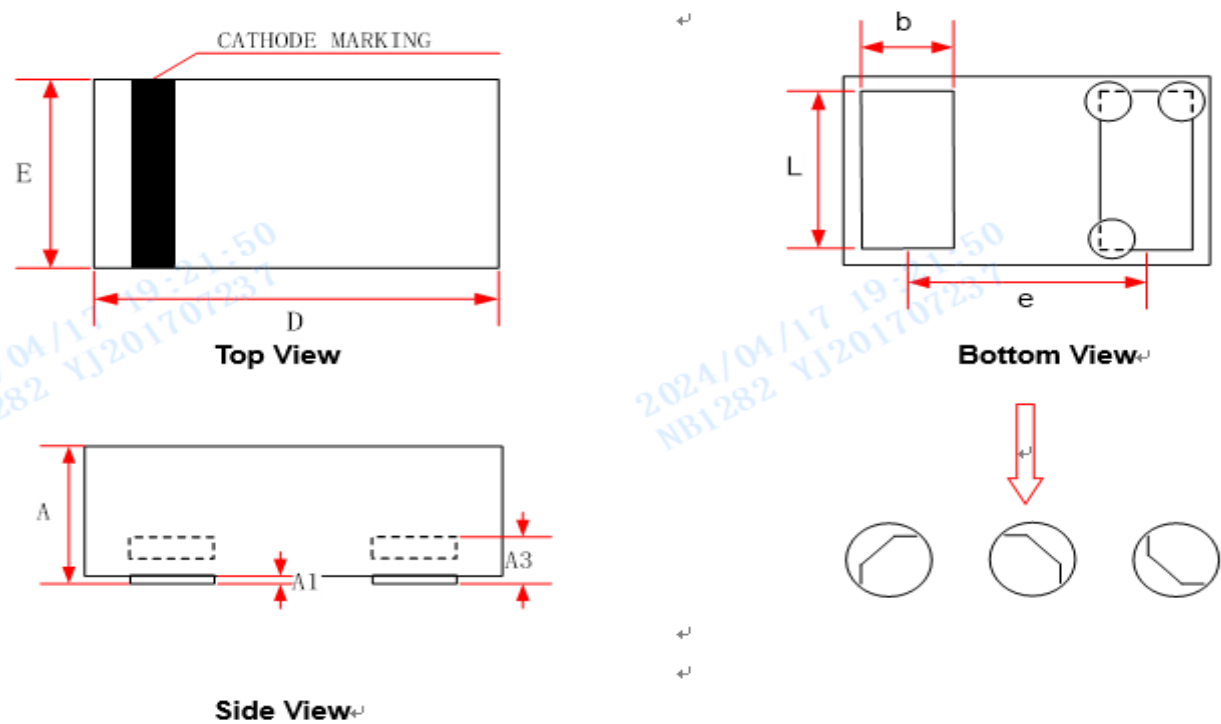


Fig.6 Power derating vs. Ambient temperature

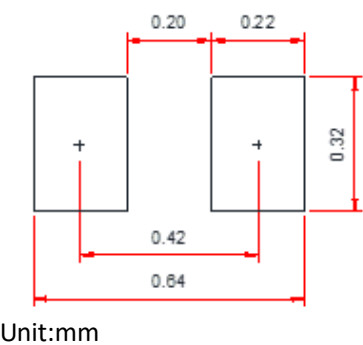


■ Outline Dimensions



Symbol↴	Dimensions in Millimeters↴		
	Min.↴	Typ.↴	Max.↴
A↴	0.230↴	0.300↴	0.350↴
A1↴	0.000↴	—↴	0.050↴
A3↴	0.102REF.↴		
D↴	0.550↴	0.600↴	0.670↴
E↴	0.250↴	0.300↴	0.370↴
b↴	0.100↴	0.170↴	0.250↴
L↴	0.200↴	0.240↴	0.280↴
e↴	0.360 BSC↴		

■ Recommended PCB Layout



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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