

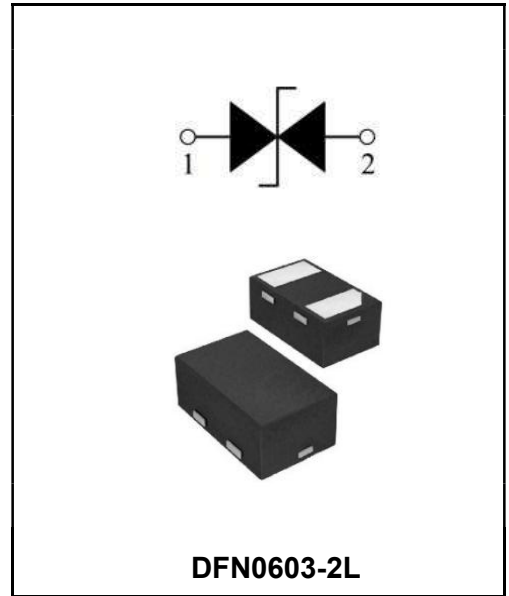
**Bi-directional ESD Protection Diode**

**Features**

- ◆Capacitance: 0.25pF(typ.)
- ◆Reverse Working Voltage: 5.0V
- ◆IEC 61000-4-2 (ESD Air): ±15KV
- ◆IEC 61000-4-2 (ESD Contact): ±12KV
- ◆IEC 61000-4-5 (Lightning 8/20μs): 4.5A

**Application**

- ◆Smart Phone and Tablet PC
- ◆TV and Set Top Box
- ◆Wearable Devices
- ◆PDA



<b>Marking Code</b>	
ESD0603B5V0A	05

**Limiting Values(TA = 25 °C, unless otherwise specified)**

Symbol	Parameter	Conditions	Min	Max	Unit
V <sub>ESD</sub>	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±12	kV
		IEC 61000-4-2; Air Discharge	-	±15	kV
P <sub>PP</sub>	Peak Pulse Power	t <sub>P</sub> = 8/20 μs	-	30	W
I <sub>PPM</sub>	Rated Peak Pulse Current	t <sub>P</sub> = 8/20 μs	-	4.5	A
T <sub>A</sub>	Operating Temperature Range	-	-55	125	°C
T <sub>stg</sub>	Storage Temperature Range	-	-55	150	°C

**Electrical Characteristics(TA = 25 °C unless otherwise specified)**

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V <sub>RWM</sub>	Reverse Working Voltage	TA = 25 °C	-	-	5.0	V
V <sub>BR</sub>	Breakdown Voltage	I <sub>R</sub> = 1mA; TA = 25 °C	5.5	6.8	12	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5 V; TA = 25 °C	-	-	1	μA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> =4.5A, t <sub>P</sub> =8/20μs	-	6.5	-	V
		I <sub>PP</sub> =16A, t <sub>P</sub> =10/100ns(TLP)	-	10.5	-	V
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1 MHz	-	0.25	0.35	pF

Typical Characteristics

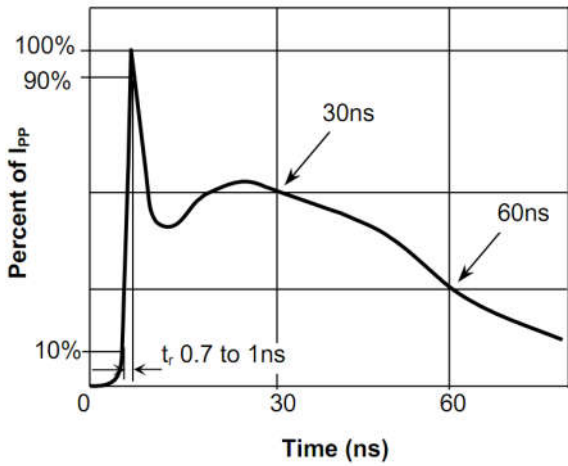


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

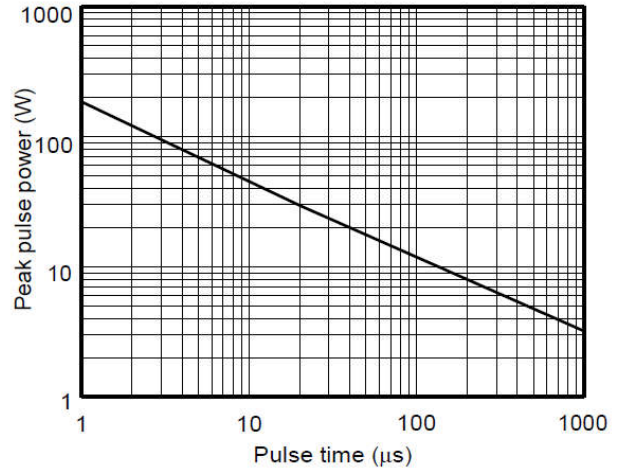


Fig.2 Non-repetitive peak pulse power Vs.Pulse time

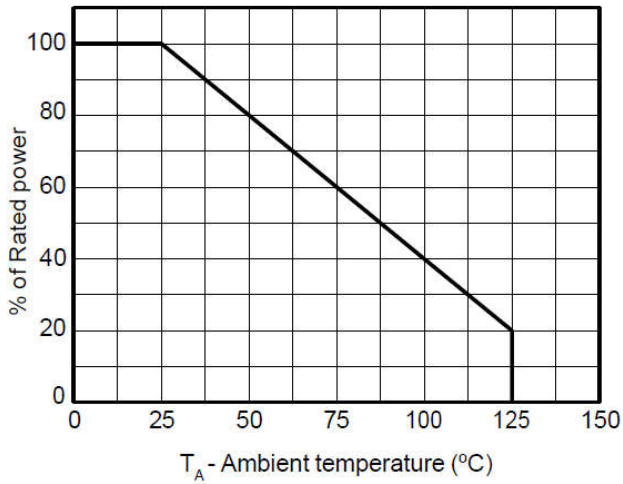


Fig.3 Power derating Vs. Ambient temperature

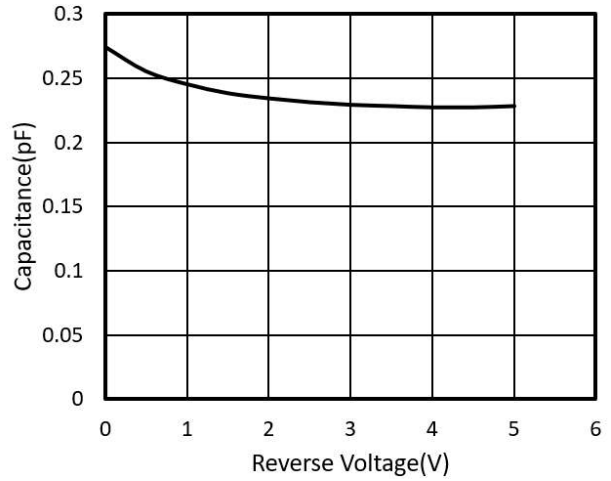


Fig.4 Reverse Voltage Vs.Capacitance

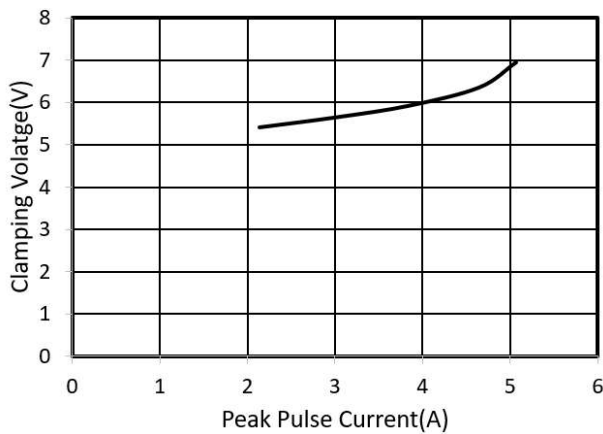


Fig.5 Peak Pulse Current Vs. Clamping Voltage

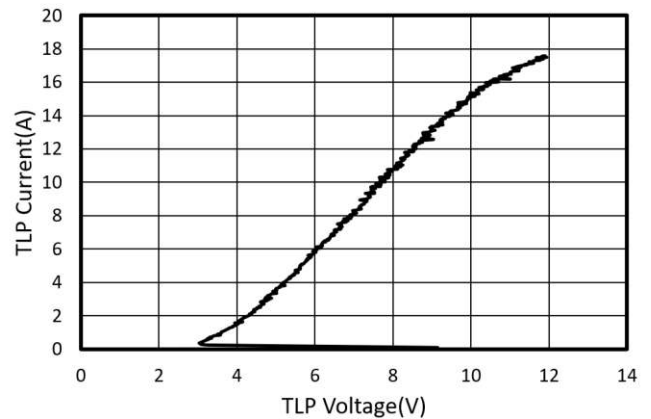
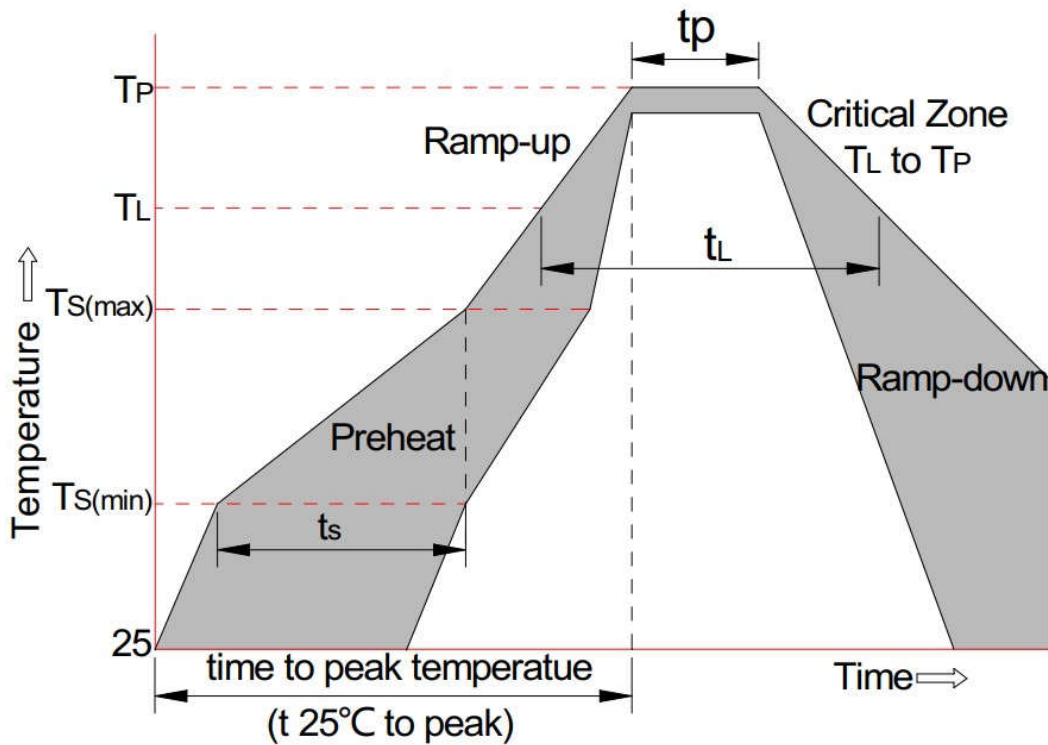


Fig.6 Transmission Line Pulse (TLP)



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts(min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts(max) to TL - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(TL)(Liquid us)	+217°C
	-Temperature(tL)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

**Ordering information**

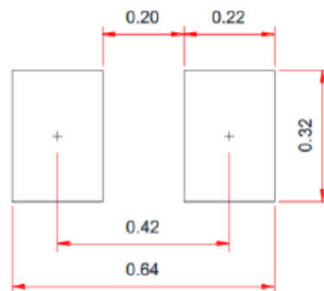
Package	Packing Description	Packing Quantity
DFN0603-2L	Tape/Reel,7"reel	15000PCS/Reel 450000PCS/Carton

**Package Dimensions**

**DFN0603-2L**

Dim.	Millimeter(mm)		Inches	
	Min.	Max.	Min.	Max.
A	0.28	0.32	0.011	0.013
D	0.29	0.35	0.0114	0.014
E	0.59	0.65	0.023	0.026
D1	0.22	0.28	0.026	0.011
E1	0.15	0.21	0.006	0.008
L	0.16	0.22	0.006	0.009
L1	-	0.100	-	0.004

**The recommended mounting pad size(mm)**



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