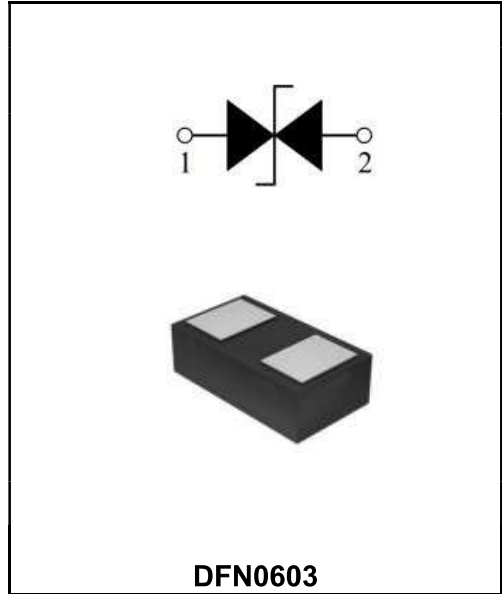


Bi-directional ESD Protection Diode

Features

- ◆Capacitance: 0.4pF(typ.)
- ◆Reverse Working Voltage: 5V
- ◆IEC 61000-4-2 (ESD Air): ±25KV
- ◆IEC 61000-4-2 (ESD Contact): ±18KV
- ◆IEC 61000-4-5 (Lightning 8/20μs): 3.5A



Application

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

Order Information

Part Number	Package	Marking	Size (mm)	Delivery Form	Delivery Quantity
ESD0603B5V0B	DFN0603	B5	0.62x0.32x0.32	7" T&R	15000PCS/Tape

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

Symbol	Parameter	Conditions	Min	Max	Unit
V _{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±18	kV
		IEC 61000-4-2; Air Discharge	-	±20	kV
P _{PP}	Peak Pulse Power	t _P = 8/20 μs		60	W
I _{PPM}	Rated Peak Pulse Current	t _P = 8/20 μs		3.5	A
T _A	Operating Temperature Range	-	-55	125	°C
T _{stg}	Storage Temperature Range	-	-55	125	°C

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

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Working Voltage	TA = 25 °C	-	5	5.5	V
V _t	Trigger Voltage	I _R = 1mA; TA = 25 °C	-	9.0	11.8	V
V _h	Holding Voltage	I _T = 0.5mA; TA = 25 °C	6.0	7.3	8.5	μA
I _R	Reverse Leakage Current	V _{RWM} = 5 V; TA = 25 °C	-	-	0.1	μA
V _C	Clamping Voltage	I _{PP} = 3.5A, t _P = 8/20μs	-	15	17	V
C _J	Junction Capacitance	V _R = 0V, f = 1 MHz	-	0.4	0.5	pF

Typical Characteristics

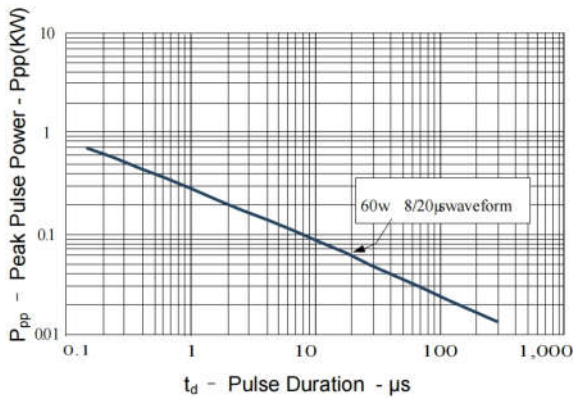


Fig.1 Peak Pulse Power vs. Pulse Time

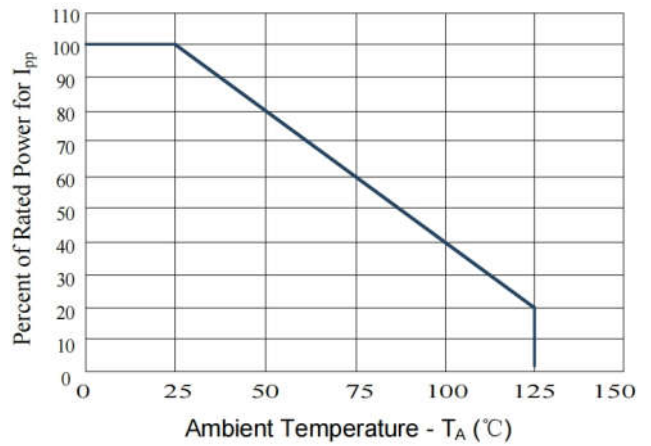


Fig.2 Power Derating Curve

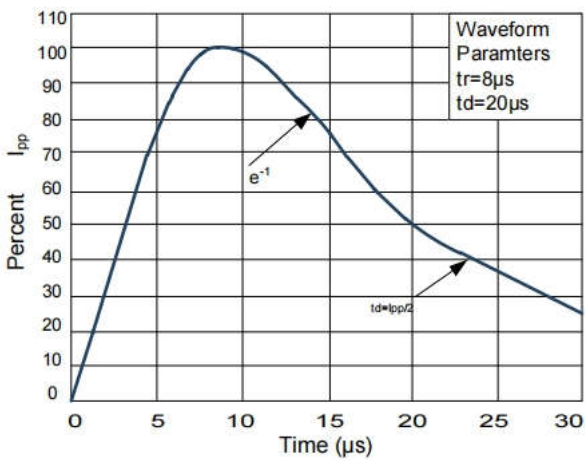


Fig.3 Pulse Waveform

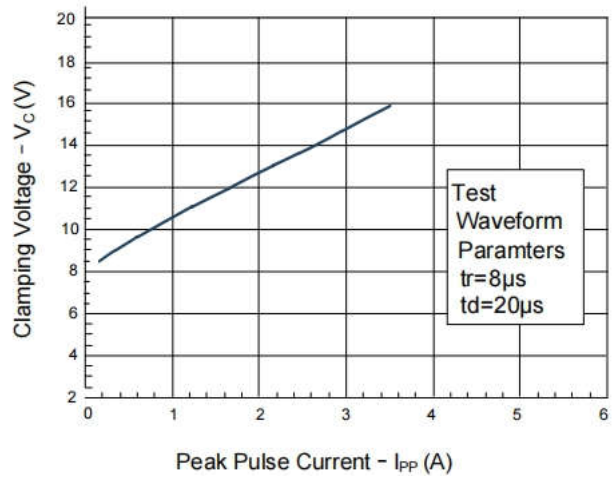


Fig.4 Clamping Voltage - TA (°C)

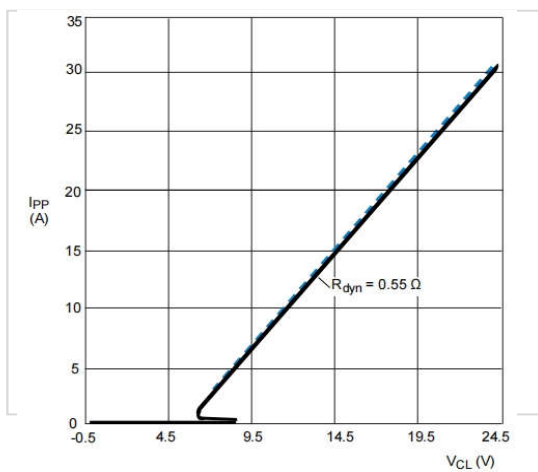


Fig.5 Positive Clamping Voltage (TLP)

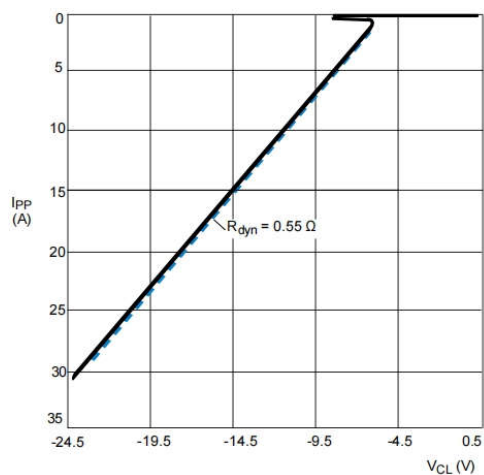
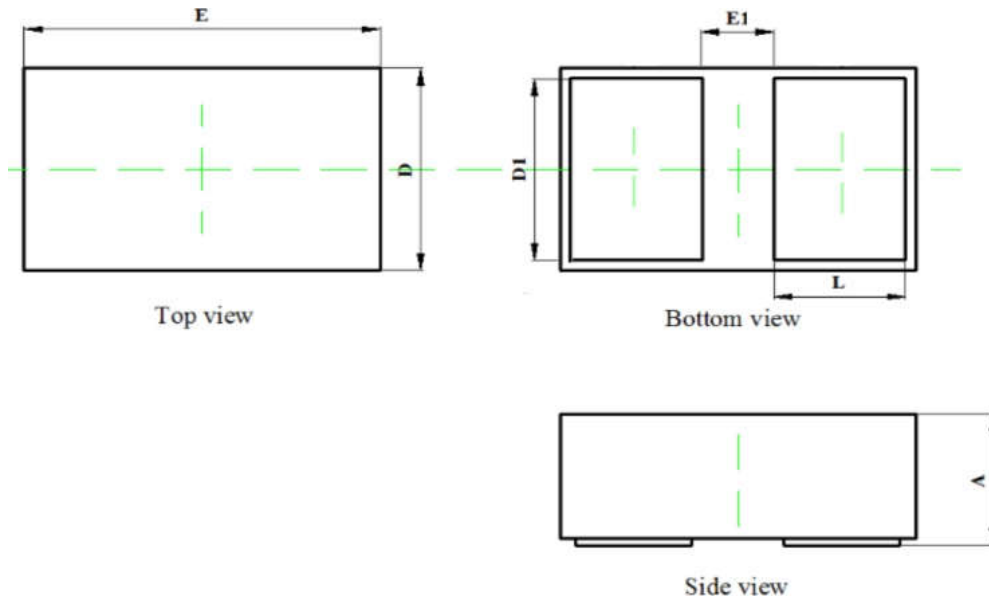
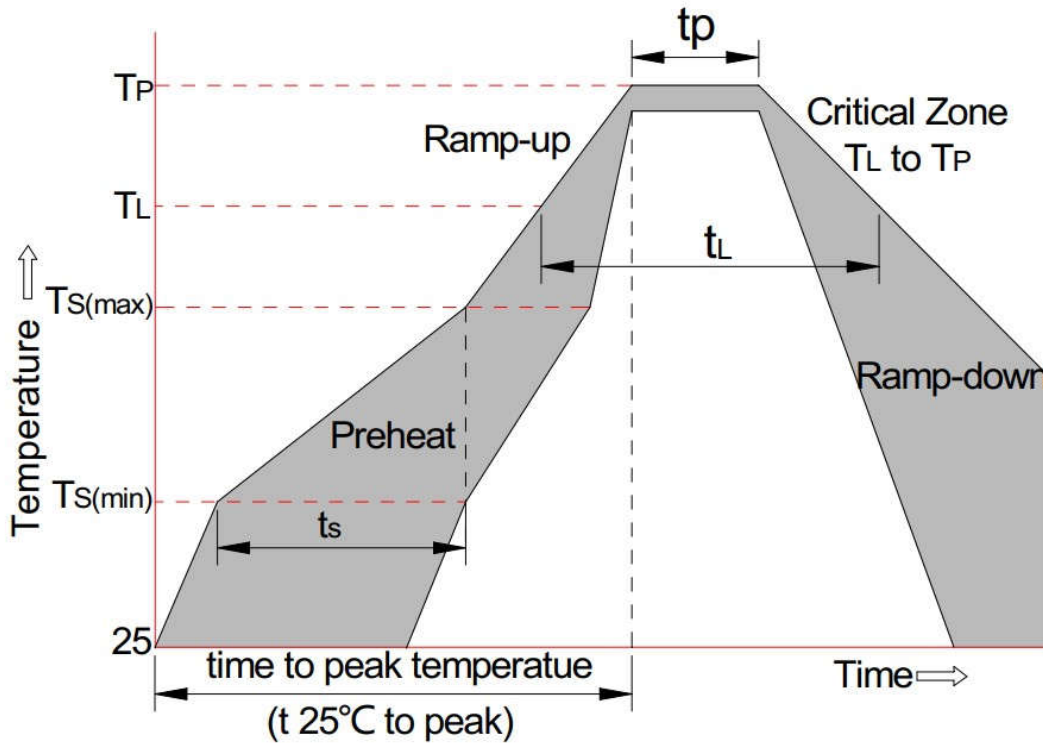


Fig.6 Negative Clamping Voltage (TLP)

DFN0603 Package Outline



Symbol	Dimensions In Millimeters		
	Min	Typical	Max
A	0.28	0.30	0.32
D	0.29	0.32	0.35
E	0.59	0.62	0.65
D1	0.22	0.25	0.28
E1	0.15	0.18	0.21
L	0.16	0.19	0.22



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