

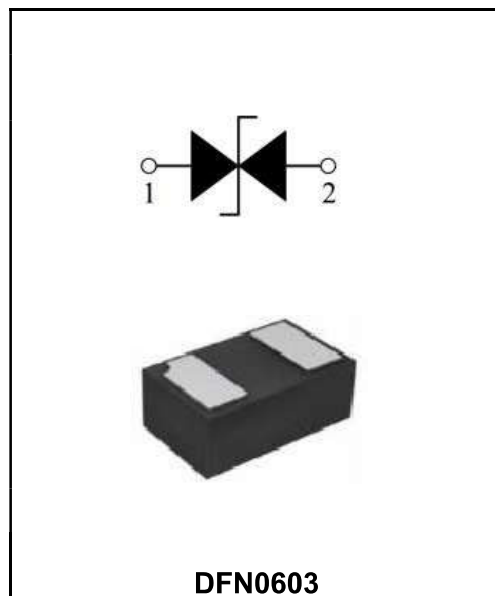
Bi-directional ESD Protection Diode

Features

- ◆Capacitance: 10pF(typ.)
- ◆Reverse Working Voltage: 3.3V
- ◆IEC 61000-4-2 (ESD Air): $\pm 30\text{KV}$
- ◆IEC 61000-4-2 (ESD Contact): $\pm 30\text{KV}$
- ◆IEC 61000-4-5 (Lightning 8/20 μs): 7A

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
ESD0603B3V3B	DFN0603	B3	0.60X0.30X0.30	7" T&R	15000PCS/Tape

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

Symbol	Parameter	Conditions	Min	Max	Unit
VESD	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	± 30	kV
		IEC 61000-4-2; Air Discharge	-	± 30	kV
P _{PP}	Peak Pulse Power	tP = 8/20 μs		60	W
I _{PPM}	Rated Peak Pulse Current	tP = 8/20 μs		7	A
T _A	Operating Temperature Range	-	-55	125	°C
T _{stg}	Storage Temperature Range	-	-55	150	°C

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

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Working Voltage	TA = 25 °C	-	-	3.3	V
V _{BR}	Breakdown Voltage	IR = 1mA	3.7	-	-	V
I _R	Reverse Leakage Current	VRWM = 3.3V	-	-	0.1	μA
V _C	Clamping Voltage	IPP=1A, tP =8/20 μs	-	5.5	7.0	V
		IPP=7A, tP =8/20 μs	-	8.5	10	V
CJ	Line Capacitance	VR = 0V, f = 1 MHz	-	10	15	pF

Typical Characteristics

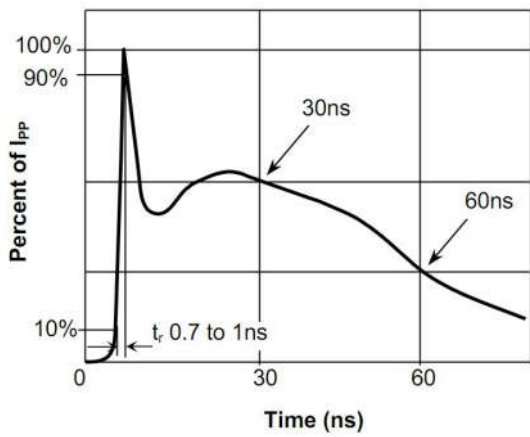


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

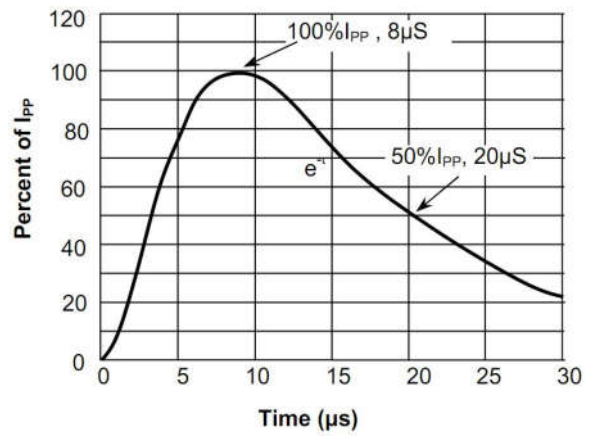


Fig.2 Pulse Waveform-8/20μs

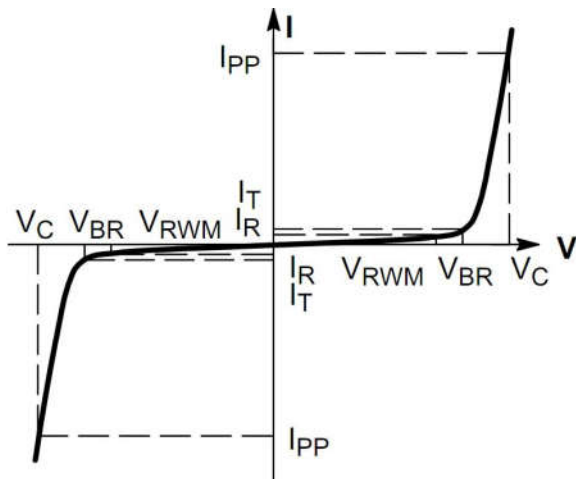


Fig.3 V-I Characteristics for Bidirectional Diode

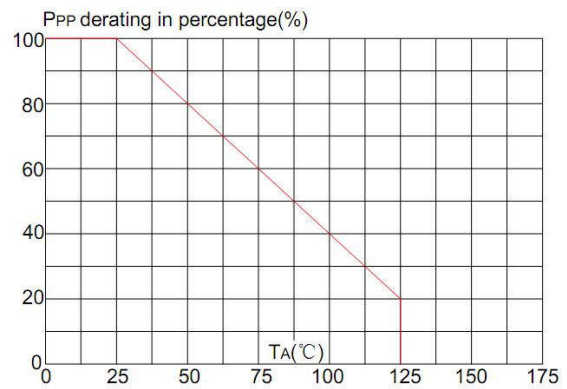
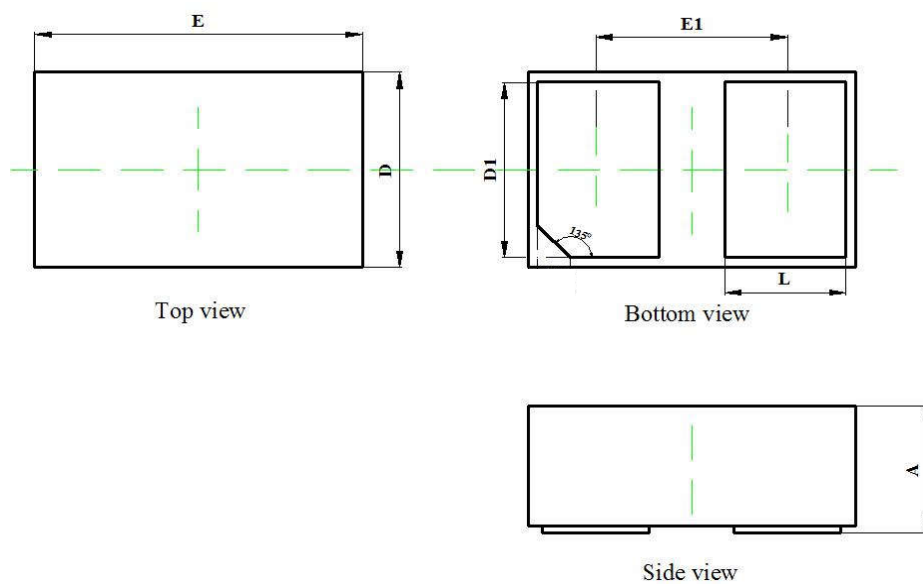


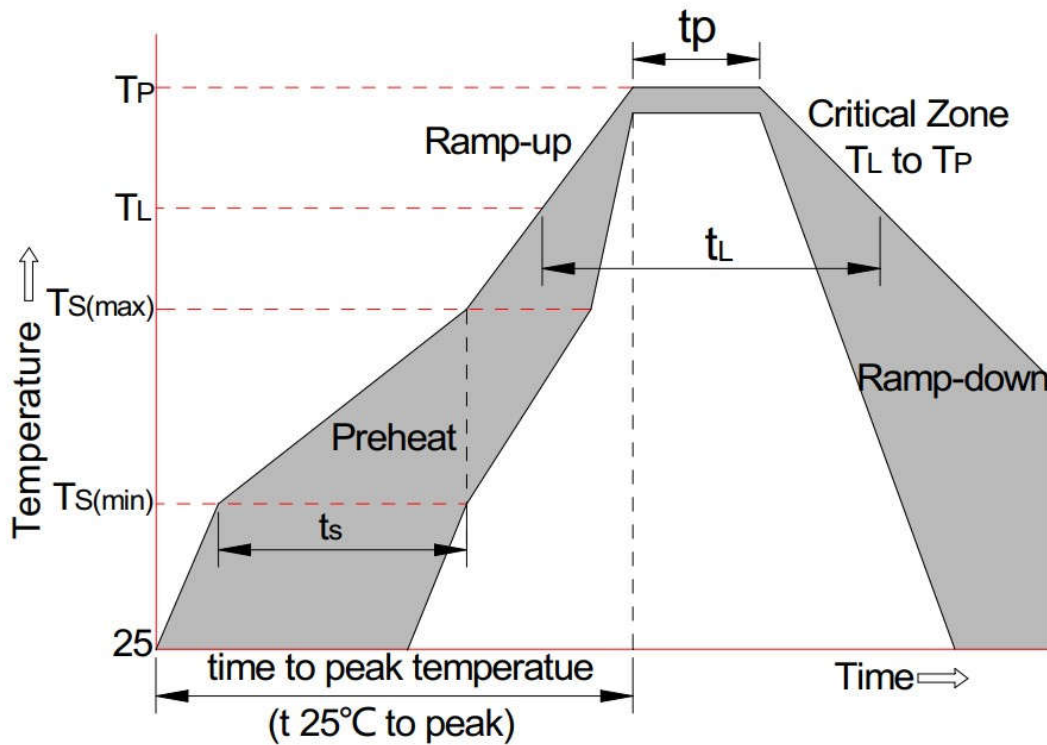
Fig.4 Power Derating Curve

Package Dimension

DFN0603 Package Outline (Sizes in mm)



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.230	0.330
D	0.250	0.350
E	0.550	0.650
D1	0.200	0.300
E1	0.350	
L	0.140	0.240



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min ($T_{S(min)}$)	+150°C
	-Temperature Max($T_{S(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C