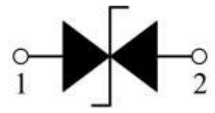
Bi-directional ESD Protection Diode

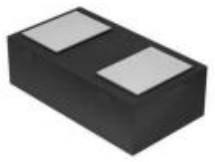
Features

- Capacitance: 0.25pF(typ.)
- Reverse Working Voltage: 5.0V
- IEC 61000-4-2 (ESD Air): ±25KV
- IEC 61000-4-2 (ESD Contact): ±20KV
- IEC 61000-4-5 (Lightning 8/20μs): 4A

Application

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





DFN0603

Marking Code	
ESD0603B5V0A	5T

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	-	±20	kV
		IEC 61000-4-2; Air Discharge	-	±25	kV
P_{PP}	Peak Pulse Power	tP = 8/20 μs	-	80	W
I_{PPM}	Rated Peak Pulse Current	tP = 8/20 μs	-	4.0	A
T_A	Operating Temperature Range	-	-55	125	℃
Tstg	Storage Temperature Range	-	-55	150	℃

Electrical Characteristics(T_A = 25 °C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	T_A = 25 °C	-	-	5.0	V
V_{BR}	Breakdown Voltage	I_R = 1mA; T_A = 25 °C	6.5	7.5	9.0	V
I_R	Reverse Leakage Current	V_{RWM} = 5 V; T_A = 25 °C	-	-	0.1	μA
V_C	Clamping Voltage	I_{PP}=1A, t_P =8/20μs	-	10	-	V
		I_{PP}=4A, t_P =8/20μs	-	18	20	V
CJ	Junction Capacitance	V_R = 0V, f = 1 MHz	-	0.25	0.4	pF

Typical Characteristics

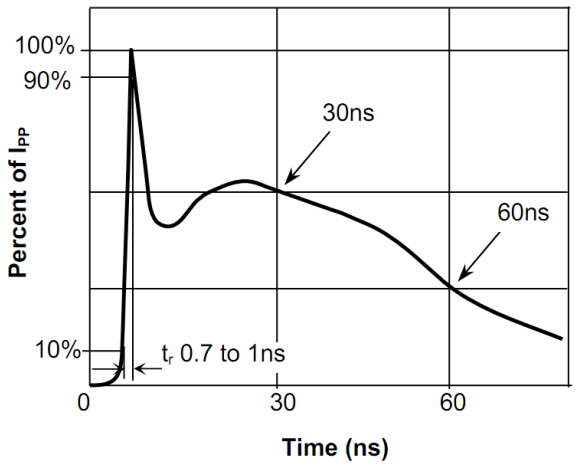


Fig.1 Pulse Waveform-ESD(IEC61000-4-2)

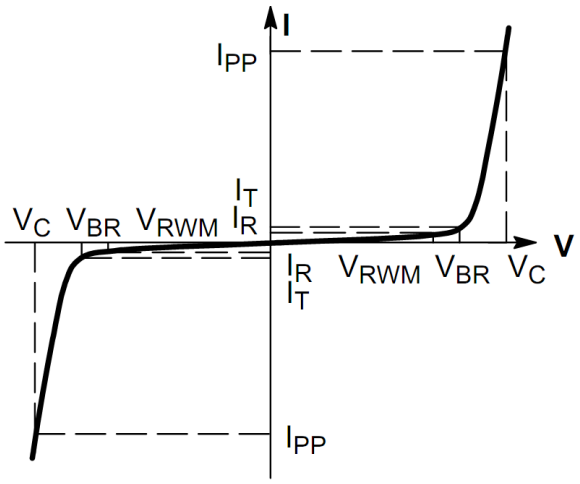


Fig.2 Bidirectional Characteristics

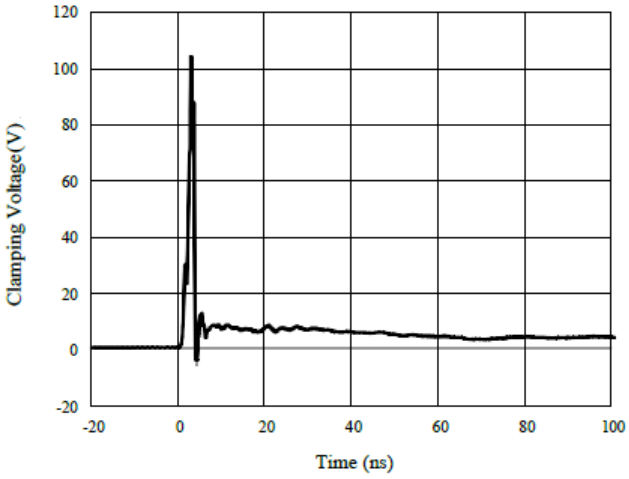


Fig.3 Clamping Voltage at IEC61000-4-2
+8kV Pulse Waveform

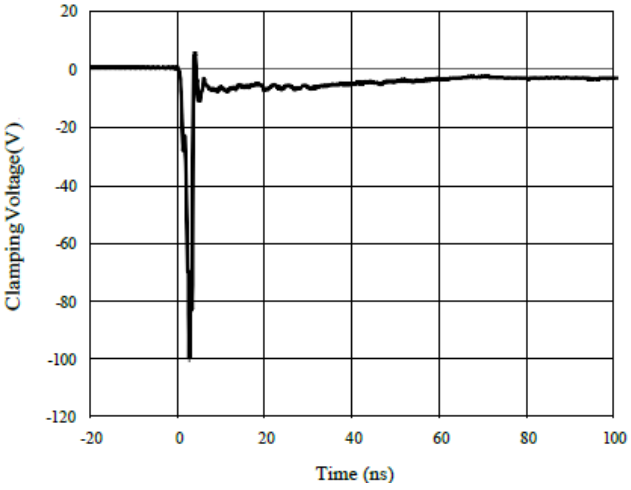
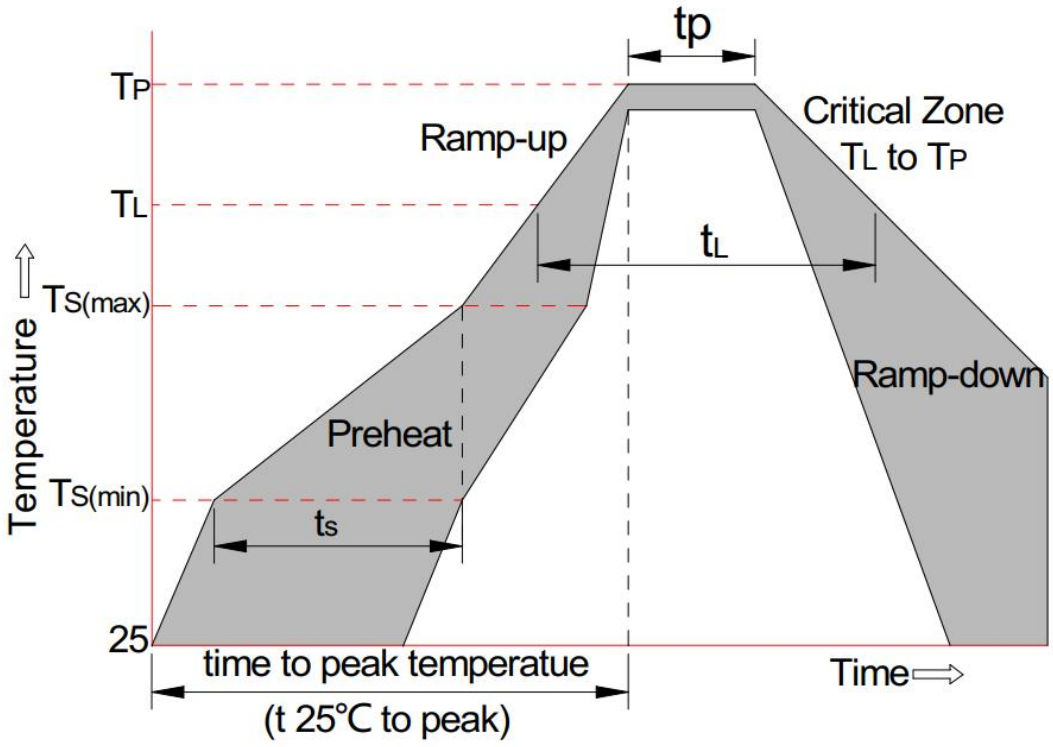


Fig.4 Clamping Voltage at IEC61000-4-2
8kV Pulse Waveform

Soldering Parameters



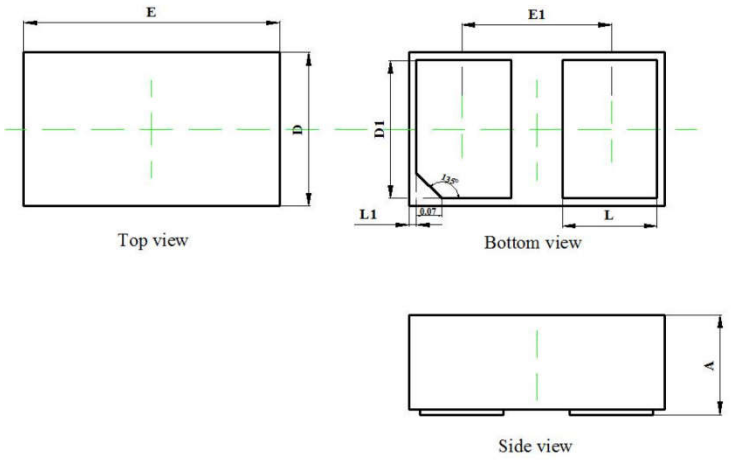
Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts(min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts(max) to TL - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(TL)(Liquid us)	+217°C
	-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	Tape/Reel,7"reel	15000PCS/Reel 450000PCS/Carton

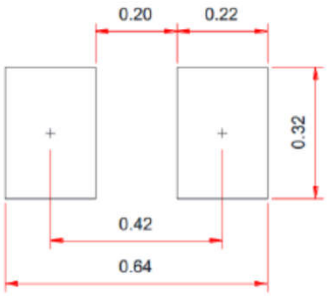
Package Dimensions

DFN0603



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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