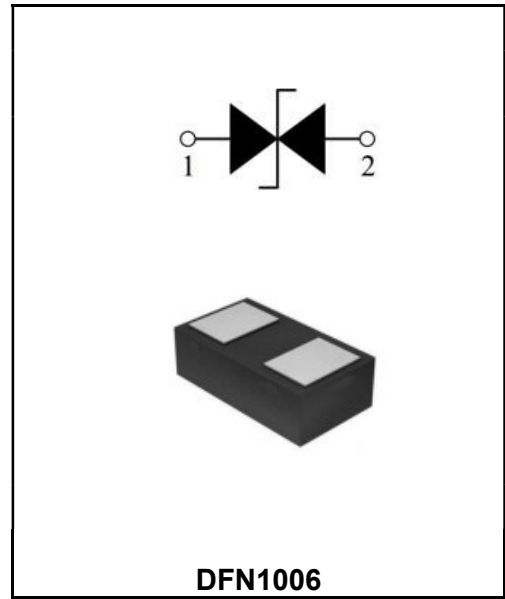


**Bi-directional ESD Protection Diode**

**Features**

- ◆Capacitance: 15pF(typ.)
- ◆Reverse Working Voltage: 5V
- ◆IEC 61000-4-2 (ESD Air): ±25KV
- ◆IEC 61000-4-2 (ESD Contact): ±25KV
- ◆IEC 61000-4-5 (Lightning 8/20μs): 8.0A



**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
ESD1006B5V0C	DFN1006	PB	1.00x0.60x0.37	7" T&R	10000PCS/Tape

**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	-	±25	kV
		IEC 61000-4-2; Air Discharge	-	±25	kV
P <sub>PP</sub>	Peak Pulse Power	tP = 8/20 μs		80	W
I <sub>PPM</sub>	Rated Peak Pulse Current	tP = 8/20 μs		8.0	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	IR = 1mA; TA = 25 °C	5.6	6.5	8.4	V
I <sub>R</sub>	Reverse Leakage Current	VRWM = 5 V; TA = 25 °C	-	-	0.1	uA
V <sub>C</sub>	Clamping Voltage	IPP=1 A, tP =8/20μs	-	-	6	V
		IPP=8 A, tP =8/20μs	-	-	10	
C <sub>J</sub>	Junction Capacitance	VR = 0V, f = 1 MHz	-	15	18	pF

Typical Characteristics

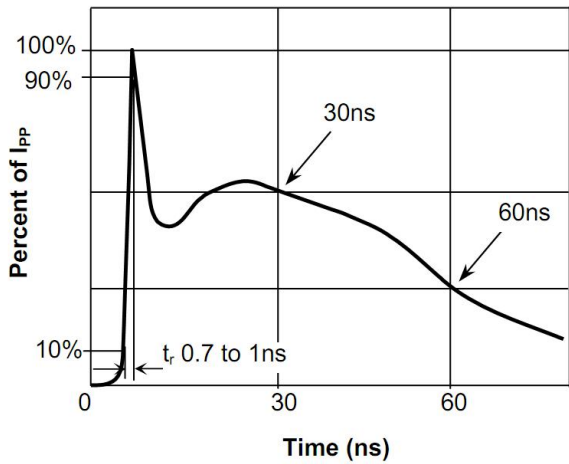


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

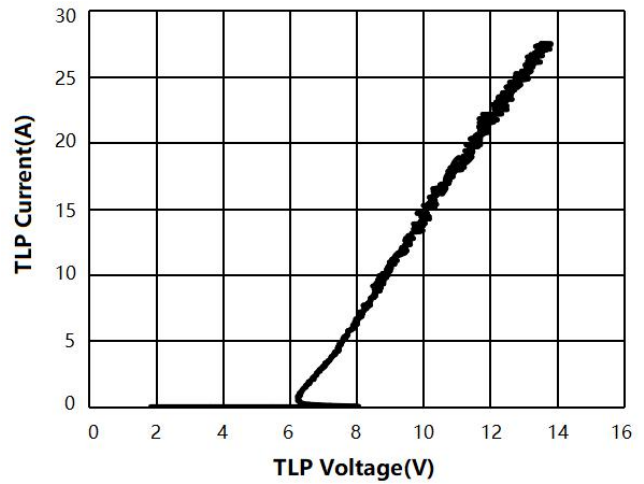


Fig.2 Transmission Line Pulse (TLP)

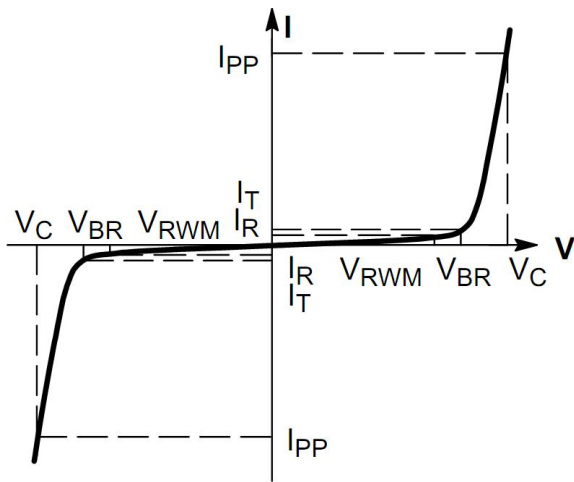


Fig.3 V-I Characteristics for Bidirectional Diode

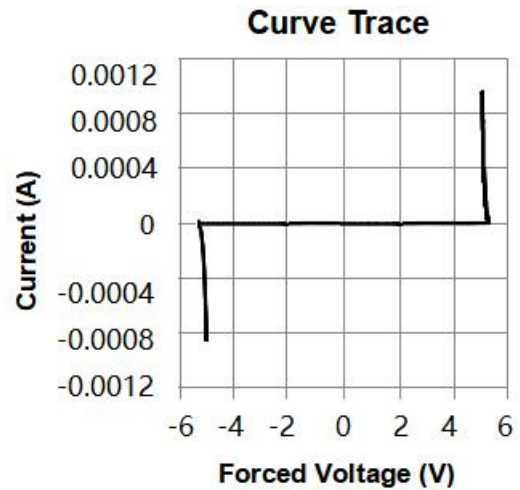


Fig.4 IV Curve

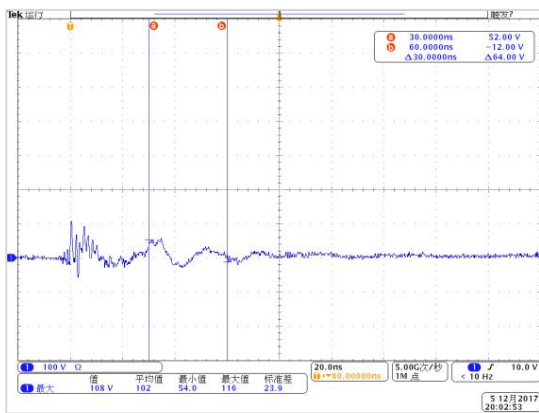


Fig.5 Clamping Voltage at IEC61000-4-2 +8kV Pulse Waveform

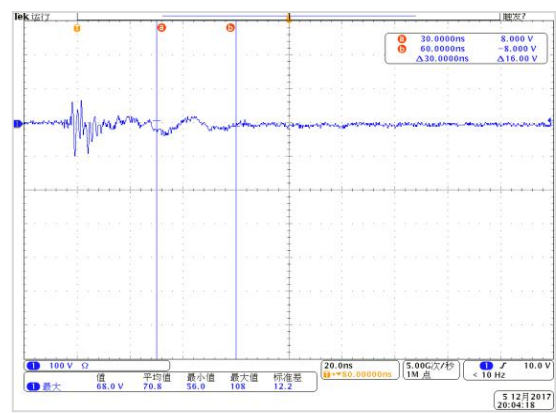
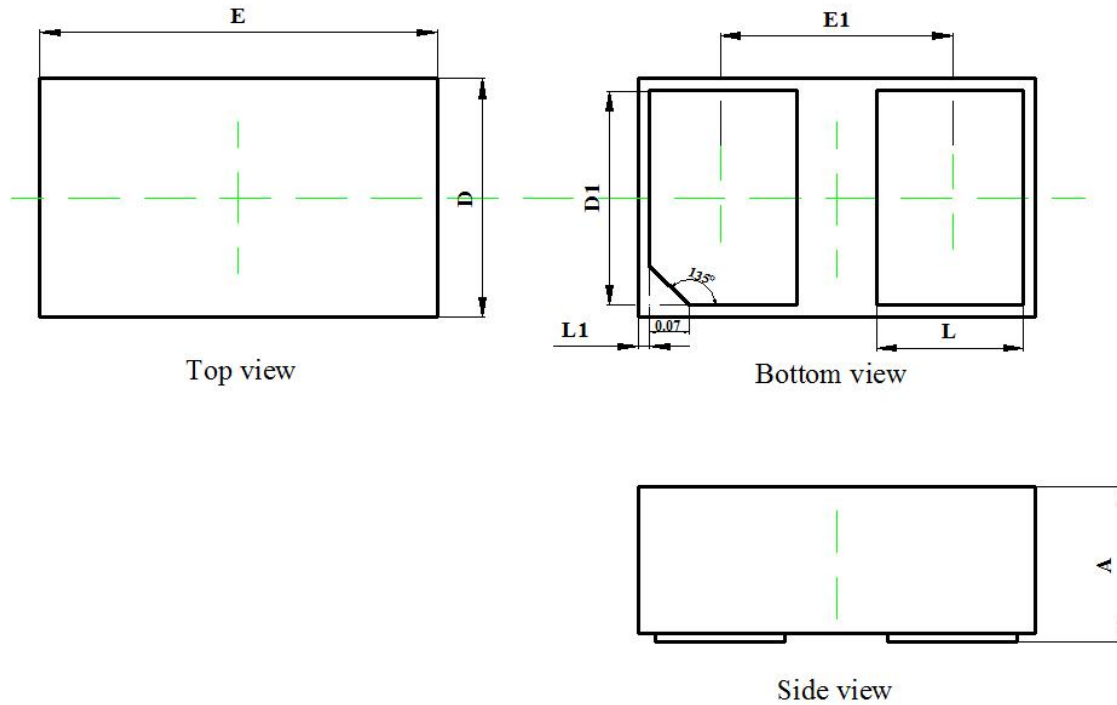
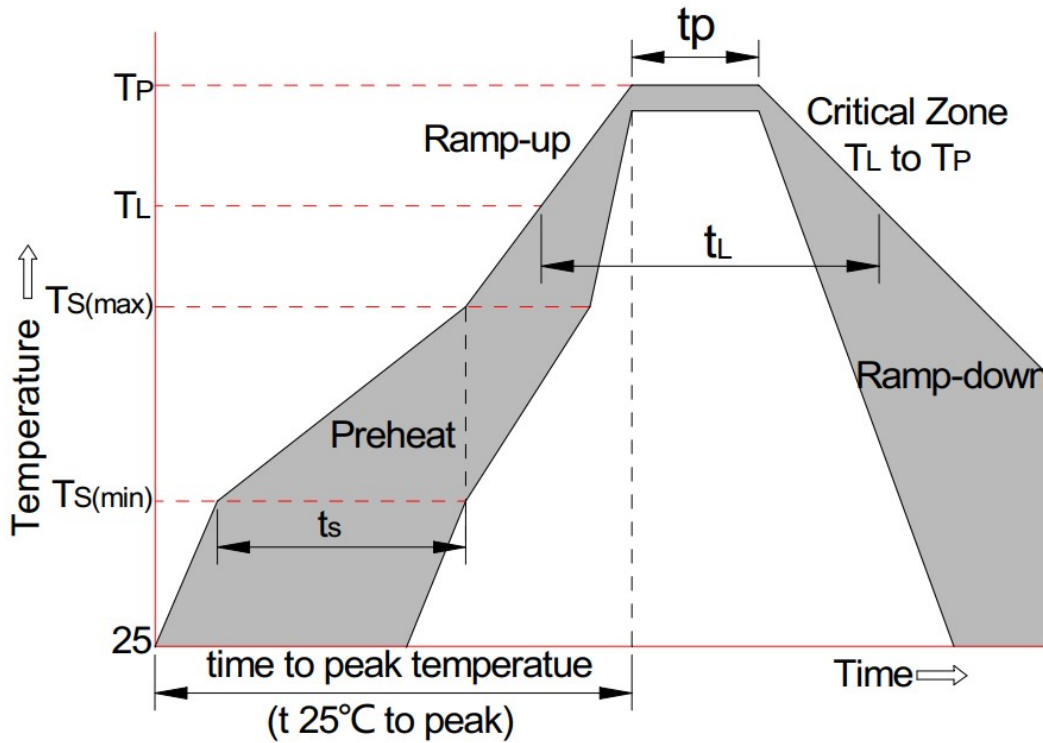


Fig.6 Clamping Voltage at IEC61000-4-2 -8kV Pulse Waveform

DFN1006 Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.350	0.450	0.014	0.018
D	0.550	0.650	0.022	0.026
E	0.950	1.050	0.037	0.041
D1	0.420	0.520	0.017	0.020
E1	0.550	0.650	0.022	0.026
L	0.270	0.370	0.011	0.015
L1	0.000	0.100	0.000	0.004



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