

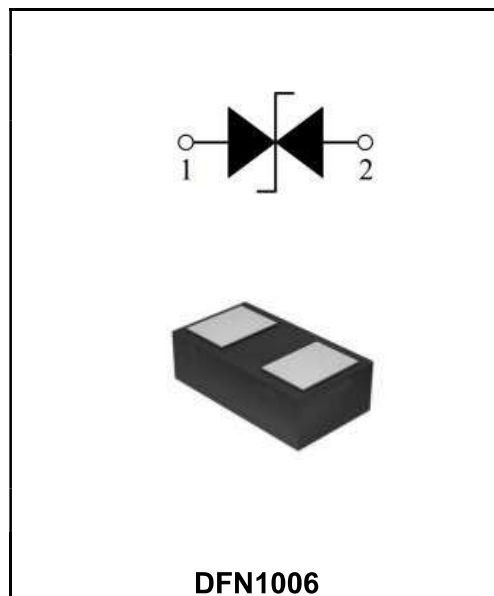
Bi-directional ESD Protection Diode

Features

- ◆Capacitance:10pF(typ.)
- ◆Reverse Working Voltage: 15V
- ◆IEC 61000-4-2(ESD Air): $\pm 30\text{kV}$
- ◆IEC 61000-4-2(ESD Contact): $\pm 30\text{kV}$
- ◆IEC61000-4-5(Lightning 8/20us): 3.5 A

Application

- ◆Cellular phones
- ◆ Portable devices
- ◆Digital cameras
- ◆Power supplies



Order Information

Part Number	Package	Marking	Size (mm)	Delivery Form	Delivery Quantity
ESD1006B15	DFN1006	15	1.00x0.60x0.37	7" T&R	10000PCS/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	-	± 30	kV
		IEC 61000-4-2; Air Discharge	-	± 30	kV
P _{PP}	Peak Pulse Power	tP = 8/20 μs	-	80	W
I _{PPM}	Rated Peak Pulse Current	tP = 8/20 μs	-	3.5	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	-	-	15	V
V _{BR}	Breakdown Voltage	IR = 1mA; TA = 25 °C	15.5	-	18.5	V
I _R	Reverse Leakage Current	VRWM = 15 V; TA = 25 °C	-	-	0.1	μA
V _C	Clamping Voltage	IPP=1 A, tP =8/20 μs	-	-	20	V
		IPP=3 A, tP =8/20 μs	-	-	23	V
C _J	Junction Capacitance	VR = 0V, f = 1 MHz	-	10	-	pF

Typical Characteristics

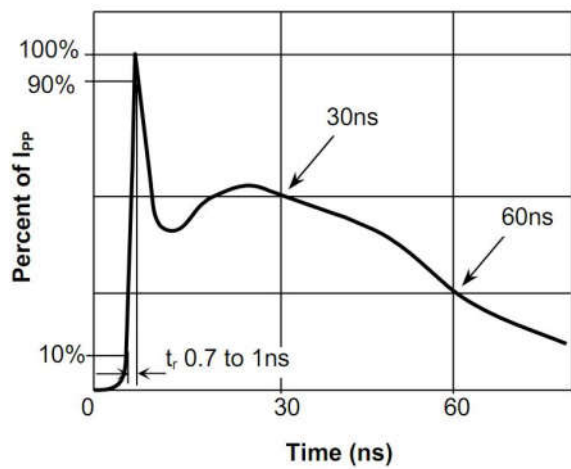


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

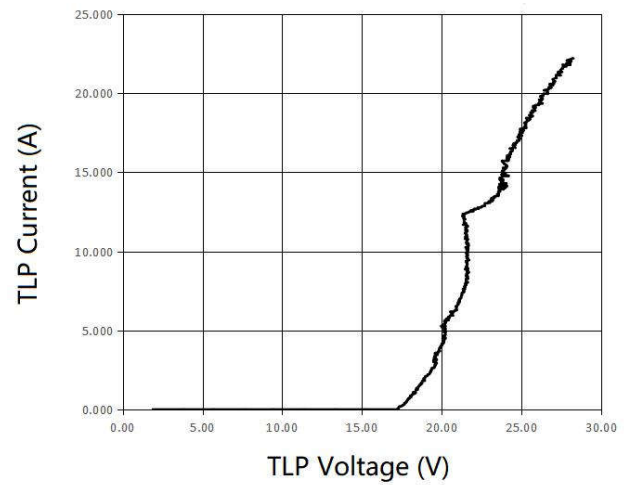


Fig.2 Transmission Line Pulse (TLP)

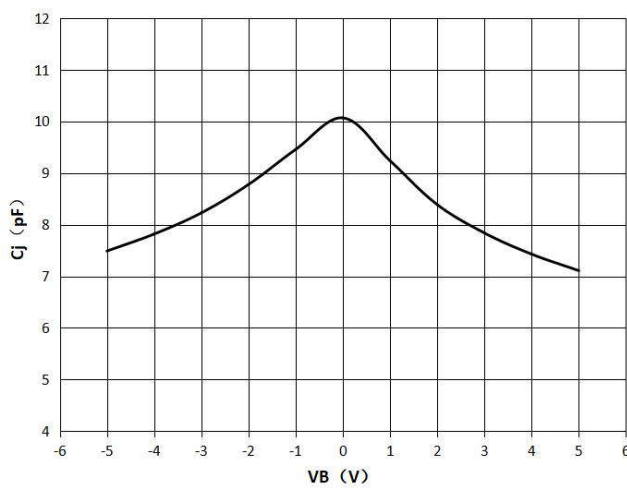


Fig.3 Capacitance vs. Reverse Voltage

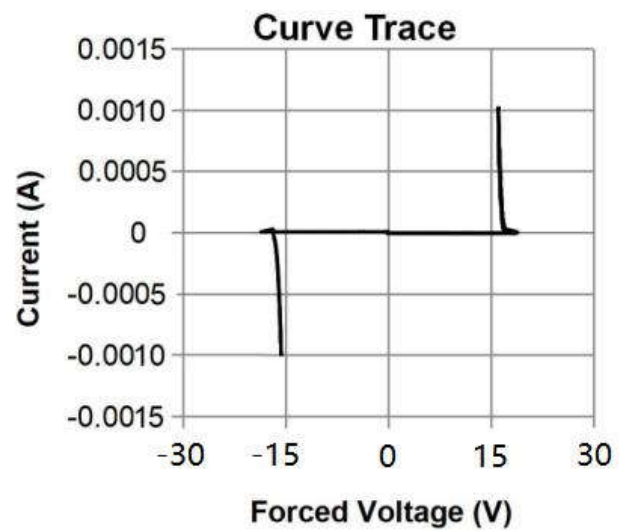
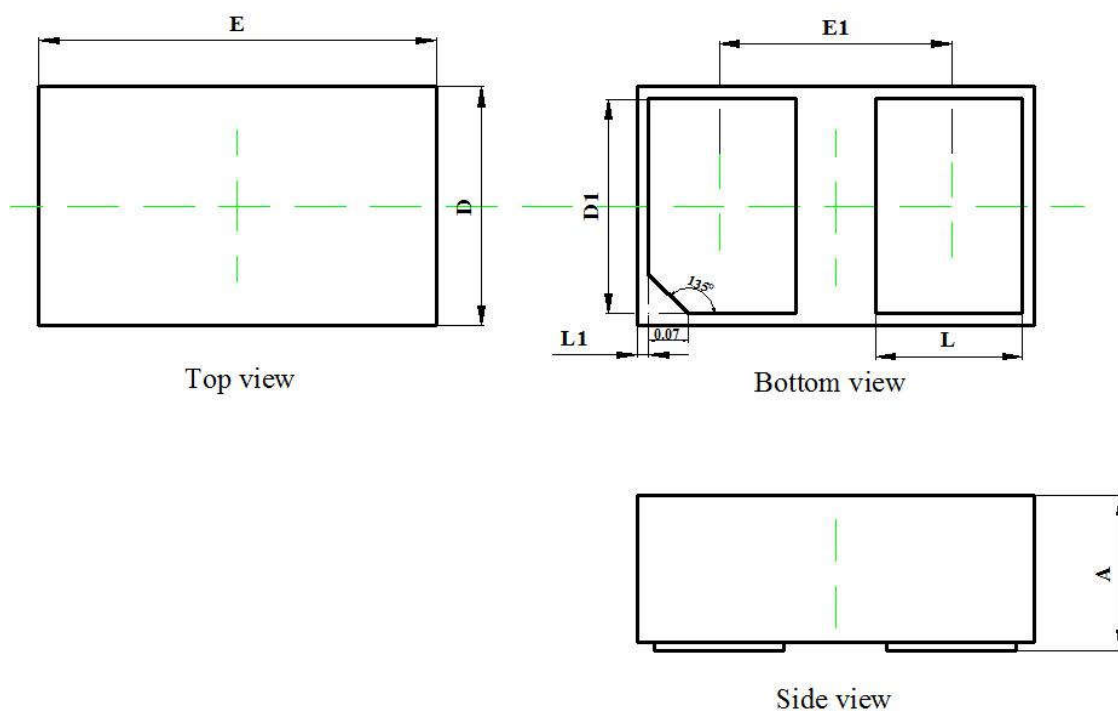


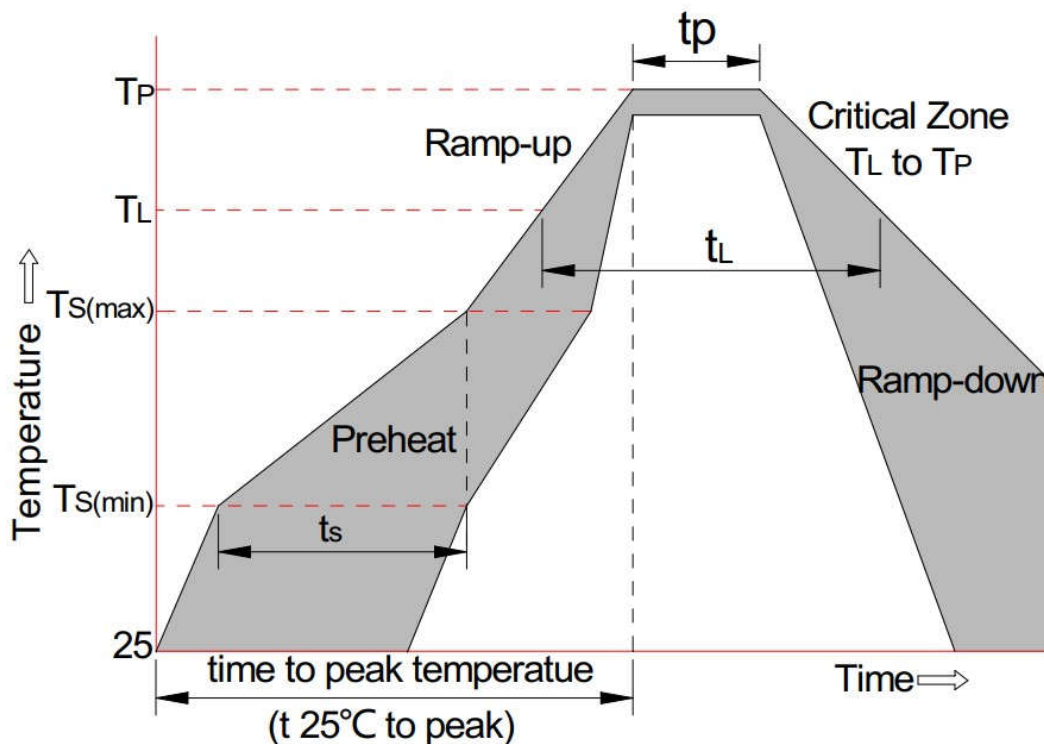
Fig.4 IV Curve (Forward Voltage)

Package Dimension

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