

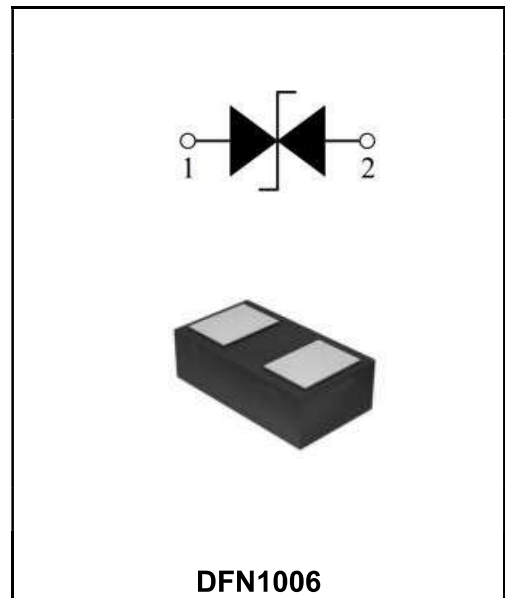
Bi-directional ESD Protection Diode

Features

- ◆Ultra Low Capacitance: 0.3pF(typ.)
- ◆Reverse Working Voltage: 3.3V
- ◆IEC 61000-4-2(ESD Air): ± 24KV
- ◆IEC 61000-4-2(ESD Contact): ± 20kV
- ◆IEC61000-4-5(Lightning 8/20us): 5A

Application

- ◆Cell phone handsets and accessories
- ◆Notebooks, desktops, and servers
- ◆Portable instrumentation
- ◆Cordless phones
- ◆Digital cameras
- ◆Peripherals



Order Information

Part Number	Package	Marking	Size (mm)	Delivery Form	Delivery Quantity
ESD1006B3V3A	DFN1006	3A	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	-	±20	kV
		IEC 61000-4-2; Air Discharge	-	±24	kV
P _{PP}	Peak Pulse Power	tP = 8/20 μs	-	110	W
I _{PPM}	Rated Peak Pulse Current	tP = 8/20 μs	-	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	-	-	3.3	V
V _{BR}	Breakdown Voltage	I _R = 1mA; TA = 25 °C	5.3	6.2	7.0	V
I _R	Reverse Leakage Current	V _{RWM} = 3.3 V; TA = 25 °C	-	-	0.1	uA
V _C	Clamping Voltage	I _{PP} =1A, tP =8/20μs	-	-	11	V
		I _{PP} =5A, tP =8/20μs	-	-	22	V
C _J	Junction Capacitance	V _R = 0V, f = 1 MHz	-	0.3	0.4	pF

Typical Characteristics

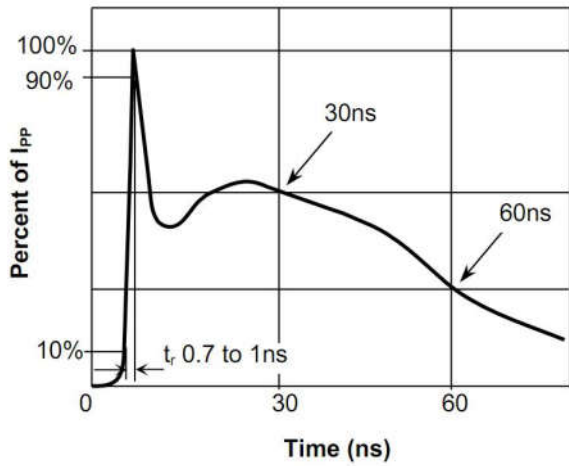


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

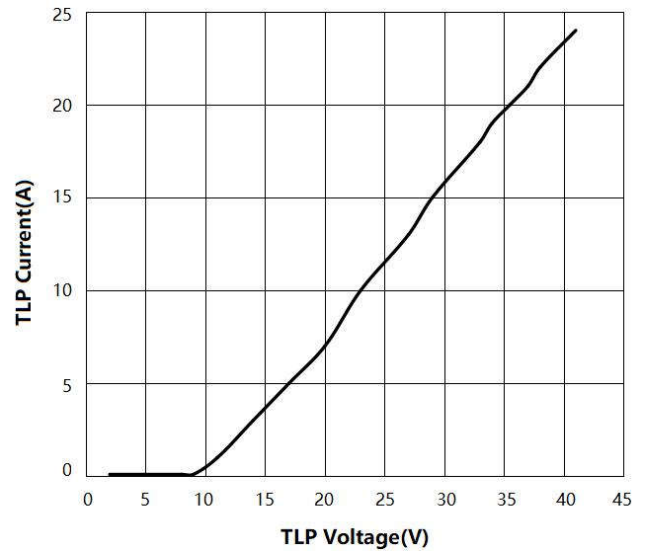


Fig.2 Transmission Line Pulse (TLP)

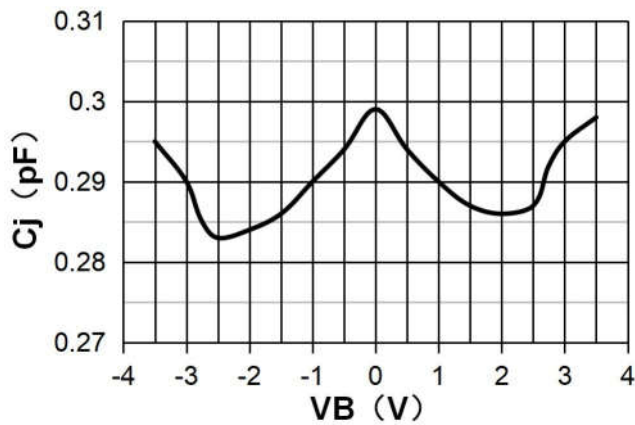


Fig.3 Capacitance vs. Reverse Voltage

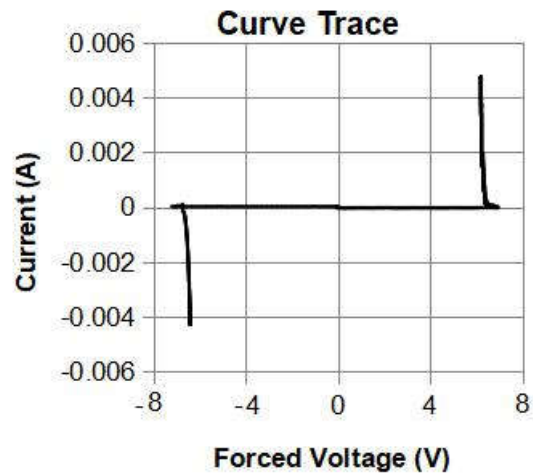
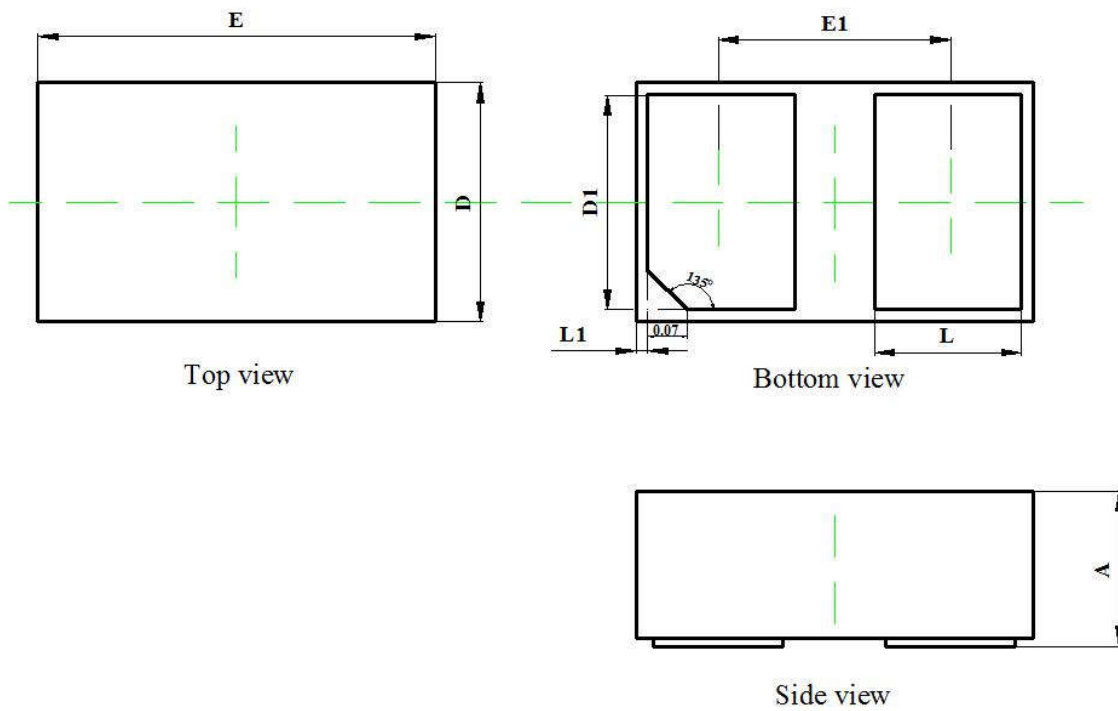
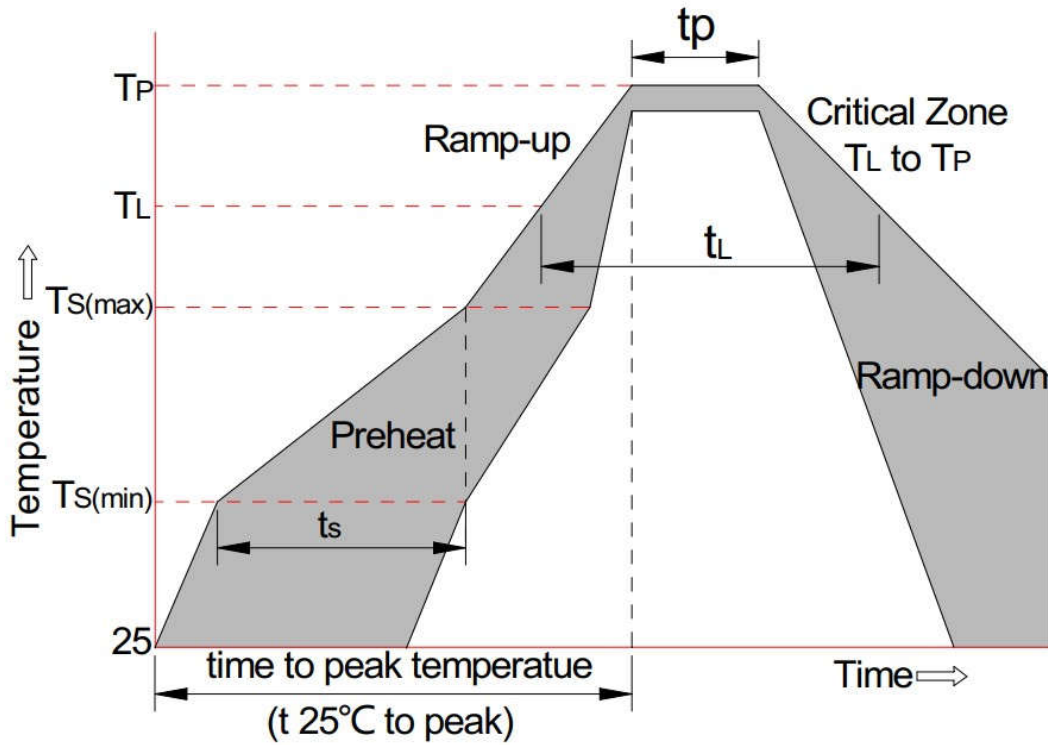


Fig.4 IV Curve (Forward Voltage)

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