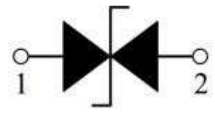
Bi-directional ESD Protection Diode

Features

- Capacitance: 8pF(typ.)
- Reverse Working Voltage: 12V
- IEC 61000-4-2(ESD Air): ± 30KV
- IEC 61000-4-2(ESD Contact): ± 30kV
- IEC61000-4-5(Lightning 8/20us): 8 A



DFN1006

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
ESD1006B12A	DFN1006	A2	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	-	±25	kV
P_{PP}	Peak Pulse Power	tP = 8/20 μs	-	150	W
I_{PPM}	Rated Peak Pulse Current	tP = 8/20 μs	-	8.0	A
T_A	Operating Temperature Range	-	-55	125	℃
Tstg	Storage Temperature Range	-	-55	150	℃

Electrical Characteristics(TA = 25 °C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	TA = 25 °C	-	-	12.0	V
V_{BR}	Breakdown Voltage	IR = 1mA; TA = 25 °C	14.0	14.5	15.0	V
I_R	Reverse Leakage Current	VRWM = 12 V; TA = 25 °C	-	-	0.1	uA
V_C	Clamping Voltage	IPP=8.0A, tP =8/20μs	-	-	19.0	V
CJ	Junction Capacitance	VR = 0V, f = 1 MHz	-	8.0	8.5	pF

Typical Characteristics

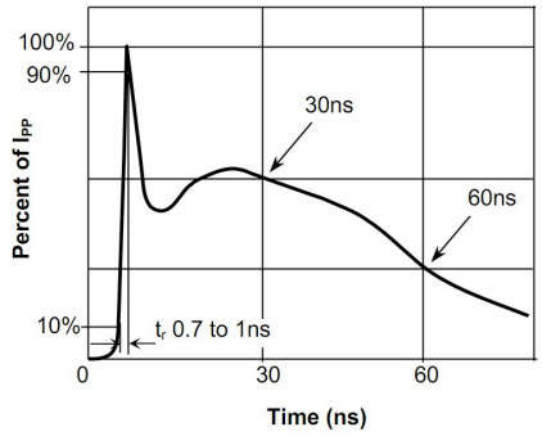


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

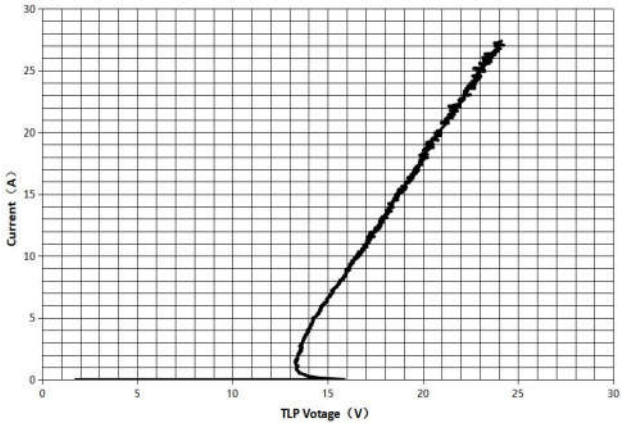


Fig.2 Transmission Line Pulse (TLP)

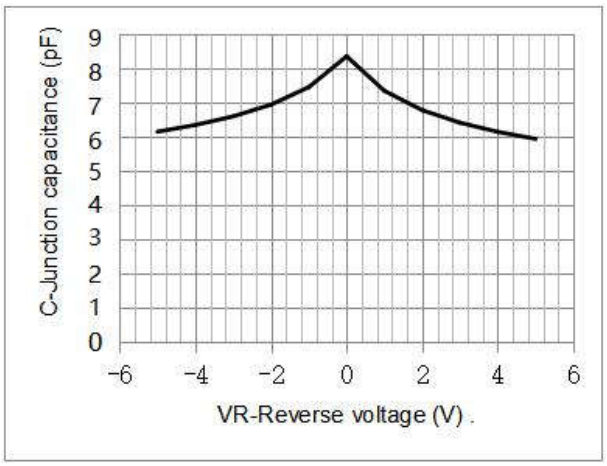


Fig.3 Capacitance vs. Reveres Voltage

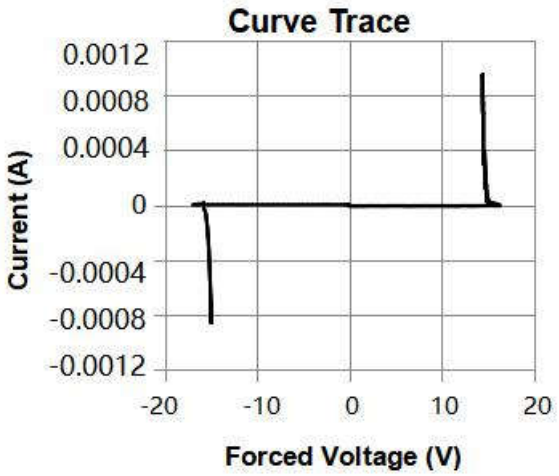
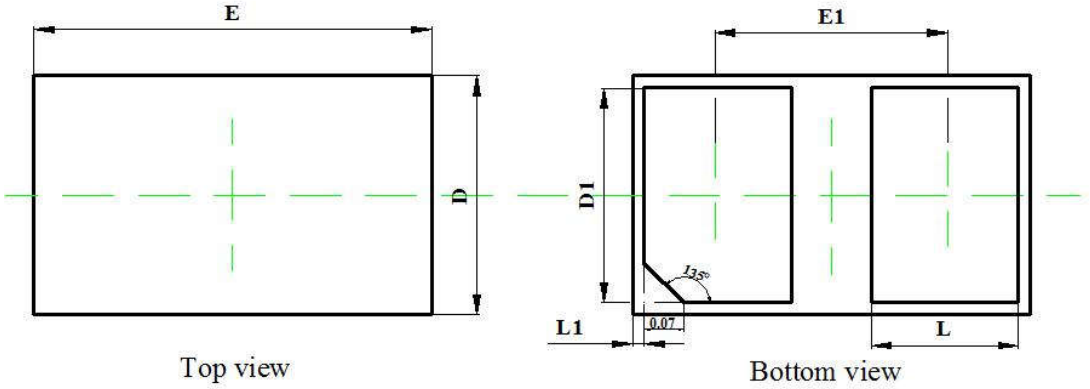
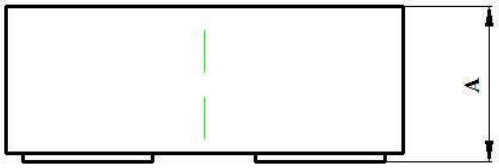


Fig.4 IV Curve (Forward Voltage)

Package Dimension

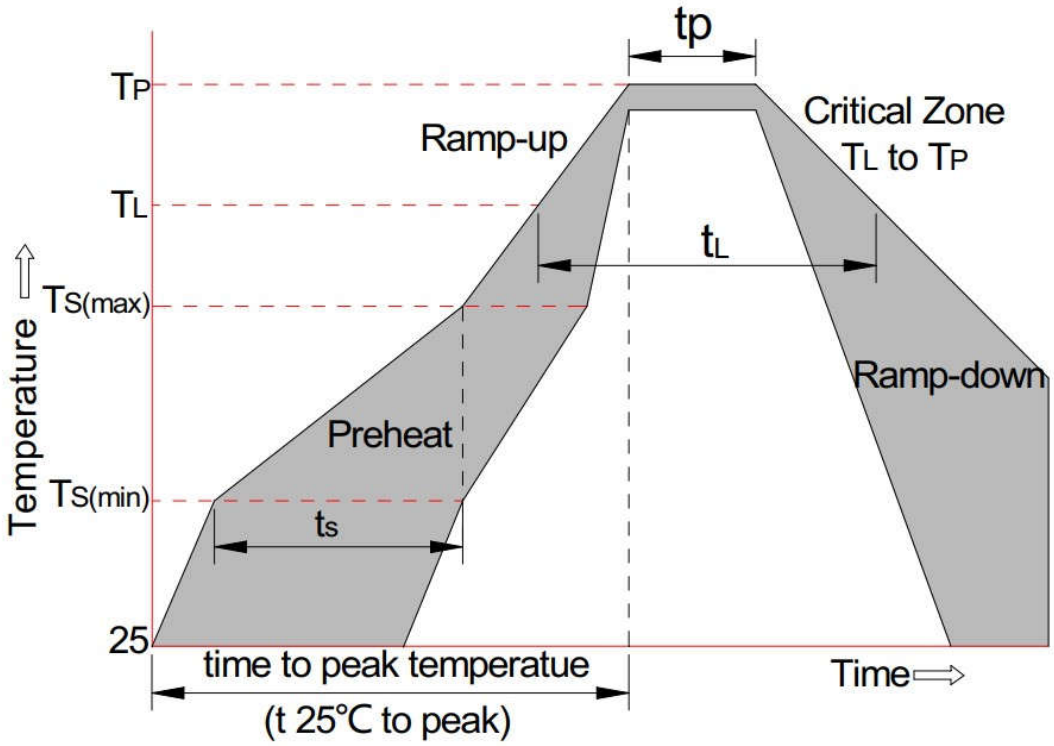
DFN1006 Package Outline





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

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