

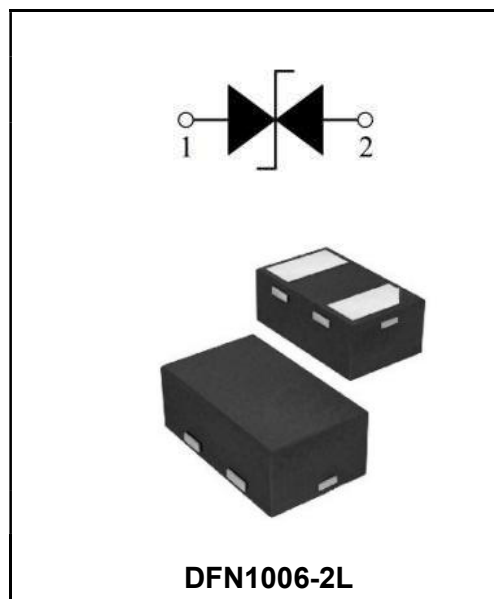
Bi-directional ESD Protection Diode

Features

- ♦ Ultra Low Capacitance: 12pF(typ.)
- ♦ Reverse Working Voltage: 3.3V
- ♦ 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): 8.5A

Application

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



Marking Code

ESD1006B3V3C	3C
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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	t _P = 8/20 μs	-	80	W
I _{PPM}	Rated Peak Pulse Current	t _P = 8/20 μs	-	8.5	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	IR = 1mA; TA = 25 °C	4.5	-	7.5	V
I _R	Reverse Leakage Current	VRWM = 3.3 V; TA = 25 °C	-	-	0.1	μA
V _C	Clamping Voltage	IPP=1A, tP =8/20 μs	-	5	6	V
		IPP=8.5A, tP =8/20 μs	-	7.5	9	V
C _J	Junction Capacitance	VR = 0V, f = 1 MHz	-	12	18	pF

Typical Characteristics

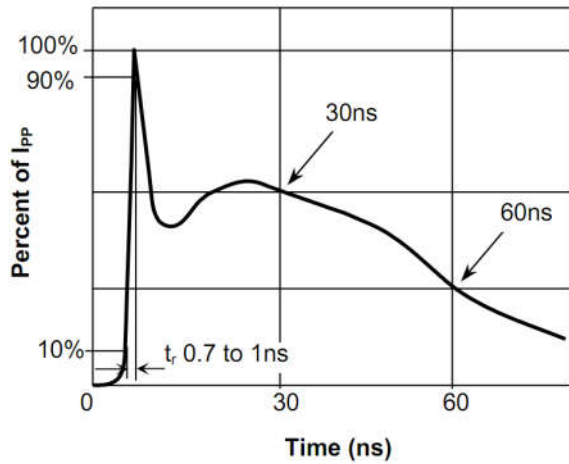


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

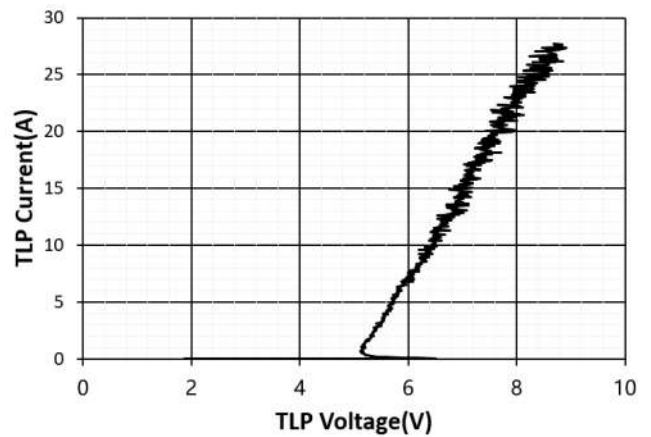


Fig.2 Transmission Line Pulse (TLP)

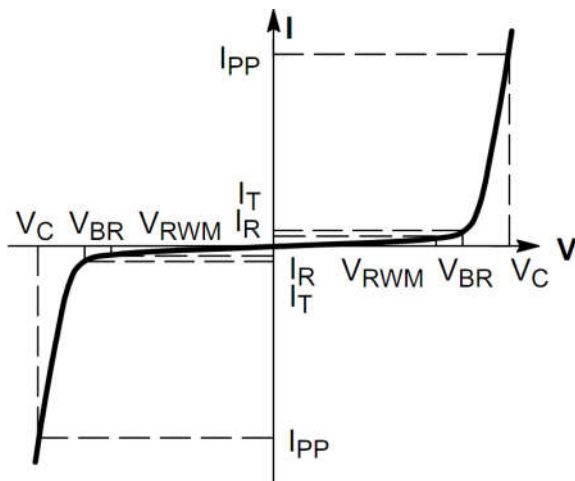


Fig.3 V-I Characteristics for Bidirectional Diode

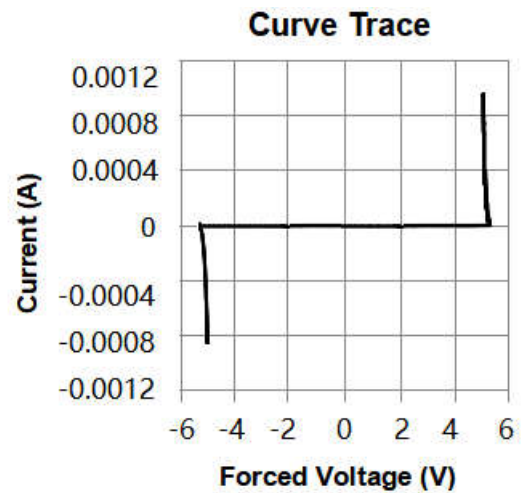


Fig.4 IV Curve

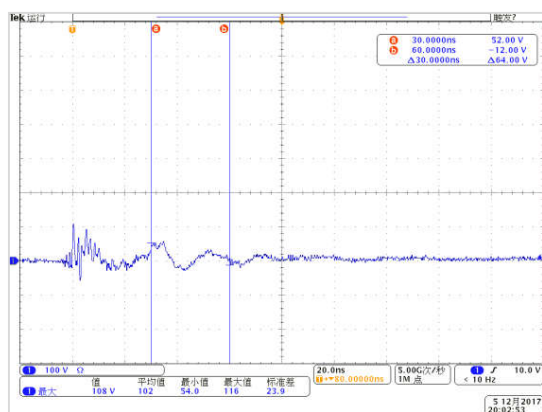


Fig.5 Clamping Voltage at IEC61000-4-2 +8kV Pulse Waveform

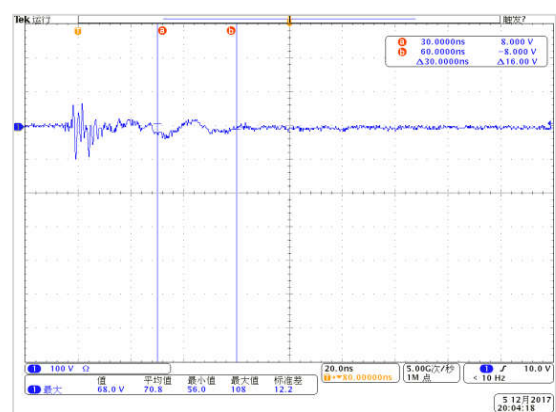
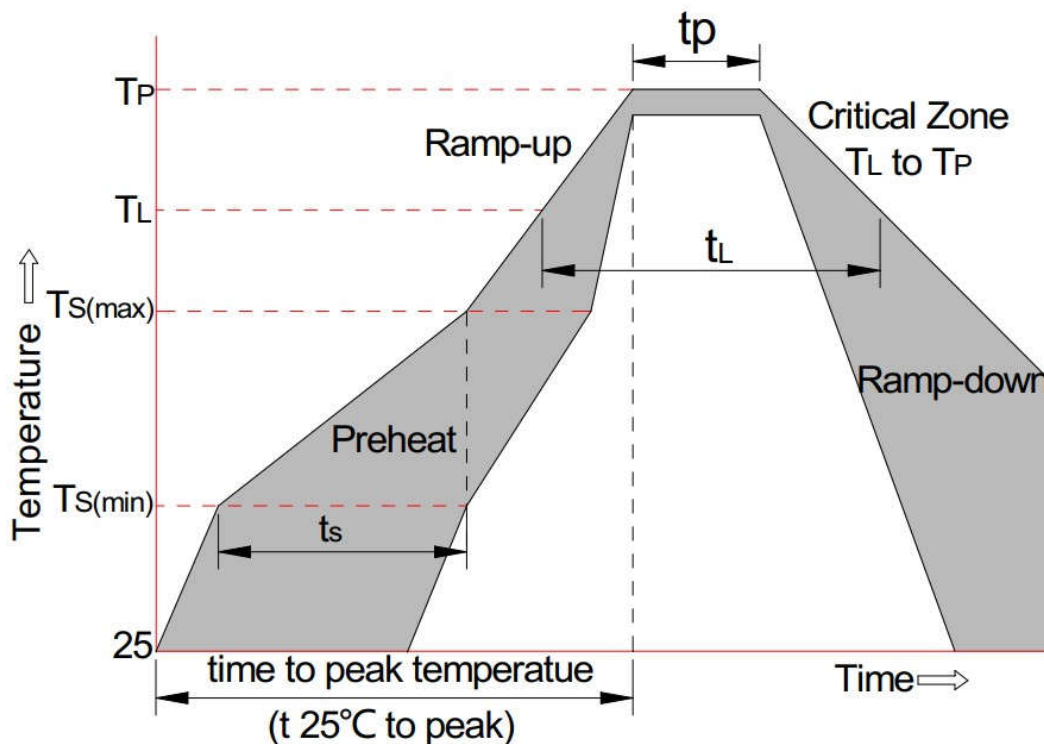


Fig.6 Clamping Voltage at IEC61000-4-2 -8kV Pulse Waveform



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

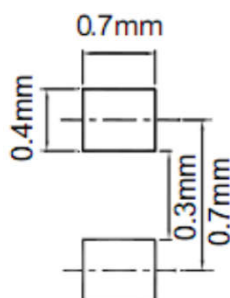
Package	Packing Description	Packing Quantity
DFN1006-2L	Tape/Reel, 7" reel	10000PCS/Reel 400000PCS/Carton

Package Dimensions

DFN1006-2L

Dim.	Millimeter(mm)		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	-	0.100	-	0.004

The recommended mounting pad size



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