



PESD5V0S1BLN ESD Protection Diodes

Features

- Bi-directional ESD protection of one line
- 80Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 15pF(Max)
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-5 (Lightning) 8.0A (8/20 μs)

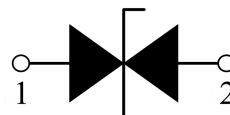
Applications

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

Mechanical Data

- Package: DFN1006-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic Diagram



Order Information

Part Number	Package	Marking	Packing	Reel Size
PESD5V0S1BLN	DFN1006-2L	PB	10000 Tape & Reel	7 inches

Limiting Values($T_A = 25^\circ C$ 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	$t_p = 8/20 \mu s$	-	80	W
I_{PPM}	Rated Peak Pulse Current	$t_p = 8/20 \mu s$	-	8.0	A
T_A	Ambient Temperature Range	-	-55	125	$^\circ C$
T_{stg}	Storage Temperature Range	-	-55	150	$^\circ C$

Electrical Characteristics($T_A = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage	$T_A = 25^\circ C$	-	-	5.0	V
V_{BR}	Breakdown Voltage	$I_R = 1mA$; $T_A = 25^\circ C$	5.6	-	8.4	V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$; $T_A = 25^\circ C$	-	-	0.1	μA
V_C	Clamping Voltage	$I_{PP} = 1A$, $t_p = 8/20\mu s$	-	-	10	V
		$I_{PP} = 8A$, $t_p = 8/20\mu s$	-	-	8.5	V
C_J	Junction Capacitance	$V_R = 0V$, $f = 1 MHz$	-	-	15	pF



Typical Characteristics

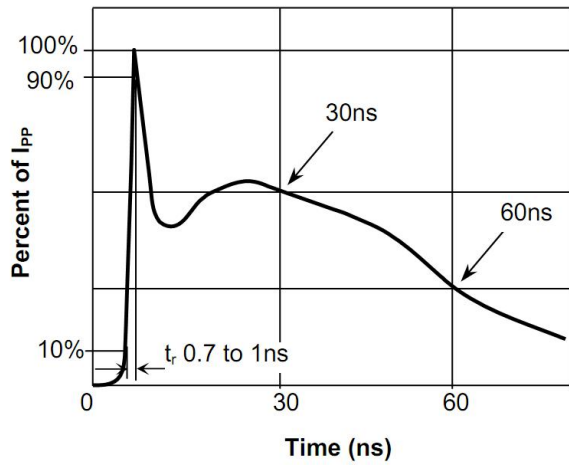


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

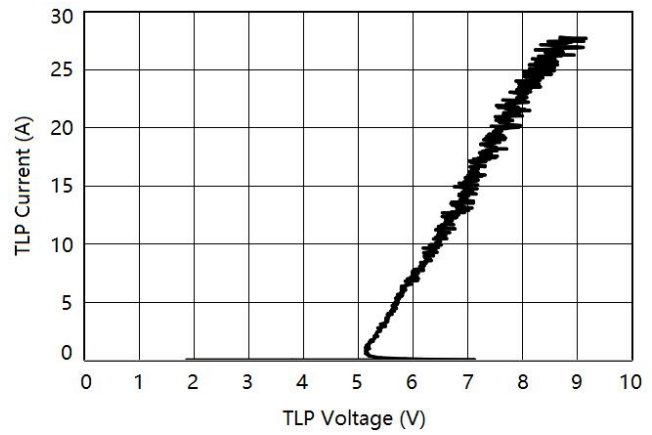


Fig.2 Transmission Line Pulse (TLP)

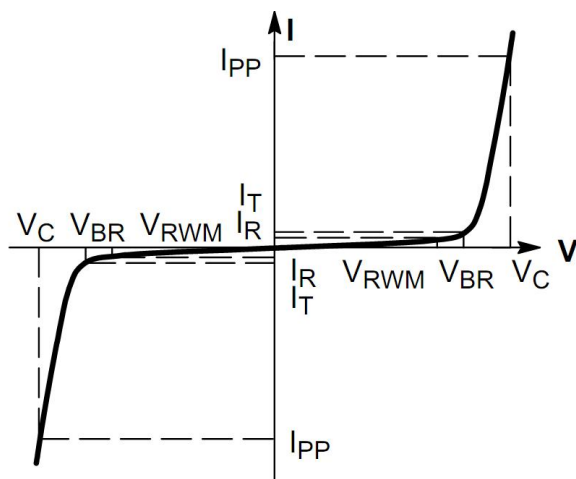


Fig.3 V-I Characteristics for Bidirectional Diode

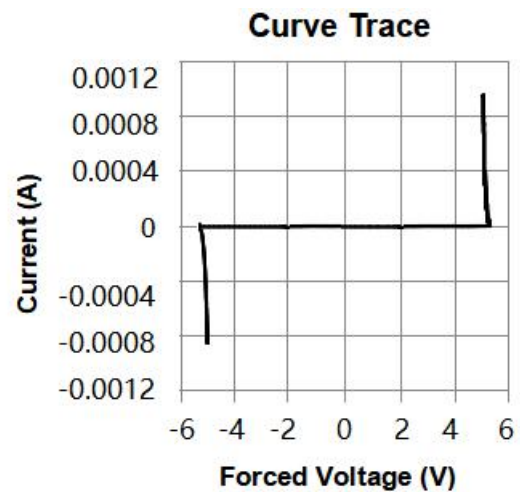


Fig.4 IV Curve

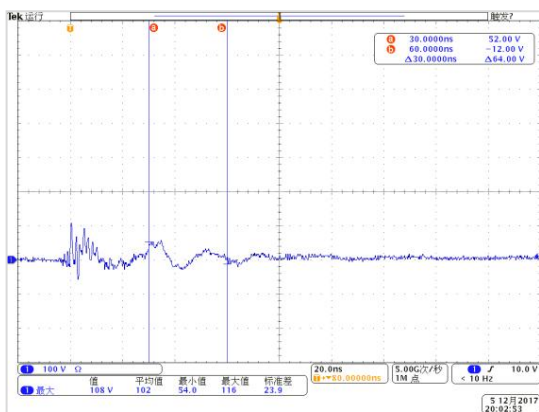


Fig.5 Clamping Voltage at IEC61000-4-2
+8kV Pulse Waveform

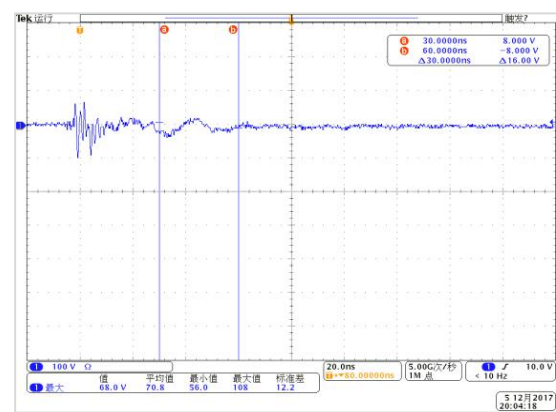
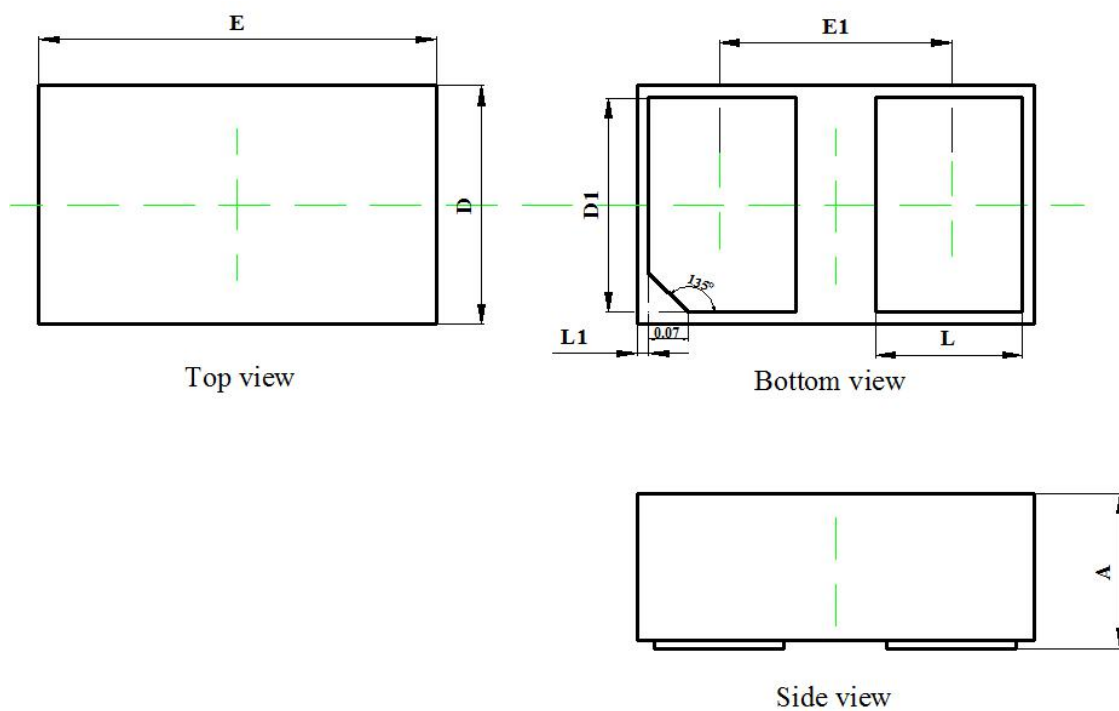


Fig.6 Clamping Voltage at IEC61000-4-2
-8kV Pulse Waveform



Package Outline Dimensions

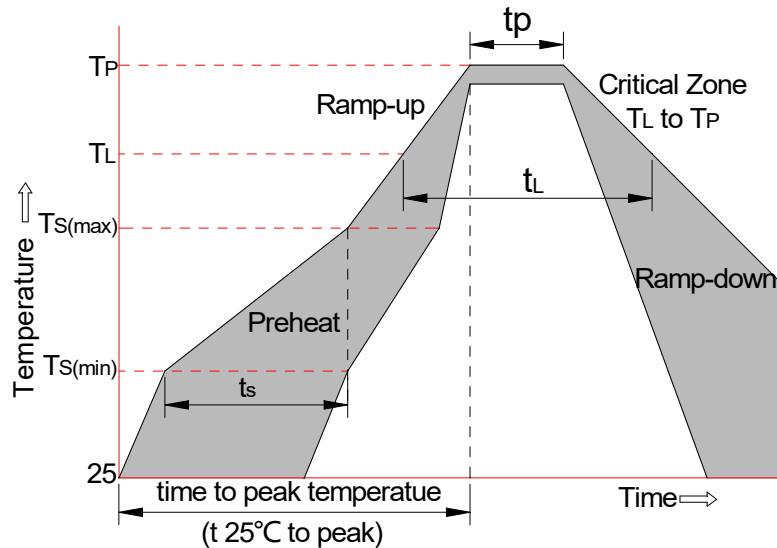
DFN1006 Package Outline



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 ($T_{s(min)}$)	+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