

## Bi-directional ESD Protection Diode in DFN1006 Package

### SE05N6S01HB

#### Features

- ◆ Working voltages : 5V
- ◆ Low capacitance: 15pF (Typical)
- ◆ Low leakage current: 0.1uA @  $V_{RWM}$
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

#### Applications

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

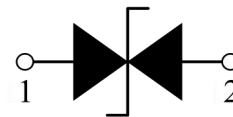
#### Mechanical Characteristics

- ◆ DFN1006-2L package
- ◆ Molding Compound Flammability Rating: UL 94V-0
- ◆ Quantity Per Reel:10,000pcs
- ◆ Reel size: 7inch

#### DFN1006-2L



#### PIN Configuration

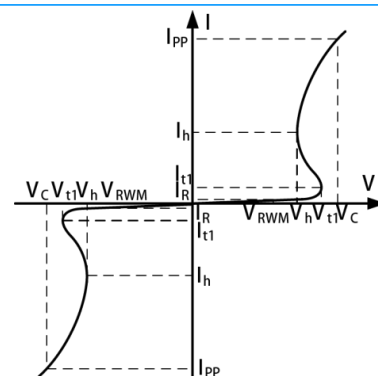


#### Absolute Maximum Rating

Rating	Symbol	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2 (Contact)	$\pm 25$ $\pm 25$	KV
$T_J$	Operating Temperature	-55 to +150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}C$
$T_{LST}$	Lead Soldering Temperature	260	$^{\circ}C$

#### I-V Curve Characteristics

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$V_{t1}$	Trigger Voltage
$I_{t1}$	Trigger Current @ $V_{t1}$
$V_h$	Holding Voltage
$I_h$	Holding Current @ $V_h$



Bi-Directional TVS

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### Electrical Characteristics (T = 25°C)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
$V_{RWM}$	—	—	—	5.0	V
$I_R$	$V_{RWM}=5V, T=25^\circ C$	—	—	0.1	$\mu A$
$V_{BR}$	$I_T=1mA$	5.6	6.4	8.4	V
$V_C$	$I_{PP}=1A, t_p=8/20\mu s$	—	—	10	V
$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	—	—	12	V
$C_J$	$V_R=0V, f=1MHz$	—	15	18	pF

### Characteristics Curve

Fig1. Transmission Line Pulse (TLP)

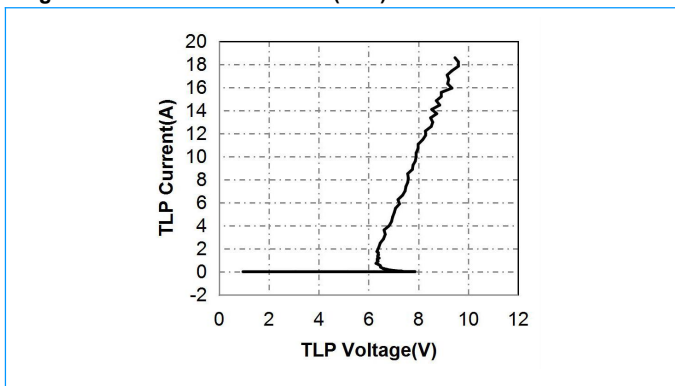


Fig2. IV Curve

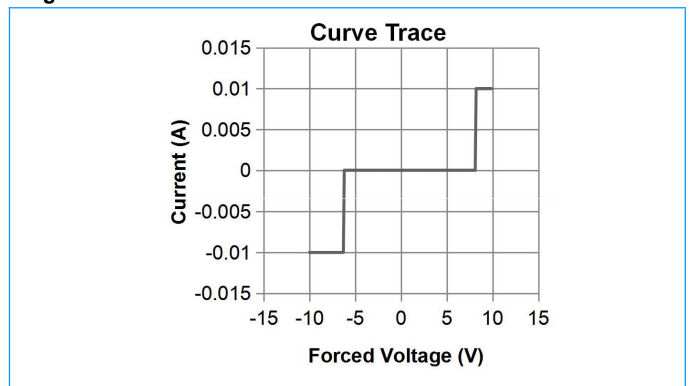


Fig3. ESD Clamping of I/O\_1to I/O\_2 (+8kV Contact per IEC 61000-4-2)

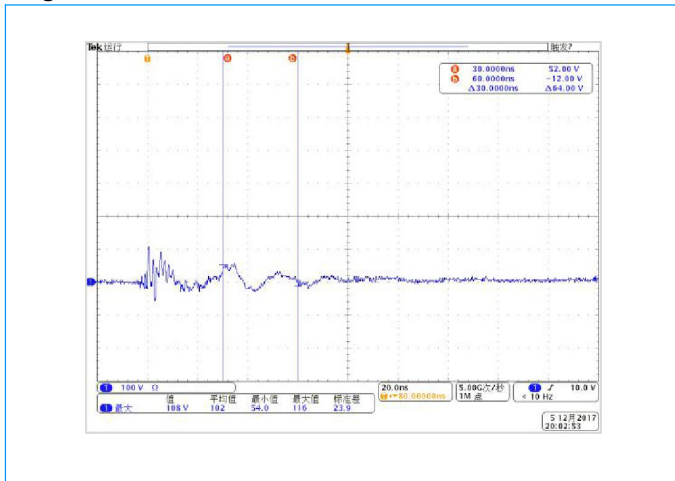
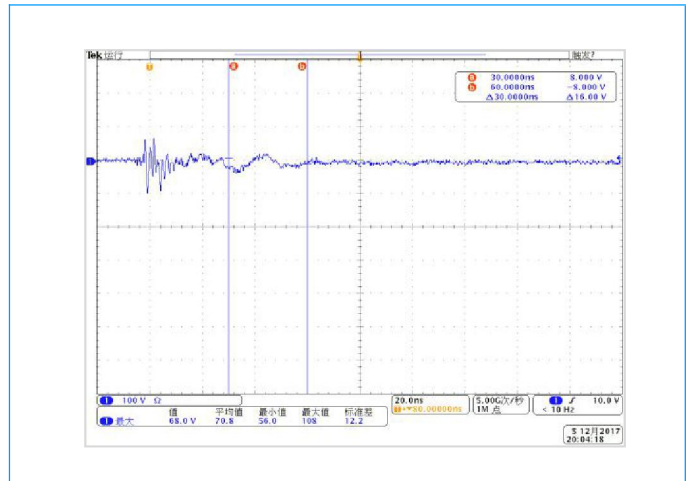


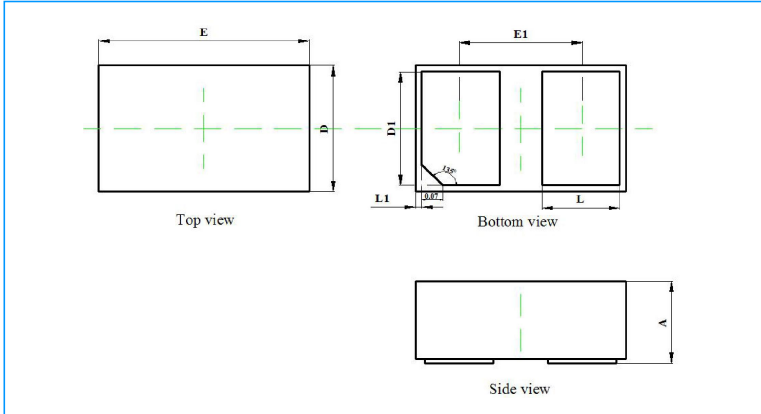
Fig4. ESD Clamping of I/O\_1to I/O\_2 (-8kV Contact per IEC 61000-4-2)



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## DFN1006-2L Dimensions



Symbol	Millimeter		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