Discription

The STN101050BL25 protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



DFN1006-2L

Features

- ★ Transient protection for high-speed data lines
  IEC 61000-4-2(ESD) ±8kV (Contact)
  ±15kV (Air)
  IEC 61000-4-4(EFT) 40A (5/50 ns)
- ★ Peak power dissipation: 100W (8/20us)
- ★ Working voltages : 5V
- ★ Ultra-small package (1.0mmx0.6mmx0.5mm)
- ★ Protects one I/0 line
- ★ Low clamping voltage
- ★ Low leakage current



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
STN101050BL25	DFN1006-2L	10000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	100	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{op}	Operating Temperature Range	-55 to +150	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge contact discharge	±15 ±8	KV
	IEC61000-4-4 (EFT)	40	A

Electrical Characteristics Ratings at 25°C

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	6.0			V
I_R	Reverse Leakage Current	V_{RWM} = 5.0V			0.1	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			13	V
		I_{PP} = 4A, t_p = 8/20μs			25	V
V_{CTLP}	TLP Clamping Voltage	I_{PP} = 8A IEC61000-4-2 Level 2 equivalent (±4kV Contact, ±8kV Air)		26		V
		I_{PP} = 16A IEC61000-4-2 Level 4 equivalent (±8kV Contact, ±16kV Air)		38		V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		0.25		pF

Typical Characteristics

Fig 1 Power Derating Curve

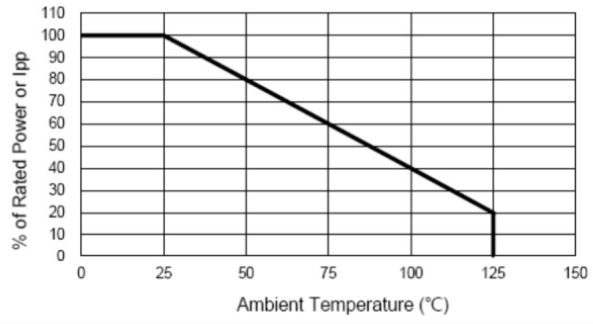


Fig 2 Clamping Voltage vs Peak Pulse Current

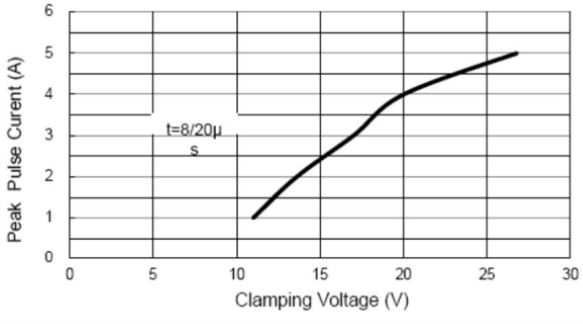


Fig 3 Voltage Sweeping

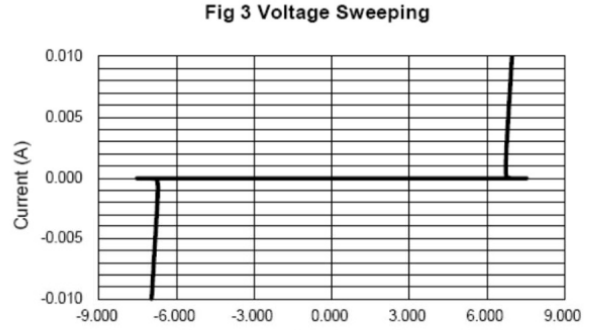


Fig 4 Voltage vs Capacitance

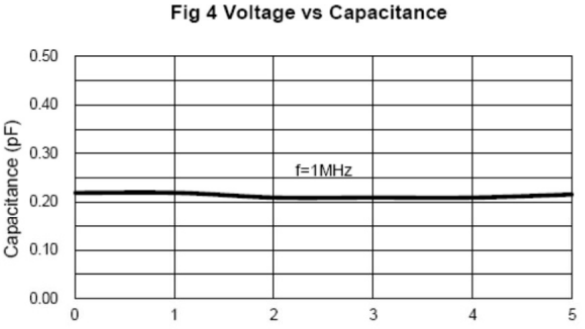


Fig 5 ESD Clamping
(+8kV Contact per IEC 61000-4-2)

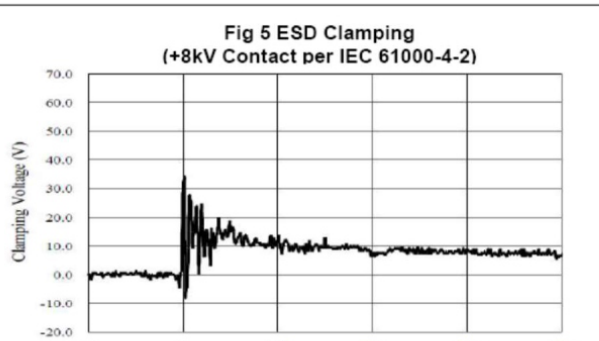


Fig 6 ESD Clamping
(-8kV Contact per IEC 61000-4-2)

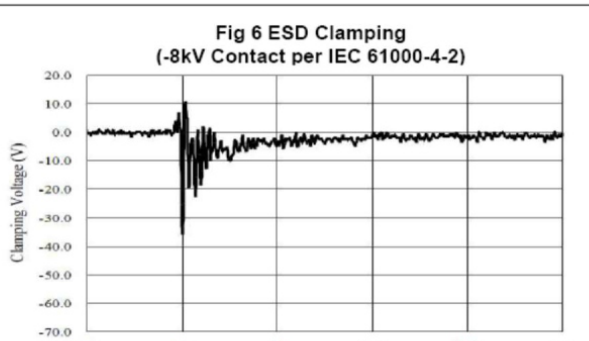
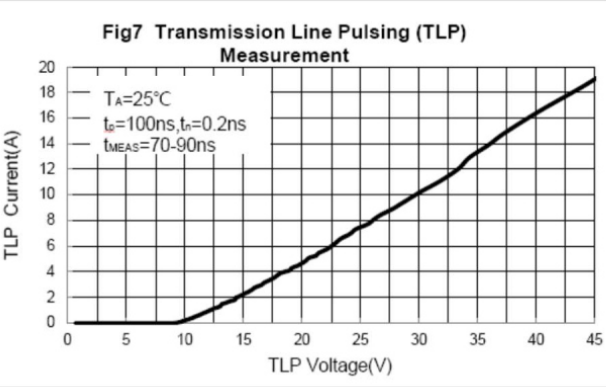
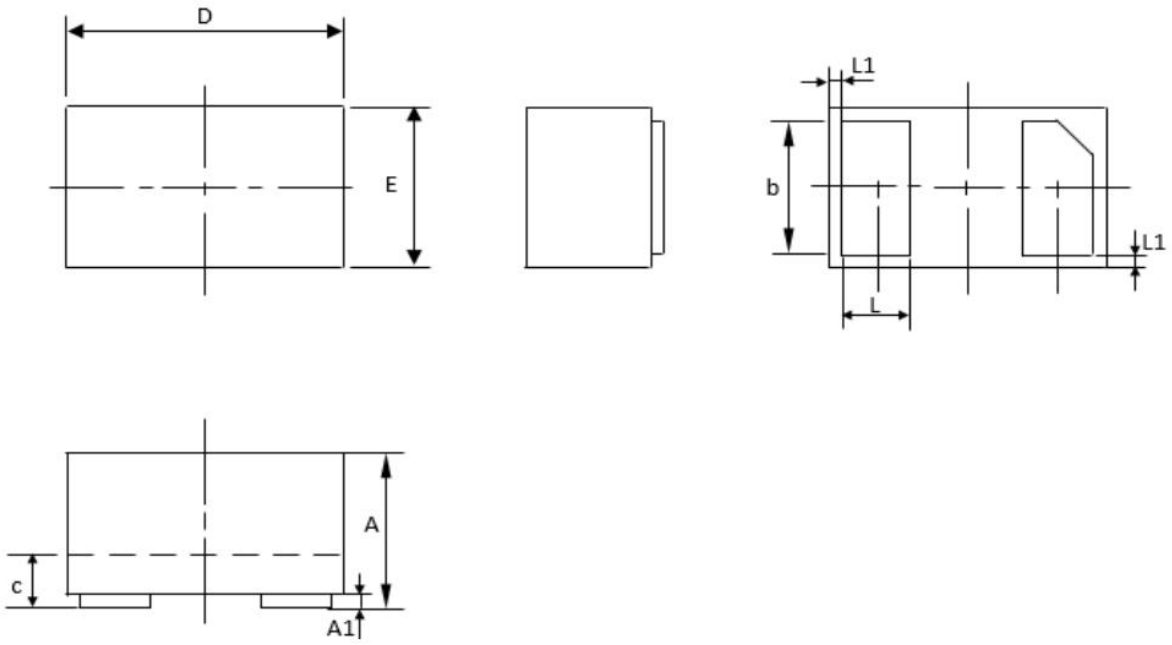


Fig7 Transmission Line Pulsing (TLP)
Measurement



Outline And Dimensions



DFN1006-2L			
Dim	Min	Typ.	Max
A	0.46	0.48	0.50
A1	0	0.02	0.05
b	0.45	0.5	0.55
c	0.1	0.12	0.14
D	0.95	1.00	1.05
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.035	0.05	0.065
h	0.07	0.12	0.17
All Dimensions in mm			

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