



Discription

The ESD5451N 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

- ★ Low Leakage
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 per Human Body Model
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ These are Pb-Free Devices
- ★ We declare that the material of product compliance with RoHS requirements and Halogen Free.



Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
ESD5451N	DFN1006-2L	10000

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		±25 ±20	kV kV
Total Power Dissipation on FR-5 Board (Note 1) @ T _A =25°C	PD	200	mW
Junction and Storage Temperature Range	T _J ,T _{STG}	-55 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0*0.75*0.62 in.



ELECTRICAL CHARACTERISTICS

Device	V_{RWM} (V)	$I_{R1}(\mu A)$ @ V_{RWM}	$I_{R2}(\mu A)$ @ $V_R=3.5V$	V_{BR} (V) @ I_T (Note 2)		I_T mA	V_C (V) @ $I_{PP} = 1 A$ (Note 3)	V_C (V) @ MAX I_{PP} (Note 3)	$I_{PP}(A)$ (Note 3)	$P_{PK}(W)$ (Note 3)	C (pF)
	Max	Max	Max	Min	Max		Max	Max	Max	Max	Typ
ESD5451N	5.0	0.5	0.3	5.6	8.0	1.0	9.8	10	9	90	15

Other voltage available upon request.

- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C
- Surge current waveform per Figure 3.

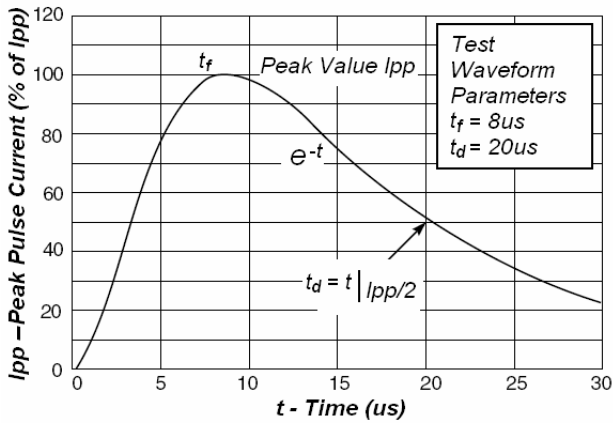


Fig1. Pulse Waveform

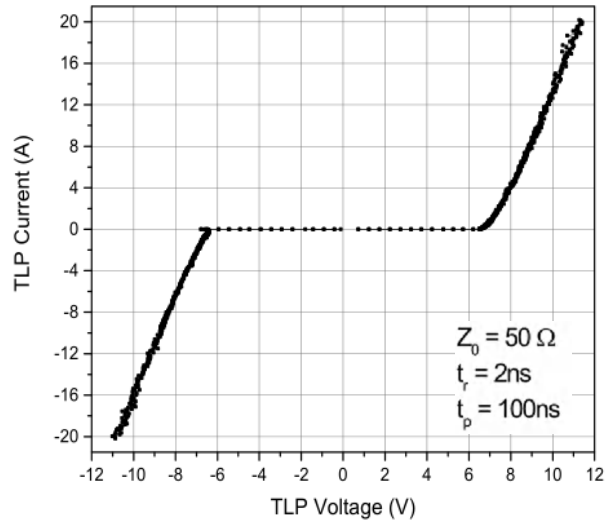
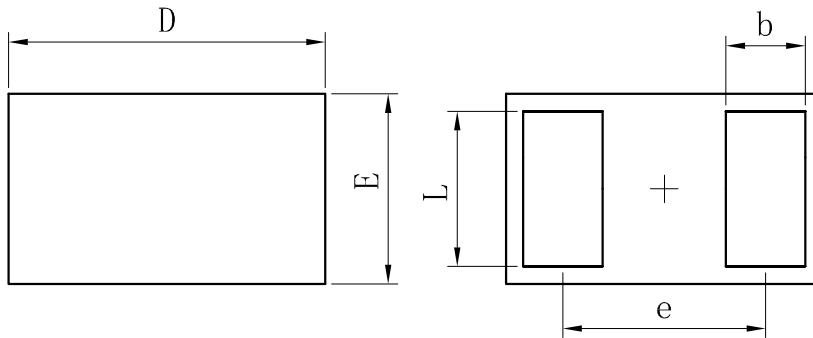


Fig2.TLP Measurement



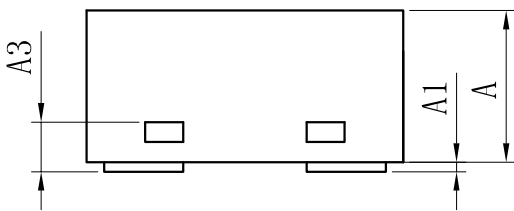
OUTLINE AND DIMENSIONS



TOP VIEW

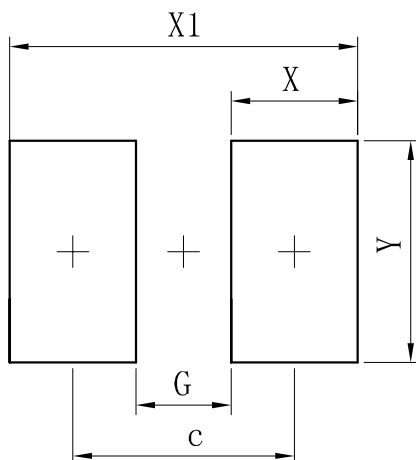
BOTTOM VIEW

DFN1006-2L			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	-	0.64	-
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	-	0.05
A3	0.127REF.		
All Dimensions in mm			



SIDE VIEW

SOLDERING FOOTPRINT



Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70



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