



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
(SOD-882)

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(SOD-882)	10000

Absolute Ratings(Tamb = 25°C)

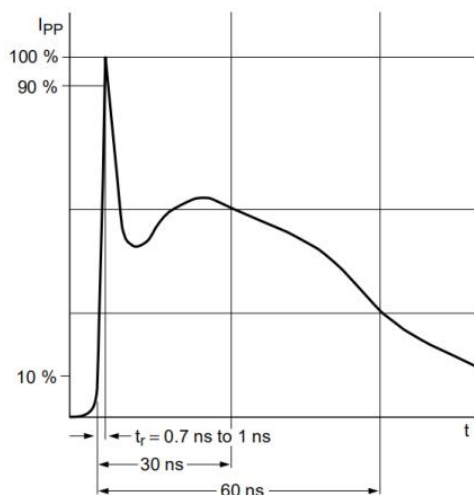
Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20μs)	90	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +150	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD)	air discharge contact discharge	±30 ±30 KV



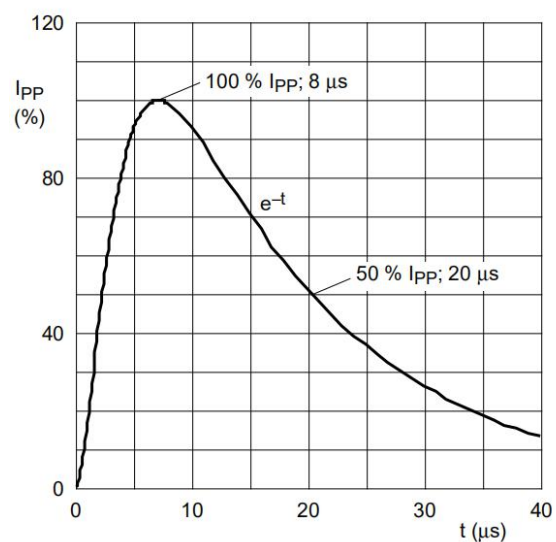
Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	5.8		8.2	V
I_R	Reverse Leakage Current	$V_{RWM} = 5.0V$			100	nA
V_C	Clamping Voltage	$I_{PP} = 9A, t_p = 8/20\mu s$			10	V
C_J	Junction Capacitance	$V_R = 0V, f = 1MHz$		15	20	pF

Typical Characteristics



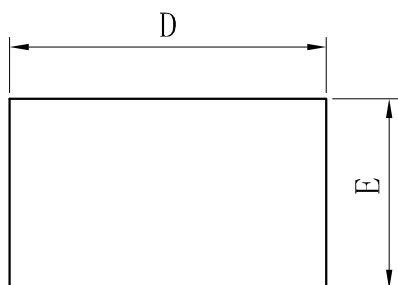
IEC61000-4-2 Waveform



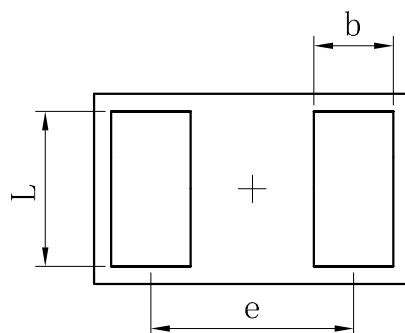
IEC 61000-4-5 Waveform(8/20 μs pulse)



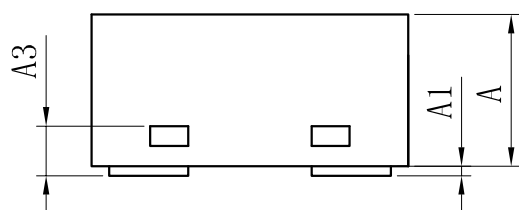
Outline and Dimensions



TOP VIEW



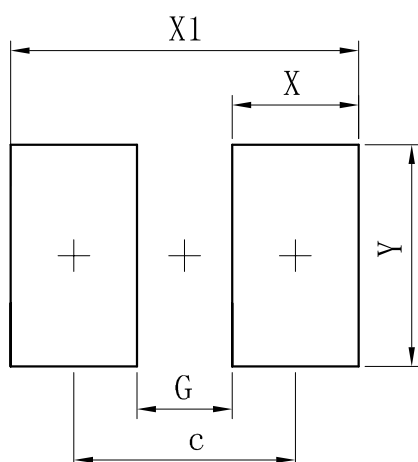
BOTTOM VIEW



SIDE VIEW

DFN1006-2L(SOD-882)			
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			

Soldering Footprint



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



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