

General Description

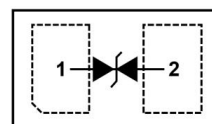
The ESD5651N is designed to protect voltage sensitive components from damage or latch-up due to ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD for board level. Because of its small size and bi-directional design, it is ideal for use in cellular phones, and portable applications that require audio line protection.

Specification Features

- Miniaturized packaging size suitable for high-density applications: nom 0.039" x 0.024" (1.0x0.6mm)
- Standard Capacitance 100 pF
- Low Clamping Voltage: $V_C = 12V @ I_{PP} = 40A$
- Reverse Working (Stand-off) Voltage: 4.5V
- Low Leakage current
- Response Time is Typically < 1 ns

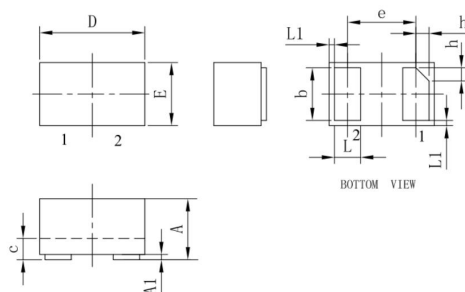
Application

- Smartphones, tablet computers
- Blu-ray and DVD recorders and players
- Video equipment and accessories



DFN1006-2L

Schematic Diagram



DFN1006-2L

	Millimeters			Inches		
	Min. (mm)	Typ. (mm)	Max. (mm)	Min. (mm)	Typ. (mm)	Max. (mm)
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.59BSC			0.026BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.25	0.30	0.35	0.010	0.012	0.013
L1	0.05REF			0.002REF		
h	0.07	0.12	0.17	0.003	0.005	0.007

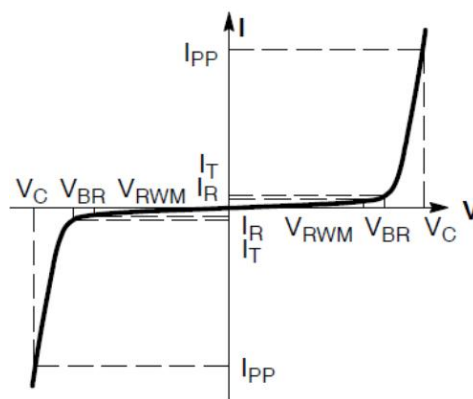
Absolute Maximum Rating

Rating	Symbol	Value	Unit
Peak pulse power ($t_p = 8/20\mu s$)	P_{PK}	480	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	
Operating Temperature Range	T_J	-55~+150	$^{\circ}C$
Storage temperature	T_{STG}	-55~+150	$^{\circ}C$

ESD5651N

Characteristics($T_J = 25^{\circ}\text{C}$ unless otherwise specified)

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}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
P_{PK}	Peak Power Dissipation
C	Max. Capacitance @ $V_R = 0$ and freq.=1 MHz



Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				4.5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4.8	5.1	6	V
Reverse Leakage Current	I_R	$V_{RWM} = \pm 4.5\text{V}$			200	nA
Clamping Voltage	V_C	$I_{PP} = 1.0\text{A}$, $t_p = 8/20\mu\text{s}$			6.5	V
Clamping Voltage	V_C	$I_{PP} = 40.0\text{A}$, $t_p = 8/20\mu\text{s}$			12	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$			100	pF