



### Features

- Bi-directional ESD protection of one line
- 110Watts peak pulse power (tp = 8/20μs)
- Working voltage: 3.3V
- Junction Capacitance: 15pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-5 (Lightning) 11A (8/20μs)

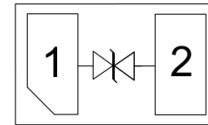
### Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

### Mechanical Data

- Package:DFN1006-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

### Schematic & PIN Configuration



### Ordering Information

Part Number	Package	Marking	Packing	Reel Size
ESD5431N	DFN1006-2L		10000 Tape & Reel	7 inches

**Absolute Maximum Rating( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)**

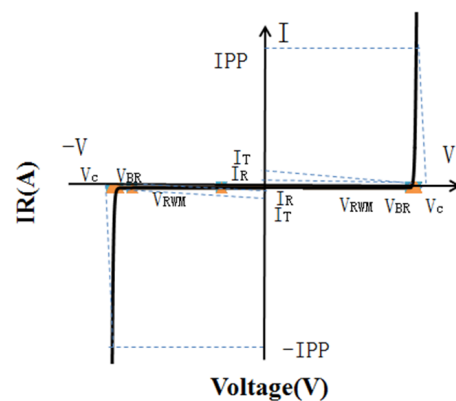
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{pk}$	110	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	11	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Operating Temperature Range	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$

**Electrical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$				3.3	V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	3.5	4.2	5.0	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3\text{V}$			0.2	$\mu\text{A}$
Holding Voltage	$V_C$	$I_{PP}=1\text{A}; t_p=8/20\mu\text{s}$			6	V
Clamping Voltage	$V_C$	$I_{PP}=11\text{A}; t_p=8/20\mu\text{s}$			10	V
Junction Capacitance	$C_J$	$V_R=0\text{V}; f=1\text{MHz}$		15	20	pF

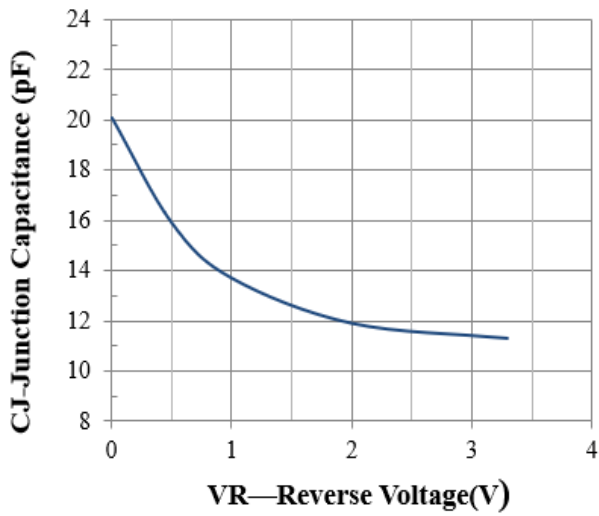
**Electrical Parameters ( $T_A = 25^{\circ}\text{C}$  unless otherwise noted)**

Symbol	Parameter
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_C$

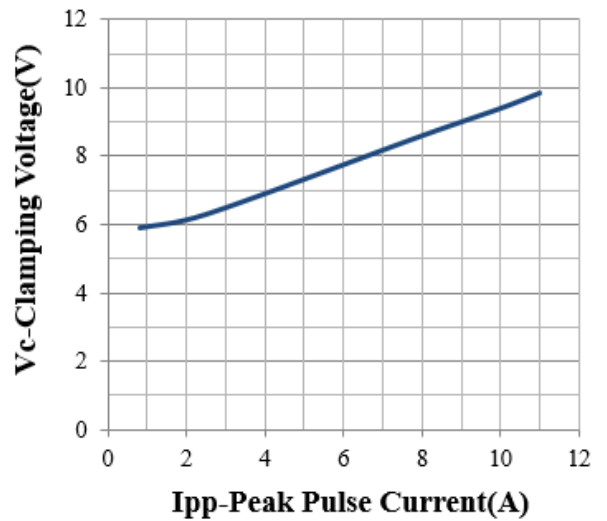




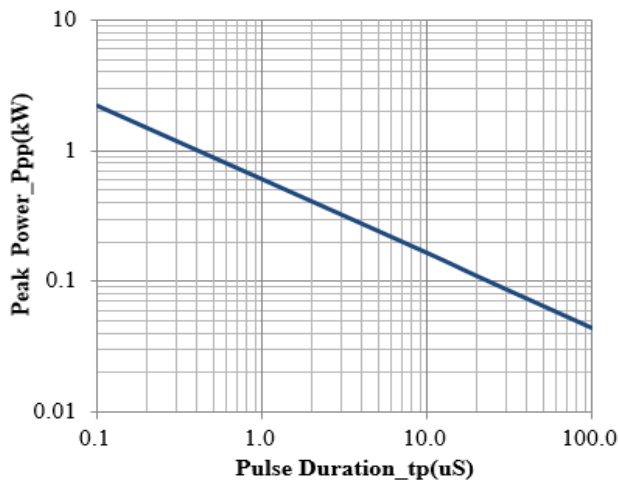
Typical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)



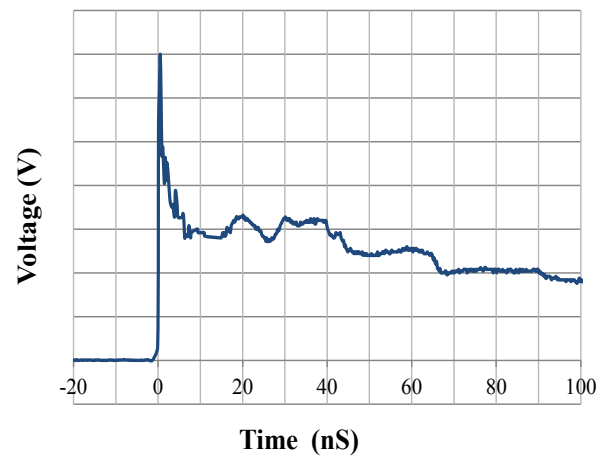
Junction Capacitance vs. Reverse Voltage



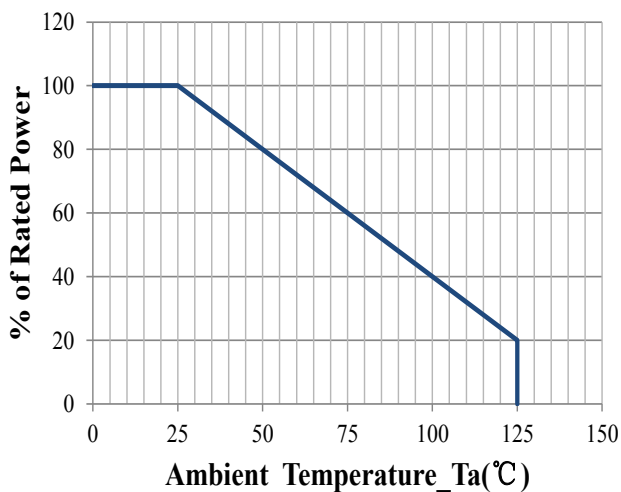
Clamping Voltage vs. Peak Pulse Current



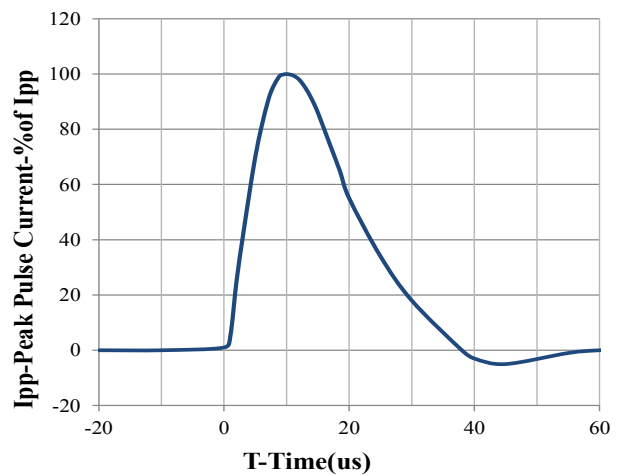
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



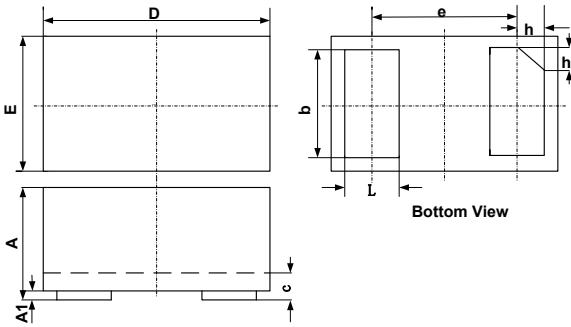
Power Derating Curve



8 X 20us Pulse Waveform



Outline Drawing – DFN1006-2L



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
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	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

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