

Features

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

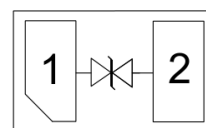
Applications

- 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)

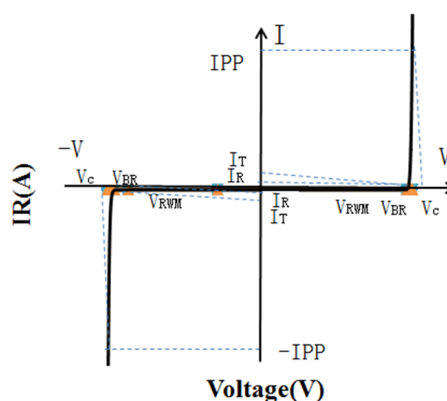
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	110	W
Peak Pulse Current (8/20 μs)	I_{PP}	11	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Operating Temperature Range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

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	μA
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

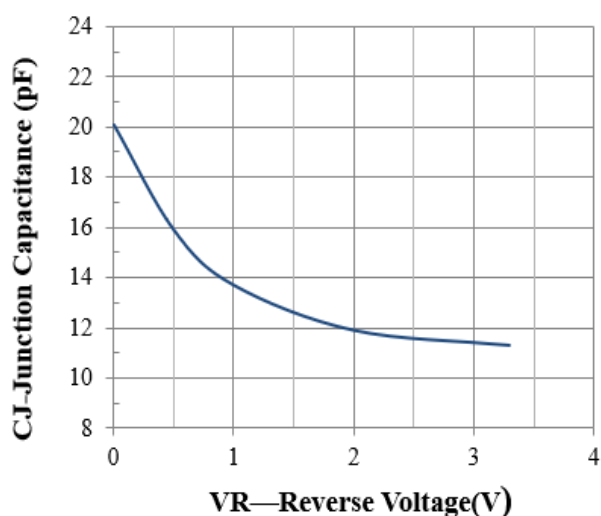
Electrical Parameters ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

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

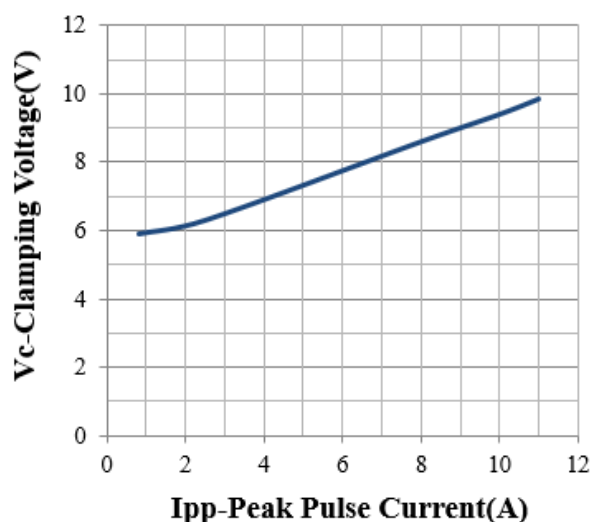




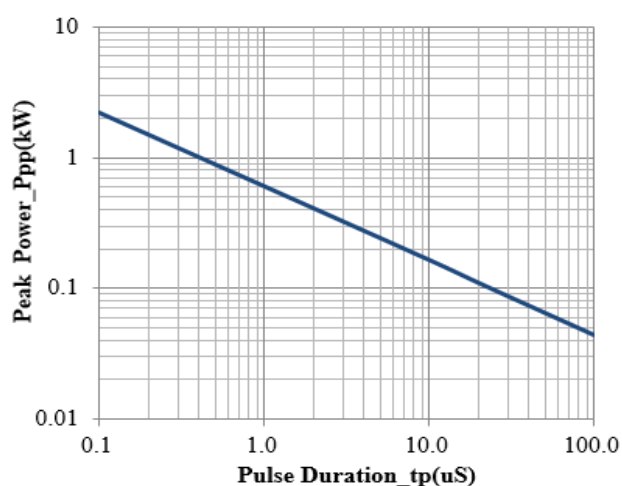
Typical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



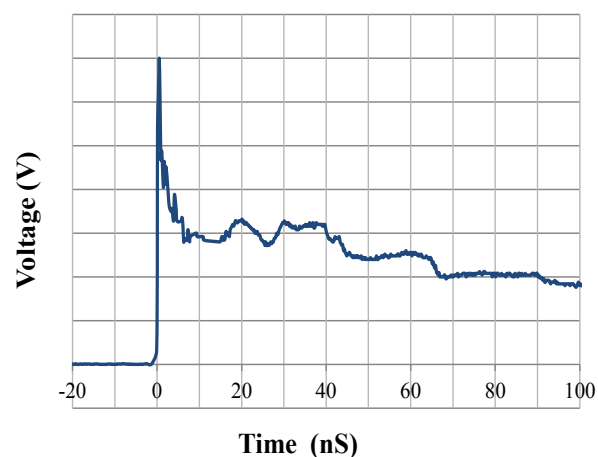
Junction Capacitance vs. Reverse Voltage



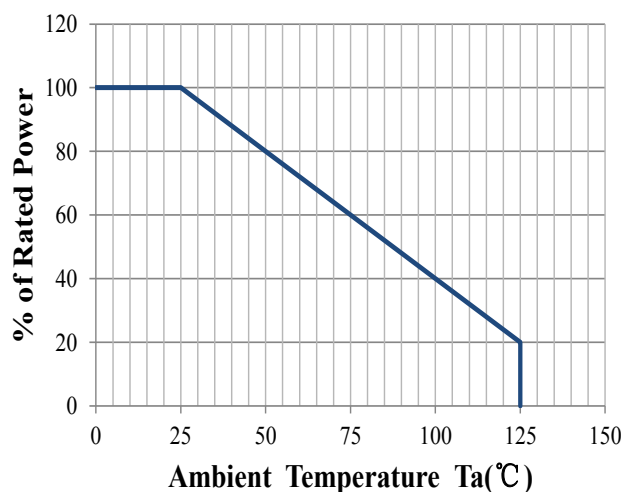
Clamping Voltage vs. Peak Pulse Current



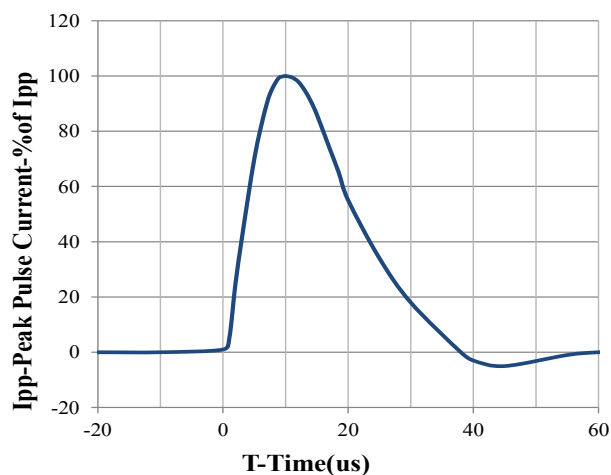
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



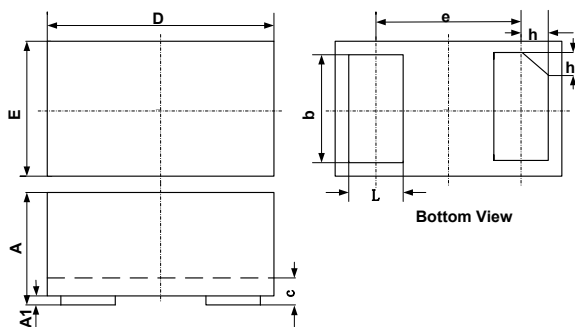
Power Derating Curve



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