

## Features

- Bi-directional ESD protection of one line
- 100Watts peak pulse power (tp = 8/20μs)
- Working voltage: 5V
- Junction Capacitance: 15pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-5 (Lightning) 8A (8/20μs)

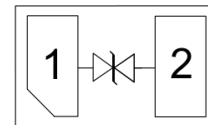
## Applications

- 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
ESD5451X	DFN1006-2L		10000 Tape & Reel	7 inches

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

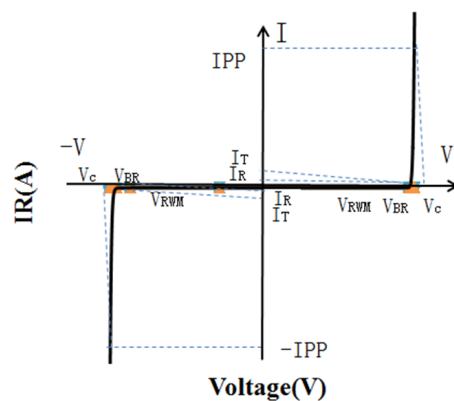
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pk</sub>	100	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	I <sub>pp</sub>	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V <sub>ESD</sub>	$\pm 30$ $\pm 30$	kV
Operating Temperature Range	T <sub>J</sub>	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T <sub>stg</sub>	-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 <sub>RWM</sub>				5	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> = 1mA	6.0	6.5		V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> = 5V			0.5	$\mu\text{A}$
Holding Voltage	V <sub>C</sub>	I <sub>pp</sub> =1A; t <sub>p</sub> =8/20 $\mu\text{s}$		7	8	V
Clamping Voltage	V <sub>C</sub>	I <sub>pp</sub> =8A; t <sub>p</sub> =8/20 $\mu\text{s}$		9	13	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V; f=1MHz		15	18	pF

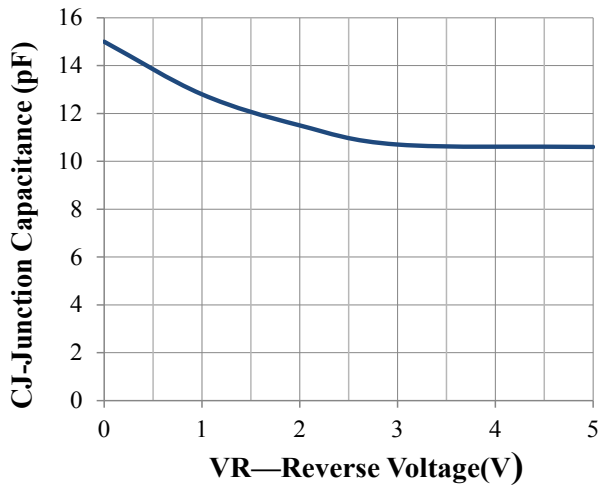
**Electrical Parameters ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**

Symbol	Parameter
I <sub>T</sub>	Test Current
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @I <sub>C</sub>

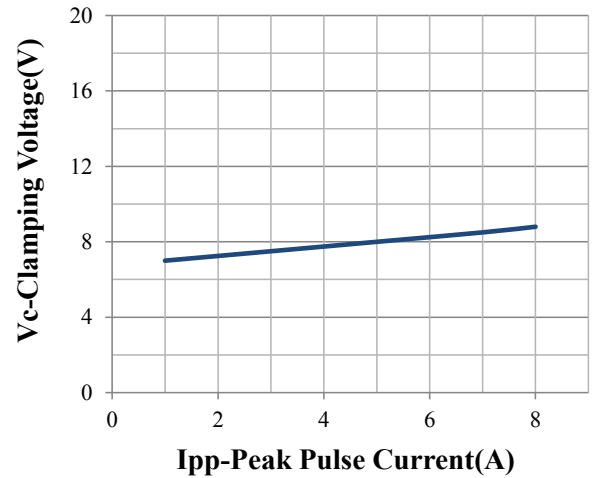




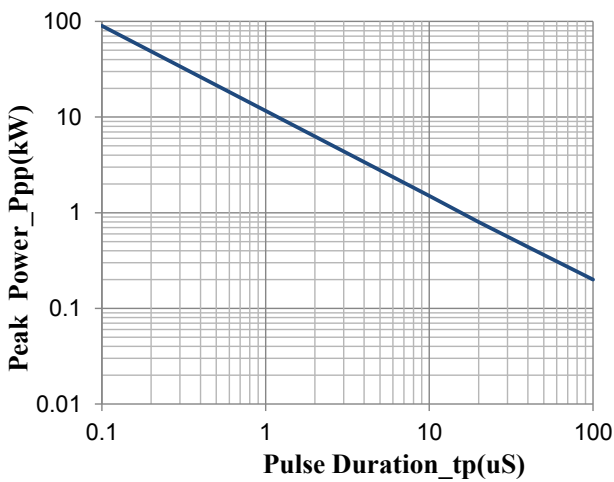
Typical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)



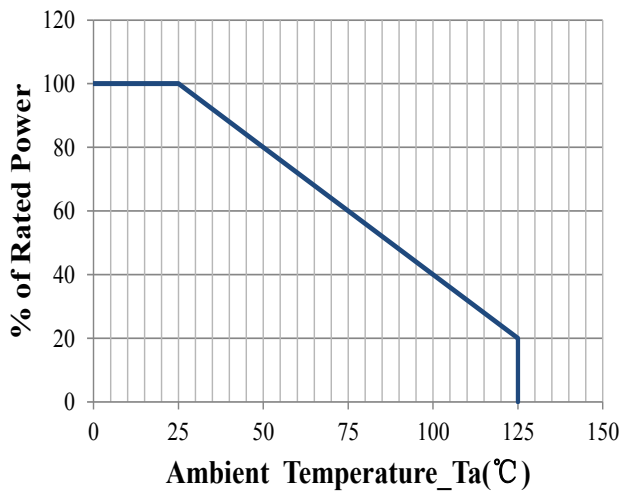
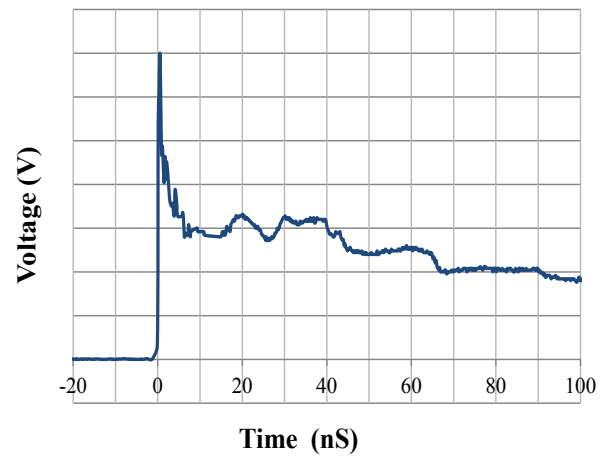
Junction Capacitance vs. Reverse Voltage



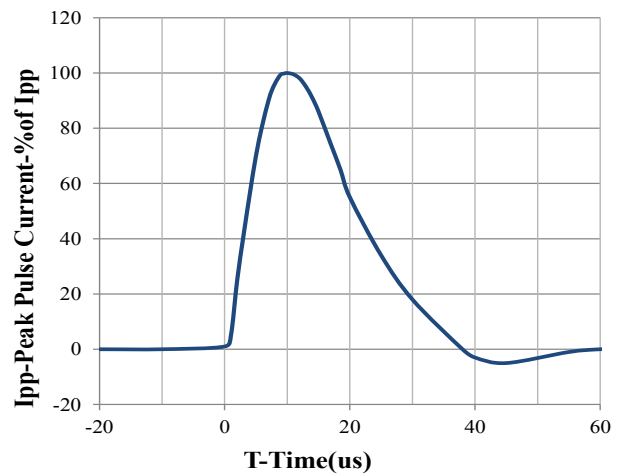
Clamping Voltage vs. Peak Pulse Current



Peak Pulse Power vs. Pulse Time

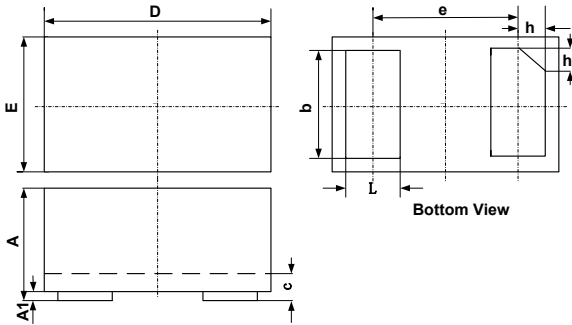


Power Derating Curve





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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