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PRODUCT DATASHEET

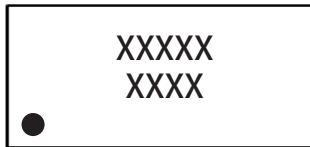
Electro-Static Discharge

JEN2010-2.5V-LC ESD

Features

- Package: 2.0×1.0×0.4mm(DFN2010)
 - Protects two line pairs
 - Ultra low leakage: nA level
 - Ultra low operating voltage: 2.5V
 - Ultra low clamping voltage
 - Flow-through design simplifies layout
- Complies with following standards:
- IEC 61000-4-2 (ESD): ±30kV (Contact/Air)
 - IEC 61000-4-5 (Lightning) 10A (8/20μs)
- RoHS compliant

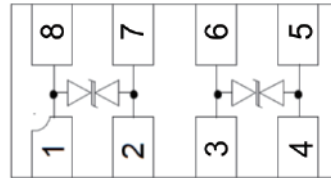
Pin Description



Applications

- LAN/WAN Equipment
- 10/100/1000 Ethernet
- RJ-45 connectors
- Industrial Controls
- Security Cameras
- Notebooks & Desktop Computers

Schematic Diagram



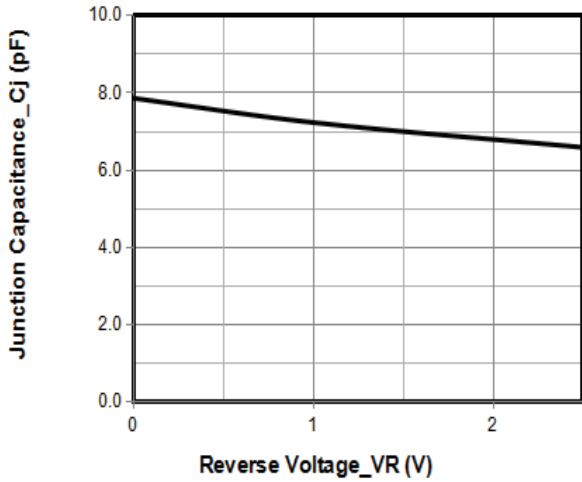
Limiting Values($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Value	Unit
V _{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2;Contact Discharge	±30	kV
		IEC 61000-4-2;Air Discharge	±30	kV
P _{PP}	Peak Pulse Power	t _P =8/20μs	100	W
I _{PP}	Peak Pulse Current	t _P =8/20μs	10	A
T _J	Operating Temperature Range	-	-40 to +85	°C
T _{stg}	Storage Temperature Range	-	-55 to +150	°C

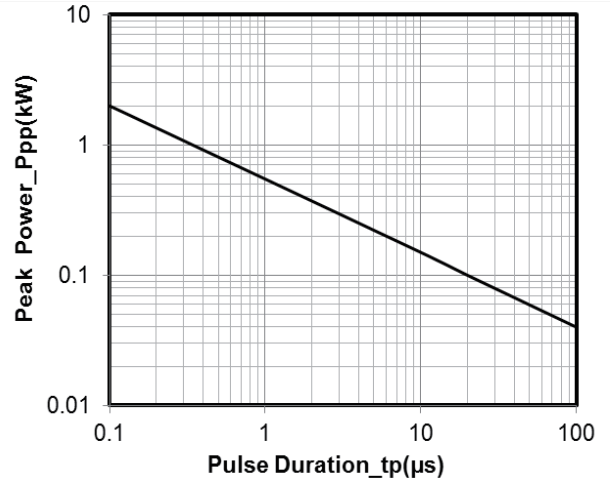
Electrical Characteristics($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Working Voltage	T _A =25°C	-	-	2.5	V
V _{BT}	Punch-Through Voltage	I _T =2μA	2.7	-	-	V
V _{SB}	Snap-Back Voltage	I _T =50mA	2.8	-	-	V
I _R	Reverse Leakage Current	V _{RWM} =2.5V	-	-	0.2	μA
V _C	Clamping Voltage	I _{PP} =1A(8x20μs pulse)	-	-	5	V
V _C	Clamping Voltage	I _{PP} =10A(8x20μs pulse)	-	-	10	V
C _J	Junction Capacitance	V _R =2.5V,f=1 MHz; Pins 1, 8 to 2, 7 and pins 3, 6 to 4, 5	-	-	8	pF
C _J	Variation in Capacitance with Reverse Bias	V _R = 0 to 2.5V,f = 1MHz; Pins 1, 8 to 2, 7 and pins 3, 6 to 4, 5	-	1.3	-	pF

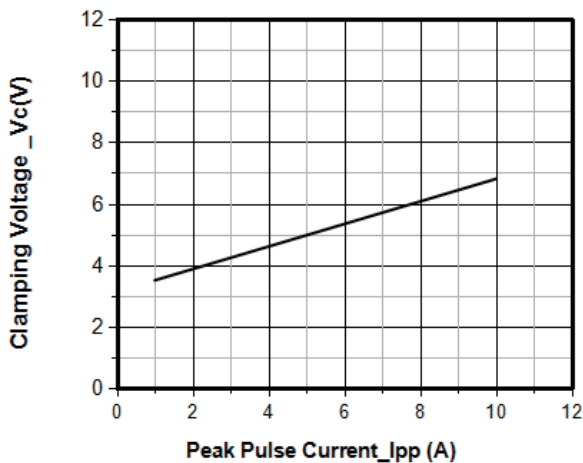
Typical Characteristics



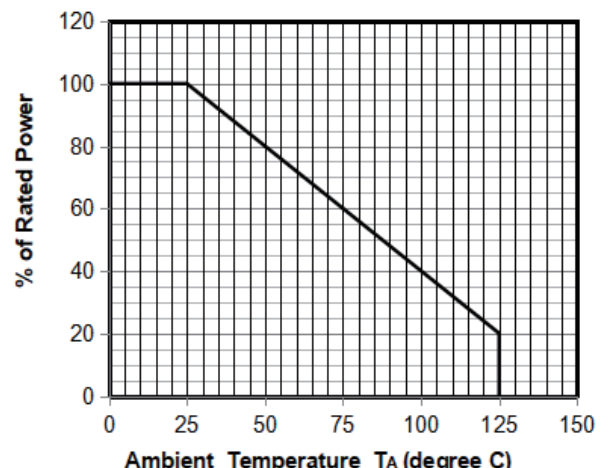
Junction Capacitance vs. Reverse Voltage



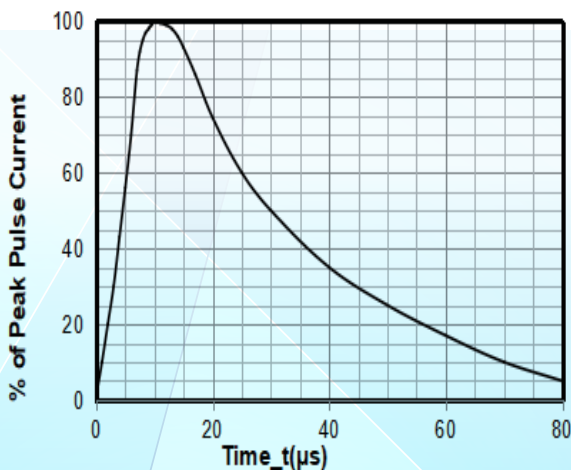
Peak Pulse Power vs. Pulse Time



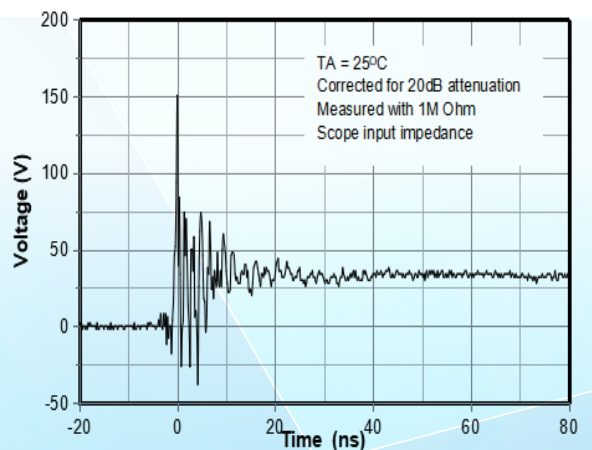
Clamping Voltage vs. Peak Pulse Current



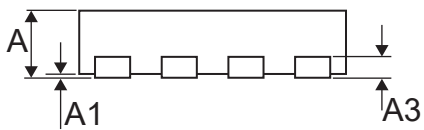
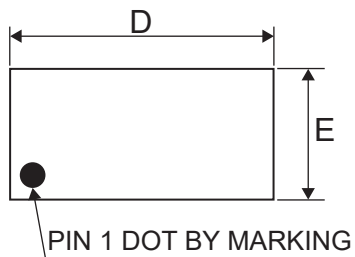
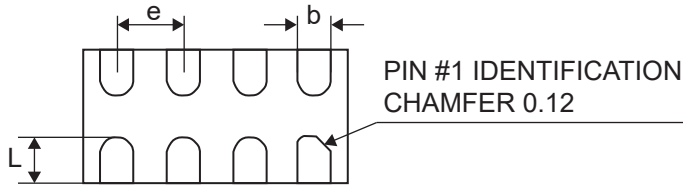
Power Derating Curve



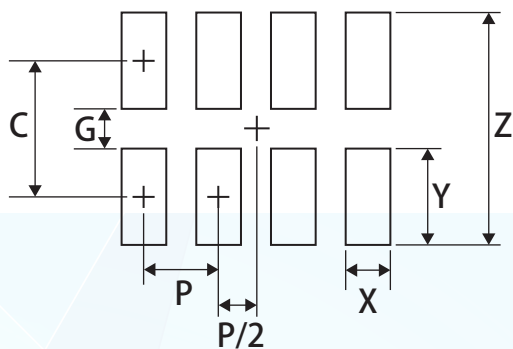
8 X 20μs Pulse Waveform



ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

Physical Dimensions(mm.)


Symbol	Dimensions In Millimeters		
	Min	Nom	Max
A	0.527	0.55	0.57
A1	0.00	-	0.05
A3	0.125 REF		
D	1.95	2	2.05
E	0.95	1	1.05
L	0.25	0.35	0.45
b	0.20	0.25	0.30
e	0.50 BSC		

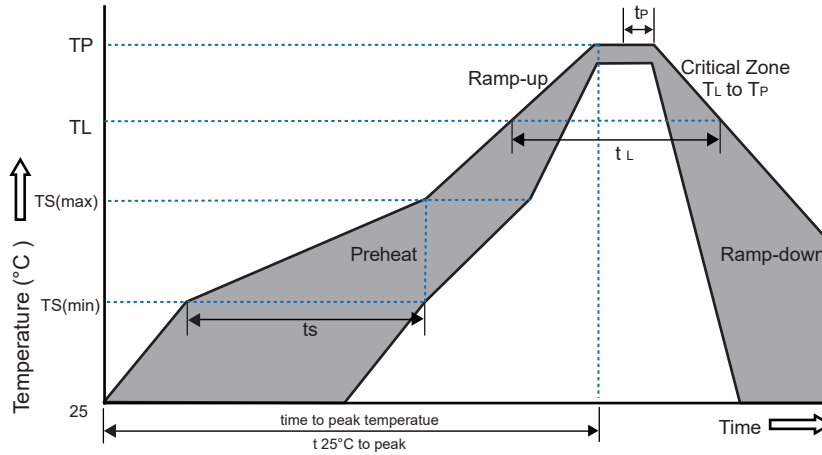
Suggested Land Pattern


Symbol	Dimensions In Millimeters
C	0.90
G	0.25
P	0.50
X	0.30
Y	0.65
Z	1.55

Packaging Quantity

Part Number	Size(mm)	Delivery Form	Delivery Quantity
JEN2010-2.5V-LC	2.0x1.0x0.4	7" T&R	3,000

Soldering Parameters



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time(Min to Max)(t_s)	60~180 secs.
Average ramp up rate (Liquid us Temp(T_L) to peak)		3°C/sec. Max
Ts(max) to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature (t_L)	60~150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

Part Number System

JE N2010 - 2.5V - L C

