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PRODUCT DATASHEET

Electro-Static Discharge

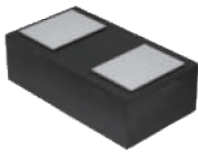
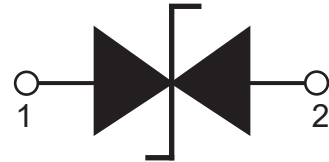
JEN1006-5V-ULC ESD

Features

- Ultra small package: 1.0x0.6x0.37mm(DFN1006)
- Ultra Low Capacitance: 0.30pF(typ.)
- Reverse Working Voltage: 5V
- IEC 61000-4-2 (ESD Air): $\pm 20\text{KV}$
- IEC 61000-4-2 (ESD Contact): $\pm 20\text{KV}$
- IEC 61000-4-5 (Lightning 8/20 μs): 5A

Applications

- Smart Phone and Tablet PC
- TV and Set Top Box
- Wearable Devices
- PDA

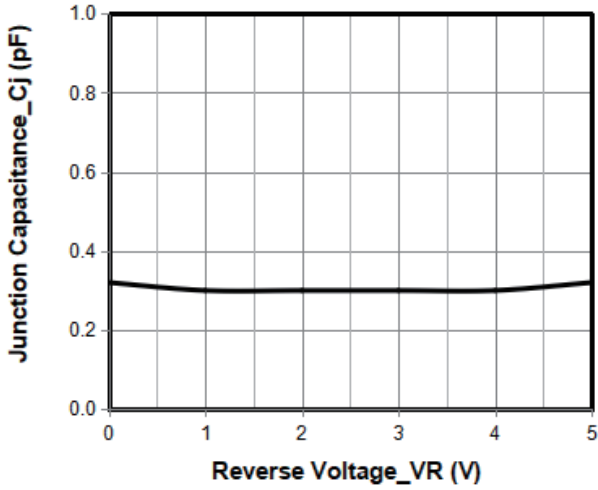
Pin Description

Schematic Diagram

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

Symbol	Parameter	Conditions	Min	Max	Unit
V _{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	± 20	kV
		IEC 61000-4-2; Air Discharge	-	± 20	kV
P _{PP}	Peak Pulse Power	$t_p=8/20\mu\text{s}$	-	110	W
I _{PPM}	Rated Peak Pulse Current	$t_p=8/20\mu\text{s}$	-	5.0	A
T _A	Operating Temperature Range	-	-55	125	$^\circ\text{C}$
T _{stg}	Storage Temperature Range	-	-55	150	$^\circ\text{C}$

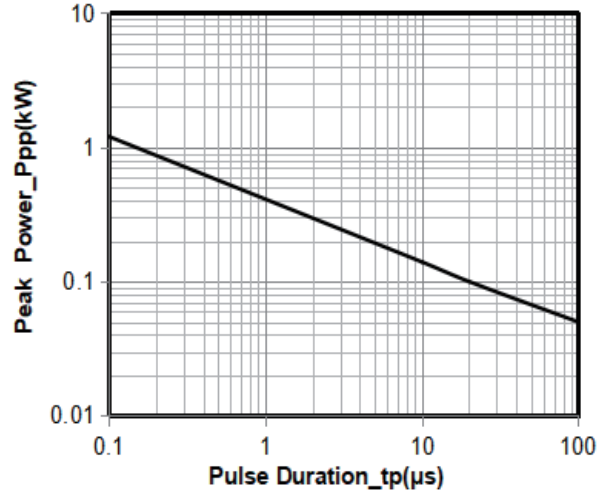
Electrical Characteristics($T_A = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Working Voltage	$T_A=25^\circ\text{C}$	-	-	5.0	V
V _{BR}	Breakdown Voltage	$I_R=1\text{mA}; T_A=25^\circ\text{C}$	6.0	8.5	9.5	V
I _R	Reverse Leakage Current	$V_{RWM}=5\text{V}; T_A=25^\circ\text{C}$	-	-	0.1	μA
V _C	Clamping Voltage	$I_{PP}=1\text{A}(8\times 20\mu\text{s pulse})$	-	-	10	V
		$I_{PP}=5.0\text{A}(8\times 20\mu\text{s pulse})$	-	-	22	V
C _J	Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	-	0.30	0.40	pF

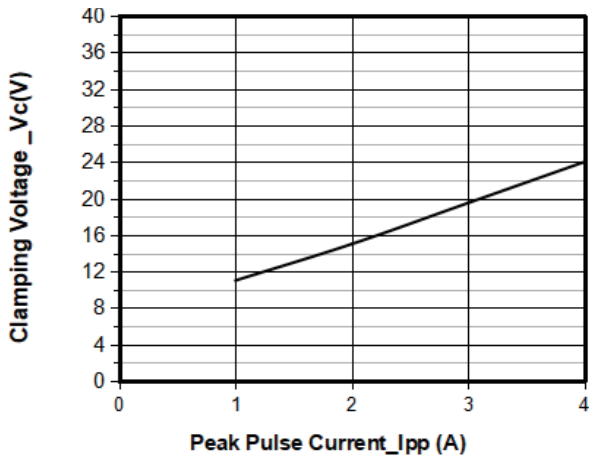
Typical Characteristics



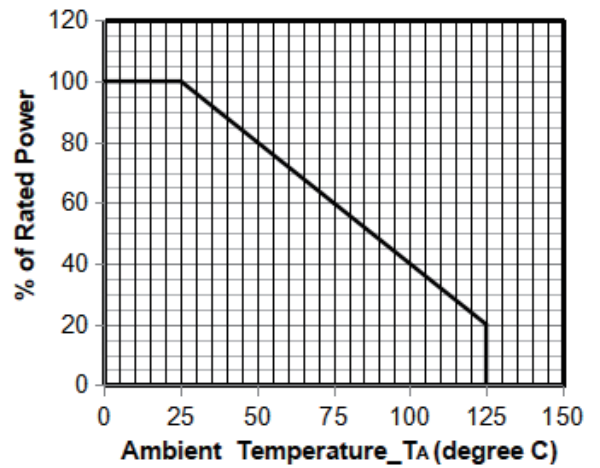
Junction Capacitance vs. Reverse Voltage



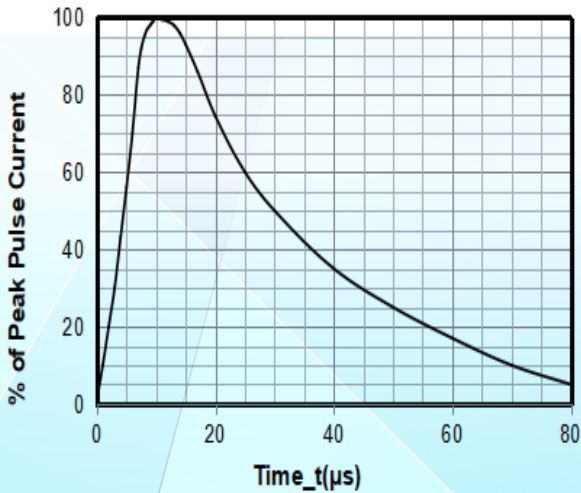
Peak Pulse Power vs. Pulse Time



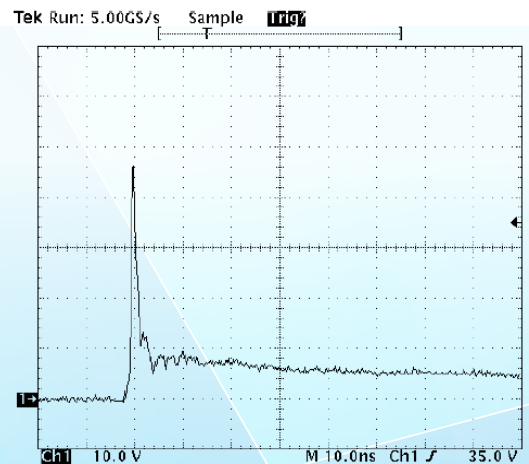
Clamping Voltage vs. Peak Pulse Current



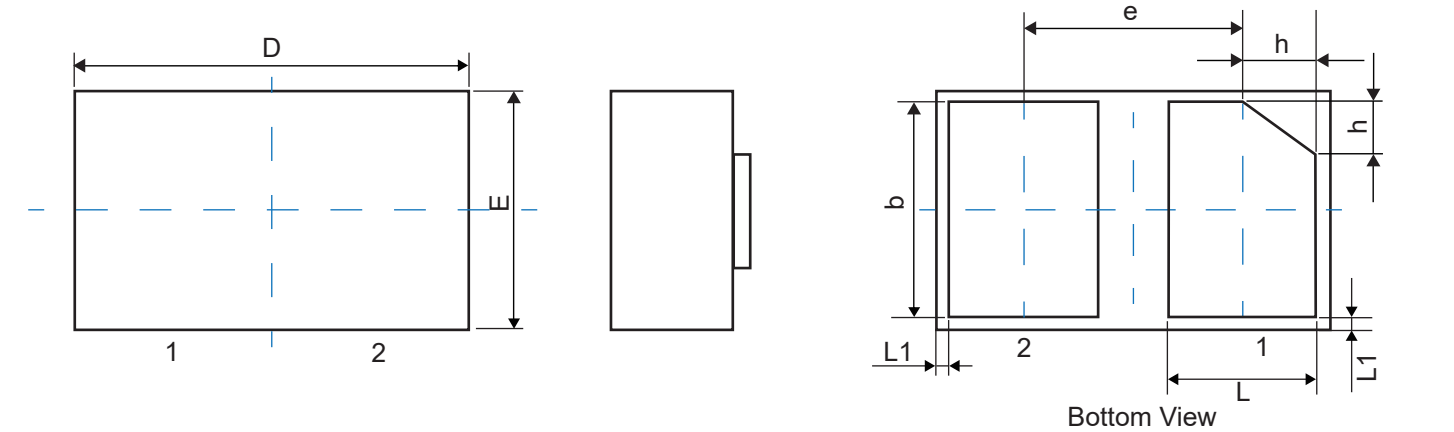
Power Derating Curve



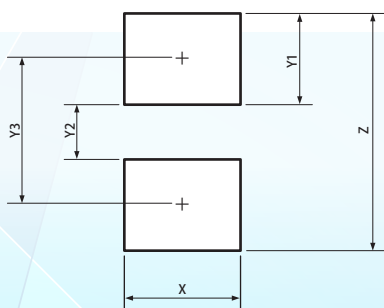
8 X 20 μs Pulse Waveform



Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

Physical Dimensions(mm.)


Symbol	Dimensions In Millimeters			Dimensions In 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
L1	0.05 REF			0.002 REF		
h	0.07	0.12	0.17	0.003	0.005	0.007

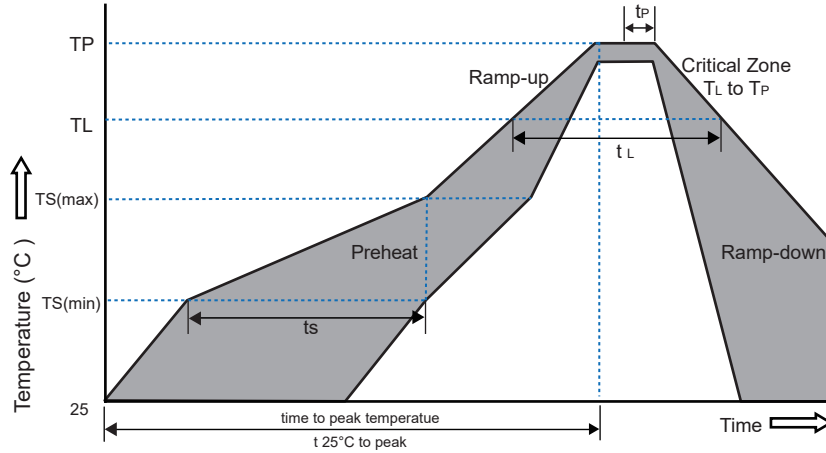
Suggested Land Pattern


Symbol	Dimensions	
	Millimeters	Inches
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

Packaging Quantity

Part Number	Size(mm)	Delivery Form	Delivery Quantity
JEN1006-5V-ULC	1.00x0.60x0.37	7" T&R	10,000

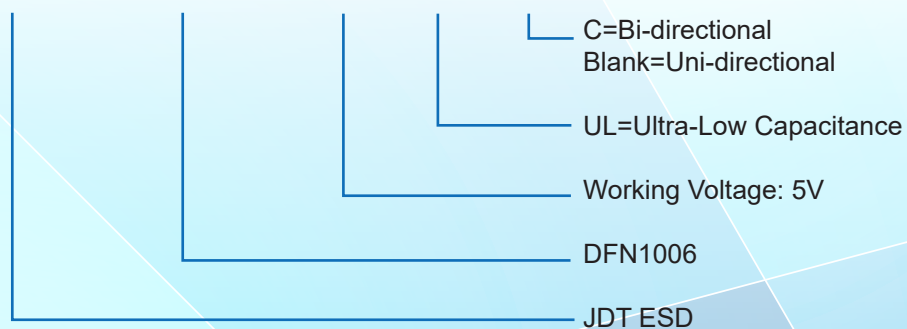
Soldering Parameters



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 N1006 - 5V - UL C



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