



为您的产品保驾护航

PRODUCT DATASHEET

Electro-Static Discharge

JEN0603-3.3V-C ESD

Features

- Ultra small package: 0.6x0.3x0.3mm(DFN0603)
- Very low capacitance
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 8A (8/20 μs)
- RoHS Compliant

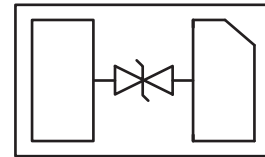
Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, USB 2.0, LCD Displays

Pin Description



Schematic Diagram

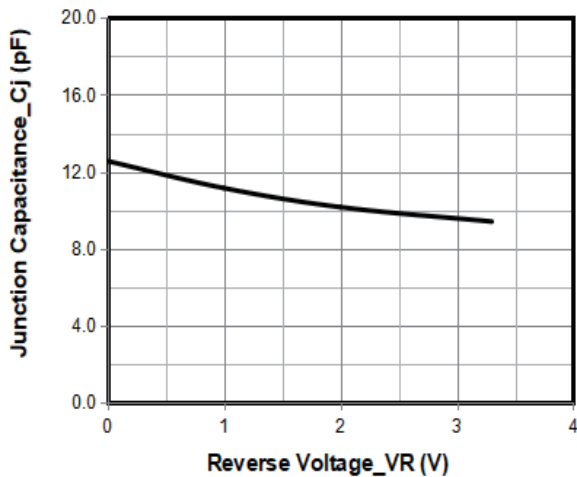


Limiting Values($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

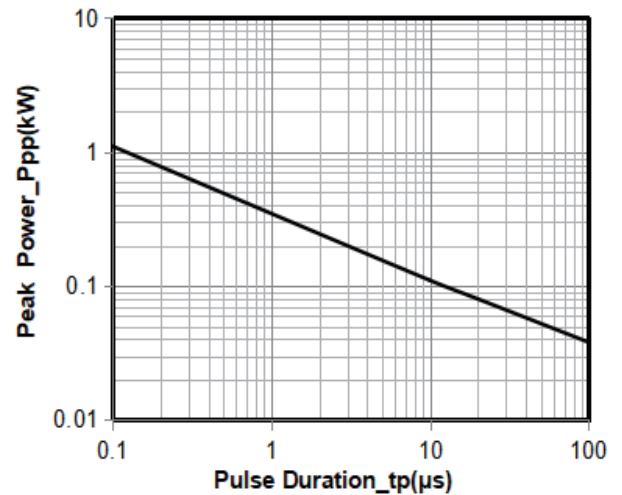
Symbol	Parameter	Conditions	Min	Max	Unit
V _{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2;Contact Discharge	-	± 30	kV
		IEC 61000-4-2;Air Discharge	-	± 30	kV
P _{pk}	Peak Pulse Power	t _p =8/20 μs	-	80	W
I _{pp}	Peak Pulse Current	t _p =8/20 μs	-	8	A
T _A	Ambient Temperature Range	-	-55	125	$^\circ\text{C}$
T _{stg}	Storage Temperature Range	-	-55	150	$^\circ\text{C}$

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

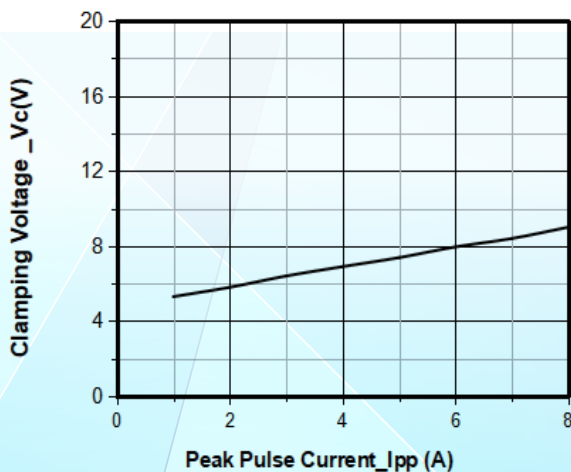
Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	$T_A=25\text{ }^\circ\text{C}$	-	-	3.3	V
V_{BR}	Breakdown Voltage	$I_R=1\text{ mA}; T_A=25\text{ }^\circ\text{C}$	3.8	-	-	V
I_R	Reverse Leakage Current	$V_{RWM}=5\text{ V}; T_A=25\text{ }^\circ\text{C}$	-	0.01	0.2	μA
V_C	Clamping Voltage	$I_{PP}=1\text{ A}(8\times 20\mu\text{s pulse})$	-	-	6	V
		$I_{PP}=5\text{ A}(8\times 20\mu\text{s pulse})$	-	-	8	V
		$I_{PP}=8\text{ A}(8\times 20\mu\text{s pulse})$	-	-	10	V
C_J	Junction Capacitance	$V_R=0\text{ V}, f=1\text{ MHz}$	-	-	25	pF

Typical Characteristics


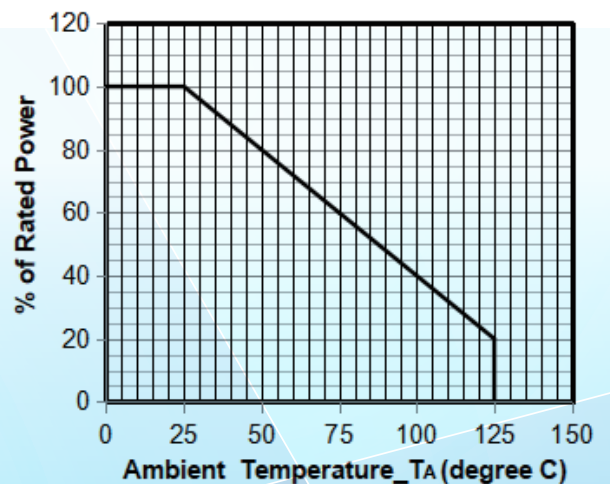
Junction Capacitance vs. Reverse Voltage



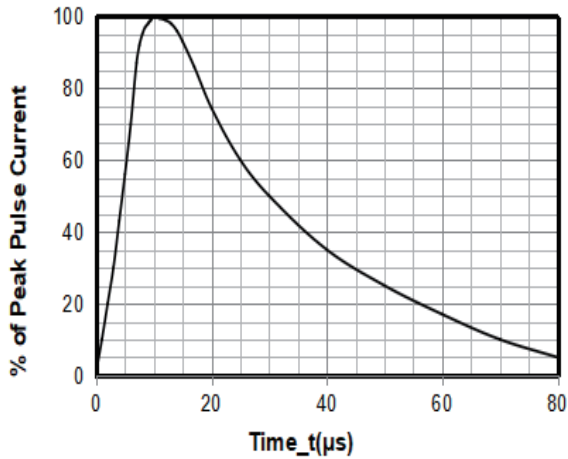
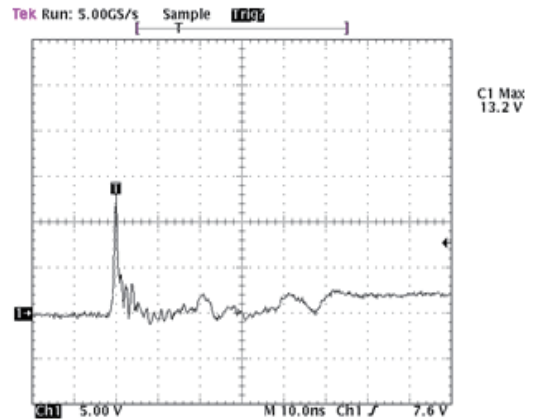
Peak Pulse Power vs. Pulse Time



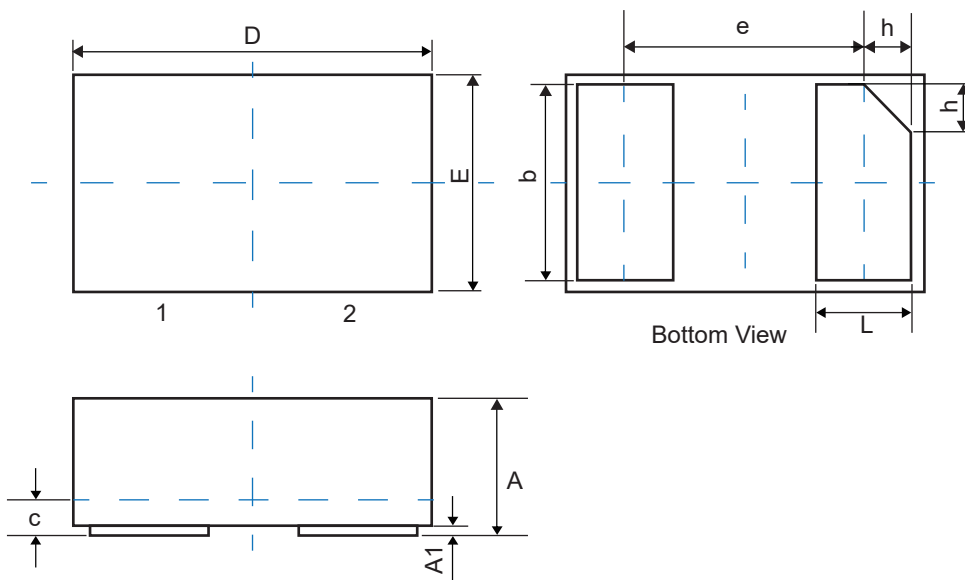
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

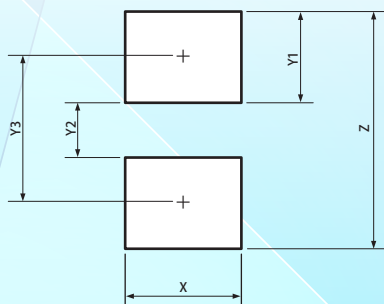

8 X 20 μ s Pulse Waveform

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

Physical Dimensions(mm.)



Symbol	Dimensions In Millimeters		
	Min	Nom	Max
A	0.230		0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

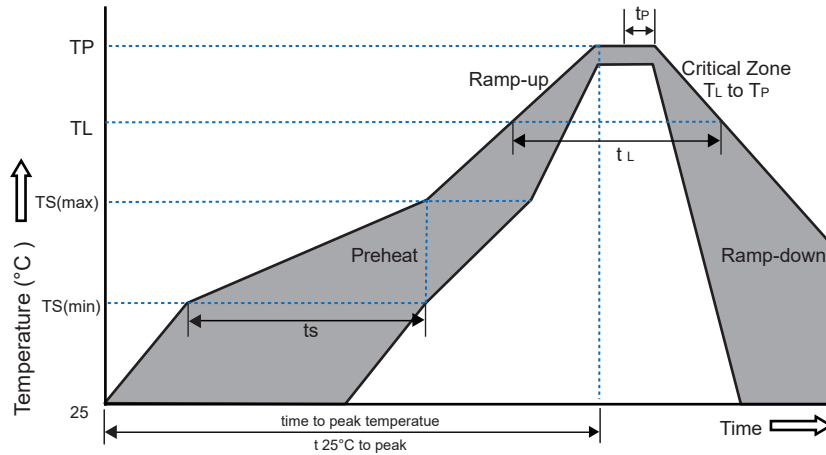
Suggested Land Pattern



Symbol	Dimensions	
	Millimeters	Inches
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026

Packaging Quantity

Part Number	Size(mm)	Delivery Form	Delivery Quantity
JEN0603-3.3V-C	0.6x0.3x0.3	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 N0603 - 3.3V - C

C=Bi-directional
 Blank=Uni-directional

Working Voltage: 3.3V

DFN0603

JDT ESD