

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(0603)
- 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

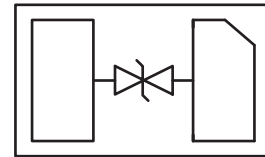
Applications

- 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



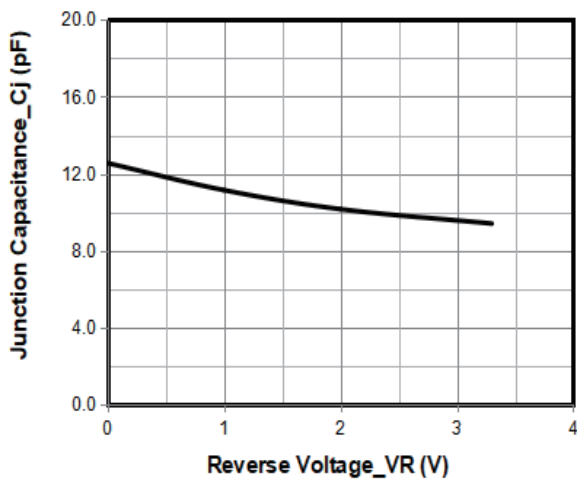
Limiting Values($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

| 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 _{PP} | Peak Pulse Power | $t_p=8/20\mu\text{s}$ | - | 80 | W |
| I _{PP} | Peak Pulse Current | $t_p=8/20\mu\text{s}$ | - | 8 | A |
| T _A | Ambient Temperature Range | - | -55 | 125 | $^\circ\text{C}$ |
| T _{stg} | Storage Temperature Range | - | -55 | 150 | $^\circ\text{C}$ |

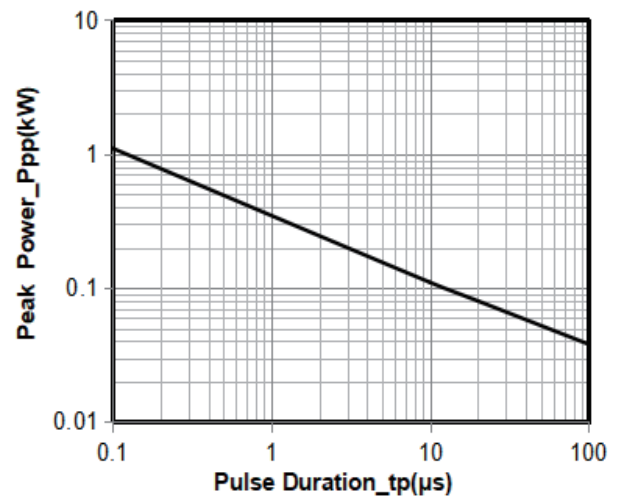
Electrical Characteristics($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

| Symbol | Parameter | Conditions | Min | Typ. | Max | Unit |
|-----------|-------------------------|---|-----|------|-----|---------------|
| V_{RWM} | Reverse Working Voltage | $T_A=25^\circ\text{C}$ | - | - | 3.3 | V |
| V_{BR} | Breakdown Voltage | $I_R=1\text{mA}; T_A=25^\circ\text{C}$ | 3.8 | - | - | V |
| I_R | Reverse Leakage Current | $V_{RWM}=5\text{V}; T_A=25^\circ\text{C}$ | - | 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 |

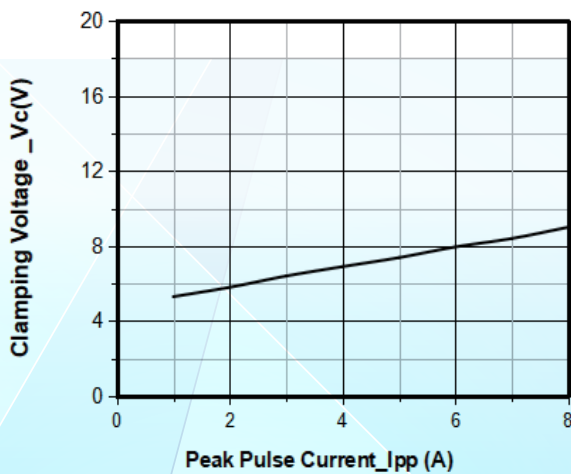
Typical Characteristics



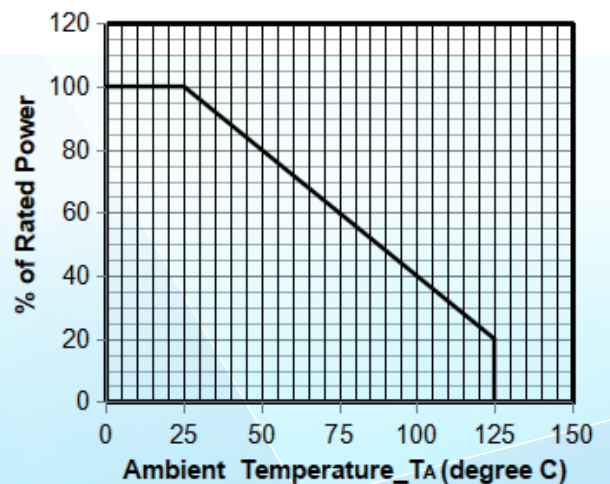
Junction Capacitance vs. Reverse Voltage



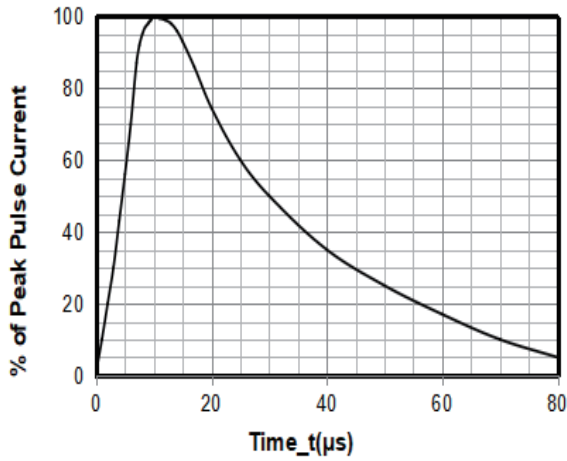
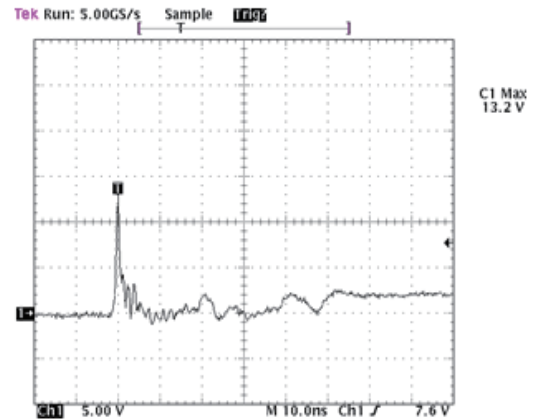
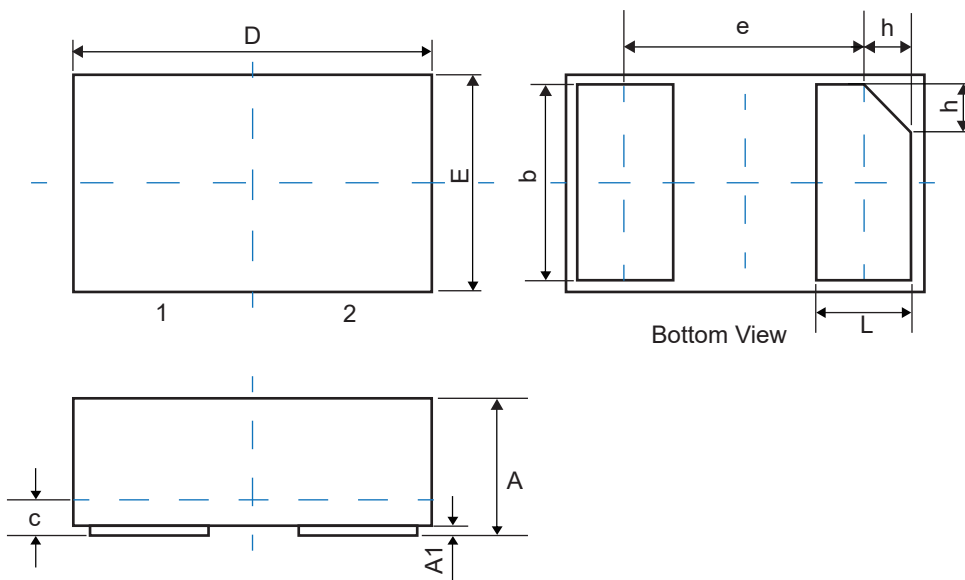
Peak Pulse Power vs. Pulse Time



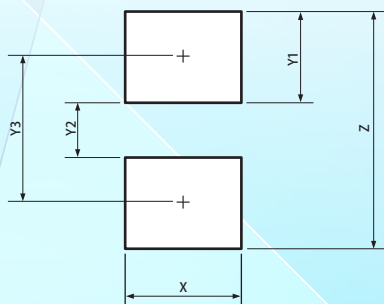
Clamping Voltage vs. Peak Pulse Current



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 | | |

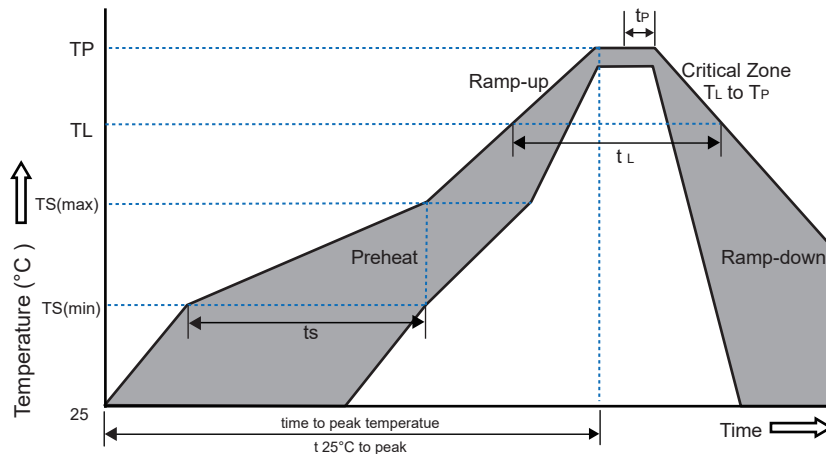
Suggested Land Pattern


| 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