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PRODUCT DATASHEET

Electro-Static Discharge

JEN1006-7V-C ESD

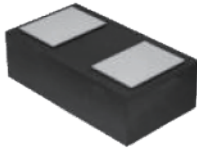
### Features

- Ultra small package: 1.0x0.6x0.37mm(DFN1006)
- Capacitance: 15pF(typ.)
- Reverse Working Voltage: 7V
- IEC 61000-4-2 (ESD Air):  $\pm 30\text{KV}$
- IEC 61000-4-2 (ESD Contact):  $\pm 30\text{KV}$
- IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 8.0A

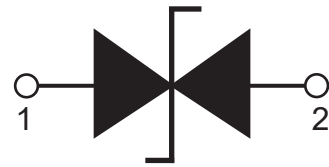
### Applications

- Cell phone handsets and accessories
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals

### Pin Description



### Schematic Diagram



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

| Symbol           | Parameter                       | Conditions                         | Min | Max      | Unit             |
|------------------|---------------------------------|------------------------------------|-----|----------|------------------|
| V <sub>ESD</sub> | Electrostatic Discharge Voltage | IEC 61000-4-2;Contact Discharge    | -   | $\pm 30$ | kV               |
|                  |                                 | IEC 61000-4-2;Air Discharge        | -   | $\pm 30$ | kV               |
| P <sub>PP</sub>  | Peak Pulse Power                | t <sub>p</sub> =8/20 $\mu\text{s}$ | -   | 80       | W                |
| I <sub>PPM</sub> | Rated Peak Pulse Current        | t <sub>p</sub> =8/20 $\mu\text{s}$ | -   | 8.0      | A                |
| T <sub>A</sub>   | Ambient Temperature Range       | -                                  | -55 | 150      | $^\circ\text{C}$ |
| T <sub>stg</sub> | 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 <sub>RWM</sub> | Reverse Working Voltage | T <sub>A</sub> =25 $^\circ\text{C}$                      | -   | -    | 7.0 | V             |
| V <sub>BR</sub>  | Breakdown Voltage       | I <sub>R</sub> =1mA;T <sub>A</sub> =25 $^\circ\text{C}$  | 7.5 | 8.0  | 8.6 | V             |
| I <sub>R</sub>   | Reverse Leakage Current | V <sub>RWM</sub> =7V;T <sub>A</sub> =25 $^\circ\text{C}$ | -   | -    | 0.1 | $\mu\text{A}$ |
| V <sub>C</sub>   | Clamping Voltage        | I <sub>PP</sub> =1A,t <sub>p</sub> =8/20 $\mu\text{s}$   | -   | -    | 8   | V             |
|                  |                         | I <sub>PP</sub> =8A,t <sub>p</sub> =8/20 $\mu\text{s}$   | -   | -    | 10  | V             |
| C <sub>J</sub>   | Junction Capacitance    | V <sub>R</sub> =0V,f=1MHZ                                | -   | 15   | 20  | pF            |

Typical Characteristics

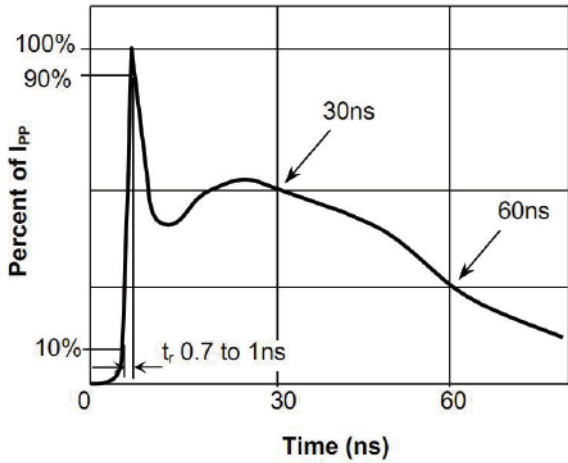


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

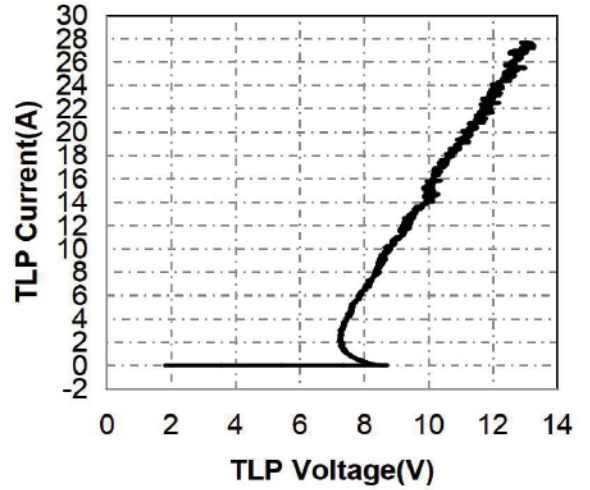


Fig.2 Transmission Line Pulse (TLP)

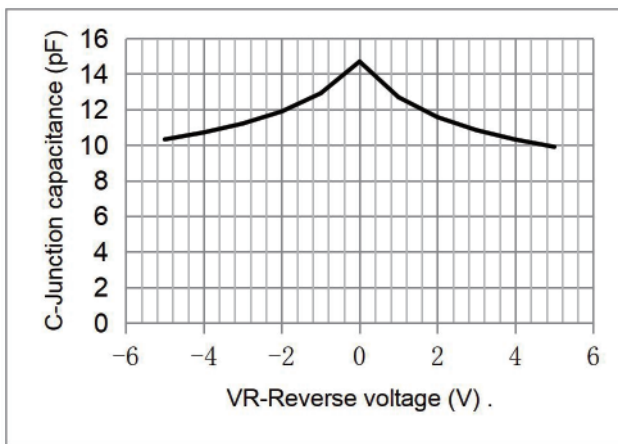


Fig.3 Capacitance vs. Reverse Voltage

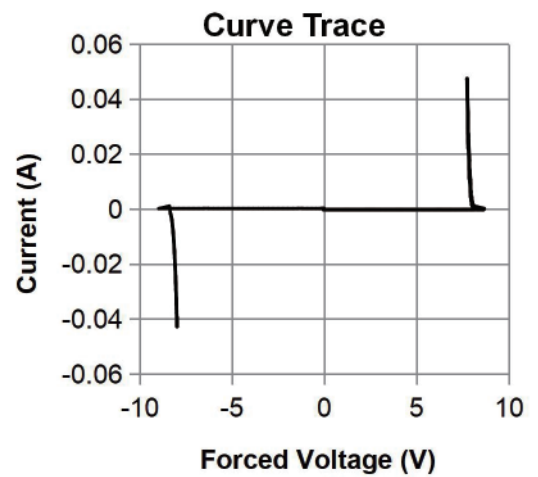
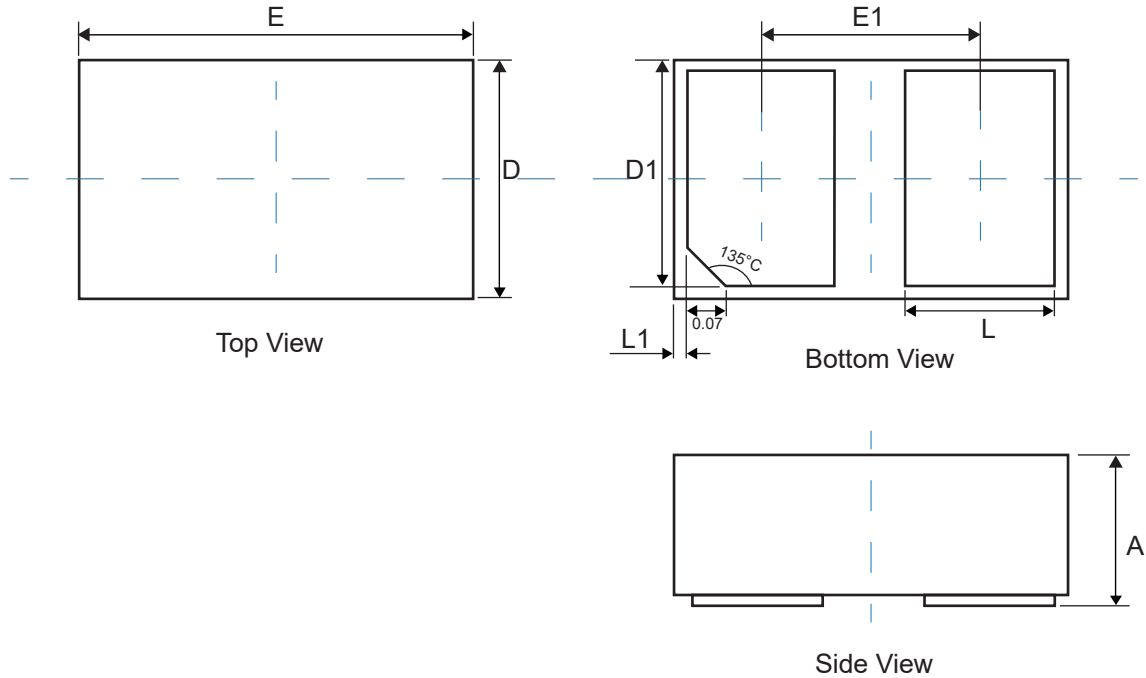


Fig.4 IV Curve (Forward Voltage)

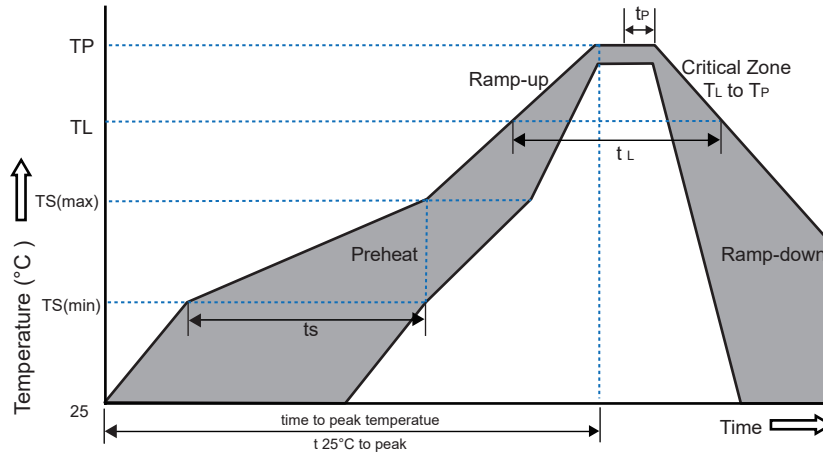
**Physical Dimensions(mm.)**


| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 0.350                     | 0.450 | 0.014                | 0.018 |
| D      | 0.550                     | 0.650 | 0.022                | 0.026 |
| E      | 0.950                     | 1.050 | 0.037                | 0.041 |
| D1     | 0.420                     | 0.520 | 0.017                | 0.020 |
| E1     | 0.550                     | 0.650 | 0.022                | 0.026 |
| L      | 0.270                     | 0.370 | 0.011                | 0.015 |
| L1     | 0.000                     | 0.100 | 0.000                | 0.004 |

**Packaging Quantity**

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

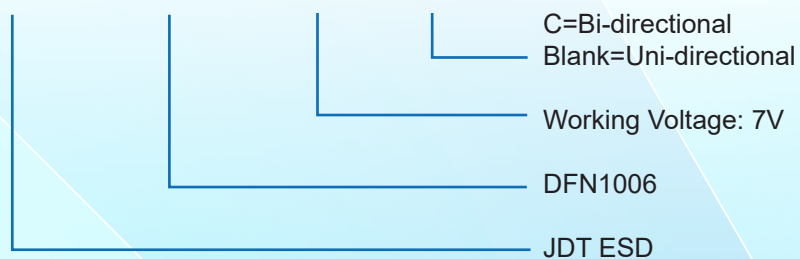
### Soldering Parameters



| 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 - 7V - C



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