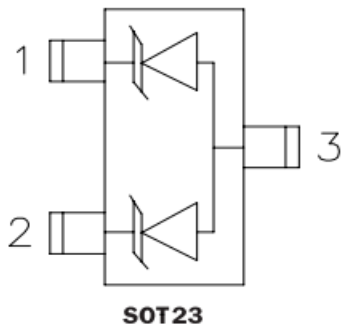


## Description

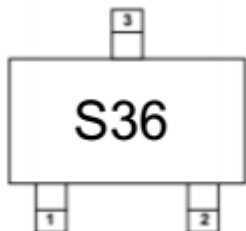
The JE36U2LT10-3 is a Uni-directional TVS diode array, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting sensitive semiconductor components from damage. The JE36U2LT10-3 complies with the IEC 61000-4-2 (ESD) with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. It is assembled into a lead-free SOT-23 package. It is designed to protect components which are connected to data and transmission lines from voltage surges.

## Circuit Diagram



Circuit and Pin Schematic

## Marking Diagram



Transparent top view

S36: Device Marking Code

## Features

- \* 300W peak pulse power (8/20 $\mu\text{s}$ )
- \* Low leakage: nA level
- \* Operating voltage: 36V
- \* Ultra low clamping voltage
- \* Two power line protects
- \* 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) 4A (8/20 $\mu\text{s}$ )
- \* RoHS Compliant
- \* Package: SOT-23

## Applications

- \* Fast-charge battery chargers
- \* Power management system
- \* Cellular Handsets and Accessories
- \* Personal Digital Assistants
- \* Notebooks and Handhelds
- \* Portable Instrumentation
- \* Digital Cameras

## Ordering Information

| Part Number  | Packaging        | Reel Size |
|--------------|------------------|-----------|
| JE36U2LT10-3 | 3000/Tape & Reel | 7 inch    |

**Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

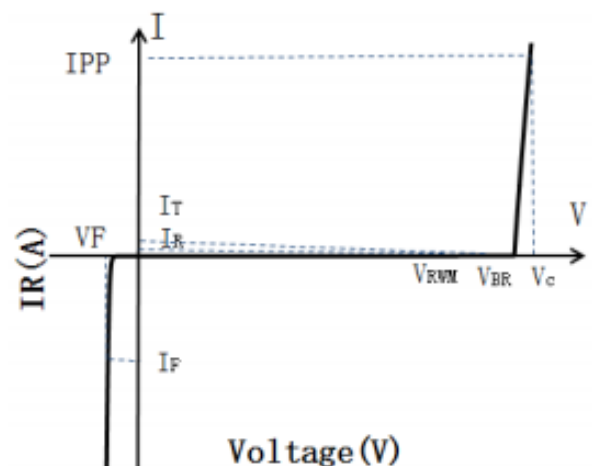
| Parameter                                | Symbol | Value       | Unit               |
|--|--------|-------------|--------------------|
| Peak Pulse Power (8/20 $\mu\text{s}$ )   | Ppk    | 300         | W                  |
| Peak Pulse Current (8/20 $\mu\text{s}$ ) | IPP    | 4           | A                  |
| ESD per IEC 61000-4-2 (Air)              | VESD   | $\pm 30$    | kV                 |
| ESD per IEC 61000-4-2 (Contact)          |        | $\pm 30$    |                    |
| Operating Temperature Range              | TJ     | -55 to +125 | $^{\circ}\text{C}$ |
| Storage Temperature Range                | Tstg   | -55 to +150 | $^{\circ}\text{C}$ |

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

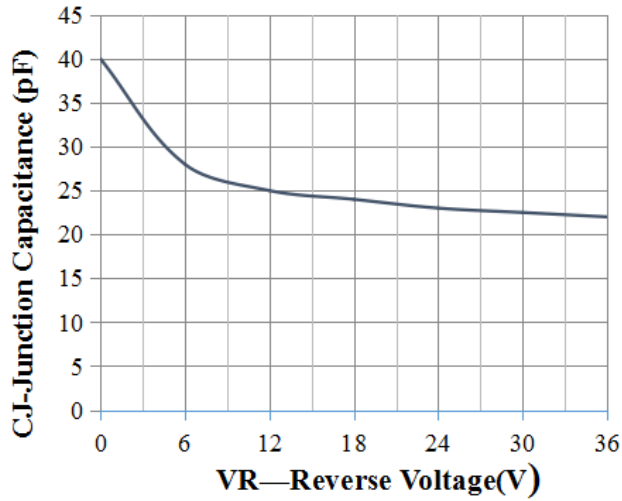
| Parameter               | Symbol    | Test Condition   | Min | Typ | Max | Unit          |
|-------------------------|-----------|--|-----|-----|-----|---------------|
| Reverse Working Voltage | $V_{RWM}$ |  |     |     | 36  | V             |
| Breakdown Voltage       | $V_{BR}$  | $I_T = 1\text{mA}$   | 38  |     |     | V             |
| Reverse Leakage Current | $I_R$     | $V_{RWM} = 36\text{V}$   |     |     | 0.2 | $\mu\text{A}$ |
| Clamping Voltage        | $V_C$     | $I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)                        |     |     | 50  | V             |
| Clamping Voltage        | $V_C$     | $I_{PP} = 4\text{A}$ (8 x 20 $\mu\text{s}$ pulse)                        |     |     | 75  | V             |
| Junction Capacitance    | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$ , Pin 1 to Pin 3 or Pin 2 to Pin 3 |     |     | 40  | pF            |

**Portion Electronics Parameter**

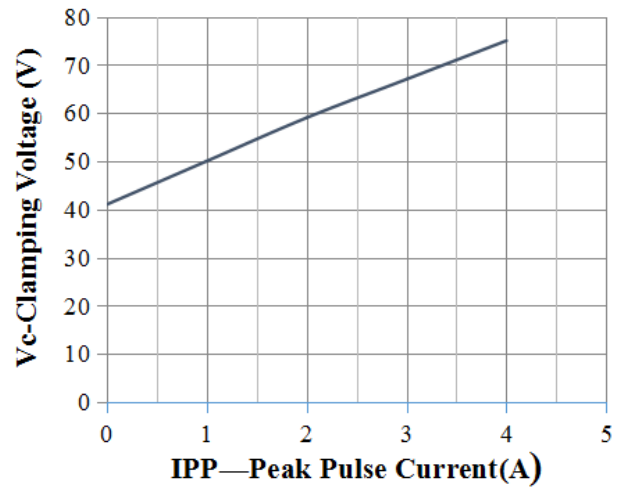
| Symbol   | Parameter                          |
|----------|------------------------------------|
| $I_T$    | Test Current                       |
| $I_{PP}$ | Maximum Reverse Peak Pulse Current |
| $V_C$    | Clamping Voltage @ $I_C$           |



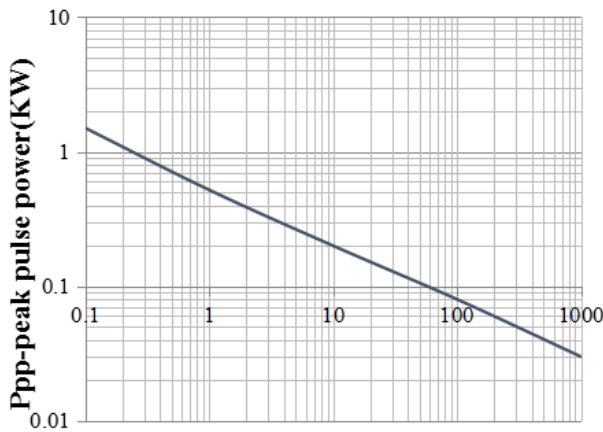
Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



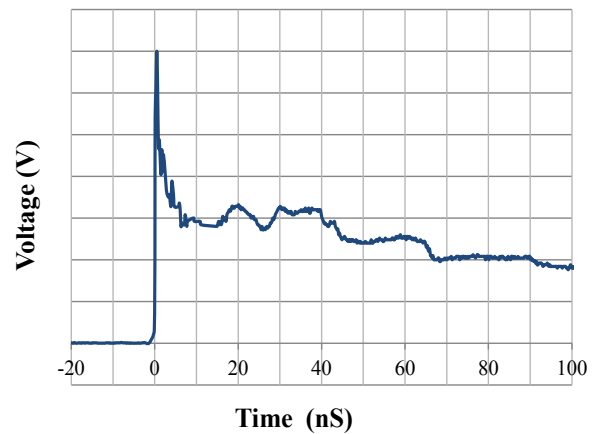
Junction Capacitance vs. Reverse Voltage



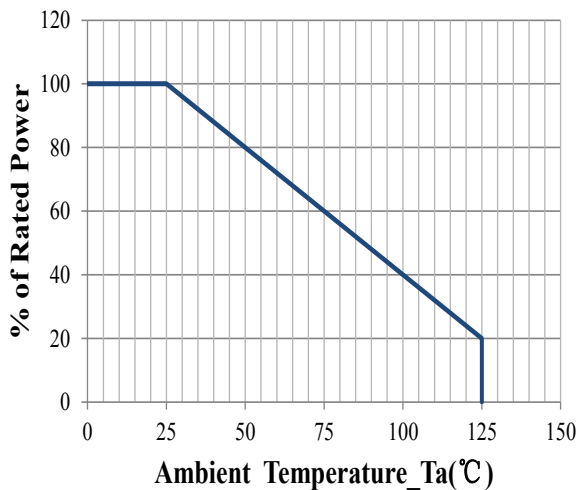
Clamping Voltage vs. Peak Pulse Current



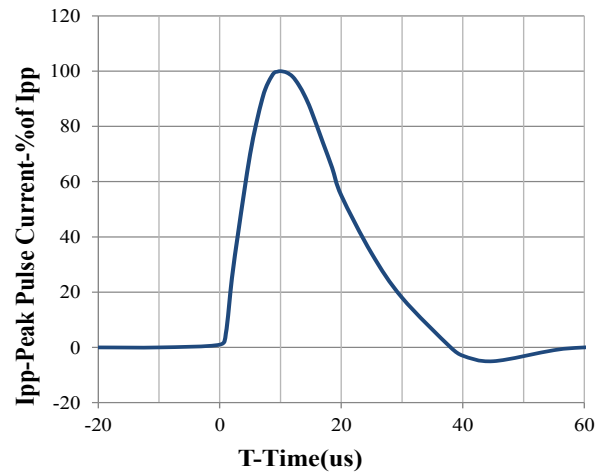
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

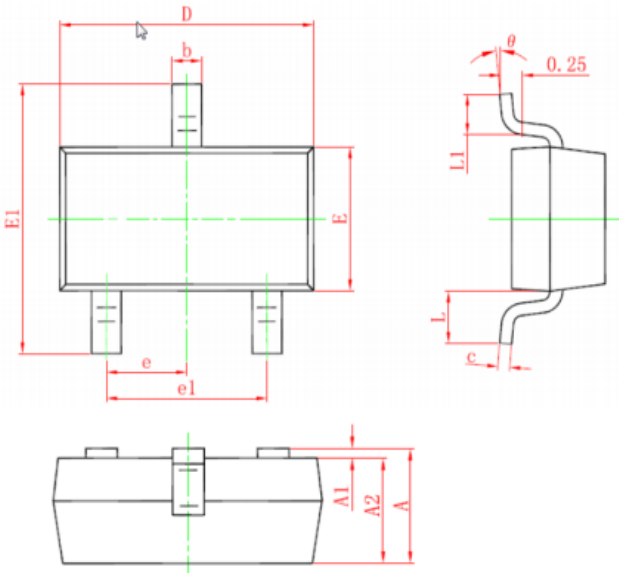


Power Derating Curve



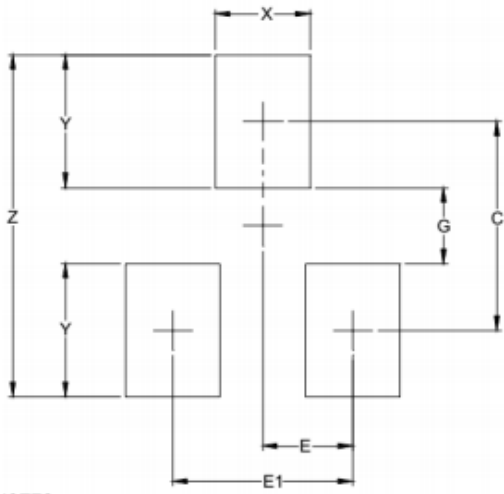
8 X 20us Pulse Waveform

**SOT-23 Package Outline Drawing** (Dimensions in millimeters)



| SYM | DIMENSIONS  |     |      |          |     |       |
|-----|-------------|-----|------|----------|-----|-------|
|     | MILLIMETERS |     |      | INCHES   |     |       |
|     | MIN         | NOM | MAX  | MIN      | NOM | MAX   |
| A   | 0.90        | --  | 1.15 | 0.035    | --  | 0.045 |
| A1  | 0.00        | --  | 0.10 | 0.000    | --  | 0.004 |
| A2  | 0.90        | --  | 1.05 | 0.035    | --  | 0.041 |
| b   | 0.30        | --  | 0.50 | 0.012    | --  | 0.020 |
| c   | 0.08        | --  | 0.15 | 0.003    | --  | 0.006 |
| D   | 2.80        | --  | 3.00 | 0.110    | --  | 0.118 |
| E   | 1.20        | --  | 1.40 | 0.047    | --  | 0.055 |
| E1  | 2.25        | --  | 2.25 | 0.089    |     | 0.100 |
| e   | 0.95TYP     |     |      | 0.037TYP |     |       |
| e1  | 1.80        | --  | 2.00 | 0.071    | --  | 0.079 |
| L   | 0.55REF     |     |      | 0.022REF |     |       |
| L1  | 0.30        | --  | 0.50 | 0.012    | --  | 0.020 |
| Θ   | 0°          | --  | 8°   | 0°       | --  | 8°    |

**Suggested Land Pattern**



| SYM | DIMENSIONS |             |
|-----|------------|-------------|
|     | INCHES     | MILLIMETERS |
| C   | .087       | 2.20        |
| E   | .037       | 0.95        |
| E1  | .075       | 1.90        |
| G   | .031       | 0.80        |
| X   | .039       | 1.00        |
| Y   | .055       | 1.40        |
| Z   | .141       | 3.60        |

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