



SSCE3V311D3

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Low-Capacitance Uni-directional TVS Diodes for ESD Protection

The SSCE3V311D3 Series is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

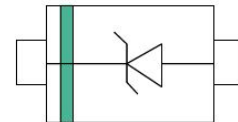
● Feature

- ◇ 100W peak pulse power (TP = 8/20 μ s)
- ◇ SOD-523 Package
- ◇ Working voltage: 3.3V
- ◇ Low clamping voltage
- ◇ Low capacitance
- ◇ Device Meets MSL 1 Requirements
- ◇ Low Body Height: 1.68mm
- ◇ Solid-state silicon avalanche technology
- ◇ ROHS compliant

● Protection solution to meet

- ◇ IEC61000-4-2 (ESD) \pm 30kV (air), \pm 25kV (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)

● PIN configuration



Top view

● Applications

- ◇ USB 2.0 Power & Data Line Protection
- ◇ DVI & HDMI Port Protection
- ◇ Serial ATA Port Protection
- ◇ Mobile Handsets
- ◇ Digital Cameras and camcorders
- ◇ PDA & MP3 Players
- ◇ Digital TV and Set-top Boxes

● Mechanical data

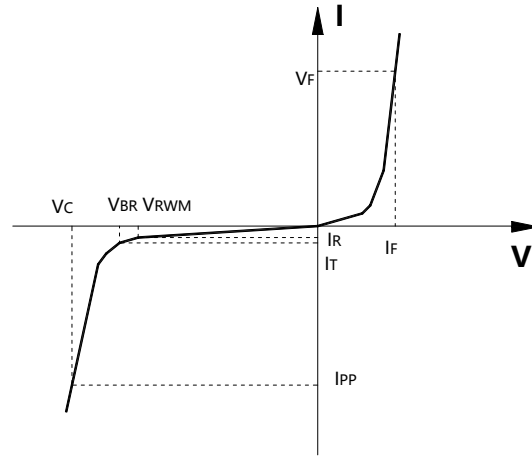
- ◇ Lead finish: 100% matte Sn(Tin)
- ◇ Mounting position: Any
- ◇ Qualified max reflow temperature: 260 $^{\circ}$ C
- ◇ Device meets MSL 1 requirements
- ◇ Pure tin plating: 7 ~ 17 μ m



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● Electronic Parameter

| Symbol | Parameter |
|-----------|-------------------------------------|
| V_{RWM} | Peak Reverse Working Voltage |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| P_{PP} | Peak Pulse Power |
| C | Junction Capacitance |



● Absolute maximum rating @TA=25°C

| Symbol | Parameter | Value | Units |
|-----------|---------------------------------|----------|-------|
| P_{PP} | Peak Pulse Power (8/20 μ S) | 100 | W |
| T_{STG} | Storage Temperature | -55/+150 | °C |
| T_J | Operating Temperature | -55/+150 | °C |

● Electrical Characteristics @TA=25°C

| Device | V_{RWM} | $I_R @ V_{RWM}$ | $V_{BR} @ 1 \text{ mA}$ | V_C | Capacitance | |
|-------------|-----------|-----------------|-------------------------|-------|---|-----|
| | | | (Volts) | @ 1 A | @ $V_R = 0 \text{ V}, 1 \text{ MHz (pF)}$ | |
| | (V) | (μ A) | Min | (V) | Typ | Max |
| SSCE3V311D3 | 3.30 | 2 | 5.00 | 7.50 | 40 | 55 |



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- **Typical Performance Characteristics**

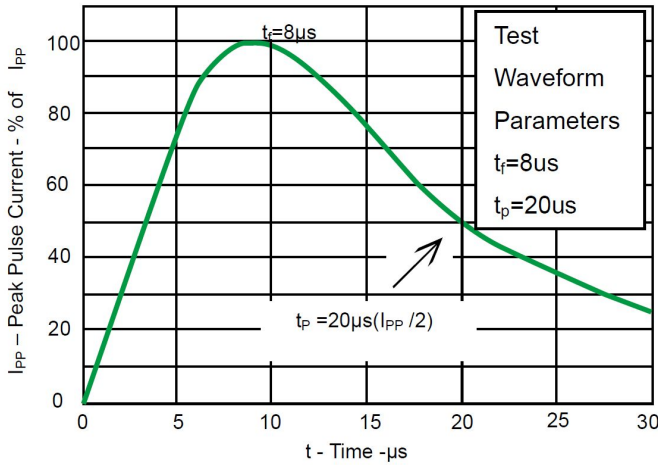


Fig 1. Pulse Waveform

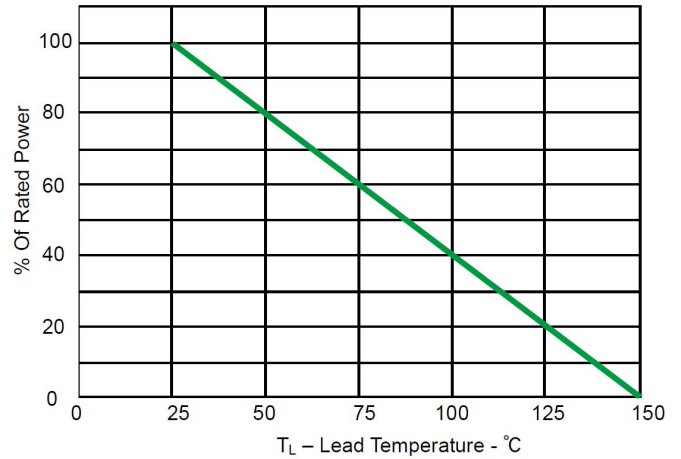
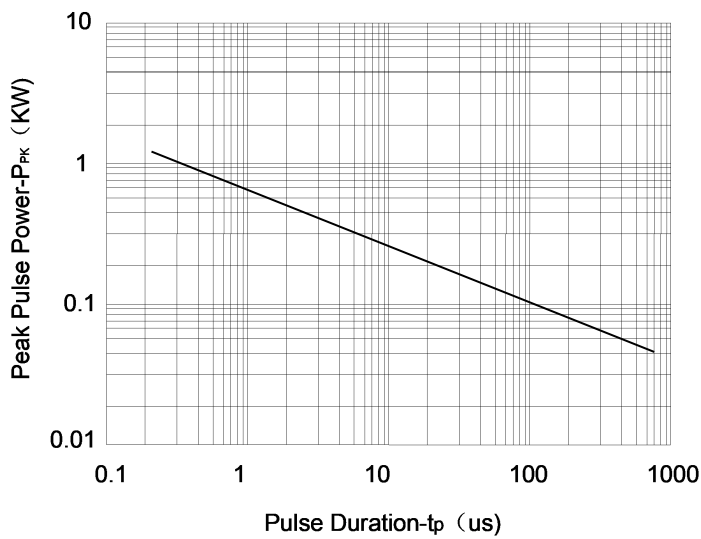


Fig 2. Power Derating Curve



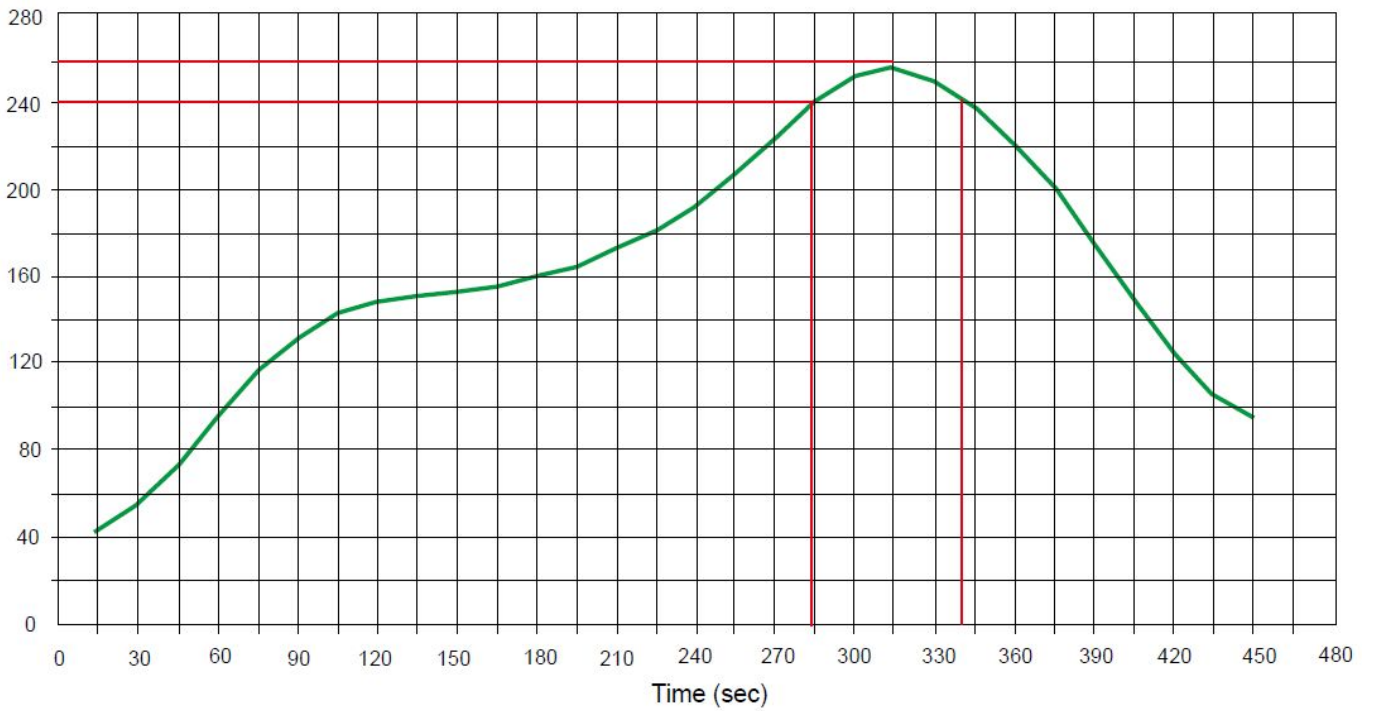
Non-Repetitive Peak Pulse Power vs. Pulse Time



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- **Solder Reflow Recommendation**

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec





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● Package Information

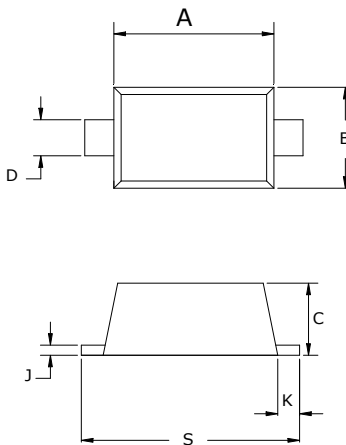
Ordering Information

| Device | Package | Qty per Reel | Reel Size |
|-------------|---------|--------------|-----------|
| SSCE3V311D3 | SOD-523 | 3000 | 7 Inch |

Mechanical Data

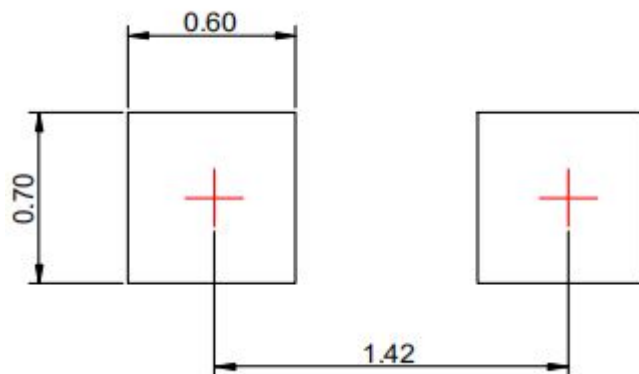
Case: SOD-523

Case Material: Molded Plastic. UL Flammability



| Dim | Millimeters | |
|-----|-------------|------|
| | Min | Max |
| A | 1.10 | 1.30 |
| B | 0.75 | 0.85 |
| C | 0.51 | 0.70 |
| D | 0.25 | 0.35 |
| J | 0.08 | 0.15 |
| K | 0.15 | 0.25 |
| S | 1.50 | 1.70 |

Recommended Pad outline





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