

120W, LOW CLAMPING VOLTAGE TVS FOR PROTECTION IN PORTABLE ELECTRONICS

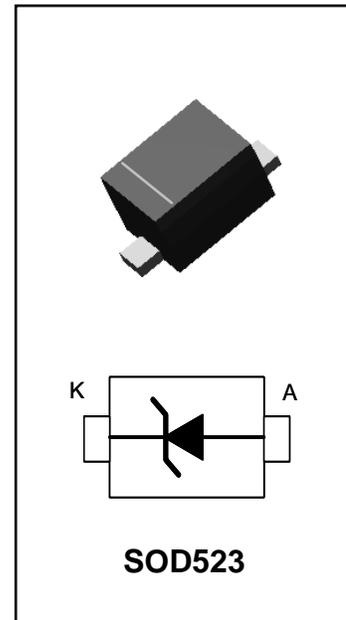
This tiny but powerful TVS/Zener Series has been designed to Protect Sensitive Equipment against ESD and to prevent Latch-Up events in very sensitive CMOS circuitry operating at 5V, 12V, 15V and 24Vdc. These devices come in the standard SOD523 package making them suitable for Portable/Computing Electronics, where the board space is a premium.

SPECIFICATION FEATURES

- 120W Power Dissipation (8/20 μ s Waveform)
- Very Low Leakage Current, Maximum of 5 μ A @ V_{RWM}
- IEC61000-4-2 ESD 15kV air, 8kV Contact Compliance
- SOD523 Package

APPLICATIONS

- MP3 Players
- Digital Cameras
- GPS
- Mobile Phones and Accessories
- Notebook PC's



MAXIMUM RATINGS

| Rating | Symbol | Value | Units |
|--|-----------|-------------|--------------|
| Peak Pulse Power (8/20 μ s Waveform) | P_{pp} | 120 | W |
| ESD Voltage (HBM) | V_{ESD} | 25 | kV |
| Operating Temperature Range | T_J | -50 to +150 | $^{\circ}$ C |
| Storage Temperature Range | T_{stg} | -50 to +150 | $^{\circ}$ C |

ELECTRICAL CHARACTERISTICS $T_j = 25^{\circ}$ C

PJSD05TS

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------------|-----------|---------------------|-----|---------|-----|---------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_{BR} = 1mA$ | 6 | | | V |
| Reverse Leakage Current | I_R | $V_R = 5V$ | | | 5 | μ A |
| Clamping Voltage (8/20 μ s) | V_C | $I_{pp} = 5A$ | | | 9.0 | V |
| Off State Junction Capacitance | C_j | 0 Vdc Bias f = 1MHz | | | 190 | pF |
| Off State Junction Capacitance | C_j | 5 Vdc Bias f = 1MHz | | | 105 | pF |

ELECTRICAL CHARACTERISTICS $T_j = 25^{\circ}\text{C}$
PJSD12TS

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|--|-----------|------------------------------|------|---------|-----|---------------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 12 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_{BR} = 1\text{mA}$ | 13.3 | | | V |
| Reverse Leakage Current | I_R | $V_R = 12\text{V}$ | | | 5 | μA |
| Clamping Voltage (8/20 μs) | V_c | $I_{pp} = 5\text{A}$ | | | 17 | V |
| Off State Junction Capacitance | C_j | 0 Vdc Bias $f = 1\text{MHz}$ | | | 90 | pF |

PJSD15TS

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|--|-----------|------------------------------|------|---------|-----|---------------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 15 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_{BR} = 1\text{mA}$ | 16.7 | | | V |
| Reverse Leakage Current | I_R | $V_R = 15\text{V}$ | | | 5 | μA |
| Clamping Voltage (8/20 μs) | V_c | $I_{pp} = 5\text{A}$ | | | 22 | V |
| Off State Junction Capacitance | C_j | 0 Vdc Bias $f = 1\text{MHz}$ | | | 70 | pF |

PJSD24TS

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|--|-----------|------------------------------|------|---------|-----|---------------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 24 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_{BR} = 1\text{mA}$ | 26.7 | | | V |
| Reverse Leakage Current | I_R | $V_R = 24\text{V}$ | | | | μA |
| Clamping Voltage (8/20 μs) | V_c | $I_{pp} = 3\text{A}$ | | | 32 | V |
| Off State Junction Capacitance | C_j | 0 Vdc Bias $f = 1\text{MHz}$ | | | 50 | pF |

PACKAGE DIMENSIONS AND BOND PAD LAYOUT

PRELIMINARY

