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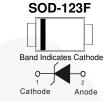


August 2016

MMSZ5V6CF / MMSZ18VCF / MMSZ20VCF / MMSZ28VCF / MMSZ36VCF 1 W Zeners

Features

- · Zener Diode with 5% Tolerance
- · Ultra Thin Profile Maximum Height of 1.08 mm
- UL Flammability 94V-0 Classification
- MSL 1
- · RoHS Compliant / Green Mold Compound
- · Industrial Device Qualified per AEC-Q101 Standards
 - * See authorized use policy



Ordering Information

| Part Number | Top Mark | Top Mark Package | |
|-------------|----------|------------------|---------------|
| MMSZ5V6CF | 5G | SOD-123F | Tape and Reel |
| MMSZ18VCF | 18 | SOD-123F | Tape and Reel |
| MMSZ20VCF | 20 | SOD-123F | Tape and Reel |
| MMSZ28VCF | 28 | SOD-123F | Tape and Reel |
| MMSZ36VCF | 36 | SOD-123F | Tape and Reel |

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^{\circ}\text{C}$ unless otherwise noted.

| Symbol | Pa | arameter | Value | Units | |
|------------------|-------------------------|-----------------------|-------------|-------|--|
| В | Power Dissipation | T _L = 80°C | 2.3 | W | |
| P_{D} | Fower Dissipation | T _A = 25°C | 1 | VV | |
| T_J | Maximum Junction Tempe | erature | +150 | °C | |
| T _{STG} | Storage Temperature Rar | nge | -55 to +150 | °C | |

Note:

1. $T_J = 25^{\circ}$ C prior to surge

Thermal Characteristic

| Symbol | Parameter | Value | Units | |
|---------------|--|-------|-------|--|
| $R_{	hetaJA}$ | Thermal Resistance, Junction-to-Ambient ⁽²⁾ | 125 | °C/W | |
| Ψ_{JL} | Thermal Characteristic Parameter, Junction-to-Lead ⁽²⁾⁽³⁾ | 26 | °C/W | |

Note:

- 2. Per JESD51-3 recommended thermal test board. Device mounted on FR-4 PCB, board size = 76.2 mm x 114.3 mm.
- 3. Thermocouple soldered at cathode lead.

Electrical Characteristics

Values are at $T_A = 25$ °C unless otherwise noted.

| | V _Z (V) @ I _{ZT} (mA) | | | A) | Z _{ZT} (Ω) @ I _{ZT} (mA) | | Z _{ZK} (Ω) @ I _{ZK} (mA) | | I _R (μ A) @ V _R (V) | | Average Vz Temp. | |
|-----------|---|-------|-------|-------------------------|---|-------------------------|---|-------------------------|--|-----------------------|---------------------|--|
| Device | Тур. | Min. | Max. | I _{ZT} (mA) | Max. | I _{ZT} (mA) | Max. | I _{ZK} (mA) | Max. | V _R (V) | Coefficient (mV/°C) | |
| MMSZ5V6CF | 5.6 | 5.32 | 5.88 | 100 | 4 | 100 | 600 | 1 | 10 | 2 | 1.52 | |
| MMSZ18VCF | 18 | 17.10 | 18.90 | 25 | 15 | 25 | 750 | 0.25 | 1 | 13 | 14.59 | |
| MMSZ20VCF | 20 | 19.00 | 21.0 | 25 | 15 | 25 | 750 | 0.25 | 1 | 15 | 15.79 | |
| MMSZ28VCF | 28 | 26.60 | 29.40 | 25 | 15 | 25 | 1000 | 0.25 | 1 | 21 | 25.07 32.35 | |
| MMSZ36VCF | 36 | 34.20 | 37.80 | 10 | 40 | 10 | 1000 | 0.25 | 1 | 27 | | |

| Symbol | Parameter | Conditions | Min. | Тур. | Max. | Unit |
|---------|-----------------|---------------|------|------|------|------|
| V_{F} | Forward Voltage | $I_F = 0.2 A$ | | | 1.2 | V |

Typical Performance Characteristics

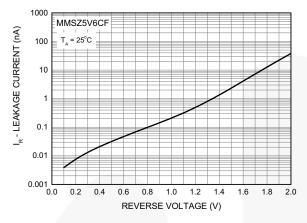


Figure 1. Leakage Current vs. Reverse Voltage for MMSZ5V6CF

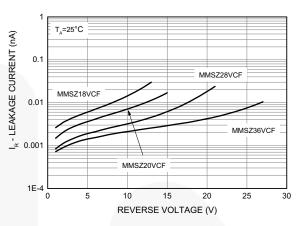


Figure 2. Leakage Current vs. Reverse Voltage for MMSZ18VCF,MMSZ20VCF, MMSZ28VCF and MMSZ36VCF

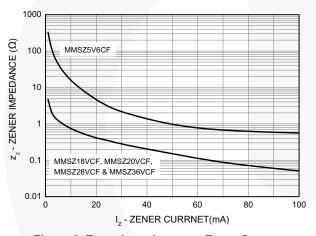


Figure 3. Zener Impedance vs. Zener Current

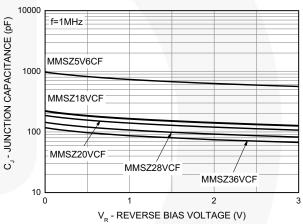


Figure 4. Junction Capacitance vs. Reverse Bias Voltage

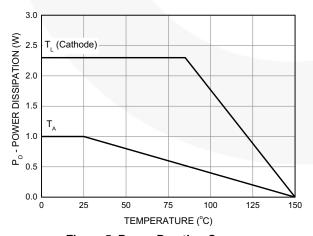


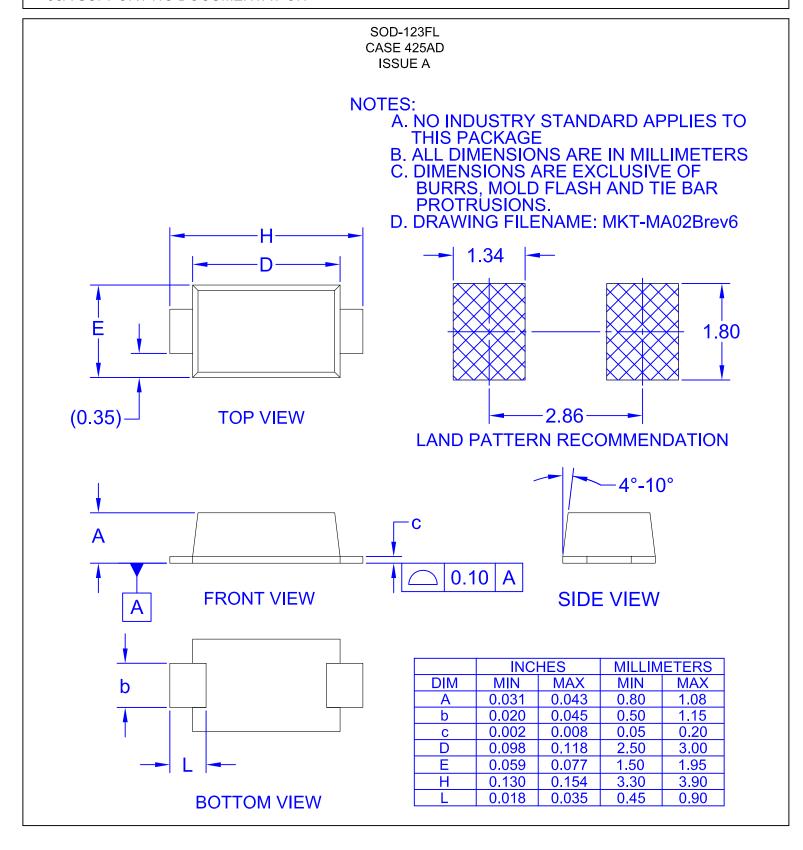
Figure 5. Power Derating Curve

PACKAGE OUTLINE DRAWING

ON Semiconductor°



98A SUPPORTING DOCUMENTATION



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