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MMSZ4686

General Description

Half watt, General purpose, Medium Current Surface Mount Zener in the SOD-123 package. The SOD-123 package has the same footprint as the glass mini-melf (LL-34) package & provides a convenient alternative to the Leadless package.

Features

- Compact surface mount with same footprint as mini-melf
- 500mW rating on FR-4 or FR-5 board.
- Class 3 ESD rating (>16kV) per Human Body Model

Ordering

- 7 inch reel (178mm); 8mm Tape; 3,000 units per reel.

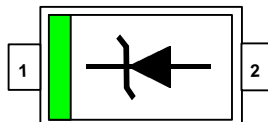
Absolute Maximum Ratings (note 1) $T_A=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|--|---|-----------|---------------------------|
| T_{STG} | Storage Temperature | -55 ~ 150 | $^\circ\text{C}$ |
| T_J | Maximum Junction Temperature | -55 ~ 150 | $^\circ\text{C}$ |
| P_D | Total Power Dissipation at 25°C | 500 | mW |
| | Derate above 25°C | 6.7 | mW/ $^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance Junction to Ambient | 340 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance Junction to Lead | 150 | $^\circ\text{C}/\text{W}$ |
| ΔV_Z | Maximum Voltage Change (note 2) | 970 | mV |
| Lead Solder Temperature (Max 10 second duration) | | 260 | $^\circ\text{C}$ |
| Nominal Zener Voltage (V_Z) at $50\mu\text{A}$ | | 3.9 | V |

Note 1: These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Note 2: Voltage change is equal to the difference between V_Z at $100\mu\text{A}$ and V_Z at $10\mu\text{A}$.

Top Mark: CN
1: Cathode
2: Anode

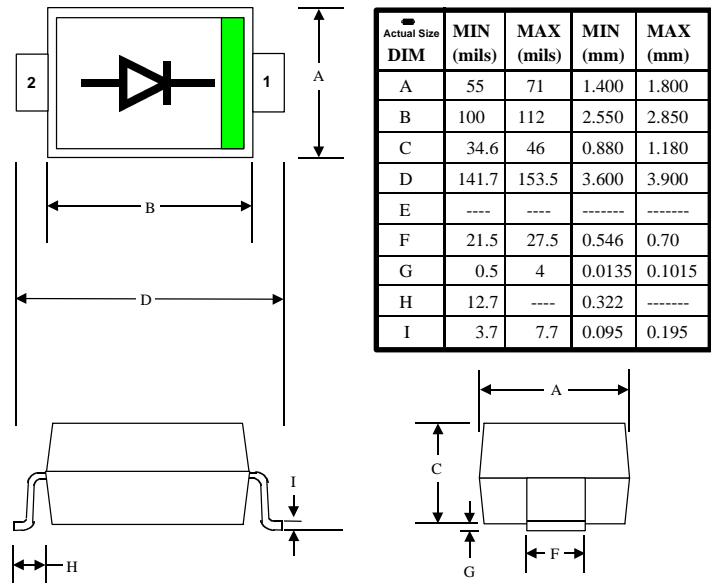


Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

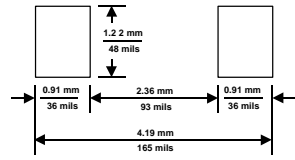
| Symbol | Characteristics | Test Conditions | Min. | Max. | Units |
|--------------|------------------------------|--|------|------|---------------|
| V_Z | Zener Voltage | $I_{ZT} = 50\mu\text{A}$ D.C | 3.71 | 4.10 | V |
| I_R | Reverse Leakage | $V_R = 2.0\text{V}$ | | 5.0 | μA |
| V_F | Forward Voltage | $I_F = 10\text{mA}$ | | 900 | mV |
| ΔV_Z | Delta Zener Voltage (Note 2) | $I_{ZT} = 100\mu\text{A}$ to $10\mu\text{A}$ | | 970 | mV |

SOD-123 PACKAGE
 PACKAGE CODE = (D6)
 Fairchild Semiconductor's Criteria

Corrected March 11, 1998



| Actual Size DIM | MIN (mils) | MAX (mils) | MIN (mm) | MAX (mm) |
|--------------------|---------------|---------------|-------------|-------------|
| A | 55 | 71 | 1.400 | 1.800 |
| B | 100 | 112 | 2.550 | 2.850 |
| C | 34.6 | 46 | 0.880 | 1.180 |
| D | 141.7 | 153.5 | 3.600 | 3.900 |
| E | ---- | ---- | ----- | ----- |
| F | 21.5 | 27.5 | 0.546 | 0.70 |
| G | 0.5 | 4 | 0.0135 | 0.1015 |
| H | 12.7 | ---- | 0.322 | ----- |
| I | 3.7 | 7.7 | 0.095 | 0.195 |



SOD-123 LAND PADS

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|--------------------------|------------------------|---|
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