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## MMSZ4684

### 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.

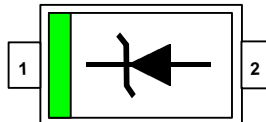
### Absolute Maximum Ratings (note 1) $T_A=25^{\circ}\text{C}$ unless otherwise noted

| 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 $25^{\circ}\text{C}$<br>Derate above $25^{\circ}\text{C}$ | 500<br>6.7 | mW<br>mW/ $^{\circ}\text{C}$ |
| $R_{QJA}$                                          | Thermal Resistance Junction to Ambient                                               | 340        | $^{\circ}\text{C}/\text{W}$  |
| $R_{QJL}$                                          | Thermal Resistance Junction to Lead                                                  | 150        | $^{\circ}\text{C}/\text{W}$  |
| $\Delta V_Z$                                       | Maximum Voltage Change (note 2)                                                      | 950        | mV                           |
| Lead Solder Temperature (Max 10 second duration)   |                                                                                      | 260        | $^{\circ}\text{C}$           |
| Nominal Zener Voltage ( $V_Z$ ) at $50\mu\text{A}$ |                                                                                      | 3.3        | 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: CK  
1: Cathode  
2: Anode



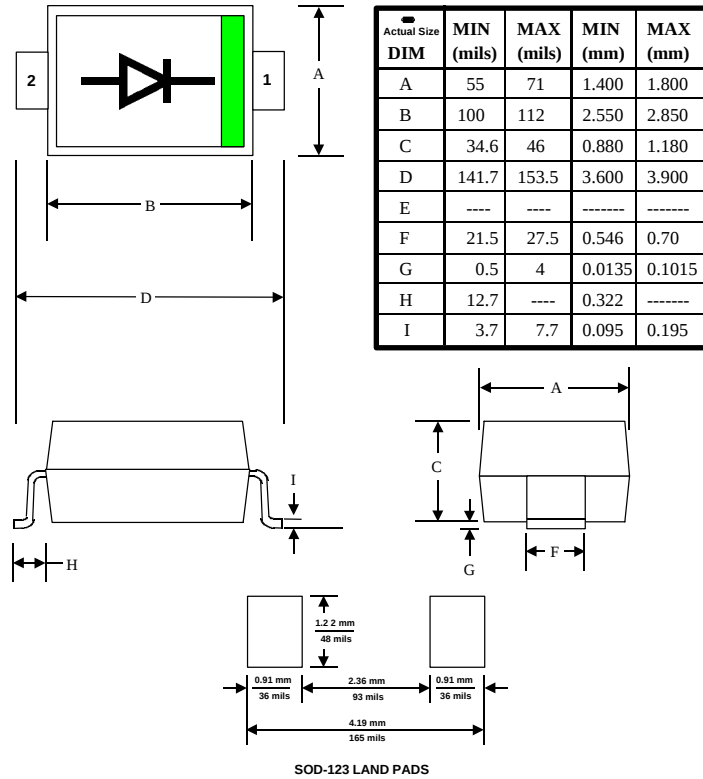
### Electrical Characteristics $T_A=25^{\circ}\text{C}$ unless otherwise noted

| Symbol       | Characteristics              | Test Conditions                              | Min. | Max. | Units         |
|--------------|------------------------------|----------------------------------------------|------|------|---------------|
| $V_Z$        | Zener Voltage                | $I_{ZT} = 50\mu\text{A}$ D.C                 | 3.14 | 3.47 | V             |
| $I_R$        | Reverse Leakage              | $V_R = 1.5\text{V}$                          |      | 7.5  | $\mu\text{A}$ |
| $V_F$        | Forward Voltage              | $I_F = 10\text{mA}$                          |      | 900  | mV            |
| $\Delta V_Z$ | Delta Zener Voltage (Note 2) | $I_{ZT} = 100\mu\text{A}$ to $10\mu\text{A}$ |      | 950  | mV            |

# SOD-123 PACKAGE

PACKAGE CODE = (D6)  
Fairchild Semiconductor's Criteria

Corrected March 11, 1998



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