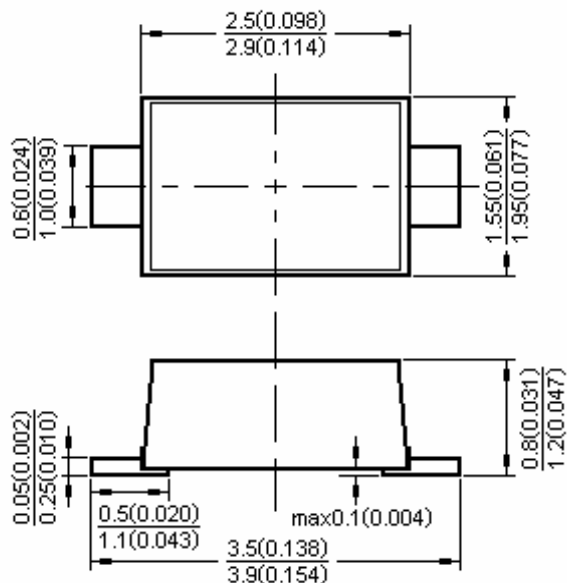

SOD-123FL


Dimensions in millimeters and (inches)

Features

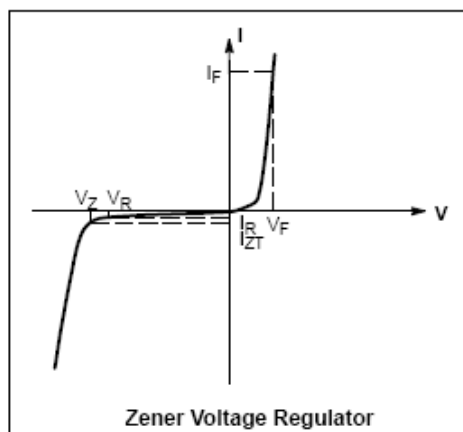
- Pb-Free Packages are Available
- Wide Zener Reverse Voltage Range – 1.8 V to 43 V
- Small Package Size for High Density Applications
- ESD Rating of Class 3 (>16 kV) per Human Body Model

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|--------------------|
| Forward voltage @ $I_F = 10\text{mA}$ | V_F | 0.9 | V |
| Power Dissipation | P_D | 350 | mW |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 357 | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_i, T_{STG} | -65 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| symbol | Parameter |
|----------|----------------------------------|
| V_Z | Reverse zener voltage @ I_{ZT} |
| I_{ZT} | Reverse current |
| I_R | Reverse leakage current @ V_R |
| V_R | Reverse voltage |
| I_F | Forward current |
| V_F | Forward voltage @ I_F |



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Device | Device Marking | Zener Voltage (Notes 1) | | | | Leakage Current | |
|-----------------|----------------|-------------------------|------------|-------------|---------------|-----------------|----------|
| | | V_Z (Volts) | | | @ I_{ZT} | $I_R @ V_R$ | |
| | | Min | Nom | Max | μA | μA | Volts |
| MMSZ4678 | CC | 1.71 | 1.8 | 1.89 | 50 | 7.5 | 1 |
| MMSZ4679 | CD | 1.90 | 2.0 | 2.10 | 50 | 5 | 1 |
| MMSZ4680 | CE | 2.09 | 2.2 | 2.31 | 50 | 4 | 1 |
| MMSZ4681 | CF | 2.28 | 2.4 | 2.52 | 50 | 2 | 1 |
| MMSZ4682 | CH | 2.565 | 2.7 | 2.835 | 50 | 1 | 1 |
| MMSZ4683 | CJ | 2.85 | 3.0 | 3.15 | 50 | 0.8 | 1 |
| MMSZ4684 | CK | 3.13 | 3.3 | 3.47 | 50 | 7.5 | 1.5 |
| MMSZ4685 | CM | 3.42 | 3.6 | 3.78 | 50 | 7.5 | 2 |
| MMSZ4686 | CN | 3.70 | 3.9 | 4.10 | 50 | 5 | 2 |
| MMSZ4687 | CP | 4.09 | 4.3 | 4.52 | 50 | 4 | 2 |
| MMSZ4688 | CT | 4.47 | 4.7 | 4.94 | 50 | 10 | 3 |
| MMSZ4689 | CU | 4.85 | 5.1 | 5.36 | 50 | 10 | 3 |
| MMSZ4690 | CV | 5.32 | 5.6 | 5.88 | 50 | 10 | 4 |
| MMSZ4691 | CA | 5.89 | 6.2 | 6.51 | 50 | 10 | 5 |
| MMSZ4692 | CX | 6.46 | 6.8 | 7.14 | 50 | 10 | 5.1 |
| MMSZ4693 | CY | 7.13 | 7.5 | 7.88 | 50 | 10 | 5.7 |
| MMSZ4694 | CZ | 7.79 | 8.2 | 8.61 | 50 | 1 | 6.2 |
| MMSZ4695 | DC | 8.27 | 8.7 | 9.14 | 50 | 1 | 6.6 |
| MMSZ4696 | DD | 8.65 | 9.1 | 9.56 | 50 | 1 | 6.9 |
| MMSZ4697 | DE | 9.50 | 10 | 10.50 | 50 | 1 | 7.6 |
| MMSZ4698 | DF | 10.45 | 11 | 11.55 | 50 | 0.05 | 8.4 |
| MMSZ4699 | DH | 11.40 | 12 | 12.60 | 50 | 0.05 | 9.1 |
| MMSZ4700 | DJ | 12.35 | 13 | 13.65 | 50 | 0.05 | 9.8 |
| MMSZ4701 | DK | 13.30 | 14 | 14.70 | 50 | 0.05 | 10.6 |
| MMSZ4702 | DM | 14.25 | 15 | 15.75 | 50 | 0.05 | 11.4 |
| MMSZ4703* | DN | 15.20 | 16 | 16.80 | 50 | 0.05 | 12.1 |
| MMSZ4704 | DP | 16.15 | 17 | 17.85 | 50 | 0.05 | 12.9 |
| MMSZ4705 | DT | 17.10 | 18 | 18.90 | 50 | 0.05 | 13.6 |
| MMSZ4706 | DU | 18.05 | 19 | 19.95 | 50 | 0.05 | 14.4 |
| MMSZ4707 | DV | 19.00 | 20 | 21.00 | 50 | 0.01 | 15.2 |
| MMSZ4708 | DA | 20.90 | 22 | 23.10 | 50 | 0.01 | 16.7 |
| MMSZ4709 | DX | 22.80 | 24 | 25.20 | 50 | 0.01 | 18.2 |
| MMSZ4710 | DY | 23.75 | 25 | 26.25 | 50 | 0.01 | 19.0 |
| MMSZ4711* | EA | 25.65 | 27 | 28.35 | 50 | 0.01 | 20.4 |
| MMSZ4712 | EC | 26.60 | 28 | 29.40 | 50 | 0.01 | 21.2 |
| MMSZ4713 | ED | 28.50 | 30 | 31.50 | 50 | 0.01 | 22.8 |
| MMSZ4714 | EE | 31.35 | 33 | 34.65 | 50 | 0.01 | 25.0 |
| MMSZ4715 | EF | 34.20 | 36 | 37.80 | 50 | 0.01 | 27.3 |
| MMSZ4716 | EH | 37.05 | 39 | 40.95 | 50 | 0.01 | 29.6 |
| MMSZ4717 | EJ | 40.85 | 43 | 45.15 | 50 | 0.01 | 32.6 |

 1. Nominal Zener voltage is measured with the device junction in thermal equilibrium at $T_L = 30^\circ\text{C} \pm 1^\circ\text{C}$

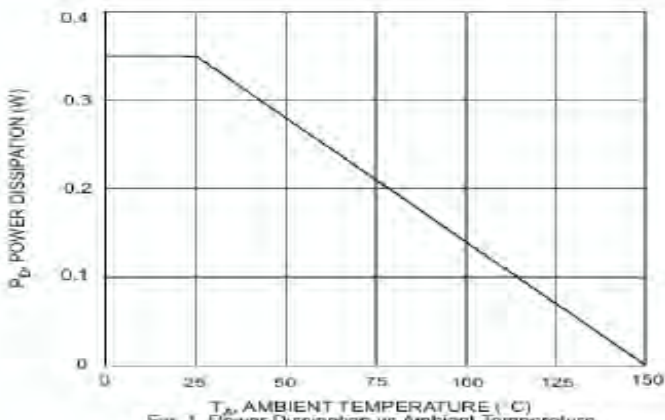
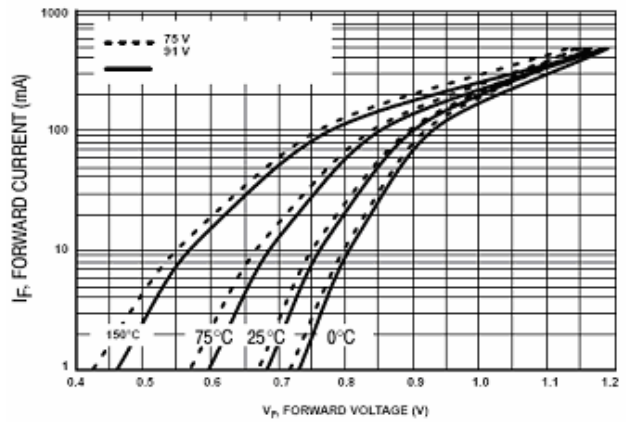
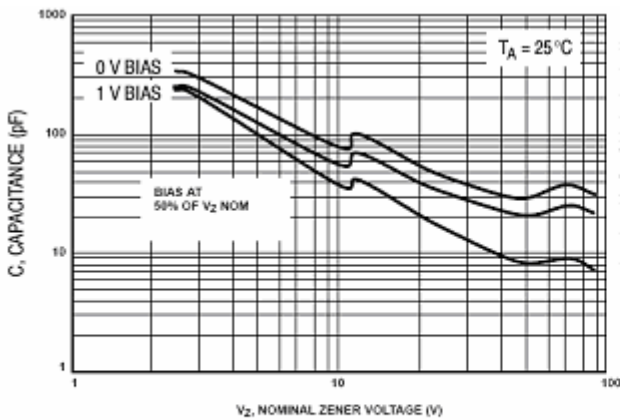
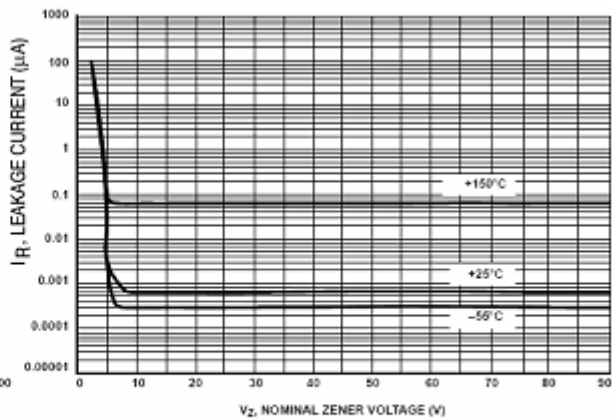
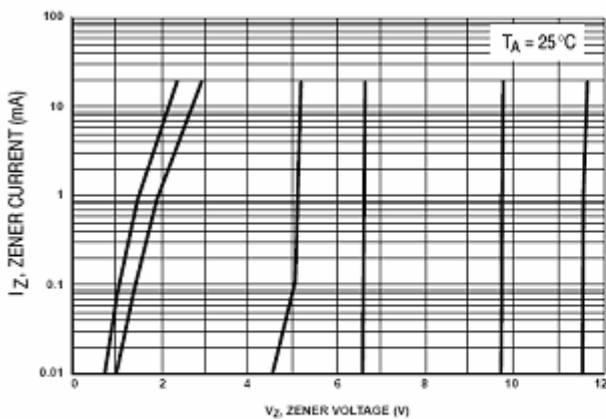
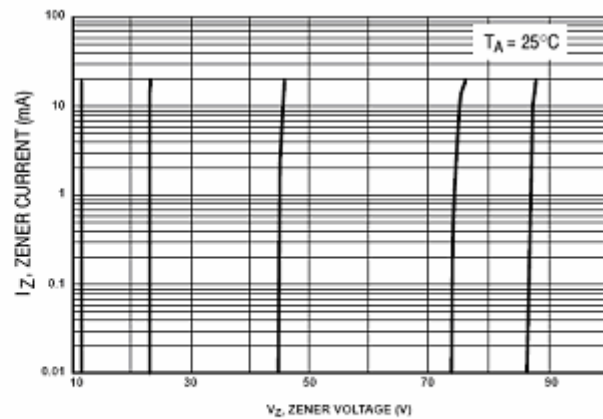
Typical Characteristics


Fig. 1 Power Dissipation vs Ambient Temperature


Typical Forward Voltage

Typical Capacitance

Typical Leakage Current

**Zener Voltage versus Zener Current
(V_Z Up to 12 V)**

**Zener Voltage versus Zener Current
(12 V to 91 V)**