

1N4148W

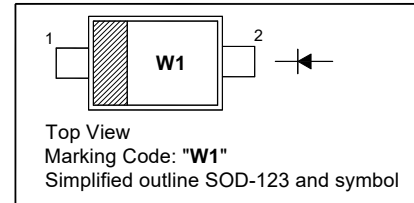
Silicon Epitaxial Planar Switching Diode

Features

- SOD-123 package
- Fast switching
- These diodes are also available in other case style including the DO-35 case with the type designation 1N4148, the MiniMELF case with the type designation LL4148 and the MicroMELF case with the type designation MCL4148.

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |

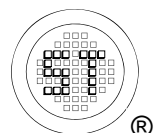


Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---|-----------------|--------------------|---------------------------|
| Peak Reverse Voltage | V_{RM} | 100 | V |
| Reverse Voltage | V_R | 75 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 150 | mA |
| Peak Forward Current | I_{FM} | 300 | mA |
| Non-repetitive Peak Forward Surge Current | I_{FSM} | 0.5 1 4 | A |
| | | at $t = 1$ s | |
| | | at $t = 1$ ms | |
| | | at $t = 1$ μ s | |
| Power Dissipation | P_{tot} | 400 | mW |
| Thermal Resistance from Junction to Ambient Air | $R_{\theta JA}$ | 312 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 65 to + 150 | $^\circ\text{C}$ |

Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Min. | Max. | Unit |
|--|-------------|------------------|-----------------------------|-------------------------------------|
| Reverse Breakdown Voltage at $I_R = 1$ μ A | $V_{(BR)R}$ | 75 | - | V |
| Forward Voltage at $I_F = 1$ mA at $I_F = 10$ mA at $I_F = 50$ mA at $I_F = 150$ mA | V_F | - - - - | 0.715 0.855 1 1.25 | V |
| Peak Reverse Current at $V_R = 75$ V at $V_R = 20$ V at $V_R = 75$ V, $T_J = 150^\circ\text{C}$ at $V_R = 25$ V, $T_J = 150^\circ\text{C}$ | I_R | - - - - | 1 25 50 30 | μ A nA μ A μ A |
| Total Capacitance at $V_R = 0$ V, $f = 1$ MHz | C_T | - | 2 | pF |
| Reverse Recovery Time at $I_F = 10$ mA, $I_{rr} = 0.1 \cdot I_R$, $V_R = 6$ V, $R_L = 100$ Ω | t_{rr} | - | 4 | ns |



Electrical Characteristics Curves

Fig 1. Power Dissipation vs Ambient Temperature

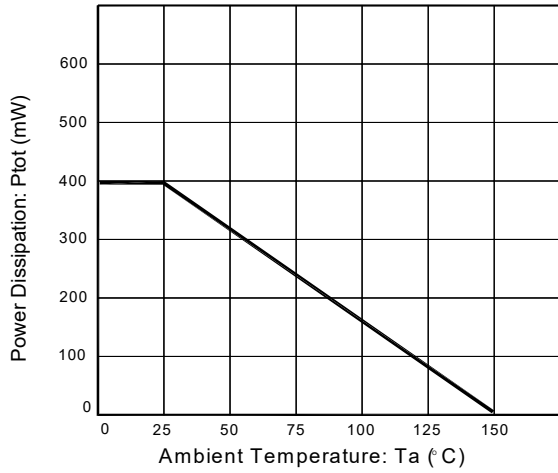


Fig 2. Total Capacitance vs. Reverse Voltage

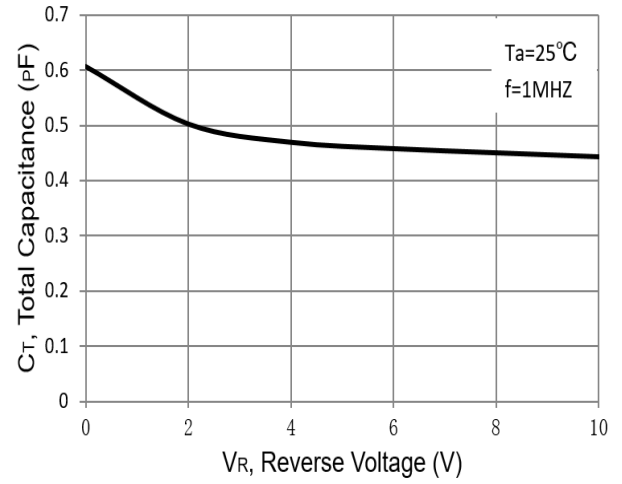


Fig 3. Reverse Current vs. Reverse Voltage

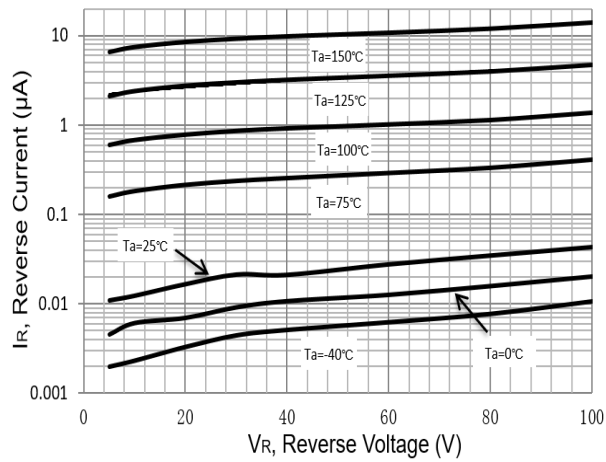
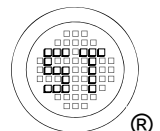
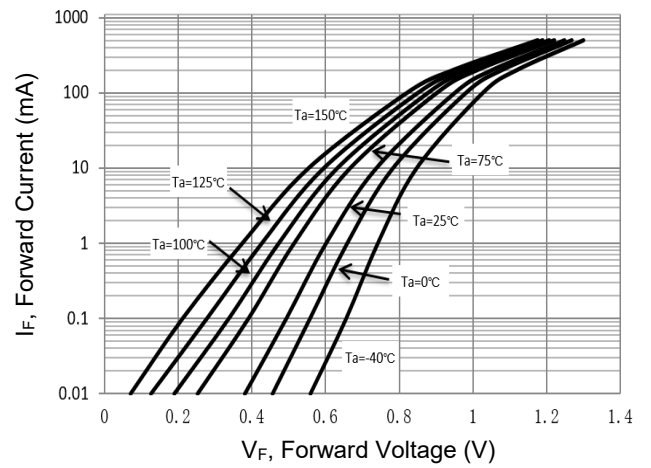


Fig 4. Forward Characteristics

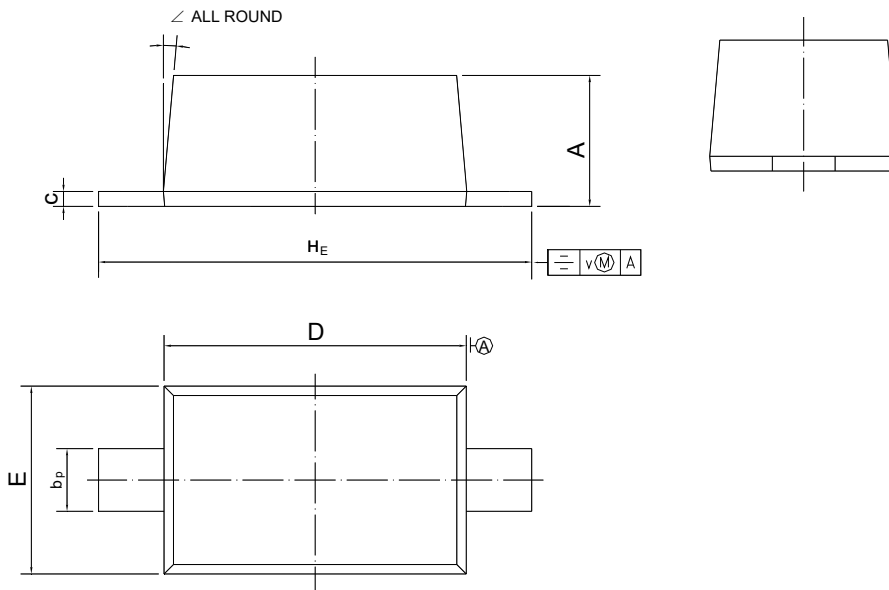


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PACKAGE OUTLINE

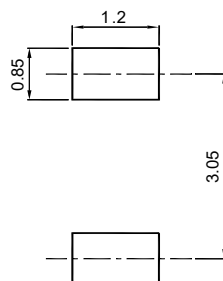
Plastic surface mounted package; 2 leads

SOD-123



| UNIT | A | b _p | c | D | E | H _E | v | ∠ |
|------|--------------|----------------|----------------|------------|--------------|----------------|-----|----|
| mm | 1.15 1.05 | 0.6 0.5 | 0.135 0.100 | 2.7 2.6 | 1.65 1.55 | 3.85 3.55 | 0.2 | 5° |

Recommended Soldering Footprint



Packing information

| Package | Tape Width (mm) | Pitch | | Reel Size | | Per Reel Packing Quantity |
|---------|-----------------|---------|---------------|-----------|--------|---------------------------|
| | | mm | (inch) | mm | (inch) | |
| SOD-123 | 8 | 4 ± 0.1 | 0.157 ± 0.004 | 178 | 7 | 3,000 |

Marking information

" III " = Cathode line

" W1 " = Part No.

Font type: Arial

