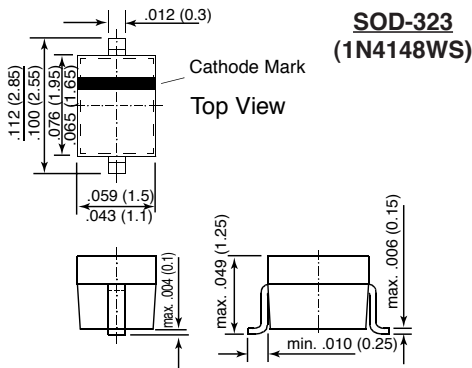
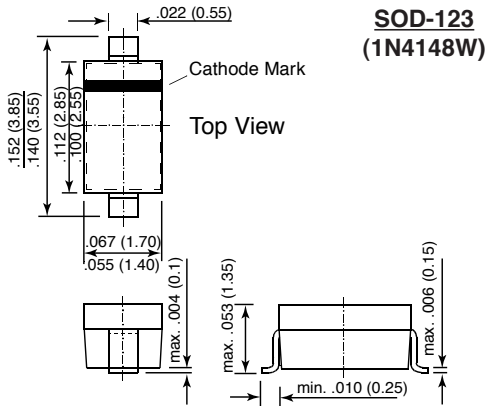


1N4148W, 1N4148WS

SMALL SIGNAL DIODES



Dimensions in inches and (millimeters)

FEATURES

- ◆ Silicon Epitaxial Planar Diode
- ◆ Fast switching diodes.
- ◆ This diode is also available in other case styles including: the DO-35 case with the type designation 1N4148, the Mini-MELF case with the type designation LL4148, and the SOT-23 case with the type designation IMBD4148.



MECHANICAL DATA

1N4148W

Case: SOD-123 Plastic Case

Weight: approx. 0.01 g

Marking Code: A2

1N4148WS

Case: SOD-323 Plastic Case

Weight: approx. 0.004 g

Marking Code: A2

MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOL | VALUE | UNIT |
|---|------------------|--|----------|
| Reverse Voltage | V _R | 75 | Volts |
| Peak Reverse Voltage | V _{RM} | 100 | Volts |
| Rectified Current (Average) Half Wave Rectification with Resist. Load at T _{amb} = 25 °C and f ≥ 50 Hz | I _o | 150 ⁽¹⁾ | mA |
| Surge Forward Current at t < 1 s and T _j = 25 °C | I _{FSM} | 500 350 | mA mA |
| Power Dissipation at T _{amb} = 25 °C | P _{tot} | 400 ⁽¹⁾ 200 ⁽¹⁾ | mW mW |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _s | - 65 to +150 | °C |

NOTES:

(1) Valid provided that electrodes are kept at ambient temperature

1N4148W, 1N4148WS

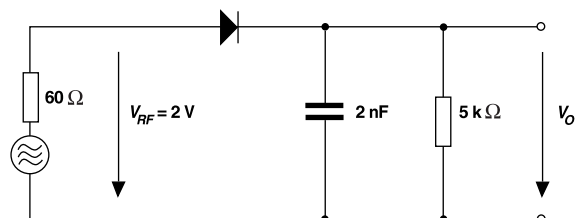
ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|--|------------|------|------|--------------------|---------|
| Forward Voltage at $I_F=10$ mA | V_F | – | – | 1.0 | Volts |
| Leakage Current at $V_R = 20$ V at $V_R = 75$ V at $V_R = 20$ V, $T_j = 150$ °C | I_R | – | – | 25 | nA |
| | I_R | – | – | 5.0 | μ A |
| | I_R | – | – | 50 | μ A |
| Capacitance at $V_F = V_R = 0$ V | C_{tot} | – | – | 4 | pF |
| Voltage Rise when Switching On tested with 50 mA Pulses $t_p = 0.1\mu$ s, Rise Time < 30ns, $f_p = 5$ to 100 kHz | V_{fr} | – | – | 2.5 | Volts |
| Reverse Recovery Time from $I_F = 10$ mA to $I_R = 1$ mA, $V_R = 6$ V, $R_L = 100$ Ω | t_{rr} | – | – | 4 | ns |
| Thermal Resistance Junction to Ambient Air 1N4148W 1N4148WS | R_{thJA} | – | – | 450 ⁽²⁾ | °C/W |
| | R_{thJA} | – | – | 650 ⁽²⁾ | °C/W |
| Rectification Efficiency at $f = 100$ MHz, $V_{RF} = 2$ V | η_v | 0.45 | – | – | – |

NOTES::

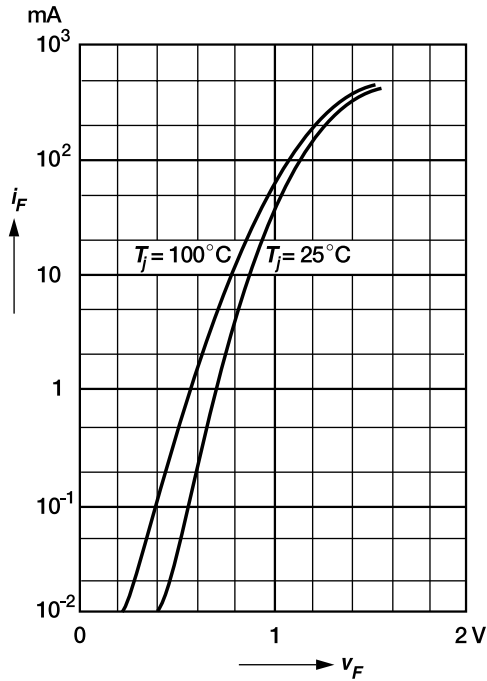
(2) Valid provided that electrodes are kept at ambient temperature



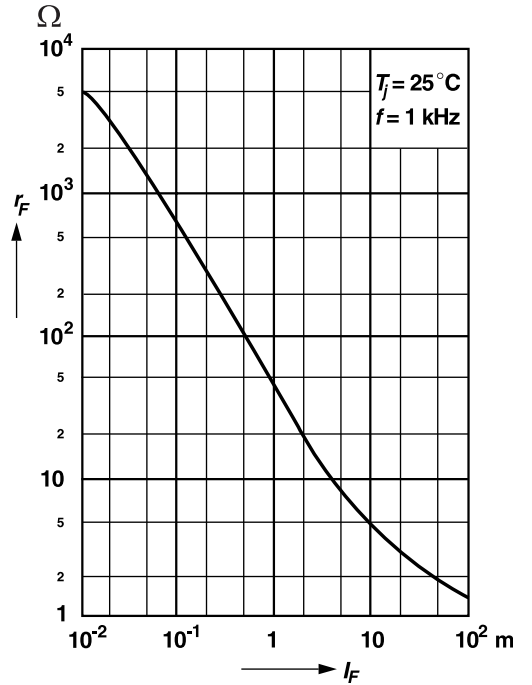
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTICS CURVES 1N4148W, 1N4148WS

Forward characteristics

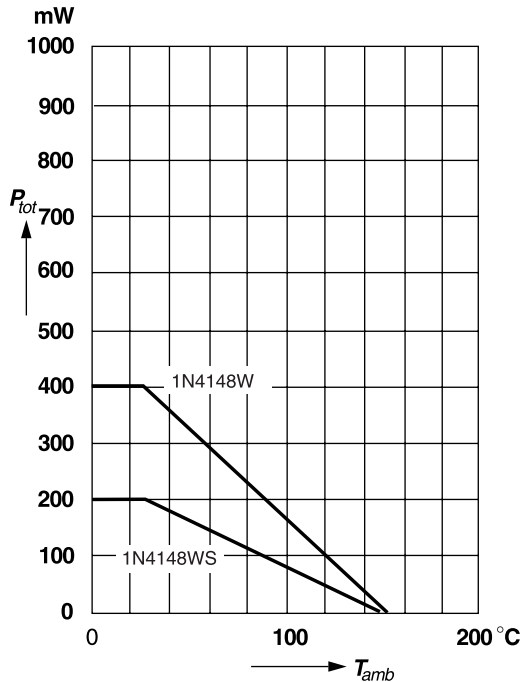


Dynamic forward resistance versus forward current

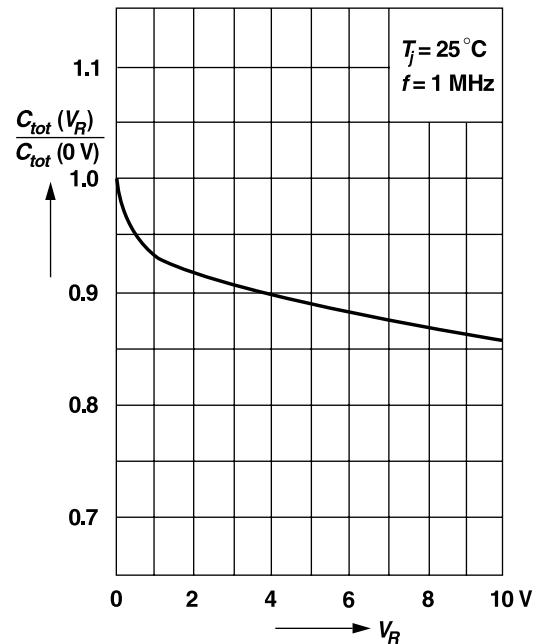


Admissible power dissipation versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"

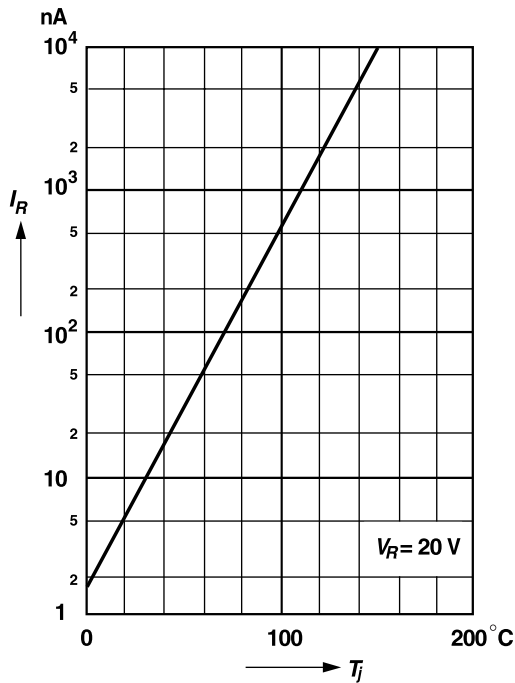


Relative capacitance versus reverse voltage



RATINGS AND CHARACTERISTICS CURVES 1N4148W, 1N4148WS

Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

For conditions, see footnote in table "Absolute Maximum Ratings"

