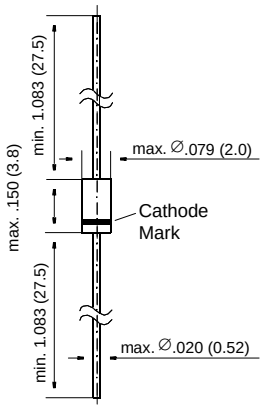
1N4148

Small Signal Diodes

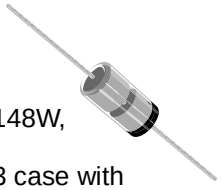
DO-35



Dimensions in inches and (millimeters)

FEATURES

- Silicon Epitaxial Planar Diode
- Fast switching diodes.
- This diode is also available in other case styles including: the SOD-123 case with the type designation 1N4148W, the MiniMELF case with the type designation LL4148, and the SOT23 case with the type designation IMBD4148.



MECHANICAL DATA

Case: DO-35 Glass Case
Weight: approx. 0.13 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Rectified Current (Average) Half Wave Rectification with Resist. Load at T_{amb} = 25 °C and f ≥ 50 Hz	I_0	150[1)]	mA
Surge Forward Current at t < 1 s and T_j = 25 °C	I_{FSM}	500	mA
Power Dissipation at T_{amb} = 25 °C	P_{tot}	500[1)]	mW
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_S	–65 to +175	°C

[1)] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature (DO-35)

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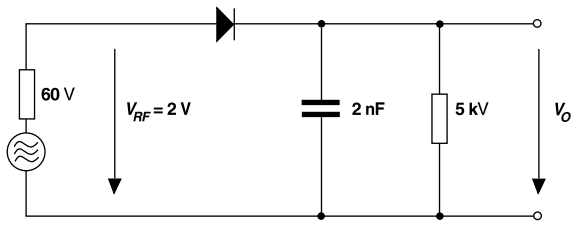
ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at I_F = 10 mA	V_F	–	–	1	V
Leakage Current at V_R = 20 V at V_R = 75 V at V_R = 20 V, T_j = 150 °C	 I_R I_R I_R	 – – –	 – – –	 25 5 50	 nA µA µA
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 µs, Rise Time < 30 ns, f_p = 5 to 100 kHz	V_{fr}	–	–	2.5	V
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	R_{thJA}	–	–	350[1)]	K/W
Rectification Efficiency at f = 100 MHz, V_{RF} = 2 V	η_v	0.45	–	–	–

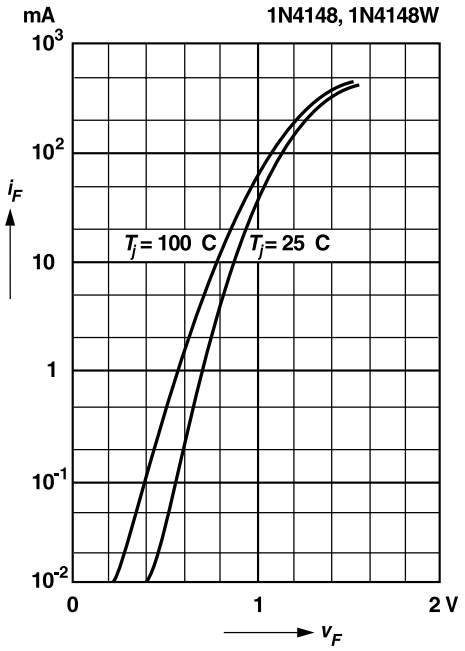
[1)] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature (DO-35)



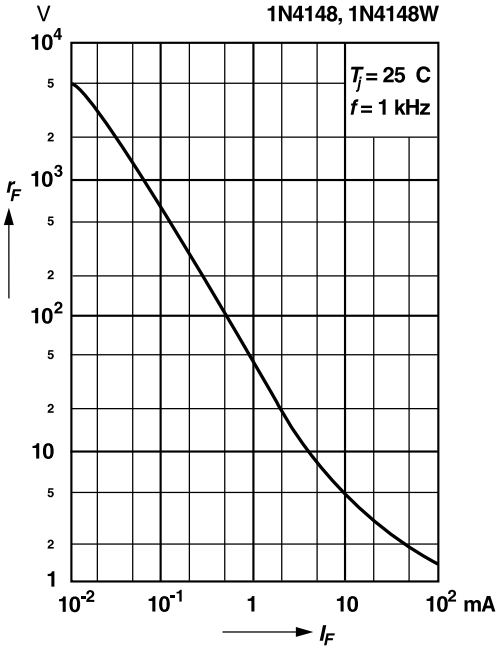
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTIC CURVES 1N4148

Forward characteristics

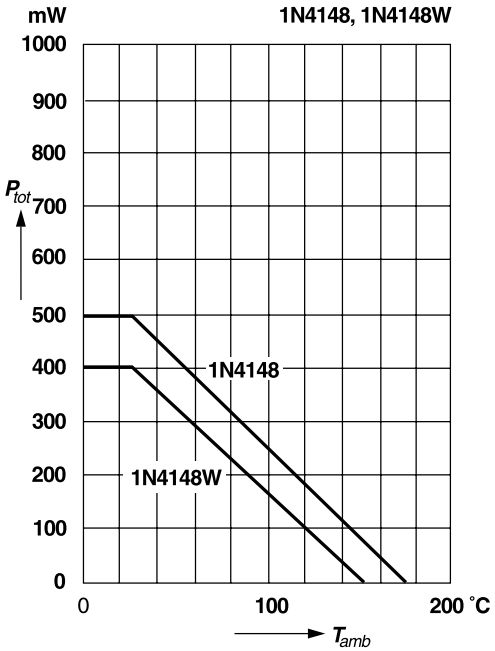


Dynamic forward resistance versus forward current

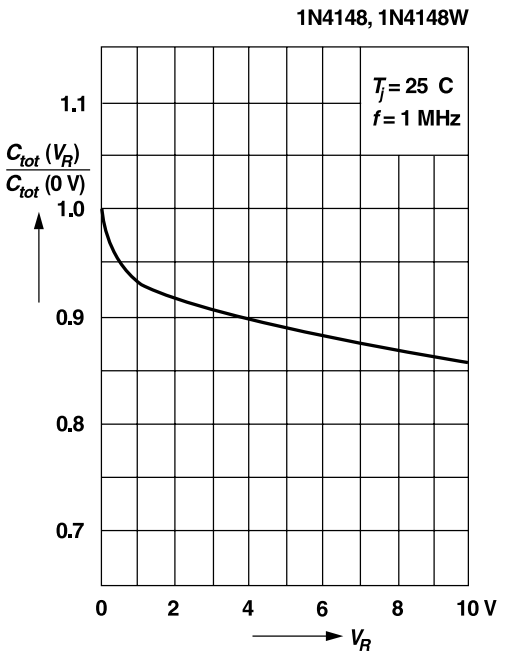


Admissible power dissipation versus ambient temperature

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



Relative capacitance versus reverse voltage



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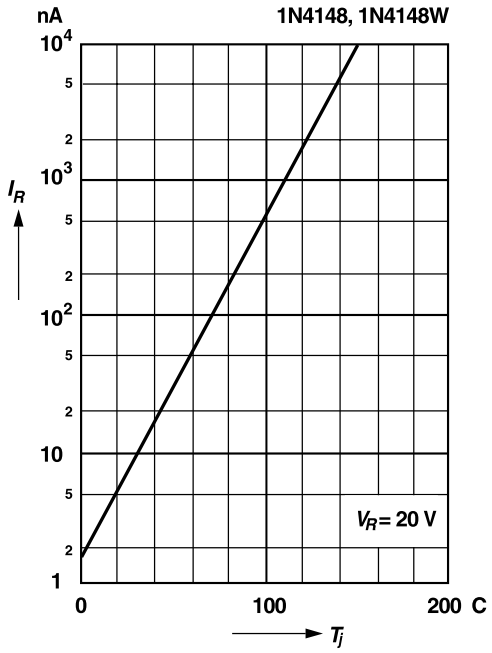
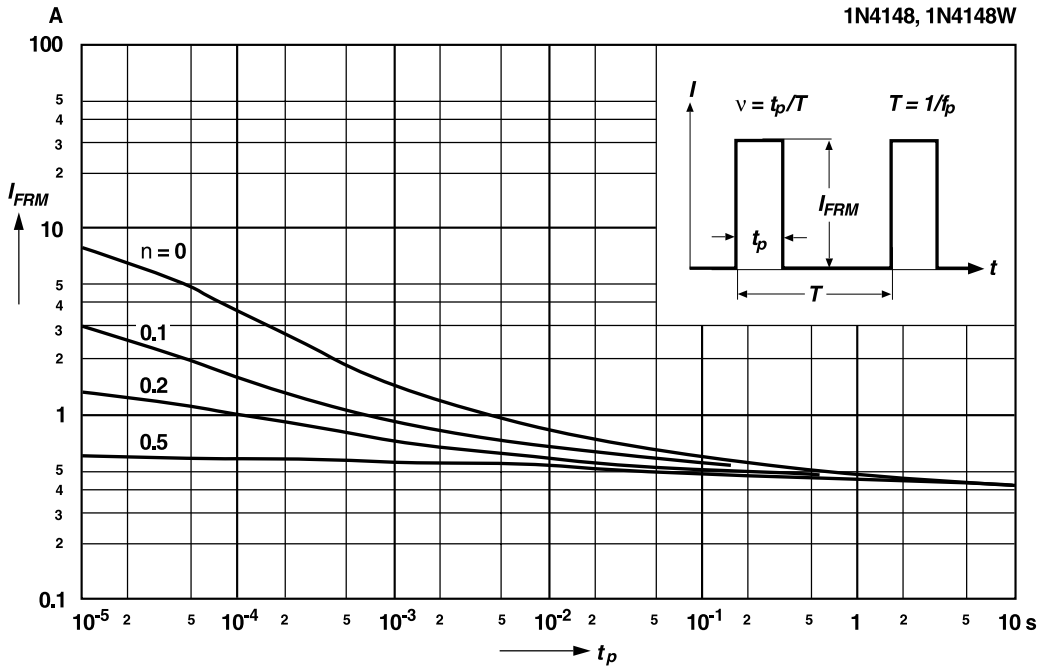
Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

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



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