

## 1N4148 HIGH VOLTAGE SILICON RECTIFIER

VOLTAGE RANGE  
CURRENT

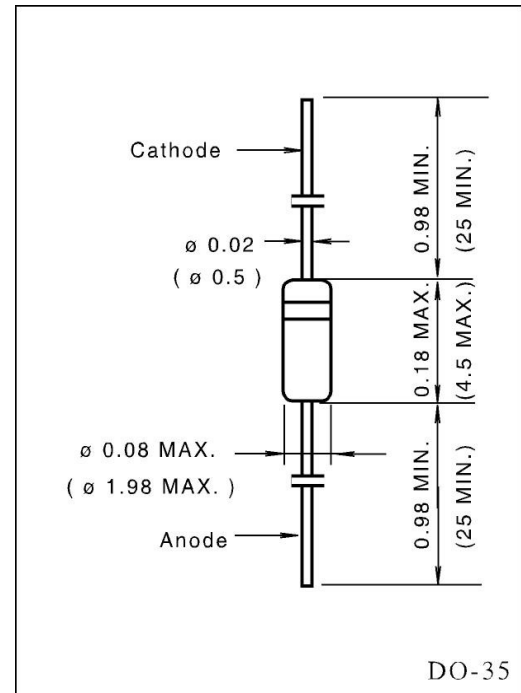
75 Volts  
1.5 A ere

### FEATURES

- Silicon Epitaxial Planar Diode
- Fast switching diode
- This diode is also available in other case styles including: the SOD-123 case with the type designation 1N4448W, the MiniMELF case with the type designation LL4448, and the SOT23 case with the type designation

### MECHANICAL DATA

- Case: DO-35
- Weight: approx. 0.13gram



### 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 $T_{amb} = 25^\circ\text{C}$ and $f \geq 50\text{ Hz}$	$I_0$	150 <sup>1)</sup>	mA
Surge Forward Current at $t < 1\text{ s}$ and $T_j = 25^\circ\text{C}$	$I_{FSM}$	500	mA
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	500 <sup>1)</sup>	mW
Junction Temperature	$T_j$	175	°C
Storage Temperature Range	$T_S$	-65 to +175	°C

<sup>1)</sup> Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature (DO-35)

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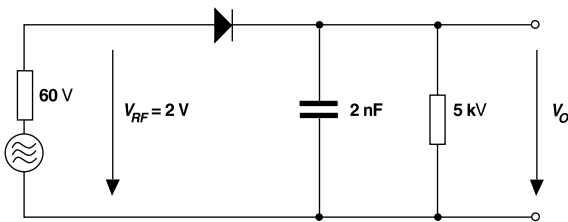
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Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at $I_F = 10 \text{ mA}$	$V_F$	—	—	1	V
Leakage Current at $V_R = 20 \text{ V}$ at $V_R = 75 \text{ V}$ at $V_R = 20 \text{ V}, T_j = 150 \text{ }^\circ\text{C}$	$I_R$ $I_R$ $I_R$	— — —	— — —	25 5 50	nA $\mu\text{A}$ $\mu\text{A}$
Capacitance at $V_F = V_R = 0 \text{ V}$	$C_{\text{tot}}$	—	—	4	pF
Voltage Rise when Switching ON tested with 50 mA Pulses $t_p = 0.1 \text{ } \mu\text{s}$ , Rise Time < 30 ns, $f_p = 5 \text{ to } 100 \text{ kHz}$	$V_{fr}$	—	—	2.5	V
Reverse Recovery Time from $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$ , $V_R = 6 \text{ V}, R_L = 100 \text{ } \Omega$	$t_{rr}$	—	—	4	ns
Thermal Resistance Junction to Ambient Air	$R_{thJA}$	—	—	350 <sup>1)</sup>	K/W
Rectification Efficiency at $f = 100 \text{ MHz}, V_{RF} = 2 \text{ V}$	$\eta_v$	0.45	—	—	—

<sup>1)</sup> Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature (DO-35)



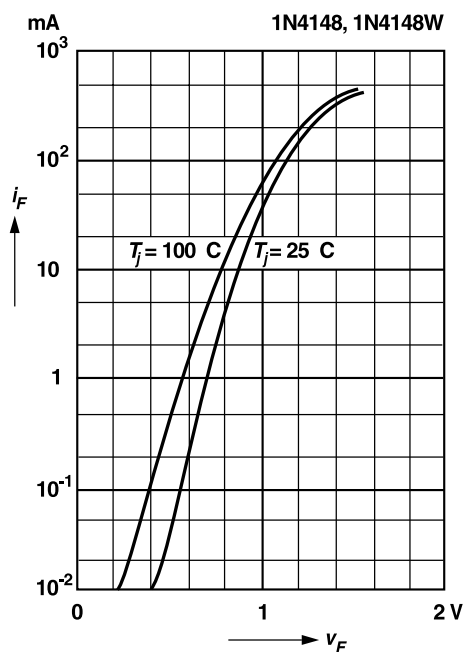
**Rectification Efficiency Measurement Circuit**

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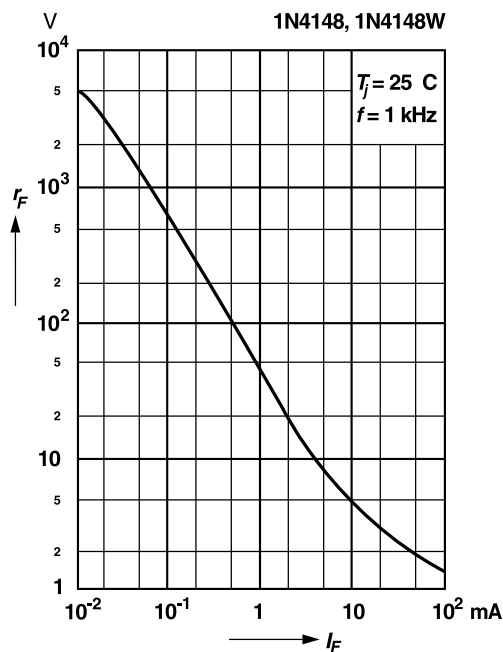
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Forward characteristics

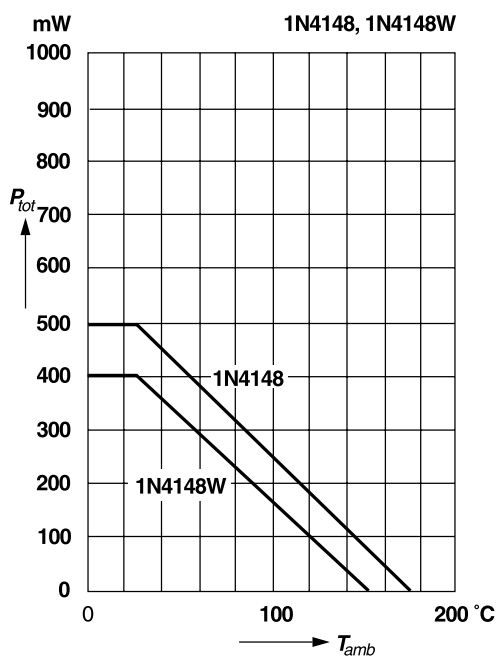


Dynamic forward resistance versus forward current

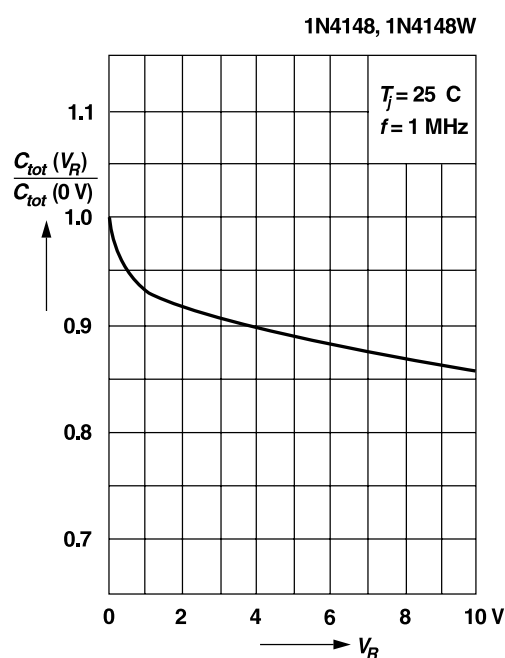


Admissible power dissipation versus ambient temperature

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



Relative capacitance versus reverse voltage

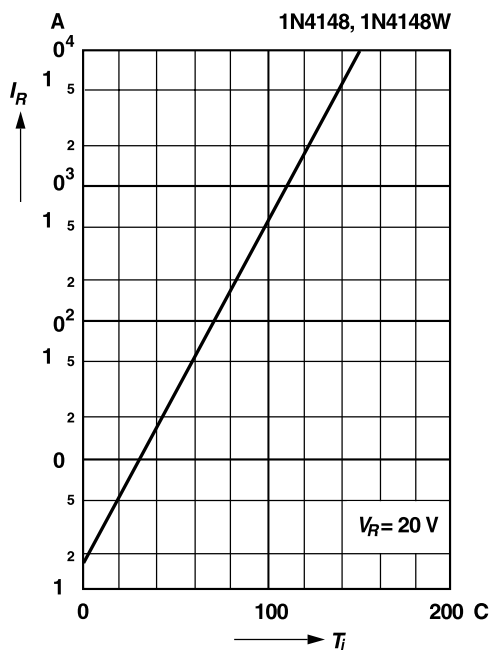


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Leakage current  
versus junction temperature



### Admissible repetitive peak forward current versus pulse duration

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

