

Fast Switching Diode

1N4148 / 1N4448

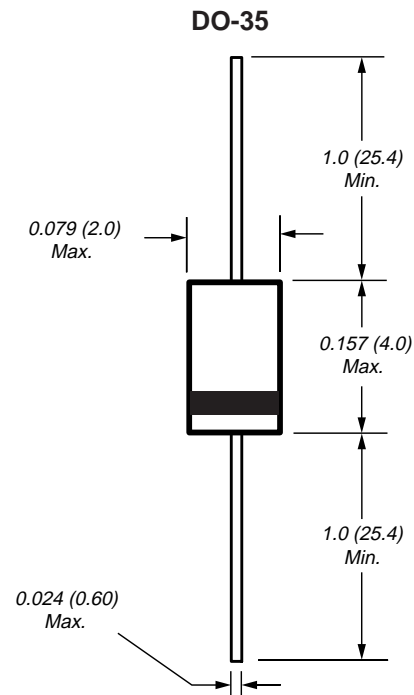
High Speed

Features

- Fast Switching Speed
- General Purpose Rectification
- Silicon Epitaxial Planar Construction

Mechanical Data

- Case: DO-35
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.13 grams (approx.)



Dimensions in inches and (millimeters)

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

Characteristic	Symbol	1N4148	1N4448	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100		V
Peak Repetitive Reverse Voltage	V_{RRM}	75		V
Working Peak Reverse Voltage	V_{RWM}			V
DC Blocking Voltage	V_R			V
RMS Reverse Voltage	$V_{R(RMS)}$	53		V
Forward Continuous Current (Note 1)	I_{FM}	300	500	mA
Average Rectified Output Current (Note 1)	I_O	150		mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\text{s}$ @ $t = 1.0\mu\text{s}$	I_{FSM}	1.0	2.0	A
Power Dissipation (Note 1) Derate Above 25°C	P_d	500	1.68	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	300		K/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175		$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Maximum Forward Voltage	V_{FM}	—	1.0	V	$I_F = 10\text{mA}$ $I_F = 5.0\text{mA}$ $I_F = 100\text{mA}$
Maximum Peak Reverse Current	I_{RM}	—	5.0 50 30 25	μA μA μA nA	$V_R = 75\text{V}$ $V_R = 70\text{V}, T_J = 150^\circ\text{C}$ $V_R = 20\text{V}, T_J = 150^\circ\text{C}$ $V_R = 20\text{V}$
Capacitance	C_j	—	4.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = 10\text{mA}$ to $I_R = 1.0\text{mA}$ $V_R = 6.0\text{V}, R_L = 100\Omega$

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

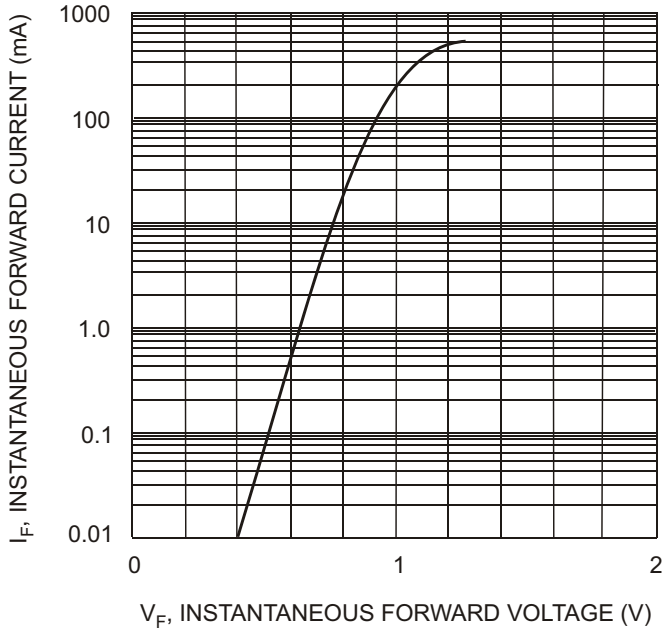


Fig. 1 Forward Characteristics

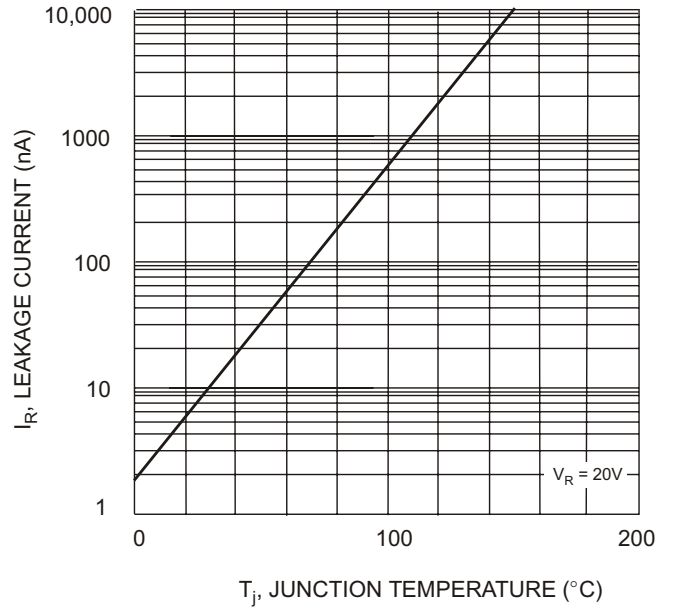


Fig. 2, Leakage Current vs Junction Temperature