

# Fast Switching Diode

## 1N4148 / 1N4448

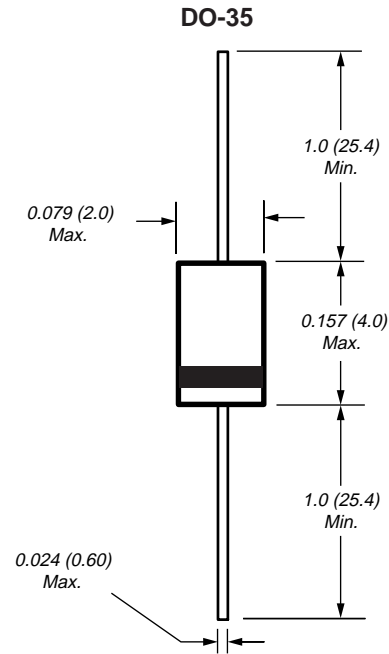
High Speed

### 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	1N4148	1N4448	Unit
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	100		V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	75		V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	53		V
Forward Continuous Current (Note 1)	I <sub>FM</sub>	300	500	mA
Average Rectified Output Current (Note 1)	I <sub>O</sub>	150		mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0s @ t = 1.0μs	I <sub>FSM</sub>	1.0 2.0		A
Power Dissipation (Note 1) Derate Above 25°C	P <sub>d</sub>	500 1.68		mW mW/°C
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	300		K/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175		°C

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Maximum Forward Voltage	V <sub>FM</sub>	—	1.0	V	I <sub>F</sub> = 10mA I <sub>F</sub> = 5.0mA I <sub>F</sub> = 100mA
Maximum Peak Reverse Current	I <sub>RM</sub>	—	5.0 50 30 25	μA μA μA nA	V <sub>R</sub> = 75V V <sub>R</sub> = 70V, T <sub>J</sub> = 150°C V <sub>R</sub> = 20V, T <sub>J</sub> = 150°C V <sub>R</sub> = 20V
Capacitance	C <sub>j</sub>	—	4.0	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	4.0	ns	I <sub>F</sub> = 10mA to I <sub>R</sub> = 1.0mA V <sub>R</sub> = 6.0V, R <sub>L</sub> = 100Ω

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

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

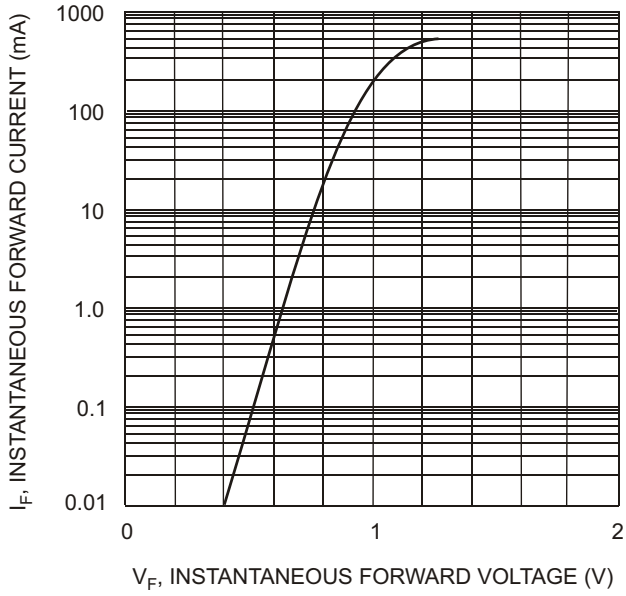


Fig. 1 Forward Characteristics

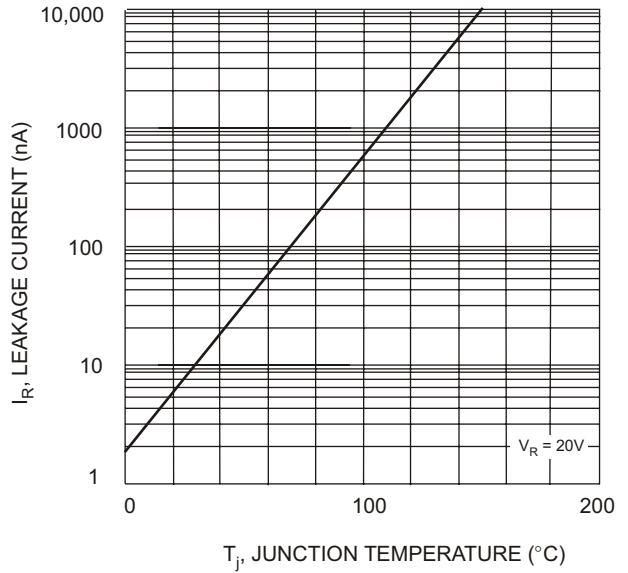


Fig. 2, Leakage Current vs Junction Temperature