

# 1N4148. 1N4448

## FAST SWITCHING DIODES

**REVERSE VOLTAGE: 100 VOLTS**  
**FORWARD CURRENT: 150 mA AMPERE**

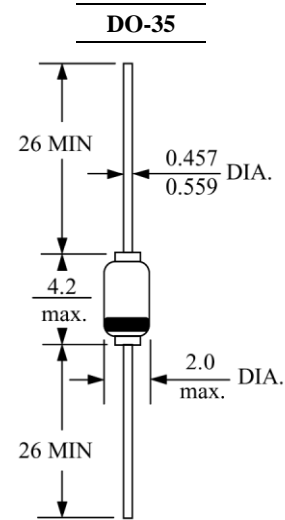
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### FEATURES

- Silicon Epitaxial Planar Diodes
- Fast switching diodes
- Electrically equivalent diodes:  
1N4148 – 1N914  
1N4448 – 1N914B

### MECHANICAL DATA

Case: Molded glass DO-35  
Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed  
Polarity: Color band denotes cathode end  
Mounting position: Any  
Weight: approx. 0.13 g



Dimensions in inches and (millimeters)

### Absolute Maximum Ratings

Tamb = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Reverse Voltage	$V_R$	75	Volts
Repetitive Peak Reverse Voltage	$V_{RRM}$	100	Volts
Average Forward Current at $V_R = 0$	$I_{FAV}$	150	mAmp
Peak Surge Forward Current at $t_p = 1$ s	$I_{FSM}$	500	Amp
Power Dissipation at $l = 4$ mm, $T_L = 25$	$P_{TOT}$	500	mWatt
Junction Temperature	$T_J$	200	
Storage Temperature Range	$T_{stg}$	-65 to +200	

### Maximum Thermal Characteristics

Tamb = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Junction Ambient at $l = 4$ mm, $T_L = \text{constant}$	$R_{thJA}$	350	K/W

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### Electrical Characteristics

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Tamb = 25 °C, unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Units
I <sub>F</sub> =5mA	1N4448	0.62	-	0.72	Volt
Forward Voltage at I <sub>F</sub> =10mA	1N4148				
I <sub>F</sub> =100mA	1N4448				
V <sub>R</sub> =20V	I <sub>R</sub>	-	-	25	nA
Leakage Current at V <sub>R</sub> =75V		-	-	5	uA
V <sub>R</sub> =20V, T <sub>J</sub> =150		-	-	50	uA
Reverse Breakdown Voltage Tested with 100uA pulses, tp/T=0.01, tp=0.3ms	V <sub>(BR)</sub>	100	-	-	Volt
Capacitance at V <sub>R</sub> =0, f=1MHz, V <sub>HF</sub> =50mV	C <sub>TOT</sub>	-	-	4	pF
Reverse Recovery Time from I <sub>F</sub> =10mA to I <sub>R</sub> =1mA, V <sub>R</sub> =6V, R <sub>L</sub> =100Ω	T <sub>RR</sub>	-	-	4	nS
Rectification Efficiency at f=100MHz, V <sub>HF</sub> =2V	η <sub>V</sub>	45	-	-	%

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### RATINGS AND CHARACTERISTIC CURVES

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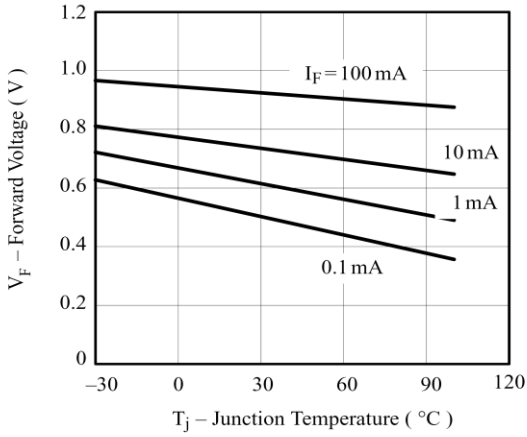


Figure 1. Forward Voltage vs. Junction Temperature

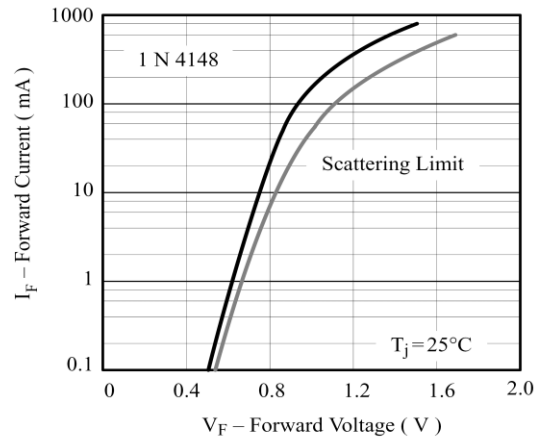


Figure 2. Forward Current vs. Forward Voltage

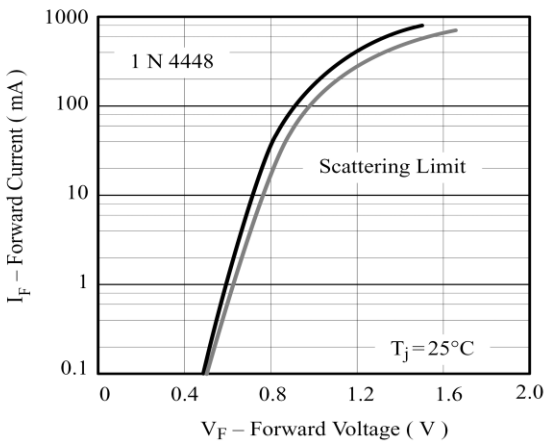


Figure 3. Forward Current vs. Forward Voltage

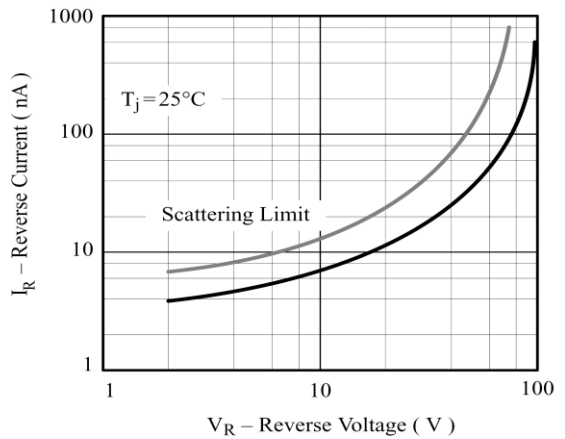


Figure 4. Reverse Current vs. Reverse Voltage