

1N4148 & 1N4448 Fast Switching Diode

Features:

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

Mechanical Data:

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

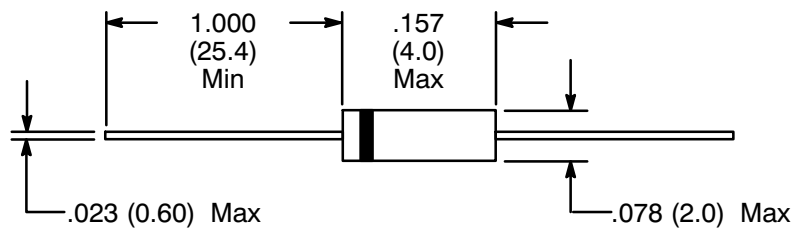
Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Non-Repetitive Peak Reverse Voltage, V_{RM}	100V
Peak Repetitive Reverse Voltage, V_{RRM}	75V
Working Peak Reverse Voltage, V_{RWM}	75V
DC Blocking Voltage, V_R	75V
RMS Reverse Voltage, $V_{R(RMS)}$	53V
Forward Continuous Current (Note 1), I_{FM}	
1N4148	300mA
1N4448	500mA
Average Rectified Output Current (Note 1), I_O	150mA
Non-Repetitive Peak Forward Surge Current, I_{FSM}	
$t = 1.0\text{s}$	1A
$t = 1.0\mu\text{s}$	2A
Power Dissipation (Note 1), P_d	500mW
Derate above 25°C	1.68mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient, R_{thJA}	300K/W
Operating Junction Temperature Range, T_j	-65° to $+175^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+175^\circ\text{C}$

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

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Maximum Forward Voltage 1N4148	V_{FM}	$I_F = 10\text{mA}$	-	-	1	V
		$I_F = 5\text{mA}$	0.62	-	0.72	V
		$I_F = 100\text{mA}$	-	-	1	V
Maximum Forward Voltage	I_{RM}	$V_R = 75\text{V}$	-	-	5	μA
		$V_R = 70\text{V}, T_j = +150^\circ\text{C}$	-	-	50	μA
		$V_R = 20\text{V}, T_j = +150^\circ\text{C}$	-	-	30	μA
		$V_R = 20\text{V}$	-	-	25	μA
Capacitance	C_j	$V_R = 0, f = 1\text{MHz}$	-	-	4	pF
Reverse Recovery Time	t_{rr}	$I_F = 10\text{mA}$ to $I_R = 1\text{mA}$ $V_R = 6\text{V}, R_L = 100\Omega$	-	-	4	ns



Color Band Denotes Cathode

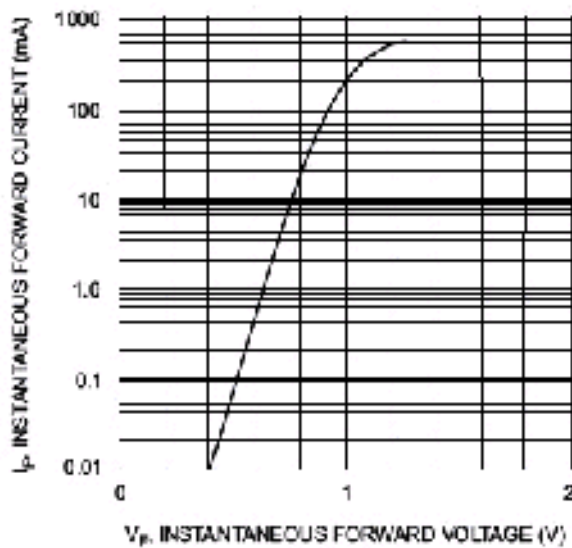


Fig. 1 Forward Characteristics

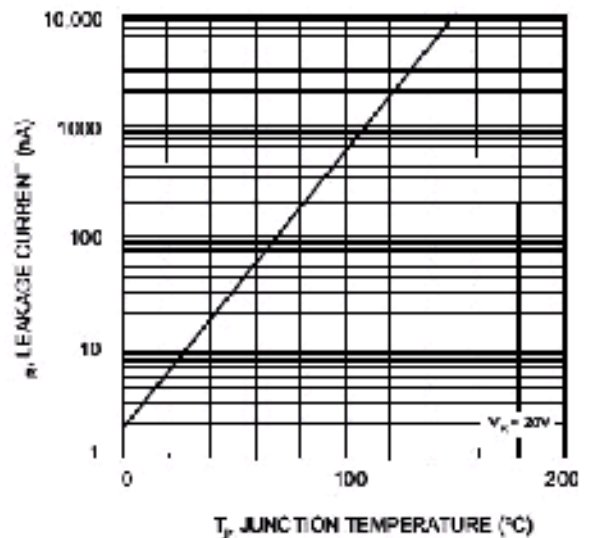


Fig. 2 Leakage Current vs. Junction Temperature