



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## 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.)

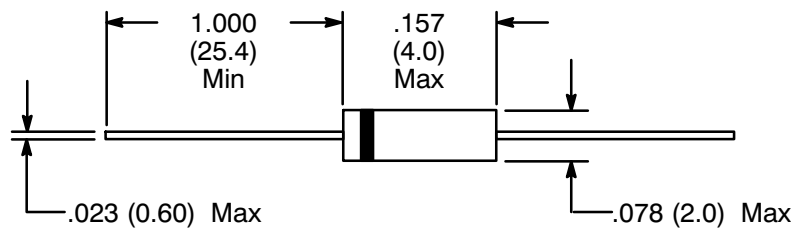
**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$ , unless otherwise specified)

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, $I_{FSM}$	
$t = 1.0s$ .....	1A
$t = 1.0\mu s$ .....	2A
Power Dissipation (Note 1), $P_d$ .....	500mW
Derate above $25^\circ\text{C}$ .....	1.68mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient, $R_{thJA}$ .....	300K/W
Operating Junction Temperature Range, $T_j$ .....	$-65^\circ$ to $+175^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ 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	$\mu\text{A}$
		$V_R = 70\text{V}, T_j = +150^\circ\text{C}$	-	-	50	$\mu\text{A}$
		$V_R = 20\text{V}, T_j = +150^\circ\text{C}$	-	-	30	$\mu\text{A}$
		$V_R = 20\text{V}$	-	-	25	$\mu\text{A}$
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

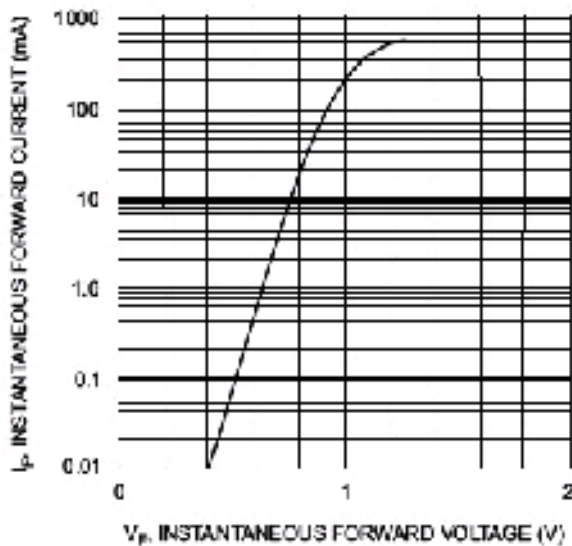


Fig. 1 Forward Characteristics

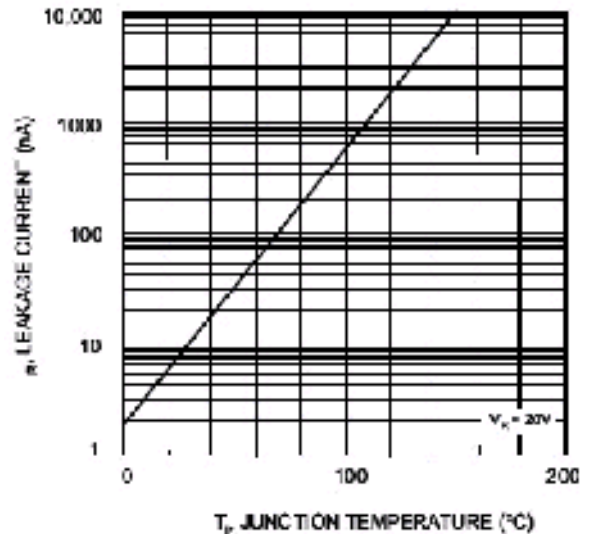


Fig. 2 Leakage Current vs. Junction Temperature