

# 1N4148

## HIGH SPEED SWITCHING DIODE

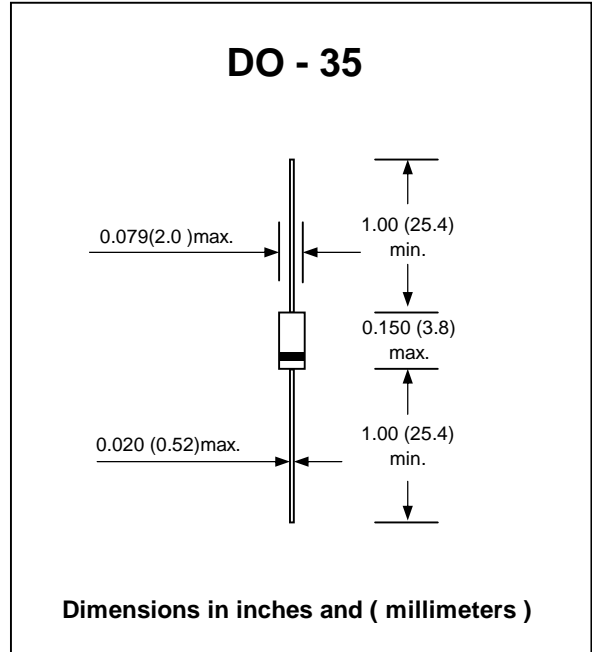
**PRV : 100 Volts**  
**Io : 150 mA**

### FEATURES :

- \* Silicon Epitaxial Planar Diode
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* High speed switching
- \* Pb / RoHS Free

### MECHANICAL DATA :

- \* Case : DO-35 Glass Case
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.13 gram (approximately)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

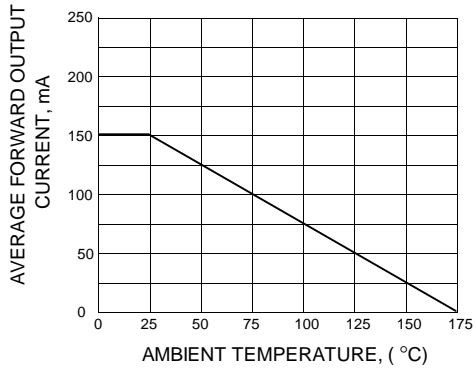
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

RATING	SYMBOL	VALUE	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Maximum Reverse Voltage	$V_R$	75	V
Maximum Average Forward Current	$I_{F(AV)}$	150 <sup>(1)</sup>	mA
Maximum Surge Forward Current at $t < 1s$ and $T_j = 25^\circ C$	$I_{FSM}$	500	mA
Maximum Power Dissipation , $T_a = 25^\circ C$	$P_D$	500	mW
Maximum Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	1.0	V
Maximum Reverse Current at $V_R = 20V$ at $V_R = 75V$ at $V_R = 20V, T_j = 150^\circ C$	$I_R$	25	nA
		5	$\mu A$
		50	$\mu A$
Maximum Voltage Rise when switching ON test with 50mA Pulses $t_p = 0.1\mu s$ , Rise Time $< 30ns$ $f_p = 5$ to 100kHz	$V_{fr}$	2.5	V
Maximum Reverse Recovery Time from $I_F = 10mA$ to $I_R = 1mA$ , $V_R = 6V$ , $R_L = 100\Omega$	$T_{rr}$	4	ns
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	350 <sup>(1)</sup>	K/W
Junction Temperature Range	$T_J$	175	$^\circ C$
Storage Temperature Range	$T_{STG}$	- 65 to + 175	$^\circ C$

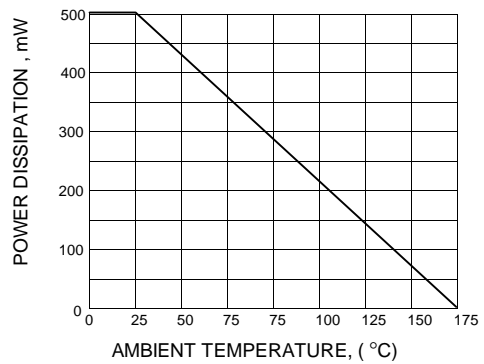
Note : 1) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature (DO-35)

**RATING AND CHARACTERISTIC CURVES ( 1N4148 )**

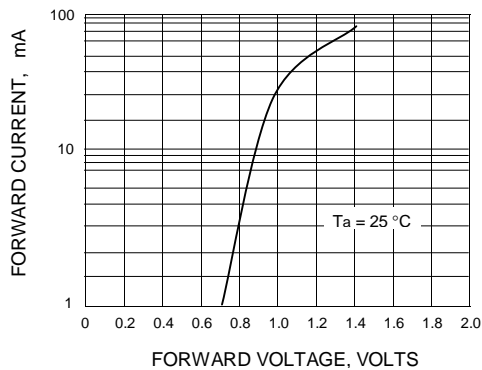
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - POWER DERATING CURVE**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

