

# 1N4148

# HIGH SPEED SWITCHING DIODE

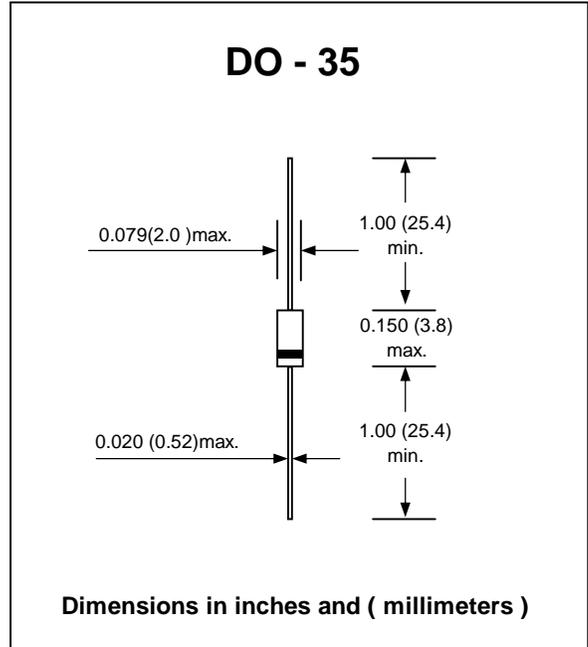
**PRV : 100 Volts**  
**Io : 150 mA**

**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**

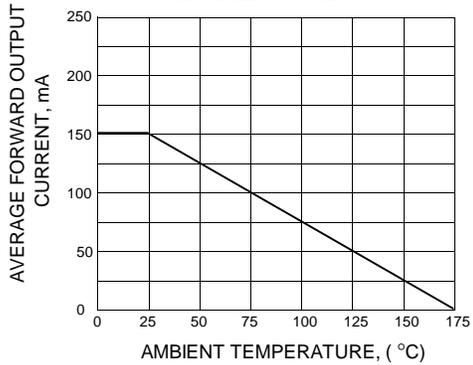
Rating at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

RATING	SYMBOL	VALUE	UNIT
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum Reverse Voltage	V <sub>R</sub>	75	V
Maximum Average Forward Current	I <sub>F(AV)</sub>	150 <sup>(1)</sup>	mA
Maximum Surge Forward Current at t < 1s and T <sub>j</sub> = 25°C	I <sub>FSM</sub>	500	mA
Maximum Power Dissipation , Ta = 25 °C	P <sub>D</sub>	500	mW
Maximum Forward Voltage at I <sub>F</sub> = 10 mA	V <sub>F</sub>	1.0	V
Maximum Reverse Current      at V <sub>R</sub> = 20V at V <sub>R</sub> = 75V at V <sub>R</sub> = 20V, T <sub>j</sub> = 150°C	I <sub>R</sub>	25	nA
		5	µA
		50	µA
Maximum Voltage Rise when switching ON test with 50mA Pulses tp = 0.1µs, Rise Time <30ns fp = 5 to 100kHz	V <sub>fr</sub>	2.5	V
Maximum 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
Thermal Resistance Junction to Ambient Air	RθJA	350 <sup>(1)</sup>	K/W
Junction Temperature Range	T <sub>J</sub>	175	°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 175	°C

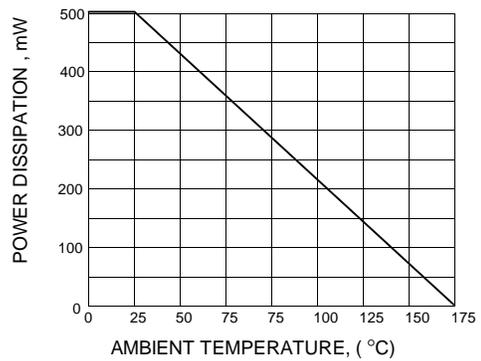
Note : 1) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature (DO-35)

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

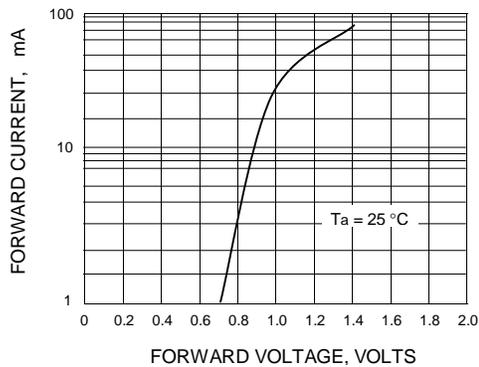
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - POWER DERATING CURVE**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

