SYNSEMI SEMICONDUCTOR

1N4148

HIGH SPEED SWITCHING DIODE

PRV : 100 Volts
Io : 150 mA

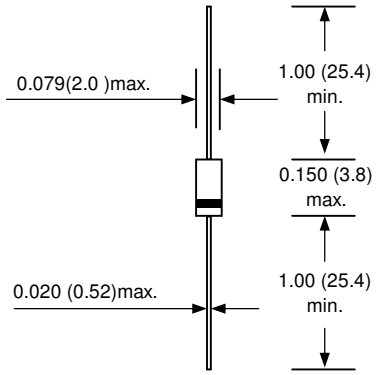
FEATURES :

* 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)

DO - 35



Dimensions in inches and (millimeters)

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 [1)]	mA
Maximum Surge Forward Current at t < 1s and Tj = 25°C	I_{FSM}	500	mA
Maximum Power Dissipation , Ta = 25 °C	P_D	500	mW
Maximum Forward Voltage at I_F = 10 mA	V_F	1.0	V
Maximum Reverse Current at V_R = 20V	I_R	25	nA
at V_R = 75V		5	µA
at V_R = 20V, Tj = 150°C		50	µA
Maximum Voltage Rise when switching ON test with 50mA Pulses tp = 0.1µs, Rise Time <30ns fp = 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 = 100Ω	Trr	4	ns
Thermal Resistance Junction to Ambient Air	RθJA	350 [1)]	K/W
Junction Temperature Range	T_J	175	°C
Storage Temperature Range	T_{STG}	- 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

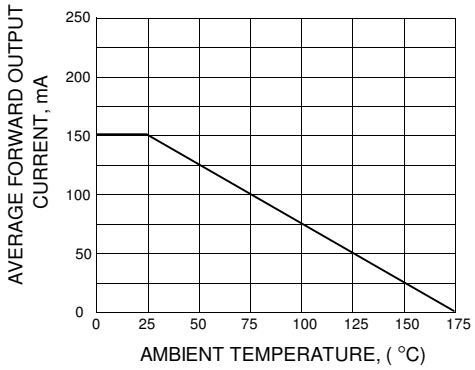


FIG.2 - POWER DARATING CURVE

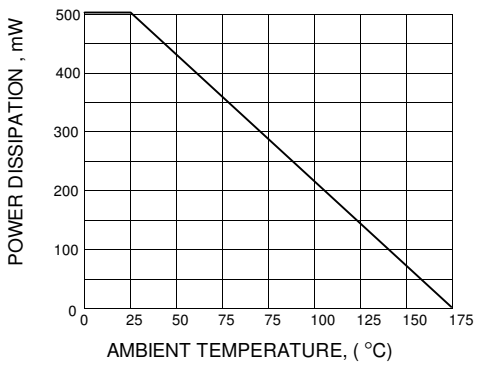


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

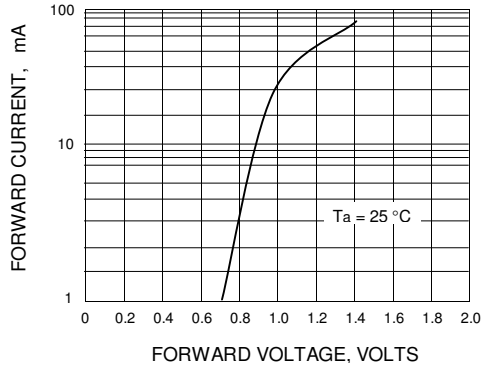


FIG.4 - TYPICAL REVERSE CHARACTERISTICS