

VII. Switching Diode

(b). SMD Type (SOD-123) 1N4148W

(Package: SOD-123)

<p>FEATURES</p> <ul style="list-style-type: none"> • Fast switching speed. • Ideally suited for automated assembly processes. • For general purpose switching application. • High conductance. <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : Molded plastic, SOD-123 • Mounting position : Any • Polarity : Color band denotes cathode end <p>DEVICE MARKING CODE</p> <ul style="list-style-type: none"> • 1N4148W : T4 	<p>Case: SOD-123 Dimensions in millimeters</p>
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Ratings & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	Limits	Unit
Non-Repetitive peak reverse voltage	V_{RM}	100	Volts
Peak repetitive reverse voltage	V_{RRM}	75	Volts
Working peak reverse voltage	V_{RWM}		
DC reverse voltage	V_R		
RMS reverse voltage	$V_{R(RMS)}$	53	Volts
Forward voltage (Max)	V_F	$I_F=1mA$	0.715
		$I_F=10mA$	0.855
		$I_F=50mA$	1.000
		$I_F=150mA$	1.250
Non-repetitive peak forward surge current	I_{FSM}	(@ $t=1.0\mu s$)	2.0
		(@ $t=1.0s$)	1.0
Average rectified output current	I_O	150	mA
Maximum reverse leakage current	I_{RM}	$V_R=75V$	2.5
		$V_R=75V, T_j=150$	50
		$V_R=25V, T_j=150$	30
		$V_R=20V$	25
Power dissipation	P_D	350	mW
Thermal resistance, junction to ambient air	R_{th-JA}	357	/W
Junction capacitance (Max) $V_R=0V, f=1.0MHz$	C_j	2	PF
Reverse recovery time (Max) $I_F=I_R=10mA, I_{RR}=0.1*I_R, R_L=100$	T_{rr}	4	ns
Operating junction and storage temperature range	T_j, T_{stg}	-65 to +150	

Ratings and Characteristic Curves of 1N4148W

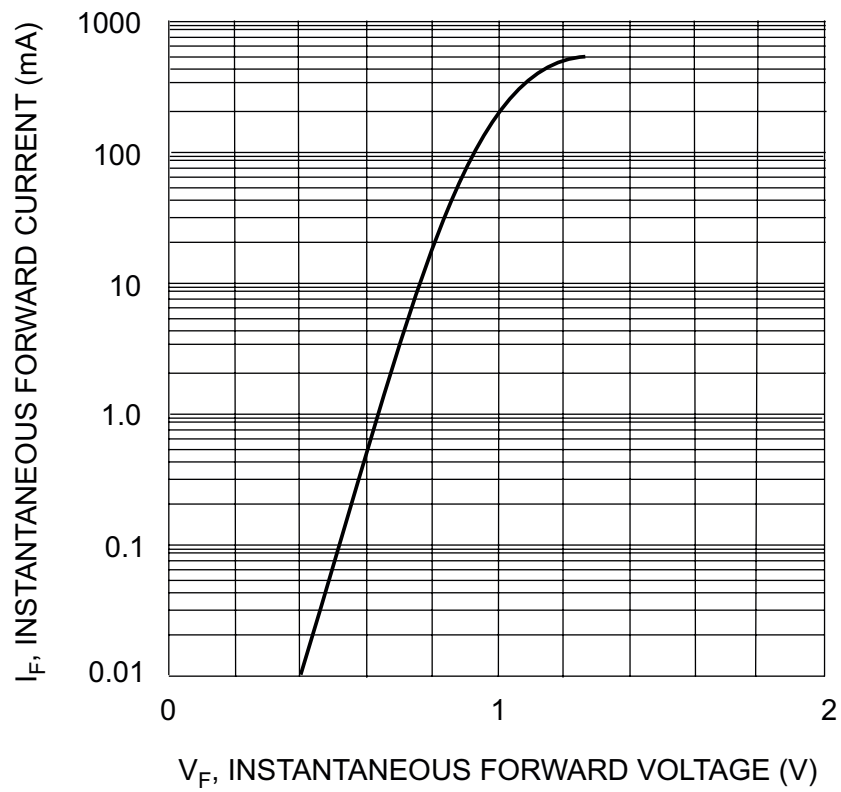


Fig. 1 Forward Characteristics

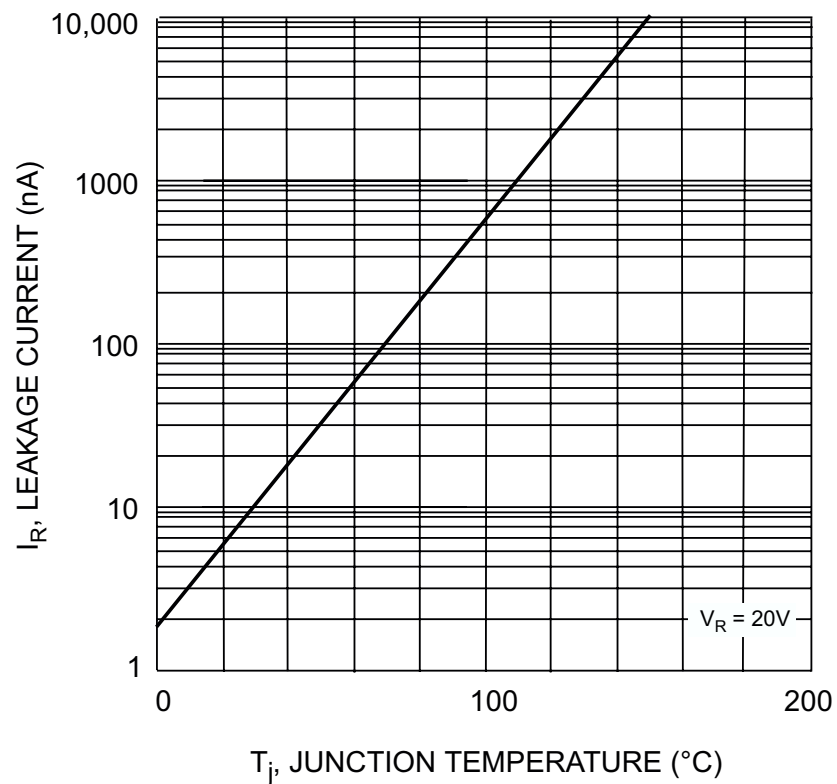


Fig. 2 Leakage Current vs Junction Temperature