

## VII. Switching Diode

### (b). SMD Type (SOD-123)

**1N4148W**

**(Package: SOD-123)**

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

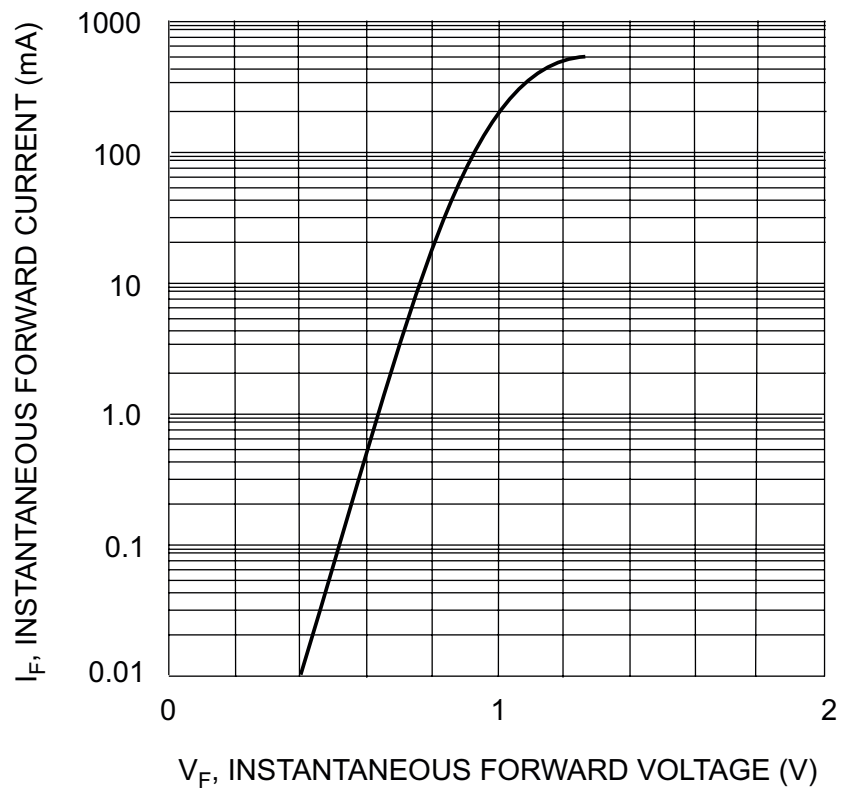


Fig. 1 Forward Characteristics

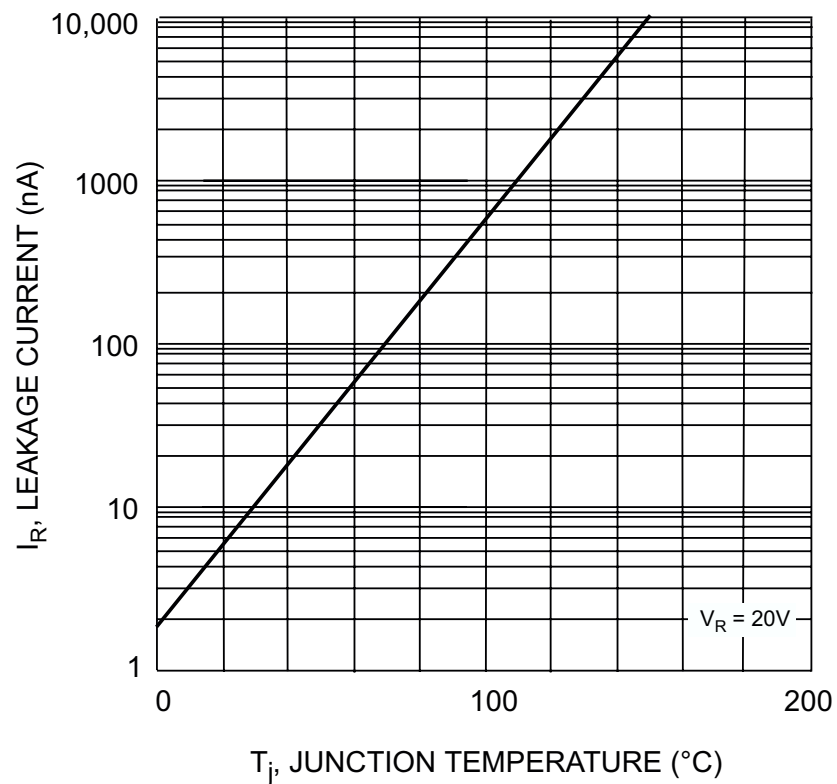


Fig. 2 Leakage Current vs Junction Temperature