

## VII. Switching Diode

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

BAV3004W

(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>• Low leakage current.</li> <li>• High reverse breakdown voltage.</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>• BAV3004W : 4P</li> </ul>	<p>The diagram illustrates the physical dimensions of the SOD-123 package. The top view shows a rectangular case with lead spacing of 3.55 ~ 3.85 mm, lead width of 2.55 ~ 2.85 mm, and a height of 1.4 ~ 1.8 mm. The side view indicates a total height of 1.15 Typ. and a lead thickness of 0.02 ~ 0.10 mm. A cross-sectional view at the bottom shows a thickness of 0.1 Typ. and a lead spacing of 0.3 ~ 0.4 mm.</p> <p>Case: SOD-123 Dimensions in millimeters</p>
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## Ratings & Electrical Characteristics

Characteristic		Symbol	Limits	Unit
Peak repetitive reverse voltage		$V_{RRM}$	350	Volts
Minimum reverse breakdown voltage (@ $I_R=150\mu A$ )		$V_{(BR)R}$	350	Volts
RMS reverse voltage		$V_{R(RMS)}$	212	Volts
Working peak reverse voltage	$V_{RWM}$		300	Volts
DC reverse voltage	$V_R$			
Forward voltage	$I_F=20mA$ $I_F=100mA$ $I_F=200mA$	$V_F$	0.78 (Typ), 0.87 (Max) 0.93 (Typ), 1.00 (Max) 1.03 (Typ), 1.25 (Max)	Volts
Forward continuous current		$I_O$	225	mA
Repetitive peak forward current		$I_{FRM}$	625	mA
Non-repetitive peak forward surge current	@ $t=1.0\mu s$ @ $t=1.0s$	$I_{FSM}$	4 1	Amps
Reverse leakage current	$V_R = 240V, T_j=25$ $V_R = 240V, T_j=150$	$I_R$	30 (Typ), 100 (Max) 35 (Typ), 100 (Max)	nA $\mu A$
Power dissipation		$P_D$	400	mW
Total capacitance $V_R=0V, f=1.0MHz$		$C_T$	1 (Typ), 5 (Max)	PF
Reverse recovery time (Max) $I_F=I_R=30mA, I_{RR}=0.1 * I_R, R_L=100$		$T_{rr}$	50	ns
Thermal resistance, junction to ambient air		$R_{th-JA}$	312	/W
Operating junction & storage temperature range		$T_j, T_{stg}$	-65 to +150	

## Ratings and Characteristic Curves of BAV3004W

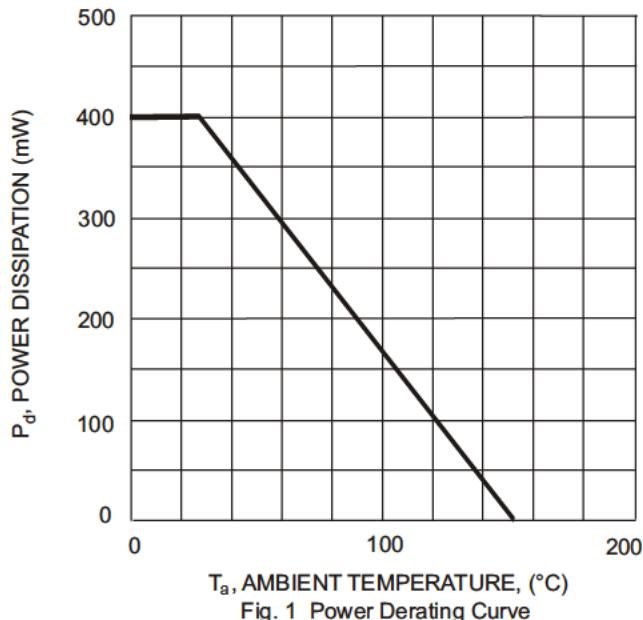


Fig. 1 Power Derating Curve

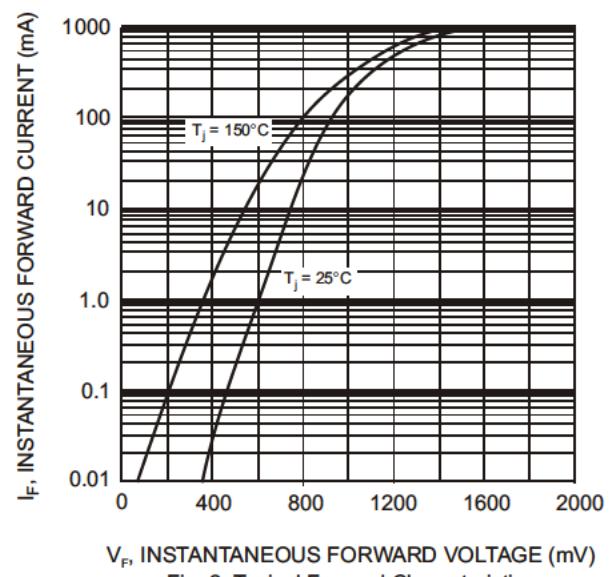


Fig. 2 Typical Forward Characteristics

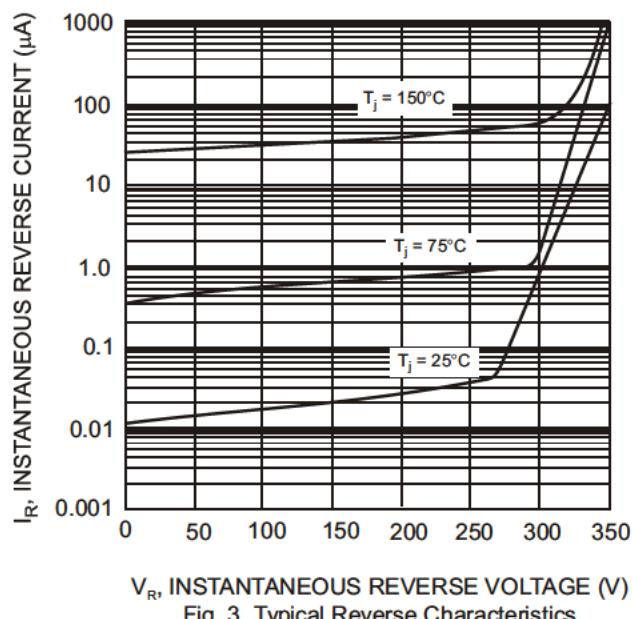


Fig. 3 Typical Reverse Characteristics

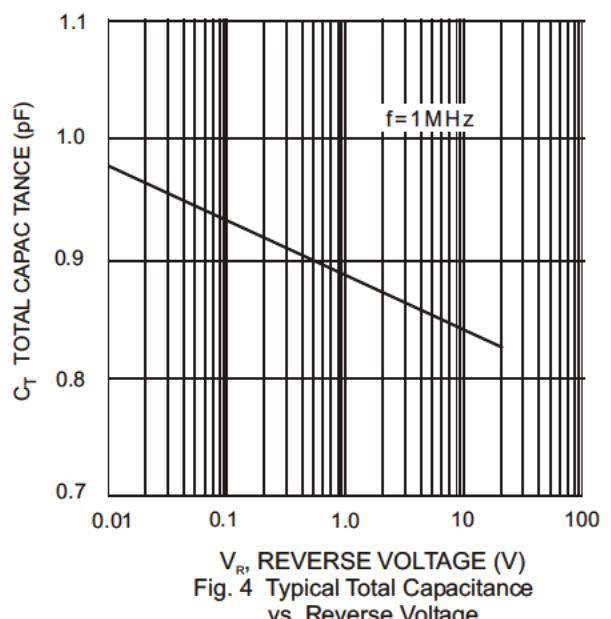


Fig. 4 Typical Total Capacitance vs. Reverse Voltage