# BAV99W

# Silicon Epitaxial Planar Switching Diode





SOT-323 Plastic Package Marking Code: **A7** 

Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)

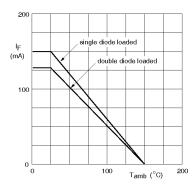
Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		$V_{RRM}$	85	V
Reverse Voltage		$V_R$	75	V
	gle Diode Load uble Diode Load	l <sub>F</sub>	150 130	mA
Repetitive Peak Forward Current		I <sub>FRM</sub>	500	mA
Non-Repetitive Peak Forward Surge Current	at t = 1 µs at t = 1 ms at t = 1 s	I <sub>FSM</sub>	4 1 0.5	Α
Total Power Dissipation		P <sub>tot</sub>	200	mW
Thermal Resistance from Junction to Ambient		$R_{ heta JA}$	625	°C/W
Junction Temperature		Tj	150	°C
Storage Temperature Range		T <sub>stg</sub>	- 55 to + 150	°C

#### Characteristics at T<sub>a</sub> = 25 °C

Parameter	Symbol	Max.	Unit
Forward Voltage at $I_F$ = 1 mA at $I_F$ = 10 mA at $I_F$ = 50 mA at $I_F$ = 150 mA	V <sub>F</sub>	0.715 0.855 1 1.25	V
Reverse Current at $V_R$ = 25 V at $V_R$ = 75 V at $V_R$ = 25 V, $T_j$ = 150 °C at $V_R$ = 75 V, $T_j$ = 150 °C	I <sub>R</sub>	30 1 30 50	nΑ μΑ μΑ μΑ
Diode Capacitance at V <sub>R</sub> = 0, f = 1 MHz	C <sub>d</sub>	1.5	pF
Reverse Recovery Time at $I_F = I_R = 10$ mA, $I_{rr} = 0.1$ X $I_R$ , $R_L = 100$ $\Omega$	t <sub>rr</sub>	4	ns

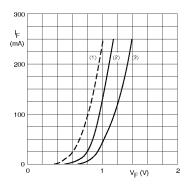
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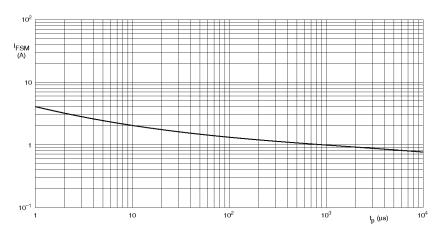
Device mounted on an FR4 printed-circuit board.

Maximum permissible continuous forward current as a function of ambient temperature.



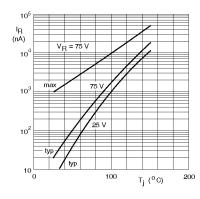
- (1)  $T_j = 150 \,^{\circ}\text{C}$ ; typical values. (2)  $T_j = 25 \,^{\circ}\text{C}$ ; typical values. (3)  $T_j = 25 \,^{\circ}\text{C}$ ; maximum values.

Forward current as a function of forward voltage.

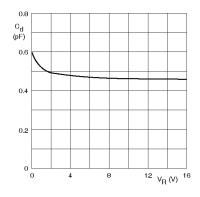


Based on square wave currents.  $T_j$  = 25 °C prior to surge.

Maximum permissible non-repetitive peak forward current as a function of pulse duration.



Reverse current as a function of junction temperature.



f = 1 MHz;  $T_j = 25 \, ^{\circ}\text{C}$ .

Diode capacitance as a function of reverse voltage; typical values.

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