

# Surface Mount Switching Diode



## BAV99W Thru BAW56W Voltage: 70 Volts Current: 215mA



### Features

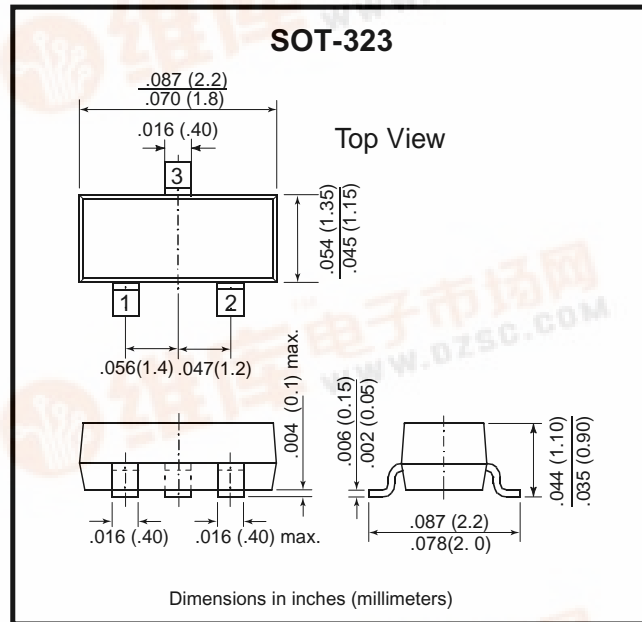
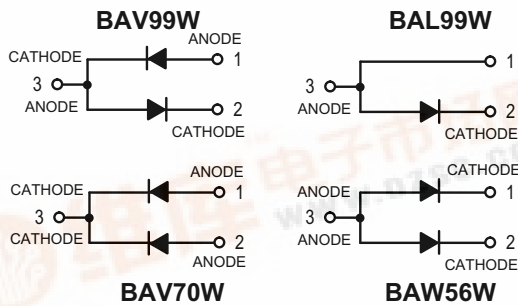
Fast Switching Speed  
Surface Mount Package Ideally Suited  
for Automatic Insertio

For General Purpose Switching Applications  
High Conductance

### Mechanical data

Case: SOT- 323, Plastic  
Approx. Weight: 0.008 gram

This diodes is also available in other configurations including a dual common cathode with type designation BAV70W,a dual common anodes with type designation BAW56 and single chip inside with type Designation BAL99W



### Maximum Ratings

Rating	Symbol	Value	Units
Continuous Reverse Voltage	$V_R$	70	$V_{DC}$
Peak Forward Current	$I_F$	215	mAdc
Peak Forward Surge Current	$I_{FM}(surge)$	500	mAdc

### Thermal Characteristics

Characteristic	Symbol	Max	Units
Total Device Dissipation FR- 5 Board(1) $T_A = 25^\circ C$	$P_D$	225	mW
Derate above $25^\circ C$		1.8	mW/ $^\circ C$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ C/W$
Total Device Dissipation Alumina Substrate,(2) $T_A = 25^\circ C$	$P_D$	300	mW
Derate above $25^\circ C$		2.4	mW/ $^\circ C$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ C/W$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ C$

### Electrical Characterics (TA = 25°C unless otherwise noted)

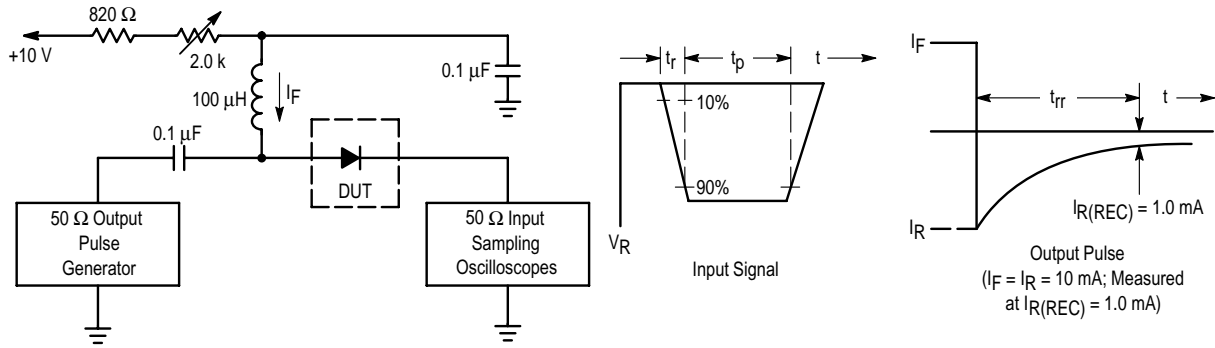
Characteristic (OFF CHARACTERISTICS)	Symbol	Min	Max	Units
Reverse Breakdown Voltage ( $I_{BR} = 100 \mu A_{dc}$ )	$V_{(BR)}$	70	-	Vdc
Reverse Voltage Leakage Current $V_R = 25 V_{dc}, T_J = 150^\circ C$	$I_R$	-	30	$\mu A_{dc}$
		$V_R = 70 V_{dc}$	2.5	
		$V_R = 70 V_{dc}, T_J = 150^\circ C$	50	
Diode Capacitance ( $V_R = 0, f = 1.0 MHz$ )	$C_D$		1.5	pF
Forward Voltage $I_F = 1.0 mA_{dc}$	VF	-	715	mV
		$I_F = 10 mA_{dc}$	855	
		$I_F = 50 mA_{dc}$	1000	
		$I_F = 150 mA_{dc}$	1250	
Reverse Recovery Time ( $I_F = I_R = 10 mA_{dc}, I_{R(REC)} = 1.0 mA_{dc}$ ) $R_L = 100 \Omega$	$T_{rr}$		6.0	nS

1.FR-5 = 1.0 X 0.75X 0.062 in. 2.Aluminum = 0.4X 0.3X 0.024 in. 99.5% aluminum.



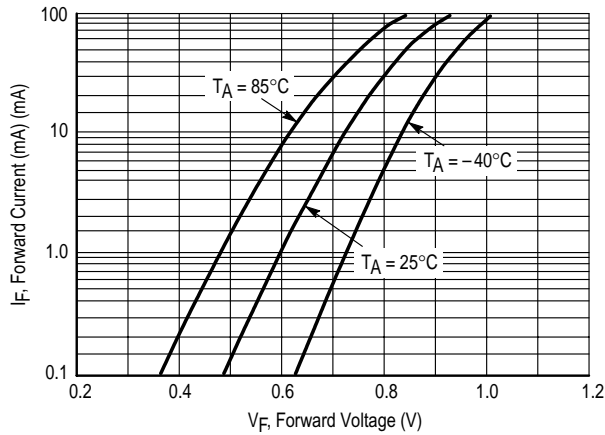
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## RATING AND CHARACTERISTIC CURVES (BAV99W Thru BAW56W)

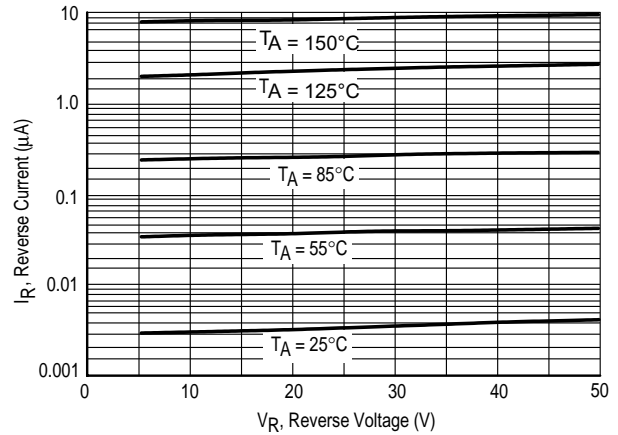


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10 mA.  
 3.  $t_p \gg t_{rr}$

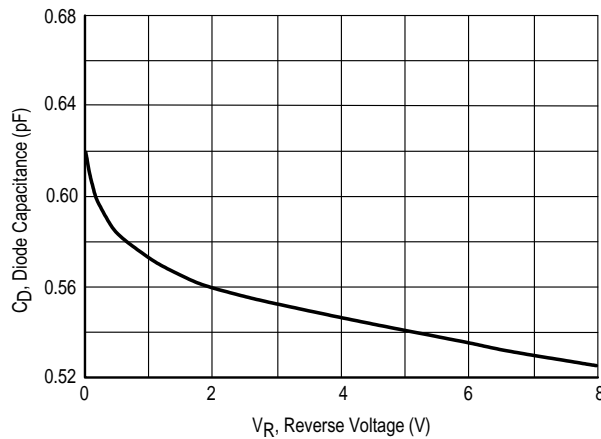
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**