WEITRON

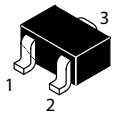
BAS16W / BAV70W
BAW56W / BAV99W

Surface Mount Switching Diode

*** "G" Lead(Pb)-Free**

SWITCHING DIODE
200-215m AMPERRES
70-75 VOLTS

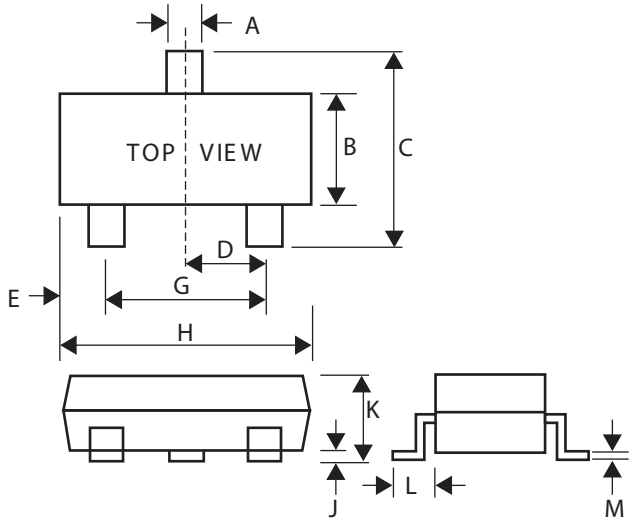
Features:
*Low Current Leakage
*Low Forward Voltage
*Reverse Recover Time Trr ≦ 6ns
*Small Outline Surface Mount SOT-323 Package



SOT-323(SC-70)

SOT-323 Outline Demensions

Unit:mm



SOT-323		
Dim	**Min**	**Max**
A	0.30	0.40
B	1.15	1.35
C	2.00	2.40
D	-	0.65
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.00	0.10
K	0.80	1.00
L	0.42	0.53
M	0.10	0.25

Maximum Ratings (EACH DIODE)

Characteristic	Symbol	BAS16W	BAV70W	BAW56W	BAV99W	Unit
Reverse Voltage	V_R	75	70			Volts
Forward Current	I_F	200			215	mAdc
Peak Forward Surge Current	I_{FM}	500				mAdc

Thermal Characteristics

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board *1, TA=25°C Derate Above 25°C	P_D	200 1.6	mW mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	625	°C/W
Total Device Dissipation Alumina Substrate*2 TA=25°C Derate Above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	-55 to + 150	°C

*1 ER-5=1.0x0.75x0.062 in
*2 Alumina=0.4x0.3x0.024 in 99.5% Alumina

Electrical Characteristics (TA=25°C Unless Otherwise Note) (Each Diode)

Characteristic	Symbol	Min	Max	Unit
Off Characteristics				
Reverse Breakdown Voltage BAS16W (I_{BR}=100 μAdc) BAV70W/BAW56W/BAV99W	V_{BR}	75 70		Vdc
Reverse Voltage Leakage Current				
V_R=75V BAS16W			1.0	
V_R=70V BAV70W/BAW56W/BAV99W			2.5	
V_R=25V, T_J=150°C BAS16W/BAW56W/BAV99W	I_R		30.0	μAdc
V_R=25V, T_J=150°C BAV70W			60.0	
V_R=75V, T_J=150°C BAS16W			50.0	
V_R=70V, T_J=150°C BAW56W/BAV99W			50.0	
V_R=70V, T_J=150°C BAV70W			100.0	

Off Characteristic

Characteristic	Symbol	Min	Max	Unit
Diode Capacition BAS16W/BAW56W (V_R=0, f=1.0MHz) BAV70W/BAV99W	C_D		2.0 1.5	PF
Forward Voltage (I_F=1.0 mAdc) (I_F=10 mAdc) (I_F=50 mAdc) (I_F=150 mAdc)	V_F		715 855 1000 1250	mVdc
Reverse Recovery Time (Figure 1.) I_F=I_R=10 mAdc, V_R=5.0Vdc $I_{R(REC)}$=1.0 mAdc, R_L=100Ω	t_{rr}		6.0	nS

Device Marking

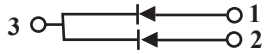
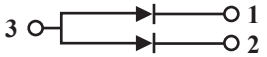
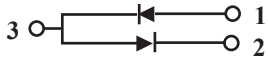
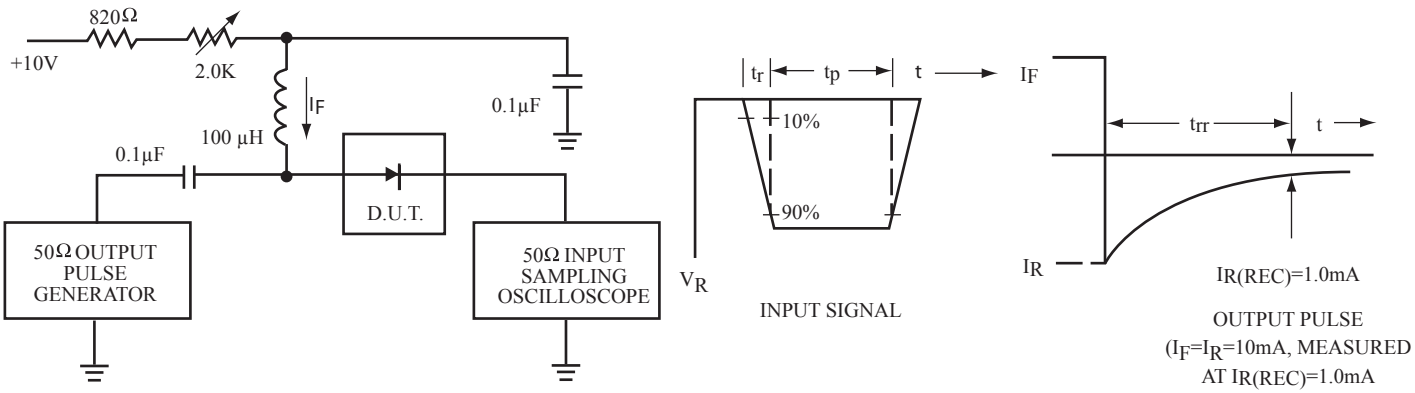
Item	Marking	Eqivalent Circuit diagram
BAS16W	A6	
BAV70W	A4	
BAW56W	A1	
BAV99W	A7	

Figure 1. Recovery Time Equivalent Test Circuit



Notes:1. A 2.0 kΩ variable resistor for a Forward Current (I_F) 0f 10 mA

2. Input pules is adjusted so I_R(peak) is equal to 10 mA

3. $t_p \gg t_{rr}$

FIGURE 2 .FORWARD VOLTAGE

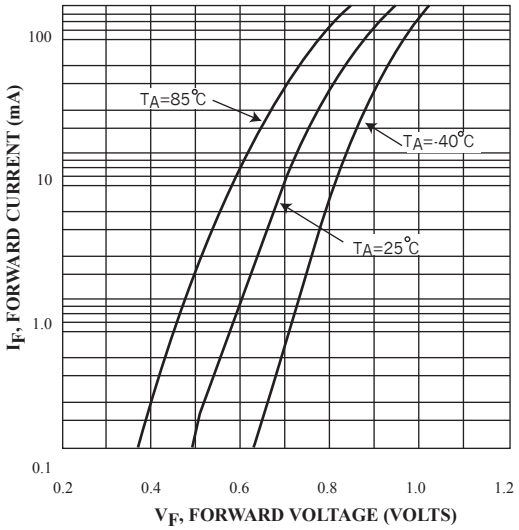


FIGURE 3. LEAKAGE CURRENT

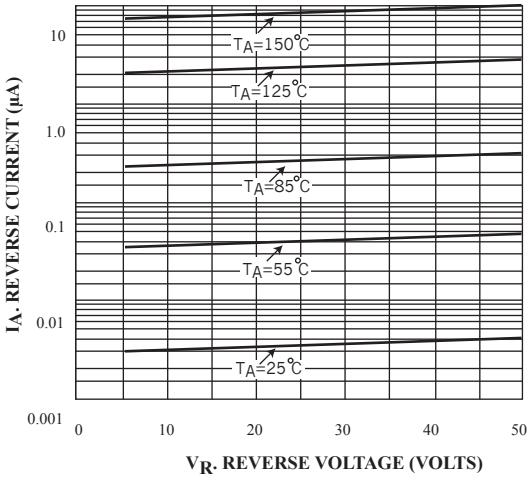


FIGURE 4. CAPACITANCE(BAS16W)

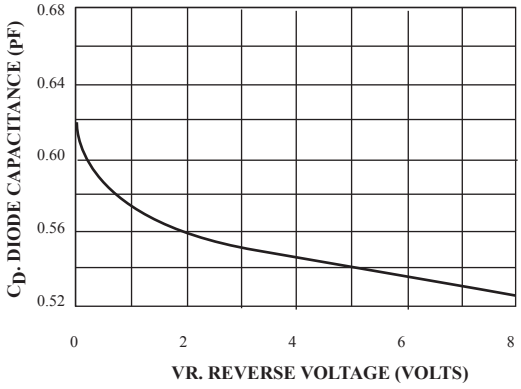


FIGURE 5. CAPACITANCE (BAV70W)

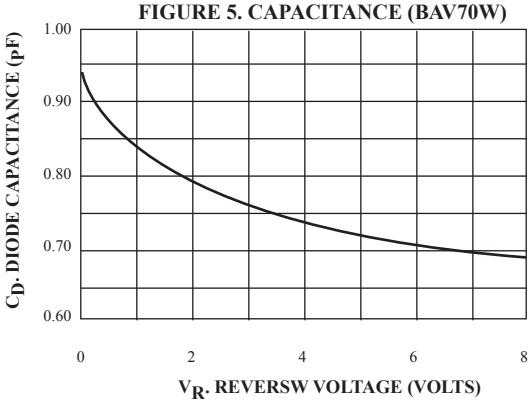
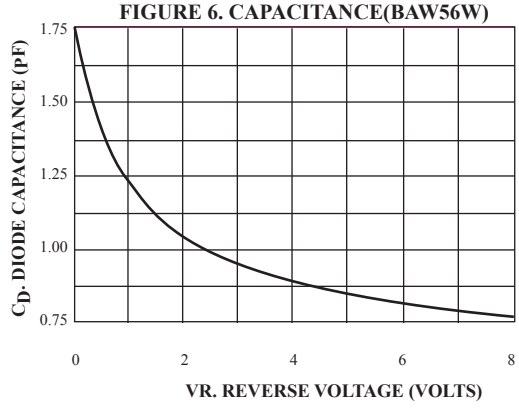


FIGURE 6. CAPACITANCE(BAW56W)



FIGUTRE 7. CAPACITANCE (BAV99W)