SEMICONDUCTOR

DATA SHEET

BAW56W

Dual Switching Diodes

- Pb-Free Package is Available.

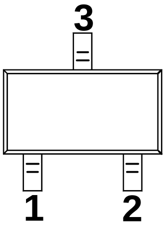
DEVICE MARKING

BAW56W = A1

MAXIMUM RATINGS (T$_A$ = 25°C)

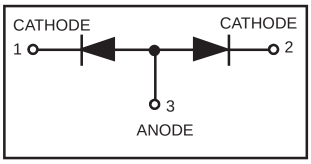
Rating	Symbol	Max	Unit
Reverse Voltag	V_R	70	Vdc
Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

SOT–323



Ordering Information

Device	Marking	Shipping
BAW56W	A1	3000/Tape&Reel



THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR–5 Board[1]	P_D	200	mW
T$_A$ = 25°C			
Derate above 25°C		1.6	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.625	°C/W
Total Device Dissipation	P_D	300	mW
Alumina Substrate[2] T$_A$ = 25°C			
Derate above 25°C		2.4	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

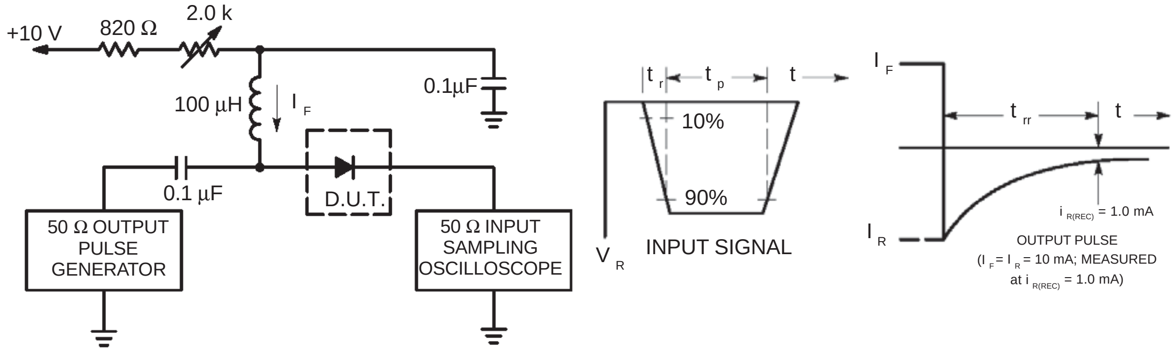
ELECTRICAL CHARACTERISTICS (T$_A$ = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage	$V_{(BR)}$	70	—	Vdc
($I_{(BR)}$ = 100 μAdc)				
Reverse Voltage Leakage Current	I_R			μAdc
(V_R = 25 Vdc, T_J = 150°C)		—	30	
(V_R = 70 Vdc)		—	2.5	
(V_R = 70 Vdc, T_J = 150°C)		—	50	
Diode Capacitance	C_D	—	2.0	pF
(V_R = 0, f = 1.0 MHz)				
Forward Voltage	V_F			mVdc
(I_F = 1.0 mAdc)		—	715	
(I_F = 10 mAdc)		—	855	
(I_F = 60 mAdc)		—	1000	
(I_F = 150 mAdc)		—	1250	
Reverse Recovery Time	t_{rr}	—	6.0	ns
(I_F = I_R = 10 mAdc, R_L = 100 Ω, $I_{R(REC)}$ = 1.0 mAdc) (Figure 1)				

1. FR–5 = 1.0 × 0.75 × 0.062 in.
2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

DEVICE CHARACTERISTICS

BAW56W



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

2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.

3. $t_p » t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

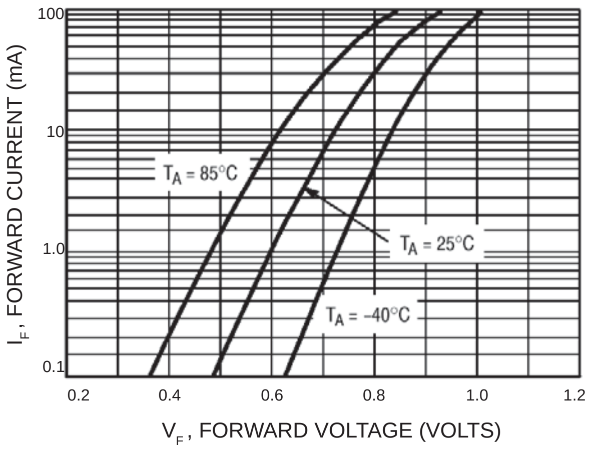


Figure 2. Forward Voltage

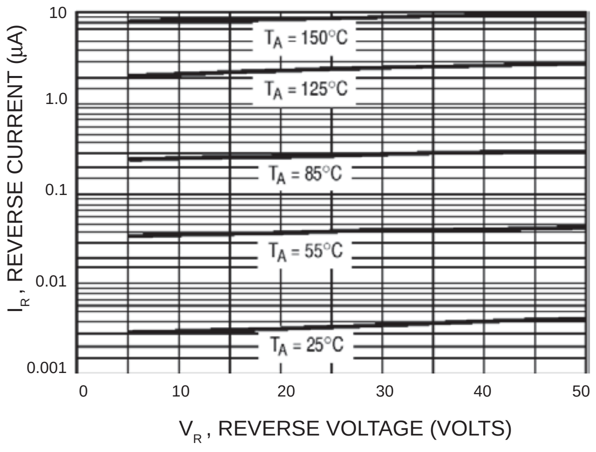


Figure 3. Leakage Current

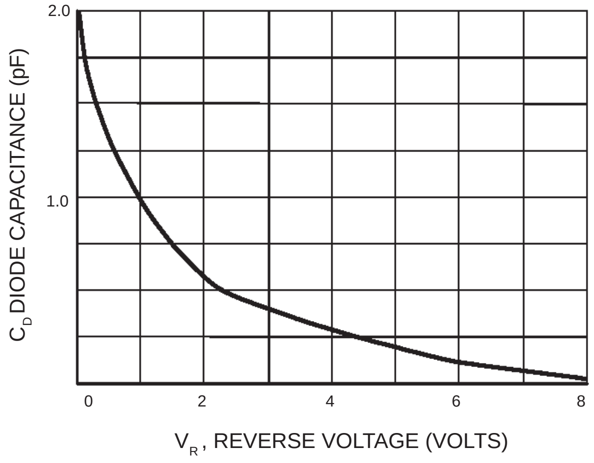
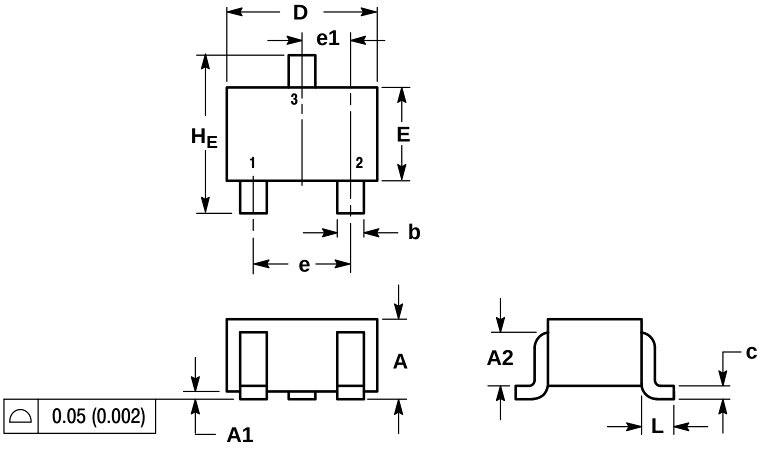


Figure 4. Capacitance

PACKAGE OUTLINE & DIMENSIONS

BAW56W

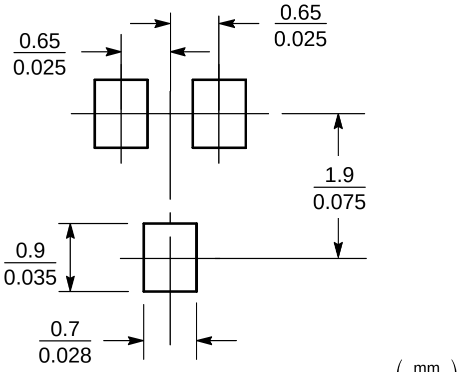
SOT−323



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

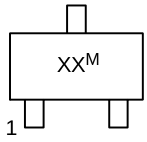
	MILLIMETERS			INCHES		
DIM	**MIN**	**NOM**	**MAX**	**MIN**	**NOM**	**MAX**
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
H_E	2.00	2.10	2.40	0.079	0.083	0.095

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

GENERIC MARKING DIAGRAM



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “ ▪”, may or may not be present.