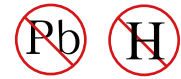




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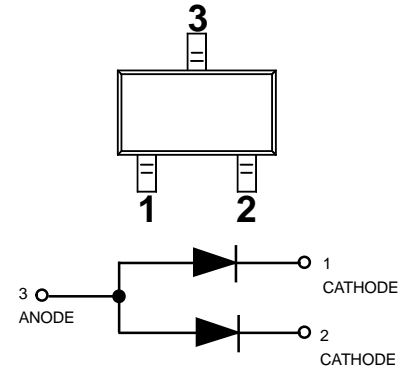
BAW56

# Monolithic Dual Switching Diode Common Anode



- Pb-Free Package is Available.
- ESD Rating: Human Body Model, class 3A

SOT-23 (TO-236AB)



Marking :A1

## MAXIMUM RATINGS (EACH DIODE)

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

## THERMAL CHARACTERISTICS

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

## ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

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

1. FR-5 =  $1.0 \times 0.75 \times 0.062 \text{ in.}$

2. Alumina =  $0.4 \times 0.3 \times 0.024 \text{ in.}$  99.5% alumina.

# DEVICE CHARACTERISTICS

## BAW56

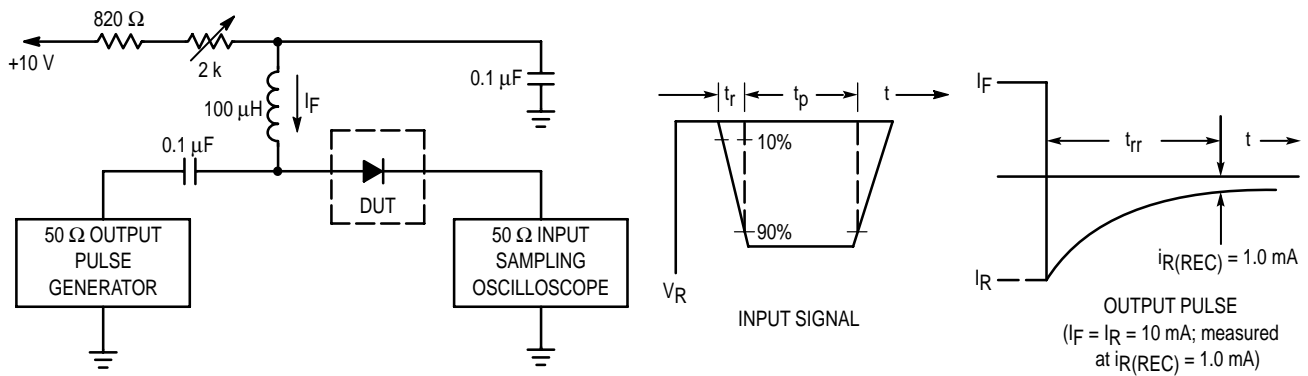


Figure 1. Recovery Time Equivalent Test Circuit

### CURVES APPLICABLE TO EACH CATHODE

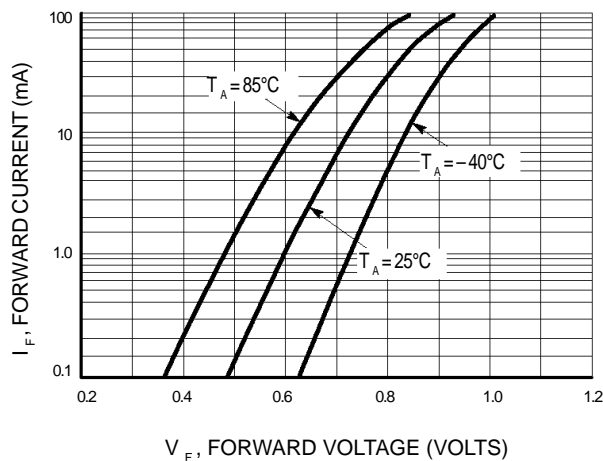


Figure 2. Forward Voltage

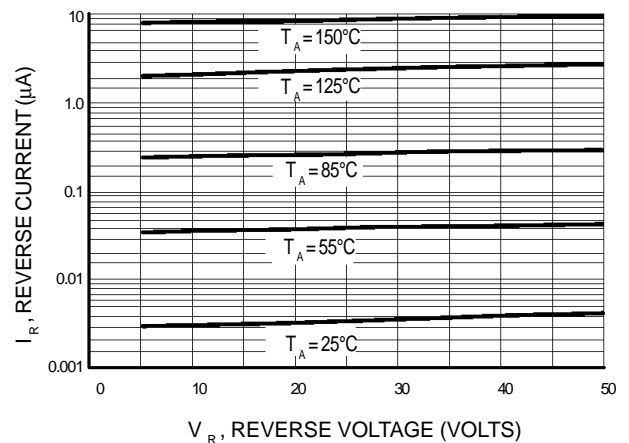


Figure 3. Leakage Current

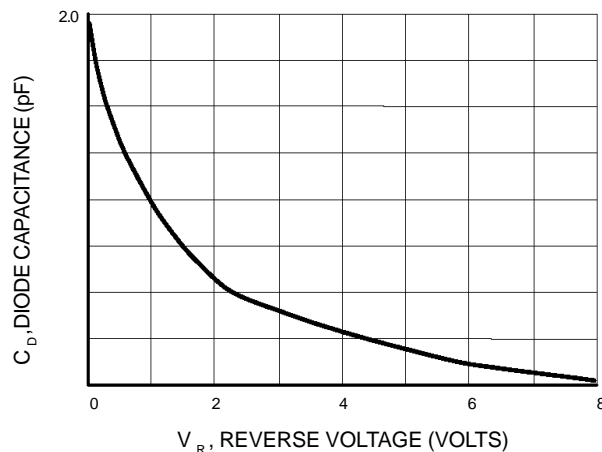
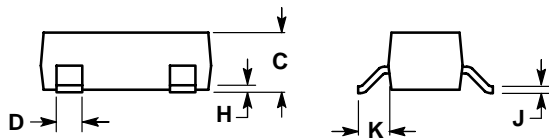
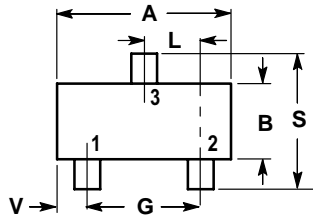


Figure 4. Capacitance

# PACKAGE OUTLINE & DIMENSIONS

## BAW56

### SOT-23



#### NOTES:

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

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

