

# BAW56LT1

Preferred Device

## Monolithic Dual Switching Diode Common Anode

### MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	70	Vdc
Forward Current	$I_F$	200	mA <sub>dc</sub>
Peak Forward Surge Current	$I_{FM(surge)}$	500	mA <sub>dc</sub>
Non-Repetitive Peak Forward Current $t = 1 \mu s$ (Note 3)	$I_{FSM}$	4	A

### THERMAL CHARACTERISTICS

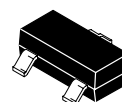
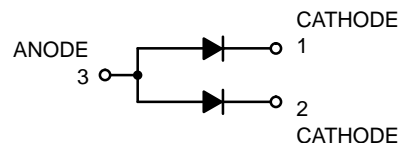
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ C$ Derate above $25^\circ C$	$P_D$	225	mW
		1.8	mW/ $^\circ C$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	$^\circ C/W$
Total Device Dissipation Alumina Substrate, (Note 2) $T_A = 25^\circ C$ Derate above $25^\circ C$	$P_D$	300	mW
		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	$^\circ C$

- FR-5 =  $1.0 \times 0.75 \times 0.062$  in.
- Alumina =  $0.4 \times 0.3 \times 0.024$  in. 99.5% alumina.
- Square Wave;  $T_j = 25^\circ C$ .



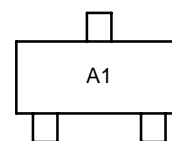
ON Semiconductor®

<http://onsemi.com>



SOT-23(TO-236)  
CASE 318  
Style 12

### MARKING DIAGRAM



A1 = Specific Device Code

### ORDERING INFORMATION

Device	Package	Shipping†
BAW56LT1	SOT-23	3000 / Tape & Reel
BAW56LT3	SOT-23	10,000 / Tape & Reel

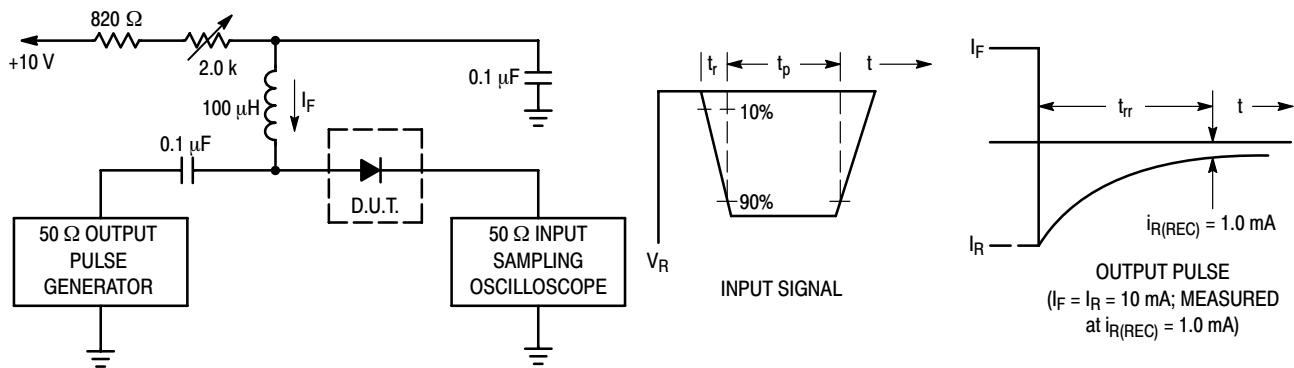
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

# BAW56LT1

## 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 ( $I_{BR} = 100 \mu\text{A}$ )	$V_{(BR)}$	70	–	Vdc
Reverse Voltage Leakage Current ( $V_R = 25 \text{ Vdc}$ , $T_J = 150^\circ\text{C}$ ) ( $V_R = 70 \text{ Vdc}$ ) ( $V_R = 70 \text{ Vdc}$ , $T_J = 150^\circ\text{C}$ )	$I_R$	– – –	30 2.5 50	$\mu\text{A}$
Diode Capacitance ( $V_R = 0$ , $f = 1.0 \text{ MHz}$ )	$C_D$	–	2.0	pF
Forward Voltage ( $I_F = 1.0 \text{ mA}$ ) ( $I_F = 10 \text{ mA}$ ) ( $I_F = 50 \text{ mA}$ ) ( $I_F = 150 \text{ mA}$ )	$V_F$	– – – –	715 855 1000 1250	mVdc
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mA}$ , $I_{R(REC)} = 1.0 \text{ mA}$ ) (Figure 1) $R_L = 100 \Omega$	$t_{rr}$	–	6.0	ns



- 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**

# BAW56LT1

## Curves Applicable to Each Cathode

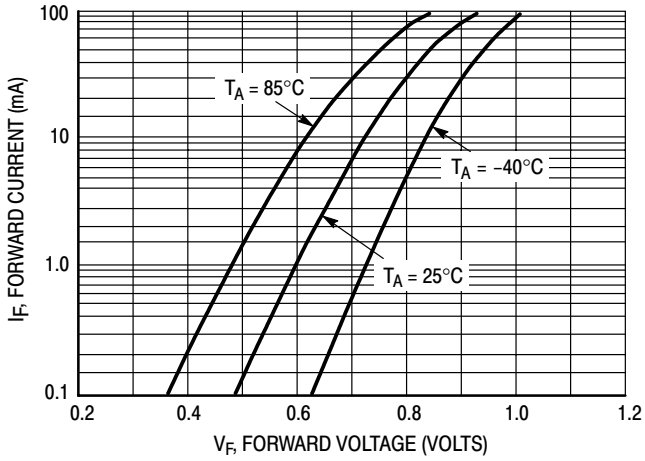


Figure 2. Forward Voltage

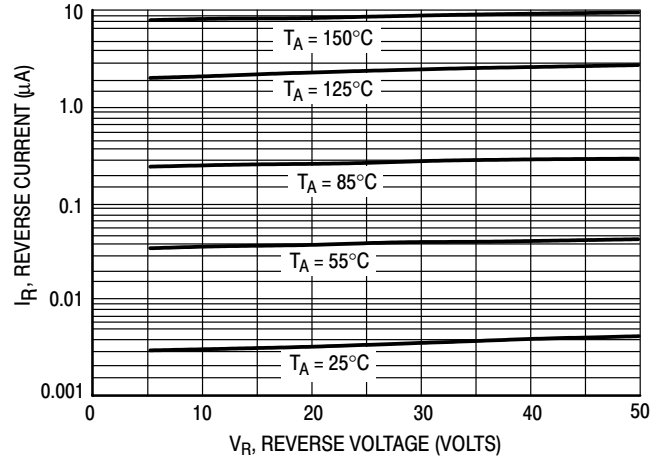


Figure 3. Leakage Current

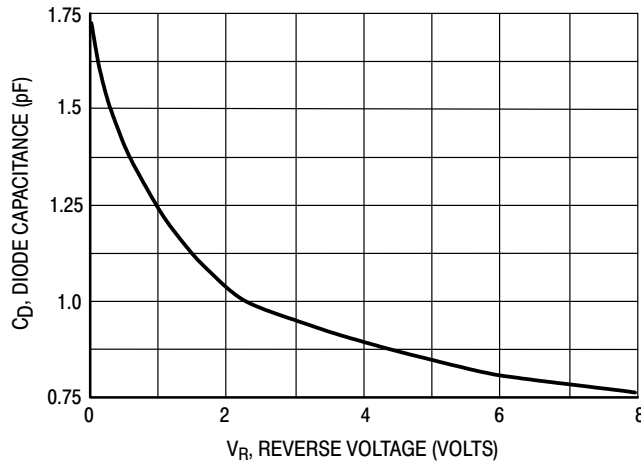


Figure 4. Capacitance

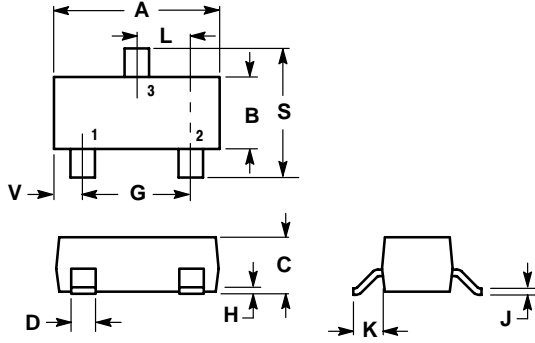
# BAW56LT1

## PACKAGE DIMENSIONS

SOT-23-3 (TO-236)  
CASE 318-08  
ISSUE AH

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-03 AND -07 OBSOLETE, NEW STANDARD 318-08.

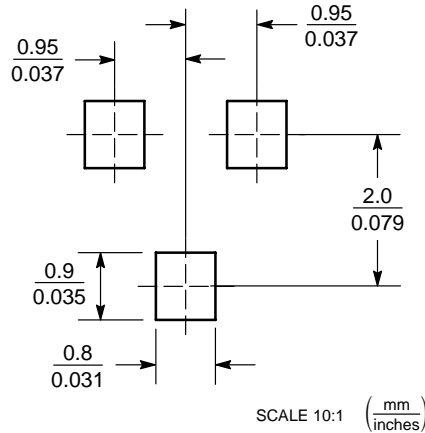


DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10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

STYLE 12:

1. CATHODE
2. CATHODE
3. ANODE

### SOLDERING FOOTPRINT



SOT-23-3

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