

# BAW56LT1

Preferred Device

勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)



ON Semiconductor®

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## Features

- Pb-Free Packages are Available

## 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
Non-Repetitive Peak Forward Current $t = 1 \mu s$ (Note 3)	$I_{FSM}$	4	A

## THERMAL CHARACTERISTICS

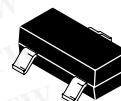
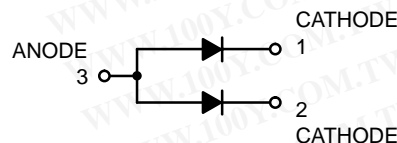
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ C$ Derate above $25^\circ C$	$P_D$	225	mW
		1.8	mW/ $^\circ C$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	$^\circ C/W$
Total Device Dissipation Alumina Substrate, (Note 2) $T_A = 25^\circ C$ Derate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

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

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

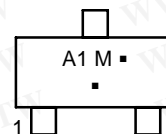
2. Alumina =  $0.4 \times 0.3 \times 0.024$  in. 99.5% alumina.

3. Square Wave;  $T_J = 25^\circ C$ .



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

## MARKING DIAGRAM



A1 = Device Code

M = Date Code\*

■ = Pb-Free Package

(Note: Microdot may be in either location)

\*Date Code orientation and overbar may vary depending upon manufacturing location.

## ORDERING INFORMATION

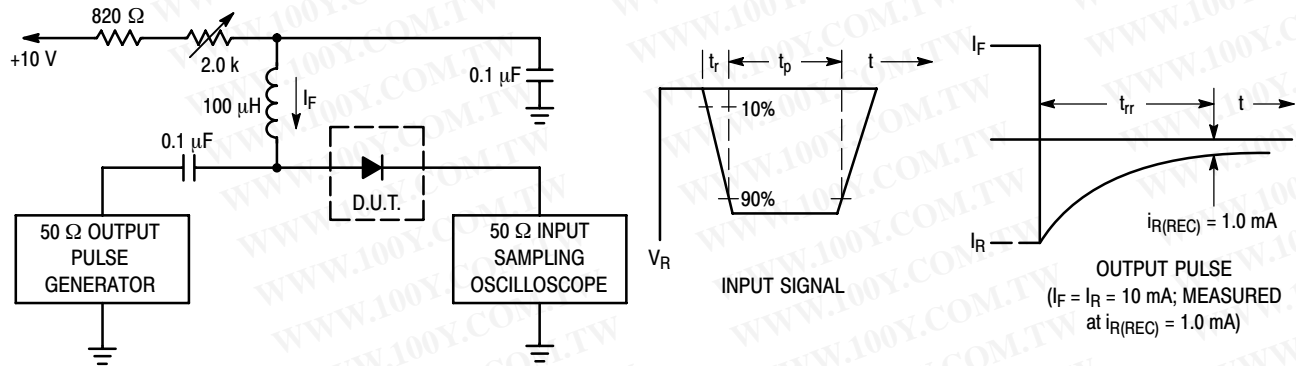
Device	Package	Shipping†
BAW56LT1	SOT-23	3000 / Tape & Reel
BAW56LT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel
BAW56LT3	SOT-23	10,000 / Tape & Reel
BAW56LT3G	SOT-23 (Pb-Free)	10,000 / Tape & Reel

†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.

**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 ( $V_R = 25\ \text{Vdc}$ , $T_J = 150^\circ\text{C}$ ) ( $V_R = 70\ \text{Vdc}$ ) ( $V_R = 70\ \text{Vdc}$ , $T_J = 150^\circ\text{C}$ )	$I_R$	– – –	30 2.5 50	$\mu\text{Adc}$
Diode Capacitance ( $V_R = 0$ , $f = 1.0\ \text{MHz}$ )	$C_D$	–	2.0	pF
Forward Voltage ( $I_F = 1.0\ \text{mAdc}$ ) ( $I_F = 10\ \text{mAdc}$ ) ( $I_F = 50\ \text{mAdc}$ ) ( $I_F = 150\ \text{mAdc}$ )	$V_F$	– – – –	715 855 1000 1250	mVdc
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


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

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Curves Applicable to Each Cathode

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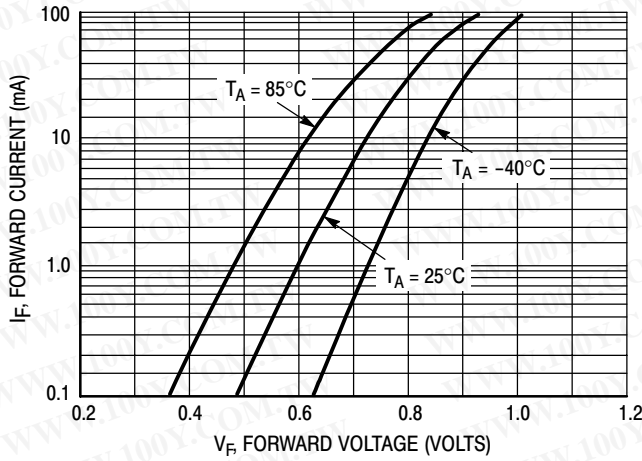


Figure 2. Forward Voltage

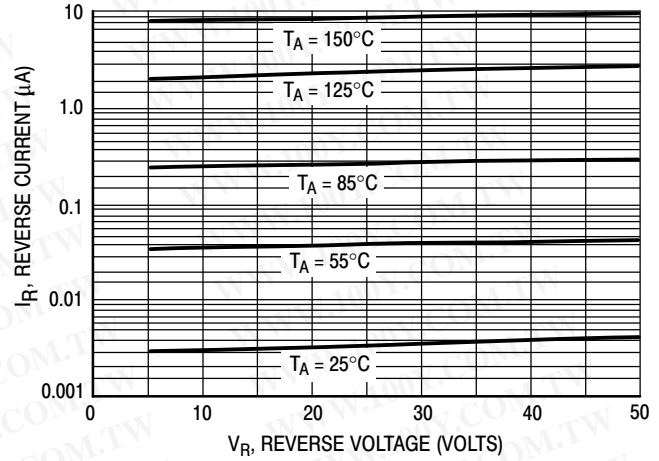


Figure 3. Leakage Current

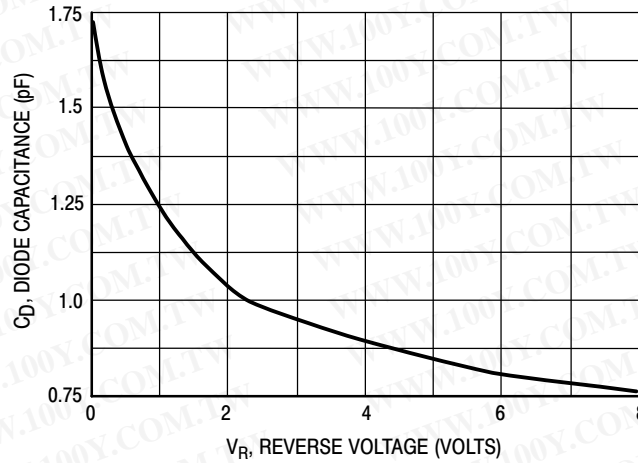


Figure 4. Capacitance

# BAW56LT1

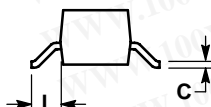
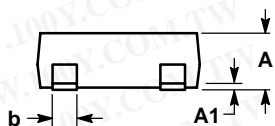
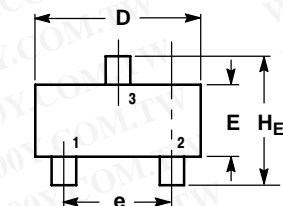
## PACKAGE DIMENSIONS

SOT-23-3 (TO-236)

CASE 318-08

ISSUE AL

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### NOTES:

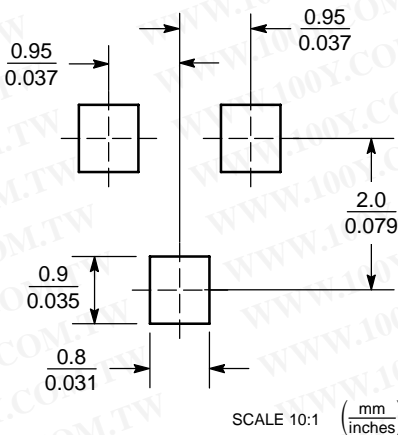
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
H_E	2.10	2.40	2.64	0.083	0.094	0.104


### STYLE 12:

1. CATHODE
2. CATHODE
3. ANODE

## SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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