

BAW56LT1

Preferred Device

Dual Switching Diode Common Anode

Features

- Pb-Free Packages are Available

MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	70	V
Forward Current	I_F	200	mA
Peak Forward Surge Current	$I_{FM(surge)}$	500	mA
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	$^\circ C$

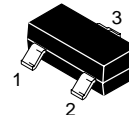
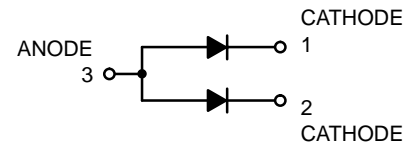
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

- 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; $T_J = 25^\circ C$.



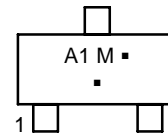
ON Semiconductor®

<http://onsemi.com>



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

MARKING DIAGRAM



- A1 = 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

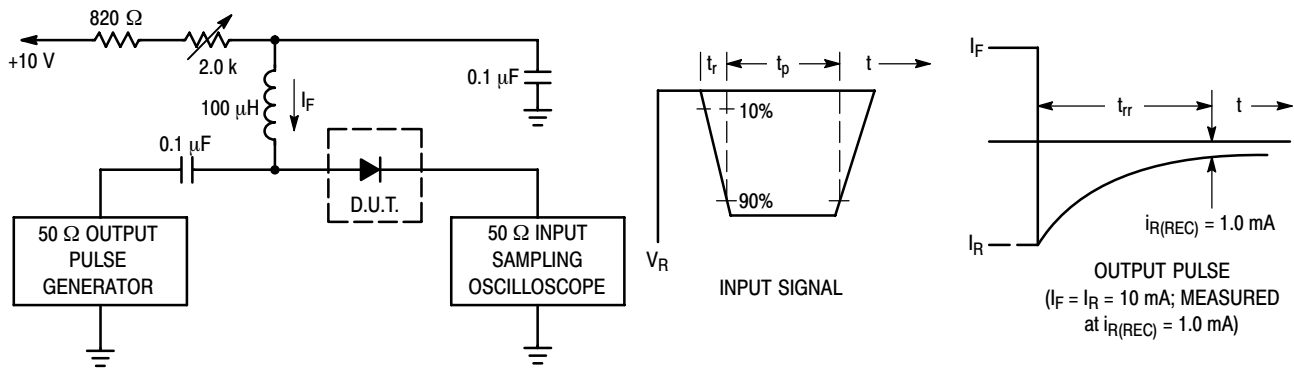
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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

BAW56LT1

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (Each Diode)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage $(I_{(BR)} = 100 \mu\text{A})$	$V_{(BR)}$	70	–	V
Reverse Voltage Leakage Current $(V_R = 25 \text{ V}, T_J = 150^\circ\text{C})$ $(V_R = 70 \text{ V})$ $(V_R = 70 \text{ V}, T_J = 150^\circ\text{C})$	I_R	– – –	30 2.5 50	μA
Diode Capacitance $(V_R = 0 \text{ V}, f = 1.0 \text{ MHz})$	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	mV
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 k Ω 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

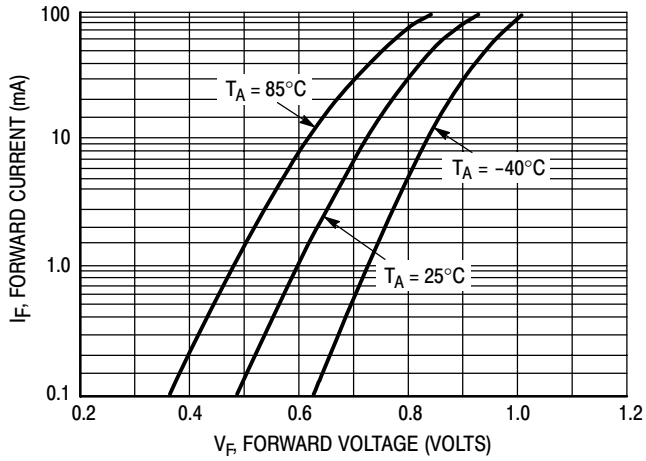


Figure 2. Forward Voltage

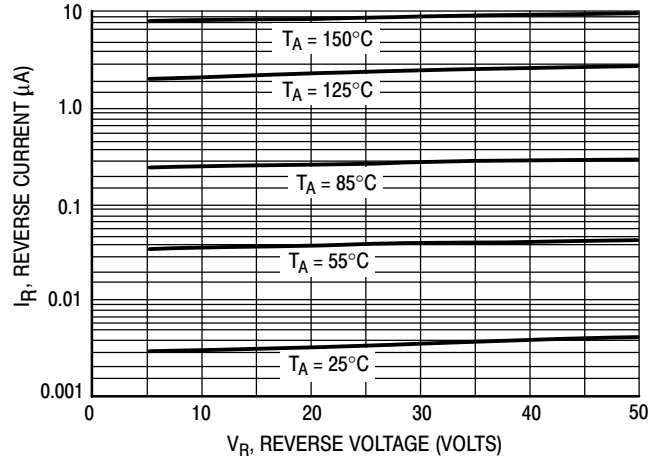


Figure 3. Leakage Current

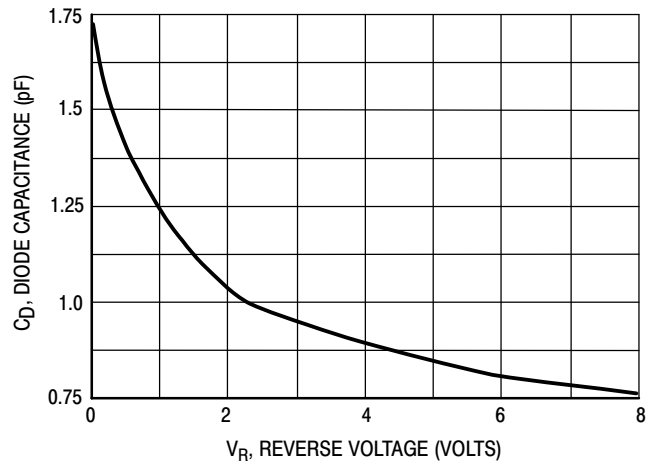
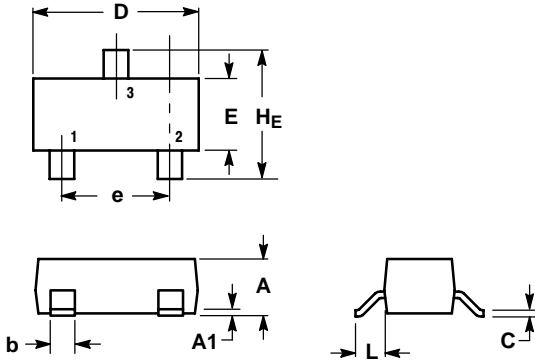


Figure 4. Capacitance

BAW56LT1

PACKAGE DIMENSIONS

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



NOTES:

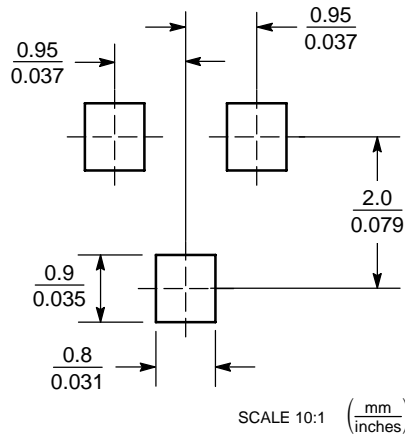
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

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
HE	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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