

# BAW56WT1

Preferred Device

## Dual Switching Diode, Common Anode

### Features

- Pb-Free Package is Available

### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Rating	Symbol	Max	Unit
Reverse Voltage	V <sub>R</sub>	70	V
Forward Current	I <sub>F</sub>	200	mA
Peak Forward Surge Current	I <sub>FM(surge)</sub>	500	mA

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.

### THERMAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	200	mW
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	625	°C/W
Total Device Dissipation Alumina Substrate (Note 2) T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	300	mW
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	417	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150	°C

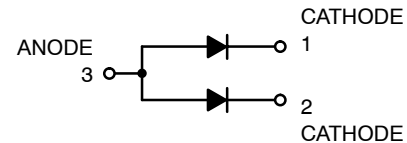
1. FR-5 = 1.0 × 0.75 × 0.062 in.

2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

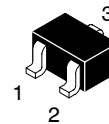


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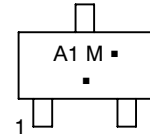
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### MARKING DIAGRAM



SC-70  
CASE 419  
STYLE 4



A1 = Device Code  
M = Date Code\*  
▪ = Pb-Free Package

(Note: Microdot may be in either location)  
\*Date Code orientation may vary depending upon manufacturing location.

### ORDERING INFORMATION

Device	Package	Shipping†
BAW56WT1	SC-70	3000/Tape & Reel
BAW56WT1G	SC-70 (Pb-Free)	3000/Tape & Reel

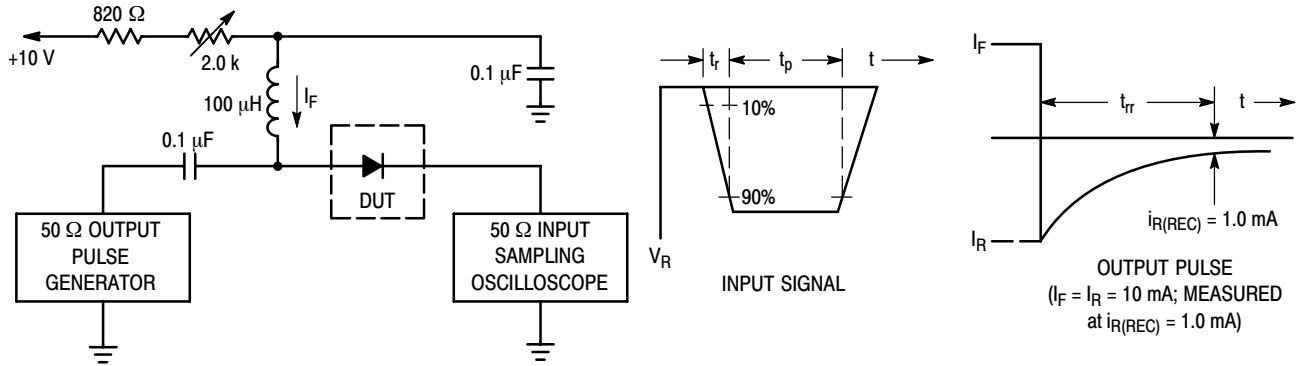
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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

# BAW56WT1

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
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	$\mu\text{A}$
Diode Capacitance ( $V_R = 0$ , $f = 1.0 \text{ MHz}$ )	$C_D$	-	2.0	pF
Forward Voltage ( $I_F = 1.0 \text{ mA}$ ) ( $I_F = 10 \text{ mA}$ ) ( $I_F = 60 \text{ mA}$ ) ( $I_F = 150 \text{ mA}$ )	$V_F$	- - - -	715 855 1000 1250	mV
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mA}$ , $R_L = 100 \Omega$ , $I_{R(REC)} = 1.0 \text{ mA}$ ) (Figure 1)	$t_{rr}$	-	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**

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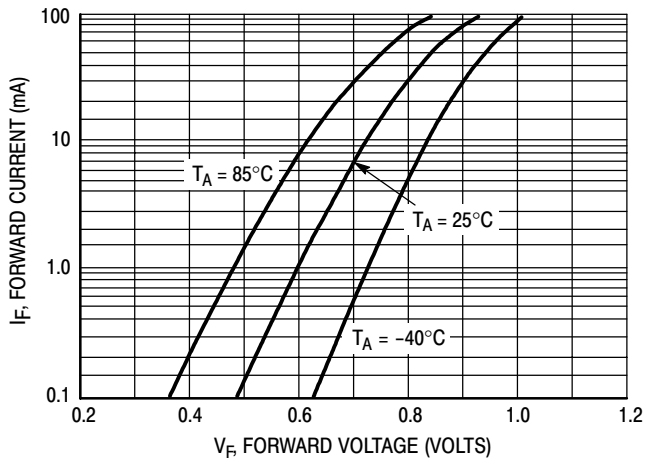


Figure 2. Forward Voltage

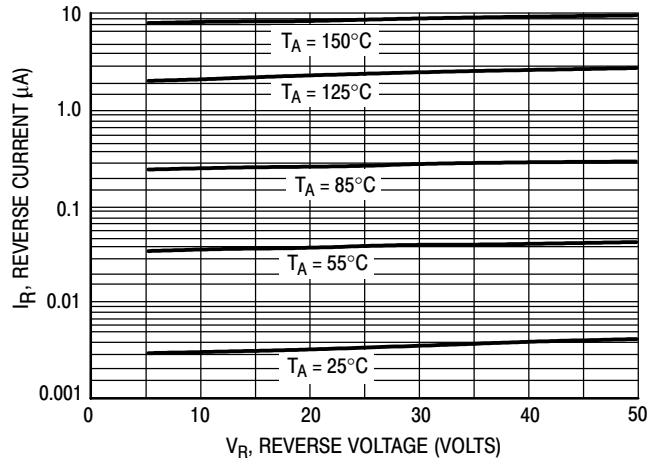


Figure 3. Leakage Current

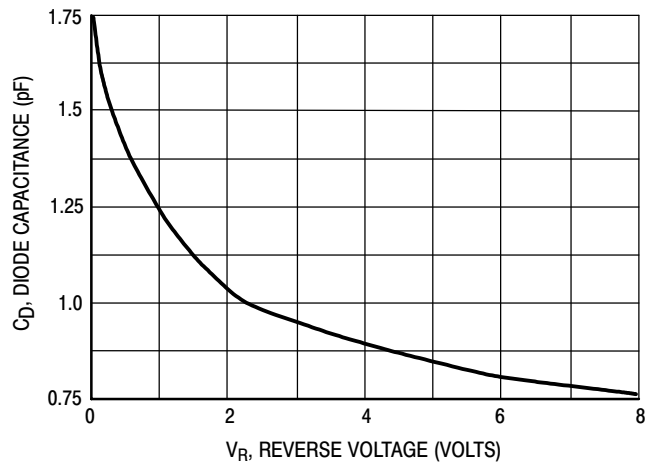
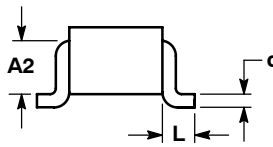
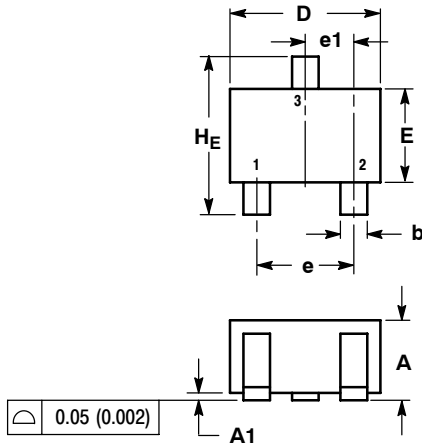


Figure 4. Capacitance

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## PACKAGE DIMENSIONS

SC-70 (SOT-323)  
CASE 419-04  
ISSUE M



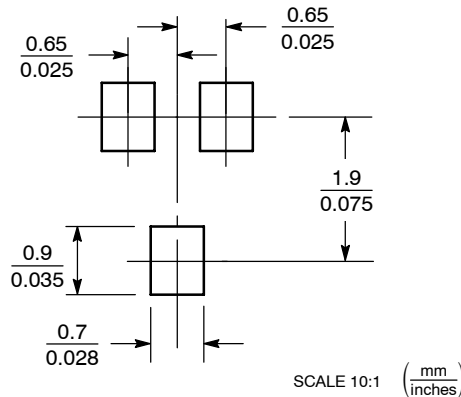
NOTES:

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

DIM	MILLIMETERS			INCHES		
	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		
HE	2.00	2.10	2.40	0.079	0.083	0.095

STYLE 4:  
PIN 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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