



# DATA SHEET

## BAS116W/BAW156W/BAV170W/BAV199W

### SURFACE MOUNT, LOW LEAKAGE SWITCHING DIODES

**VOLTAGE** 100 Volts      **POWER** 200mWatts

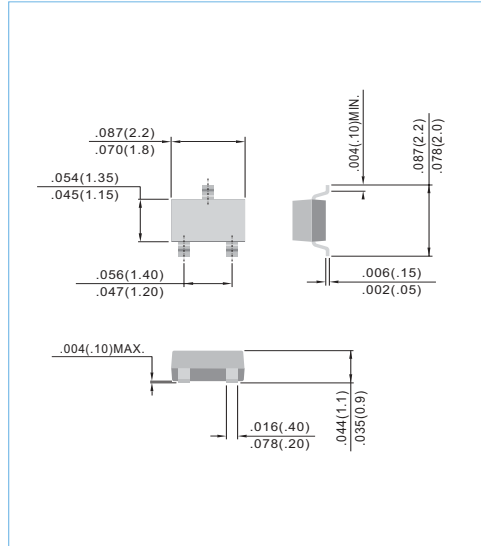
**SOT-323**      Unit: inch (mm)

#### FEATURES

- Surface mount package ideally suited for automatic insertion.
- Very low leakage current. 2pA typical at VR=75V.
- Low capacitance. 2pF max at VR=0V, f=1MHz
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### MECHANICAL DATA

- Case: SOT-323 plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Approx weight: 0.0052 gram
- Marking: BAS116W :P1,BAW156W :P4,BAV170W :P3,BAV199W :P2



#### ABSOLUTE RATINGS (each diode)

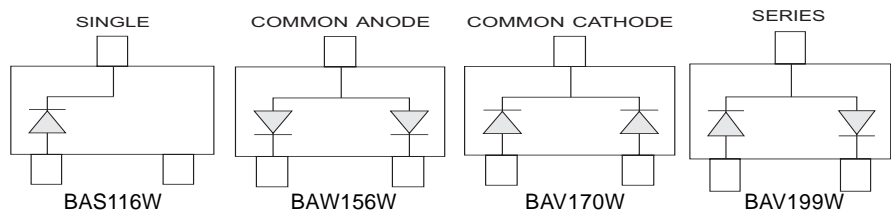
PARAMETER	Sym bol	Value	Units
Reverse Voltage	V <sub>R</sub>	75	V
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Continuous Forward Current	I <sub>F</sub>	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0us	I <sub>FSM</sub>	2.0	A

#### THERMAL CHARACTERISTICS

PARAMETER	Sym bol	Value	Units
Power Dissipation (Note 1)	P <sub>TOT</sub>	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	625	°C/W
Junction Temperature	T <sub>J</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

**NOTE:**

1. FR-5 Board = 1.0 x 0.75 x 0.062 in.

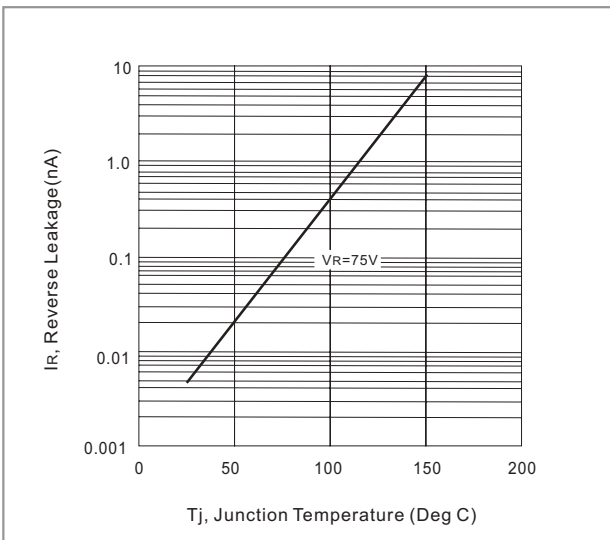




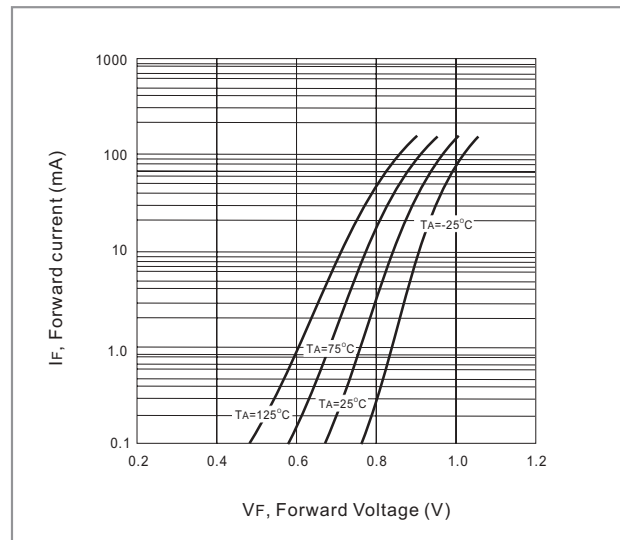
**ELECTRICAL CHARACTERISTICS (each diode) (TA=25°C, unless otherwise noted)**

PARAMETER	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100 \mu A$	75			V
Reverse Current	$I_R$	$V_R = 75 V$ $V_R = 75 V, T_J = 150^\circ C$		0.002 8.0	5 80	nA
Forward Voltage	$V_F$	$I_F = 1 mA$ $I_F = 10 mA$ $I_F = 50 mA$ $I_F = 150 mA$			0.9 1.0 1.1 1.25	V
Total Capacitance	$C_T$	$V_R = 0 V, f = 1 MHz$			2.0	pF
Reverse Recovery Time	$T_{RR}$	$I_F = I_R = 10 mA, R_L = 100 \Omega$			3.0	us

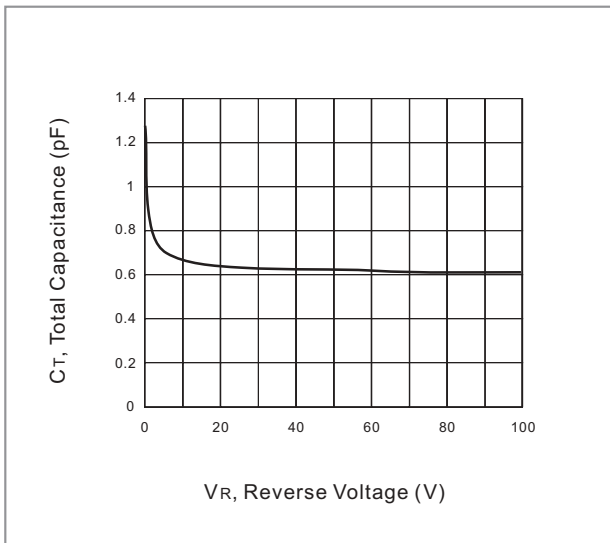
**CHARACTERISTIC CURVES (each diode)**



**Fig. 1-Reverse Leakage vs. Junction Temperature**



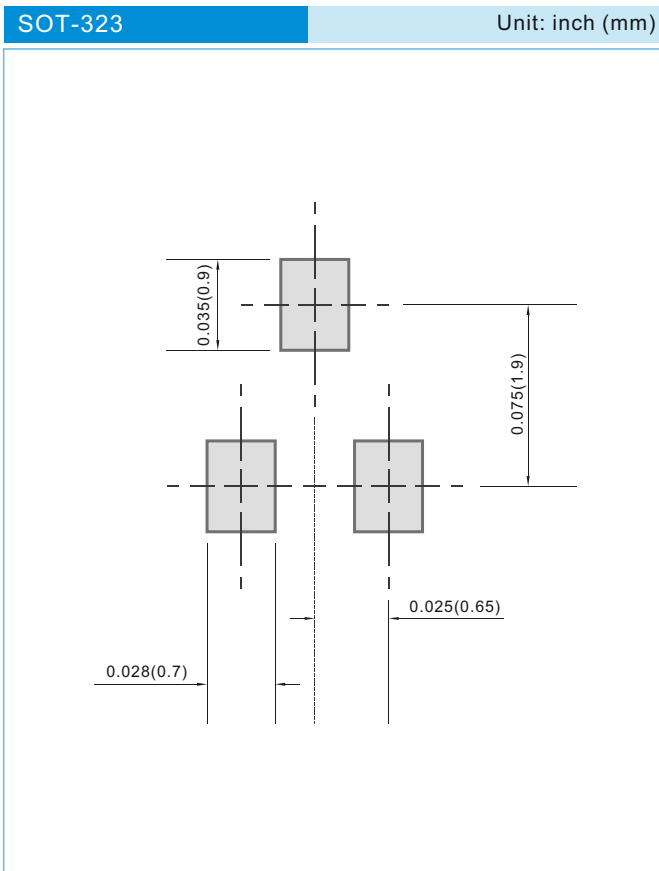
**Fig. 2-Forward Current vs. Forward Voltage**



**Fig. 3- Total capacitance vs. Reverse Voltage**



## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3.0K per 7" plastic Reel

## LEGAL STATEMENT

### IMPORTANT NOTICE

This information is intended to unambiguously characterize the product in order to facilitate the customer's evaluation of the device in the application. The information will help the customer's technical experts determine that the device is compatible and interchangeable with similar devices made by other vendors. The information in this data sheet is believed to be reliable and accurate. The specifications and information herein are subject to change without notice. New products and improvements in products and product characterization are constantly in process. Therefore, the factory should be consulted for the most recent information and for any special characteristics not described or specified.

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