



# DATA SHEET

## BAS116W/BAW156W/BAV170W/BAV199W

### SURFACE MOUNT, LOW LEAKAGE SWITCHING DIODES

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

**SOT-323**

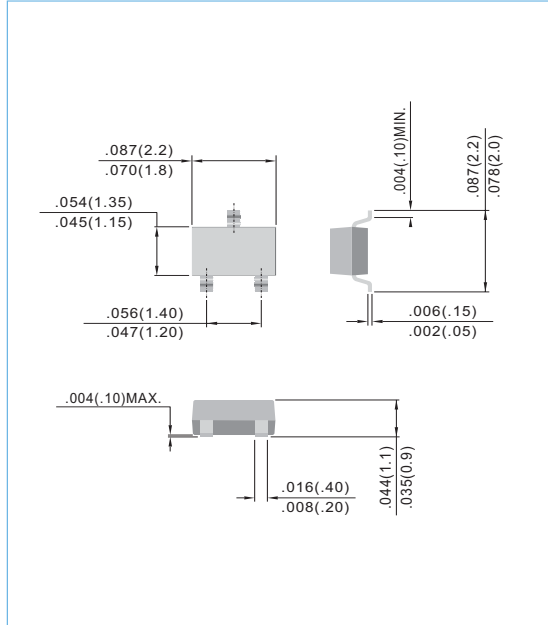
Unit: inch (mm)

#### FEATURES

- Surface mount package ideally suited for automatic insertion.
- Very low leakage current. 2pA typical at VR=75V.
- Low capacitance. 4pF max at VR=0V, f=1MHz
- In compliance with EU RoHS 2002/95/EC directives

#### MECHANICAL DATA

- Case: SOT-323 plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx weight: 0.0052 gram
- Marking: BAS116W :PA,BAW156W :P4,BAV170W :P3,BAV199W :PB



#### ABSOLUTE RATINGS (each diode)

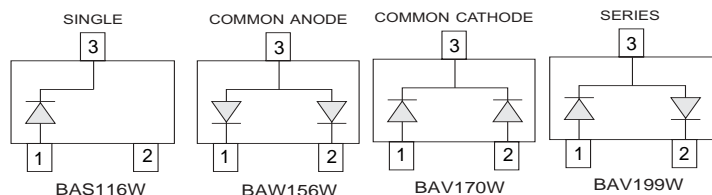
PARAMETER	Sym bol	Value	Units
Reverse Voltage	V <sub>R</sub>	75	V
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Continuous Forward Current	I <sub>F</sub>	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0us	I <sub>FSM</sub>	4.0	A

#### 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-4 Board = 70 x 60 x 1mm.

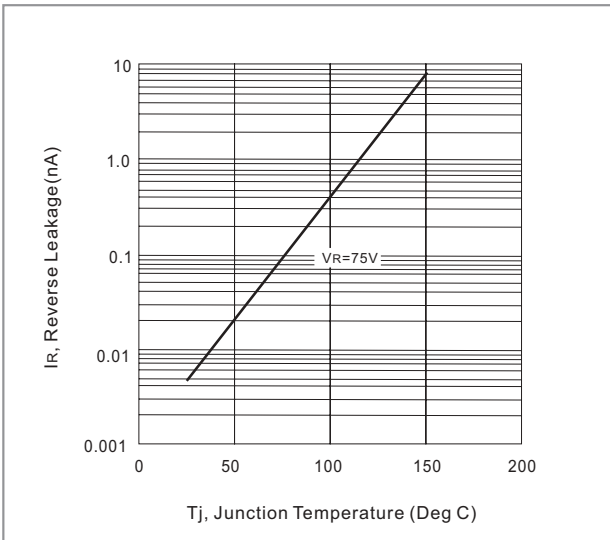




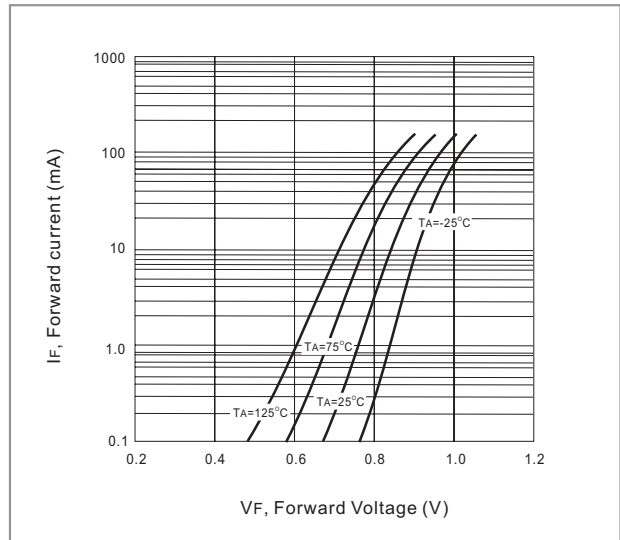
**ELECTRICAL CHARACTERISTICS (each diode) (TA=25°C, unless otherwise noted)**

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

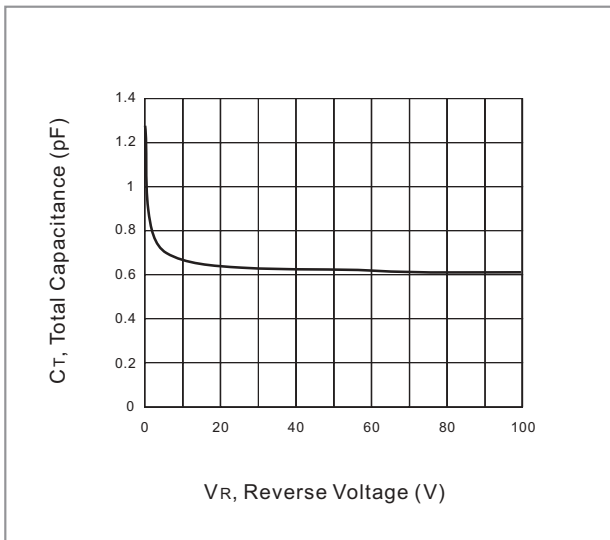
**CHARACTERISTIC CURVES (each diode)**



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



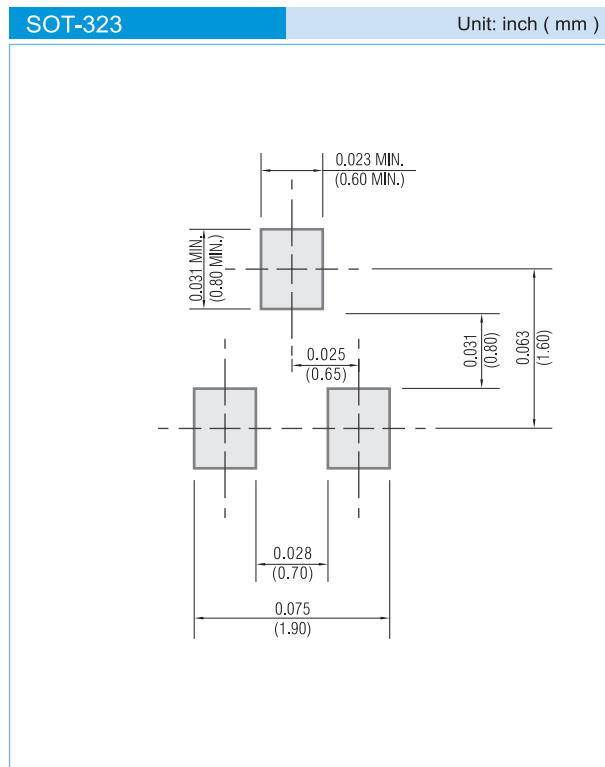
**Fig. 2-Forward Current vs. Forward Voltage**



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



## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

## LEGAL STATEMENT

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