

BAS116/BAW156/BAV170/BAV199

SURFACE MOUNT, LOW LEAKAGE SWITCHING DIODES

VOLTAGE 100 Volt **POWER** 250mWatt

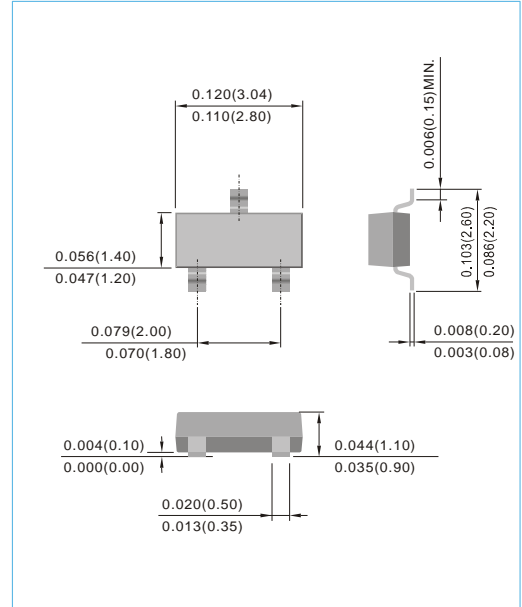
SOT-23 Unit : inch(mm)

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
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- Case: SOT-23 plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx weight: 0.0003 ounces, 0.084 grams
- Marking: BAS116: PA
BAW156: P4
BAV170: P3
BAV199: PB



ABSOLUTE RATINGS (each diode)

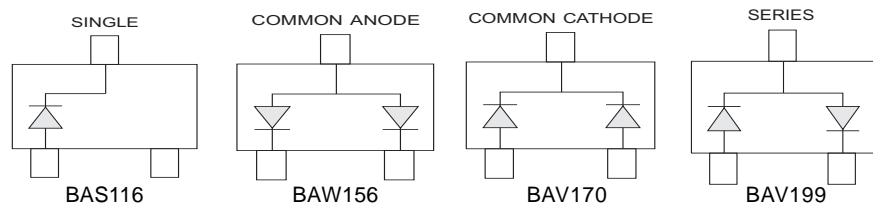
PARAMETER	Symbol	Value	Units
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Continuous Forward Current	I_F	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0us	I_{FSM}	4.0	A

THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Power Dissipation (Note 1)	P_{TOT}	250	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	500	$^{\circ}C/W$
Junction Temperature	T_J	-55 to 150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}C$

NOTE:

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



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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	$V_R=75 V$ $V_R=75 V, T_J=150 \text{ }^\circ C$	-	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_j	$V_R=0 V, f=1 MHz$	-	-	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)

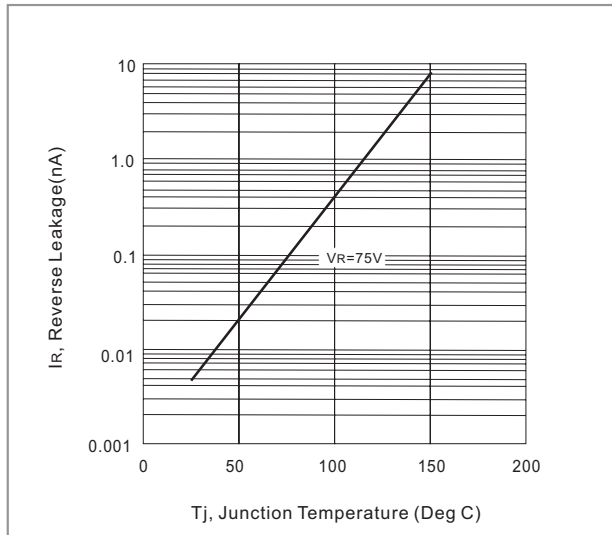


Fig. 1-Reverse Leakage vs. Junction Temperature

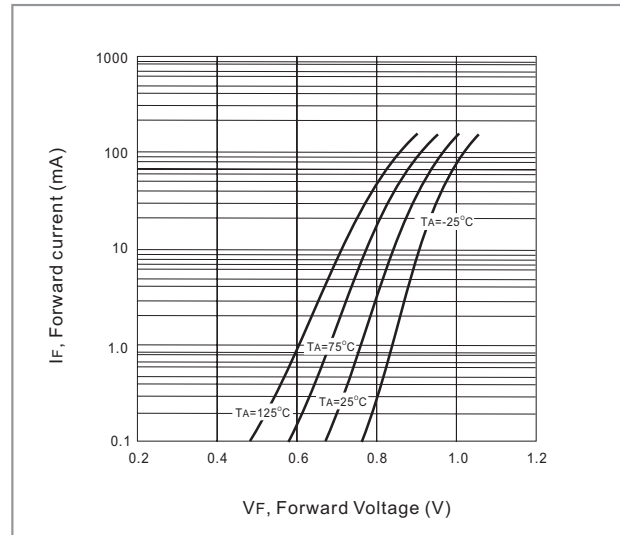


Fig. 2-Forward Current vs. Forward Voltage

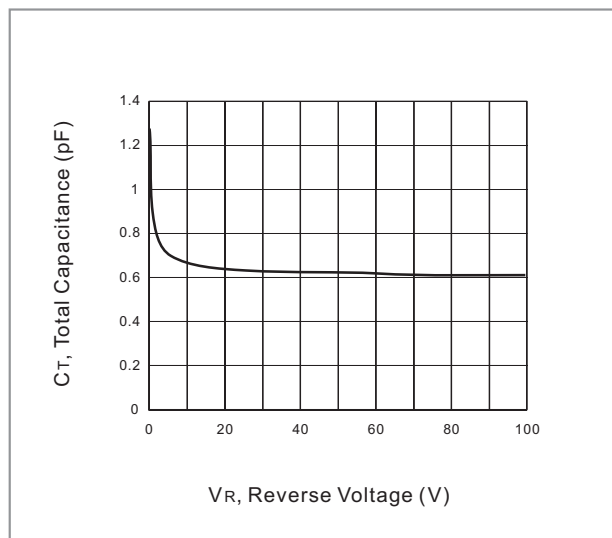
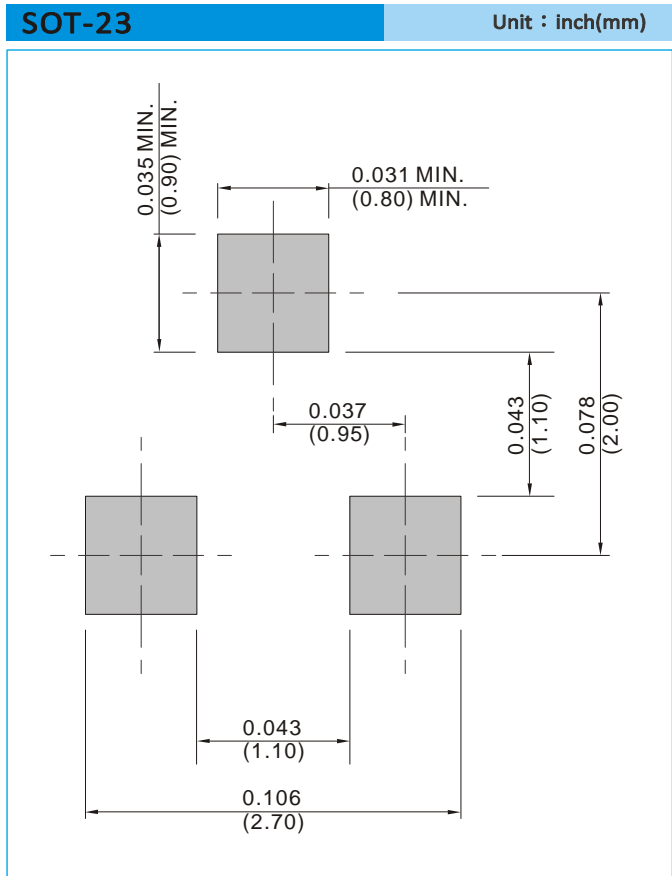


Fig. 3- Total capacitance vs. Reverse Voltage

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MOUNTING PAD LAYOUT



ORDER INFORMATION

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

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