



# BAS116/BAW156/BAV170/BAV199

## SURFACE MOUNT, LOW LEAKAGE SWITCHING DIODES

**VOLTAGE** 100 Volt      **POWER** 250mWatt

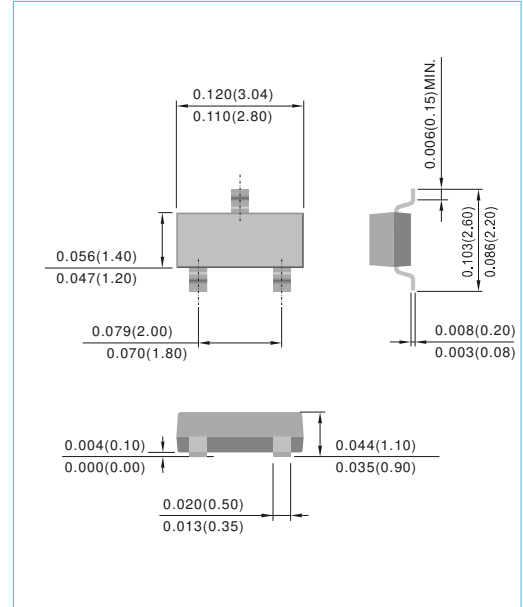
**SOT-23**      Unit : inch(mm)

### 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)

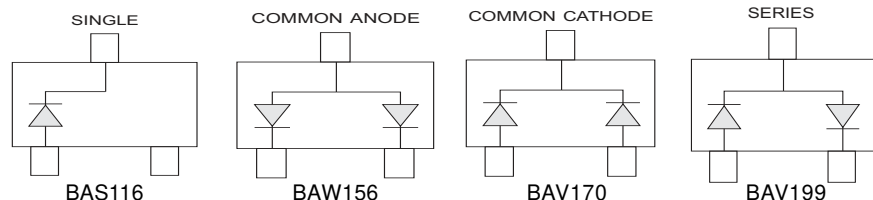
PARAMETER	Symbol	Value	Units
Reverse Voltage	$V_R$	75	V
Peak Reverse Voltage	$V_{RM}$	100	V
Continuous Forward Current	$I_F$	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0us	$I_{FSM}$	4.0	A

### 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	$I_R$	$V_R=75 V$ $V_R=75 V, T_J=150 ^\circ C$	-	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)

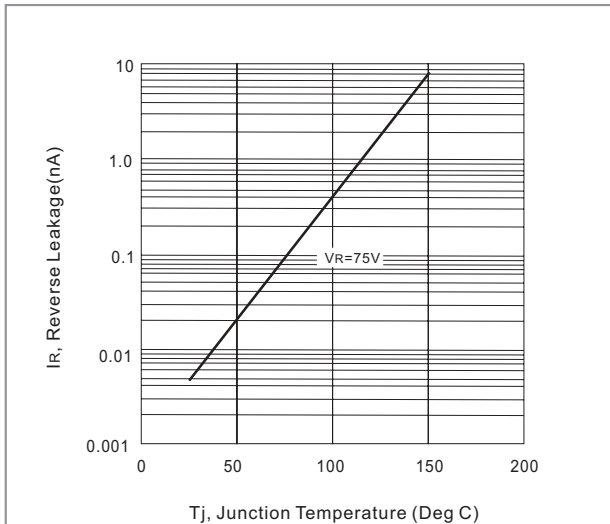


Fig. 1-Reverse Leakage vs. Junction Temperature

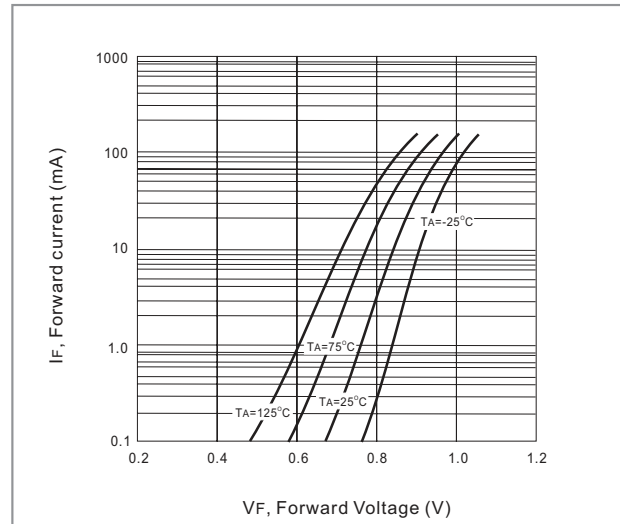


Fig. 2-Forward Current vs. Forward Voltage

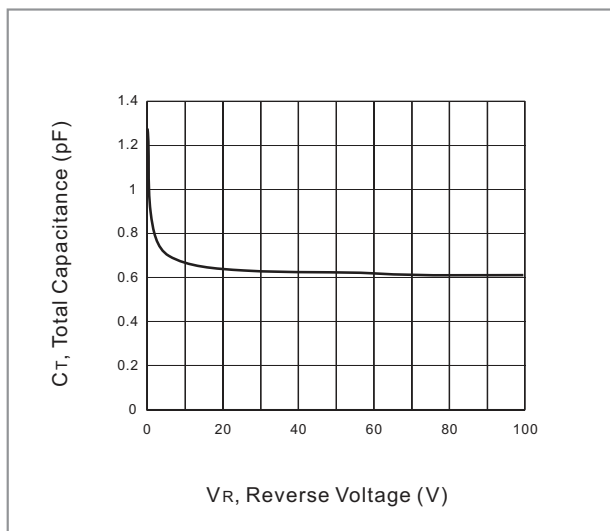
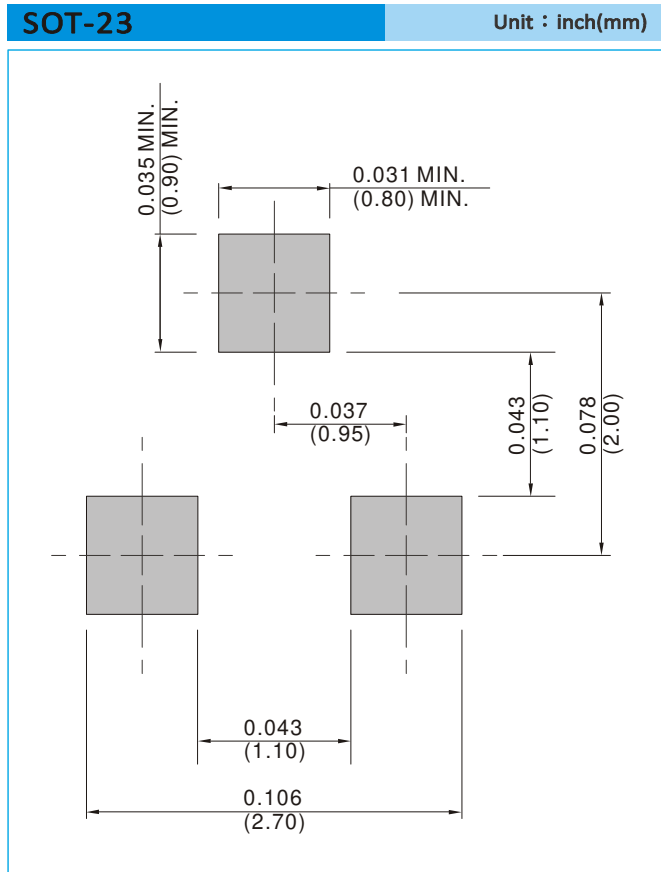


Fig. 3- Total capacitance vs. Reverse Voltage



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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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### Part No\_packing code\_Version

BAS116\_R1\_00001

BAS116\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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