



# BAS116TW/BAW156DW/BAV170DW/BAV199S

## SURFACE MOUNT, LOW LEAKAGE SWITCHING DIODES

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

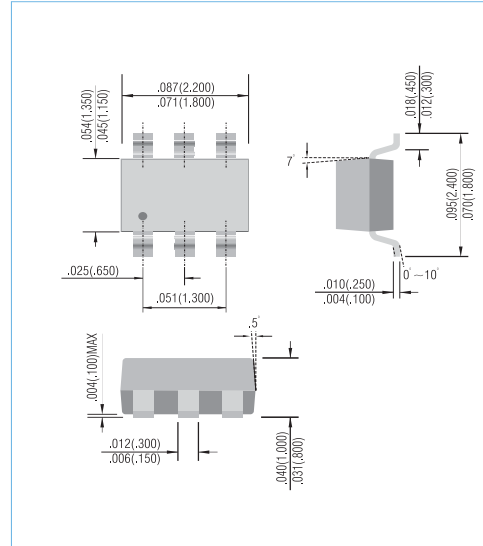
**SOT-363**    Unit: inch (mm)

### FEATURES

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

### MECHANICAL DATA

- Case: SOT-363 plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx weight: 0.008 gram
- Marking: BAS116TW :PA,BAW156DW :P4,BAV170DW :P3,BAV199S :PB



### ABSOLUTE RATINGS (each diode)

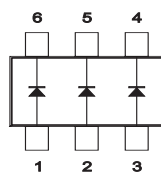
PARAMETER	Symbol	Value	Units
Reverse Voltage	V <sub>R</sub>	75	V
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Continuous Forward Current	I <sub>F</sub>	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0us	I <sub>FSM</sub>	4.0	A

### THERMAL CHARACTERISTICS

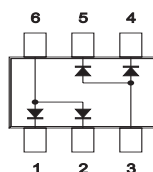
PARAMETER	Symbol	Value	Units
Power Dissipation (Note 1)	P <sub>TOT</sub>	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	625	°C/W
Junction Temperature	T <sub>J</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

NOTE:

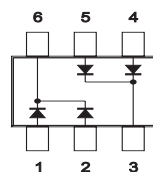
1. FR-4 Board = 70 x 60 x 1mm.



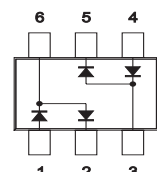
**Fig.48**  
BAS116TW



**Fig.51**  
BAW156DW



**Fig.52**  
BAV170DW



**Fig.32**  
BAV199S



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

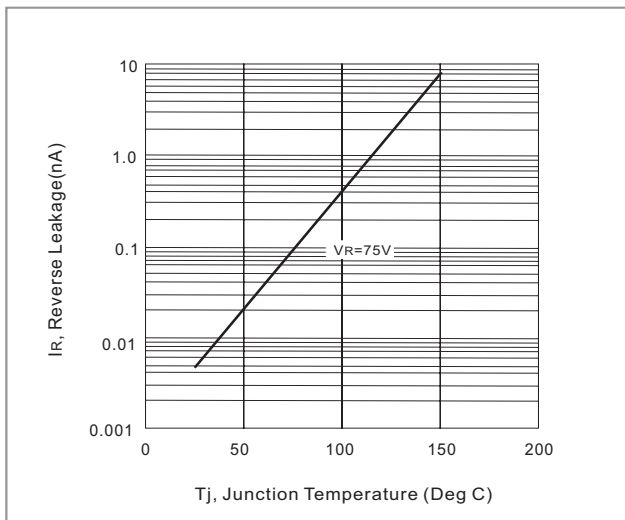


Fig. 1-Reverse Leakage vs. Junction Temperature

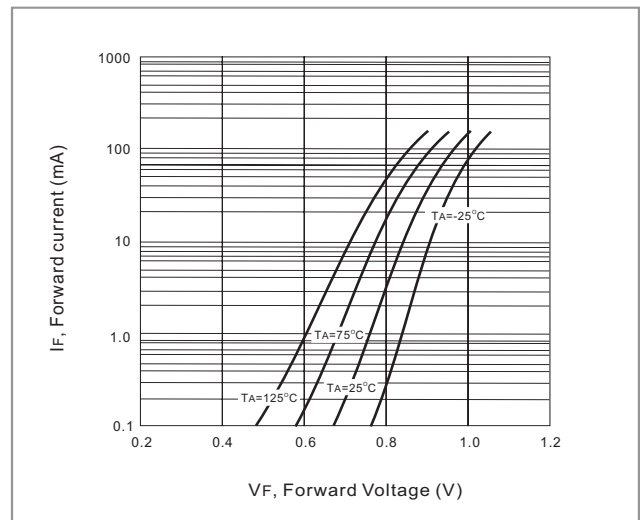


Fig. 2-Forward Current vs. Forward Voltage

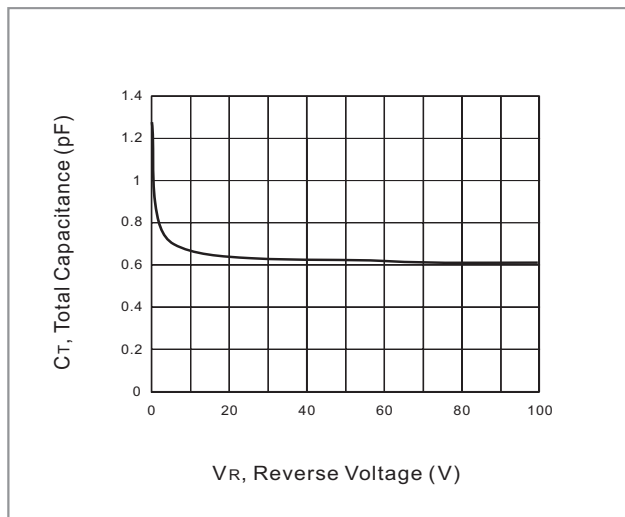
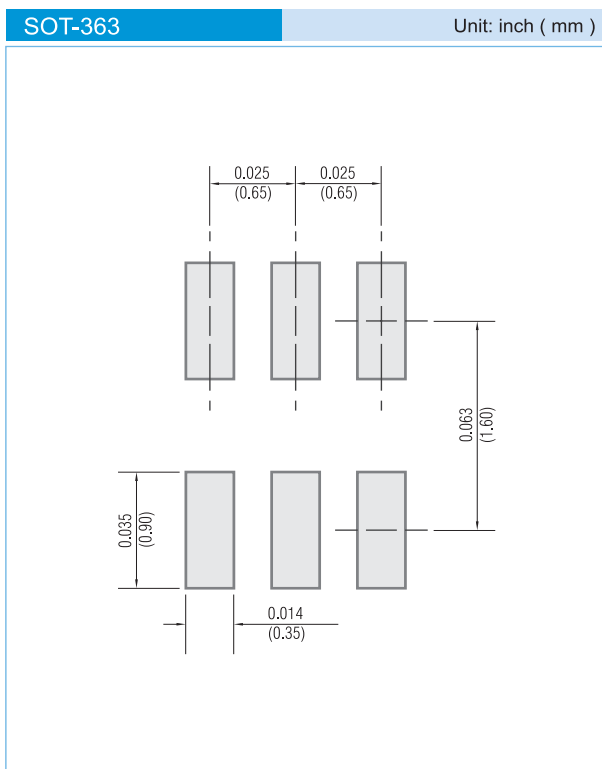


Fig. 3- Total capacitance vs. Reverse Voltage



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 10K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

## LEGAL STATEMENT

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