



# BAS16TW-AU / BAW56DW-AU / BAV70DW-AU / BAV99S-AU

## SURFACE MOUNT SWITCHING DIODES

**Voltage** 100 V **Power** 200 mW

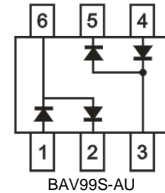
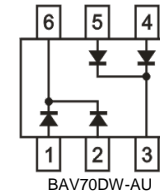
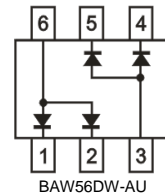
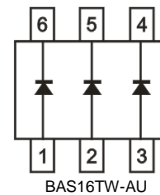
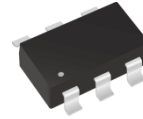
### Features

- Fast switching speed.
- Very low leakage current
- Low capacitance
- Surface mount package Ideally Suited for Automatic insertion
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

### Mechanical Data

- Case: SOT-363 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0002 ounces, 0.006 grams

### SOT-363



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum Dc Blocking Voltage	V <sub>DC</sub>	100	V
Maximum Average Forward Current	I <sub>F(AV)</sub>	150	mA
Non-repetitive Peak forward current at T <sub>J</sub> (init)=25°C	I <sub>FSM</sub>	4	A
	tp = 0.001 ms		
Power Dissipation	P <sub>D</sub> <sup>(1)</sup>	200	mW
Maximum Junction Capacitance	C <sub>J</sub>	1.5	pF
Measured at 1 MHz And Applied V <sub>R</sub> = 0 V			
Typical Thermal Resistance	R <sub>θJA</sub> <sup>(1)</sup>	625	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



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### Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	$V_F$	$I_F = 1\text{ mA}, T_J = 25^\circ\text{C}$	-	-	0.715	V
		$I_F = 10\text{ mA}, T_J = 25^\circ\text{C}$	-	-	0.855	
		$I_F = 50\text{ mA}, T_J = 25^\circ\text{C}$	-	-	1	
		$I_F = 150\text{ mA}, T_J = 25^\circ\text{C}$	-	-	1.25	
Reverse Current	$I_R$	$V_R = 25\text{ V}, T_J = 25^\circ\text{C}$	-	-	0.03	uA
		$V_R = 100\text{ V}, T_J = 25^\circ\text{C}$	-	-	2.5	
Maximum Reverse Recovery Time	$T_{RR}^{(2)}$	---	-	-	4	ns

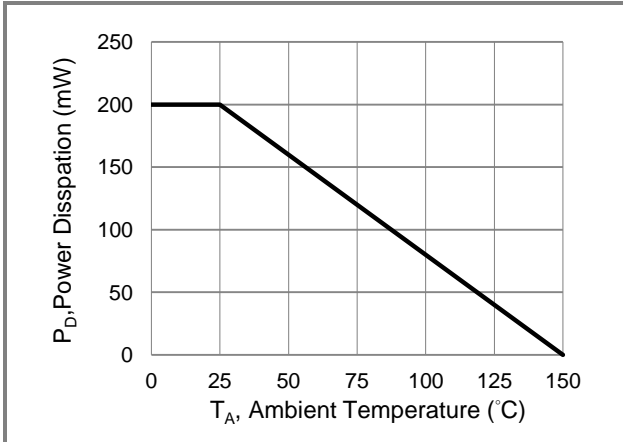
NOTES:

1. Mounted on 11.4cm x 7.4cm FR4 PCB.
2. Test Condition :  $I_F=10\text{mA}$  to  $I_R=10\text{mA}$ , Recovery to 1mA.

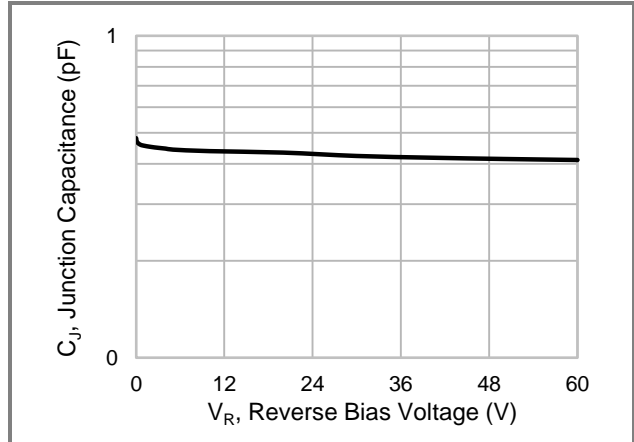


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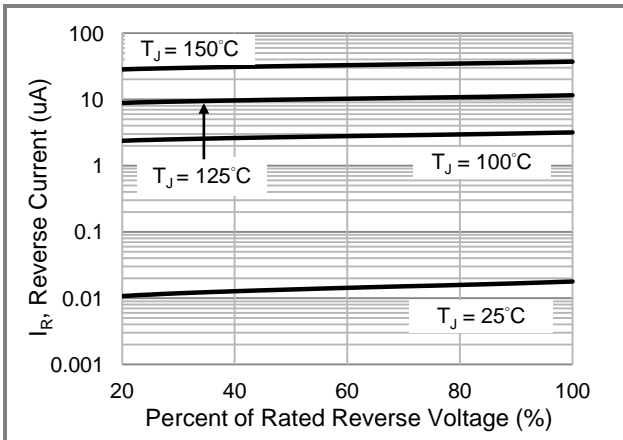
**TYPICAL CHARACTERISTIC CURVES**



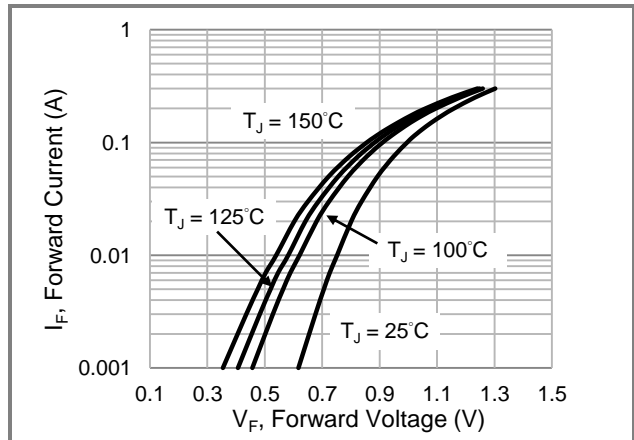
**Fig.1 Power Derating Curve**



**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



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### Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
BAS16TW-AU_R1_000A1	SOT-363	3K / 7" Reel	16T	Halogen free
BAW56DW-AU_R1_000A1	SOT-363	3K / 7" Reel	JC	Halogen free
BAV70DW-AU_R1_000A1	SOT-363	3K / 7" Reel	JA	Halogen free
BAV99S-AU_R1_000A1	SOT-363	3K / 7" Reel	JB	Halogen free

### Packaging Information & Mounting Pad Layout

