OM SENI

BAV99WT1G

Dual Series Switching Diodes

The BAV99WT1G is a smaller package, equivalent to the BAV99LT1G.

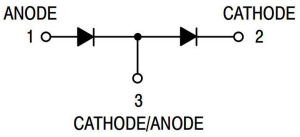
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant*

Suggested Applications

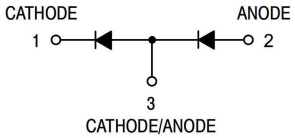
- ESD Protection
- Polarity Reversal Protection
- Data Line Protection
- Inductive Load Protection
- Steering Logic



SOT323

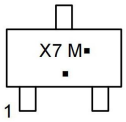


BAV99WT1
SC−70, CASE 419, STYLE 9



BAV99RWT1
SC−70, CASE 419, STYLE 10

MARKING DIAGRAM



A7 = BAV99W
M = Date Code
▪ = Pb−Free Package

MAXIMUM RATINGS (Each Diode)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	100	Vdc
Forward Current	I_F	215	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Average Rectified Forward Current (Note 1) (averaged over any 20 ms period)	$I_{F(AV)}$	715	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non−Repetitive Peak Forward Current t = 1.0 μs t = 1.0 ms t = 1.0 s	I_{FSM}	 2.0 1.0 0.5	A

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. FR−5 = 1.0 × 0.75 × 0.062 in.

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THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR−5 Board, (Note 1) T_A = 25°C Derate above 25°C	P_D	200 1.6	mW mW/°C
Thermal Resistance Junction−to−Ambient	$R_{\theta JA}$	625	°C/W
Total Device Dissipation Alumina Substrate, (Note 2) T_A = 25°C Derate above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance Junction−to−Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	−65 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (Each Diode)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{(BR)}$ = 100 μA)	$V_{(BR)}$	100	−	Vdc
Reverse Voltage Leakage Current (V_R = 100 Vdc) (V_R = 25 Vdc, T_J = 150°C) (V_R = 70 Vdc, T_J = 150°C)	I_R	 − − −	 1.0 30 50	μAdc
Diode Capacitance (V_R = 0, f = 1.0 MHz)	C_D	−	1.5	pF
Forward Voltage (I_F = 1.0 mAdc) (I_F = 10 mAdc) (I_F = 50 mAdc) (I_F = 150 mAdc)	V_F	 − − − −	 715 855 1000 1250	mVdc
Reverse Recovery Time (I_F = I_R = 10 mAdc, $i_{R(REC)}$ = 1.0 mAdc) (Figure 1) R_L = 100 Ω	t_{rr}	−	6.0	ns
Forward Recovery Voltage (I_F = 10 mA, t_r = 20 ns)	V_{FR}	−	1.75	V

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

1. FR−5 = 1.0 × 0.75 × 0.062 in.
2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

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CURVES APPLICABLE TO EACH DIODE

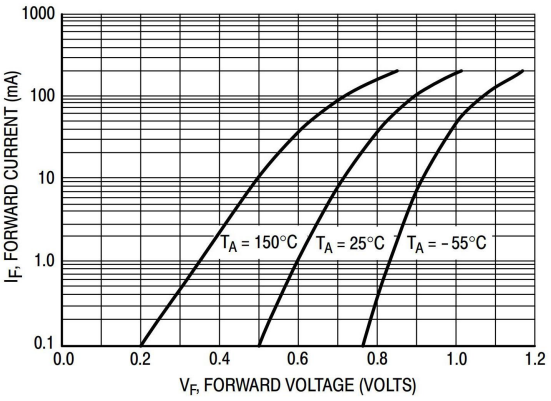


Figure 2. Forward Voltage

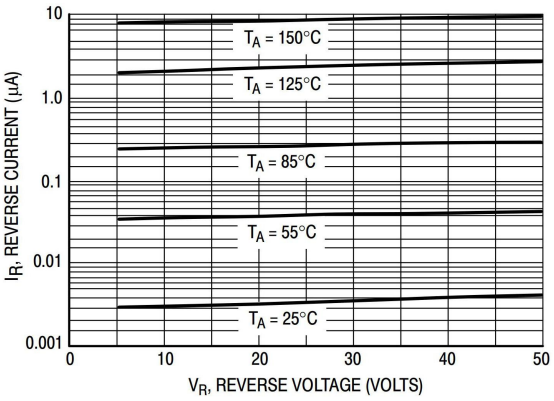


Figure 3. Leakage Current

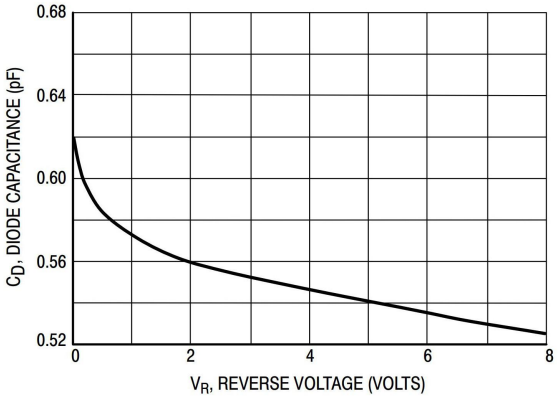


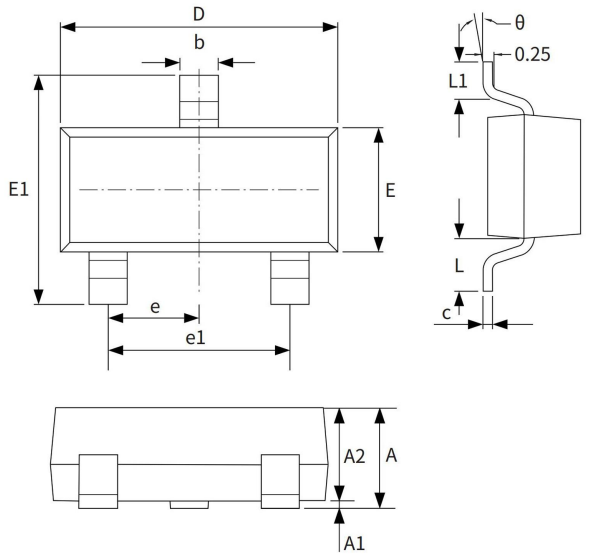
Figure 4. Capacitance

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Ordering Information

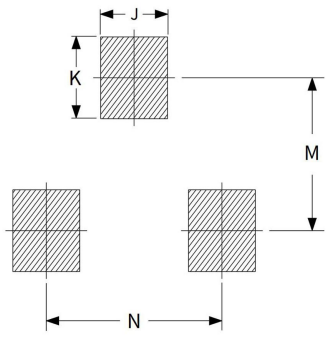
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-323	R1	0.005	3000	30000	240000	7''

Package Outline Dimensions (SOT-323)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.043
A1	-	0.10	-	0.004
A2	0.90	1.00	0.035	0.039
b	0.15	0.40	0.012	0.020
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
E1	2.15	2.45	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	
L1	0.26	0.46	0.010	0.018
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.65	0.75	0.026	0.030
K	0.85	0.95	0.033	0.037
M	2.15	2.25	0.073	0.077
N	1.25	1.35	0.049	0.053