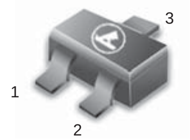
Dual Serise Switching Diodes

BAV99WT1 BAV99RWT1

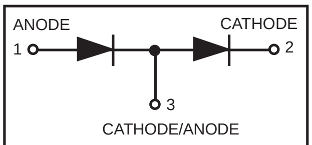
The BAV99WT1 is a smaller package, equivalent to the BAV99LT1.

Suggested Applications

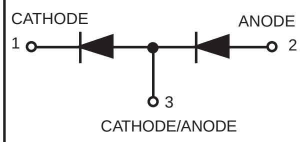
- ESD Protection
- Polarity Reversal Protection
- Data Line Protection
- Inductive Load Protection
- Steering Logic



BAV99WT1
CASE 419–02, STYLE 9
SOT–323 (SC–70)
BAV99RWT1
CASE 419–02, STYLE 10
SOT–323 (SC–70)



BAV99WT1



BAV99RWT1

ORDERING INFORMATION

Device	Package	Shipping
BAV99WT1	SOT–323(SC–70)	3000/Tape & Reel
BAV99RWT1	SOT–323(SC–70)	3000/Tape & Reel

Preferred: devices are recommended choices for future use and best overall value.

DEVICE MARKING

BAV99WT1 = A7;	BAV99RWT1 = F7

MAXIMUM RATINGS (Each Diode)

Rating	Symbol	Value	Unit
Reverse Voltag	V_R	70	Vdc
Forward Current	I_F	215	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc
Repetitive Peak Reverse Voltage	V_{RRM}	70	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	I_{FSM}		A
t = 1.0 µs		2.0	
t = 1.0 ms		1.0	
t = 1.0 S		0.5	

1. FR–5 = 1.0 × 0.75 × 0.062 in.

BAV99WT1 BAV99RWT1

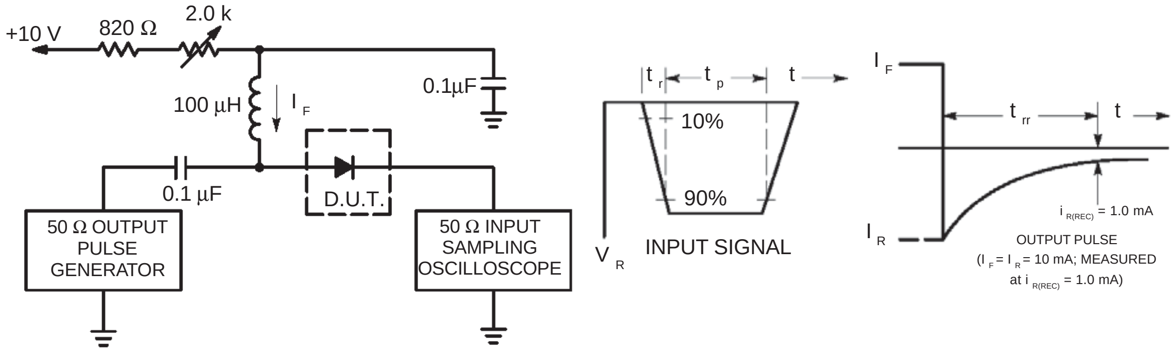
THERMAL CHARACTERISTICS

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	($I_{(BR)} = 100\ \mu A$)	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current	($V_R = 70$ Vdc) ($V_R = 25$ Vdc, $T_J = 150°C$) ($V_R = 70$ Vdc, $T_J = 150°C$)	I_R	— — —	2.5 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)	$R_L = 100\ \Omega$	t_{rr}	—	6.0	ns
Forward Recovery Voltage ($I_F = 10$ mA, $t_r = 20$ ns)		V_{FR}	—	1.75	V

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



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

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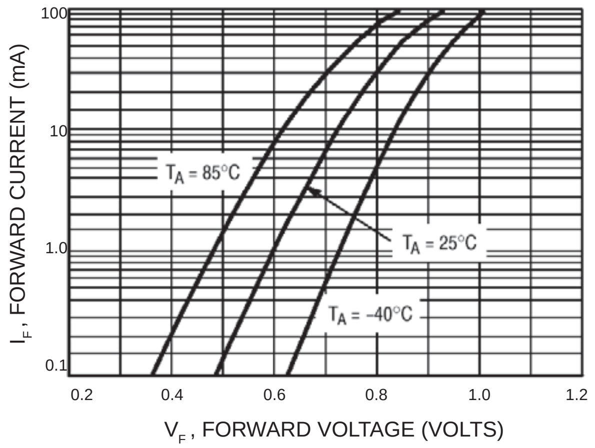

Figure 2. Forward Voltage

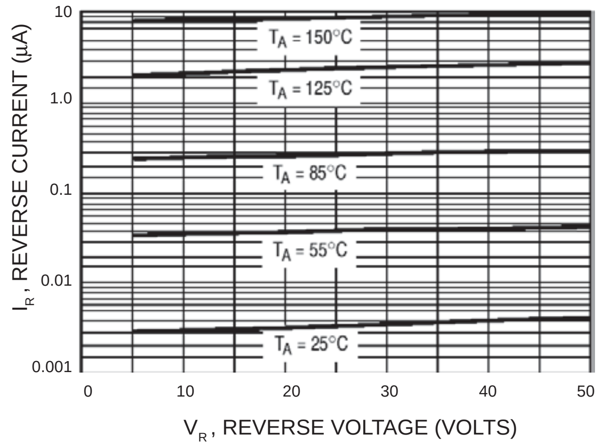

Figure 3. Leakage Current

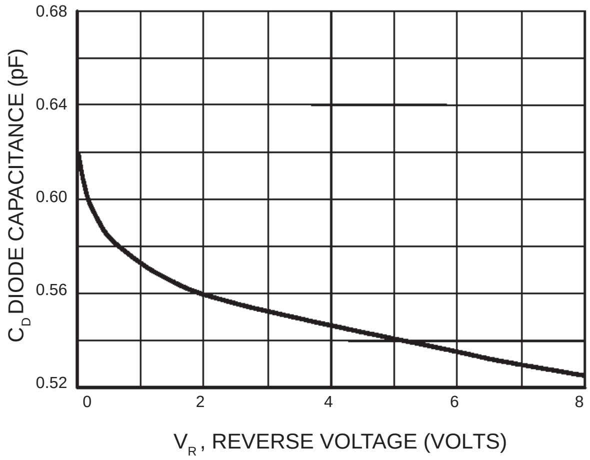

Figure 4. Capacitance