BAV99

1 o—|◁|—•—|◁|—o 2
ANODE   CATHODE

3 o
CAHODE/ANODE

SOT–23 (TO–236AB)

● DEVICE MARKING

BAV99 = A7

● MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	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 (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 □s		2.0	
t = 1.0 ms		1.0	
t = 1.0 S		0.5	

● THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation	P_D	225	mW
FR–5 Board, (1) $T_A = 25°C$ Derate above 25°C		1.8	mW/°C
Thermal Resistance Junction to Ambient	R_{JA}	556	°C/W
Total Device Dissipation	P_D	300	mW
Alumina Substrate, (2) $T_A = 25°C$ Derate above 25°C		2.4	mW/°C
Thermal Resistance Junction to Ambient	R_{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($I_{(BR)} = 100$ □A)	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ($V_R = 70$ Vdc)	I_R	—	2.5	□Adc
($V_R = 25$ Vdc, $T_J = 150°C$)		—	30	
($V_R = 70$ Vdc, $T_J = 150°C$)		—	50	
Diode Capacitance ($V_R = 0$, f = 1.0 MHz)	C_D	—	1.5	pF
Forward Voltage ($I_F = 1.0$ mAdc)	V_F	—	715	mVdc
($I_F = 10$ mAdc)		—	855	
($I_F = 50$ mAdc)		—	1000	
($I_F = 150$ mAdc)		—	1250	
Reverse Recovery Time ($I_F = I_R = 10$ mAdc, $i_{R(REC)} = 1.0$ mAdc, $R_L = 100$□) (Figure 1)	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 x 0.75 x 0.062 in.
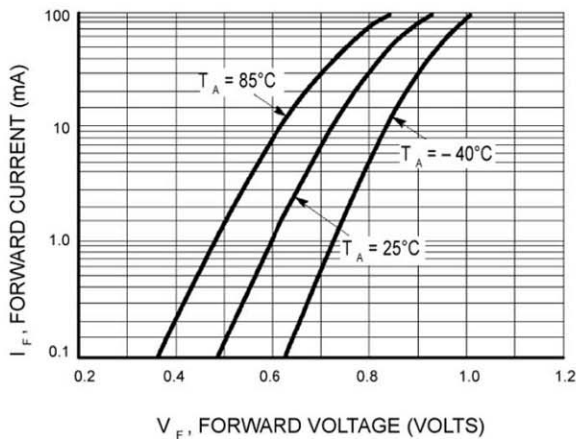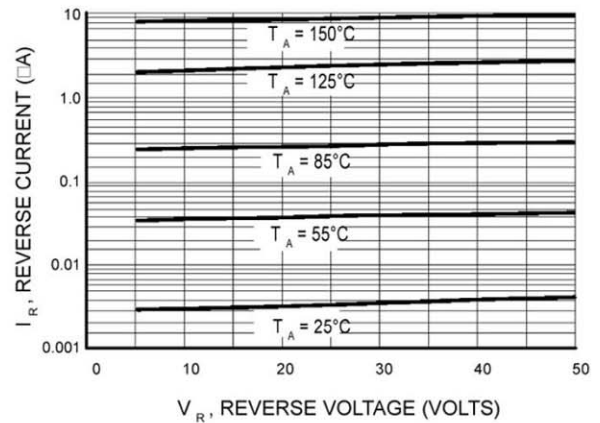2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.
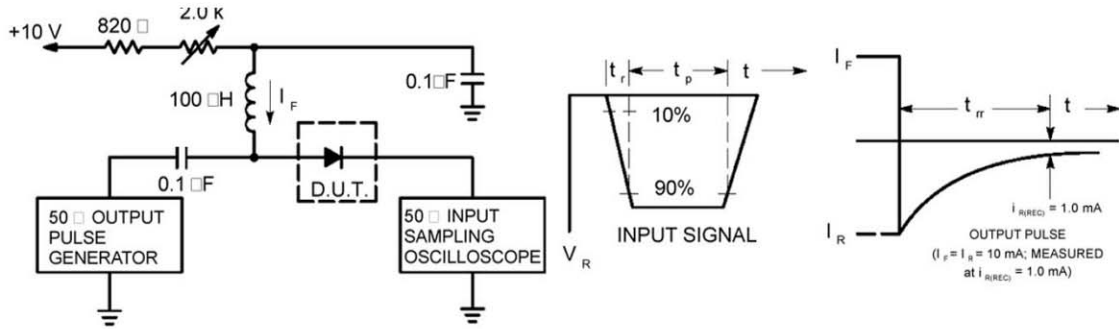
Notes: 1. A 2.0 k□ variable resistor adjusted for a Forward Current (I_F) of 10mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
3. $t_p \gg t_{rr}$

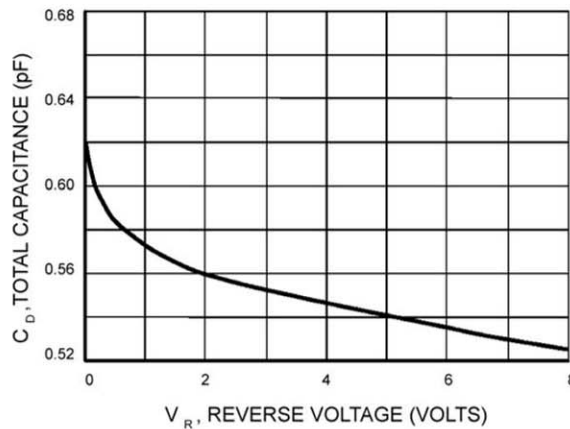**Figure 1. Recovery Time Equivalent Test Circuit**

CURVES APPLICABLE TO EACH DIODE

Figure 2. Forward Voltage

Figure 3. Leakage Current

Figure 4. Capacitance