DESCRIPTION

The BAV99W is a smaller package, equivalent to the BAV99L

The BAV99W is available in SC-70 package

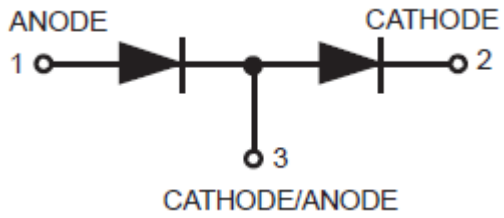
FEATURES

- Available in SC-70 package

ORDERING INFORMATION

Package Type	Part Number
SC-70	BAV99W
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



APPLICATION

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

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C

V_R, Reverse Voltage	70Vdc
I_F, Forward Current	215mAdc
$I_{FM(surge)}$, Peak Forward Surge Current	500mAdc
V_{RRM}, Repetitive Peak Reverse Voltage	70V
$I_{F(AV)}$, Average Rectified Forward Current[Note1](averaged over any 20 ms period)	715mA
I_{FRM}, Repetitive Peak Forward Current	450mA
I_{FSM}, Non–Repetitive Peak Forward Current	
t = 1.0μs	2.0A
t = 1.0ms	1.0A
t = 1.0S	0.5A

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Total Device Dissipation FR–5 Board [Note1]			
T_A = 25°C	P_D	200	mW
Derate above 25°C		1.6	mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	625	°C/W
Total Device Dissipation Alumina Substrate[Note2]			
T_A = 25°C	P_D	300	mW
Derate above 25°C		2.4	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

NOTE1: FR-5 = 1.0 x 0.75 x 0.062 in

NOTE2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina

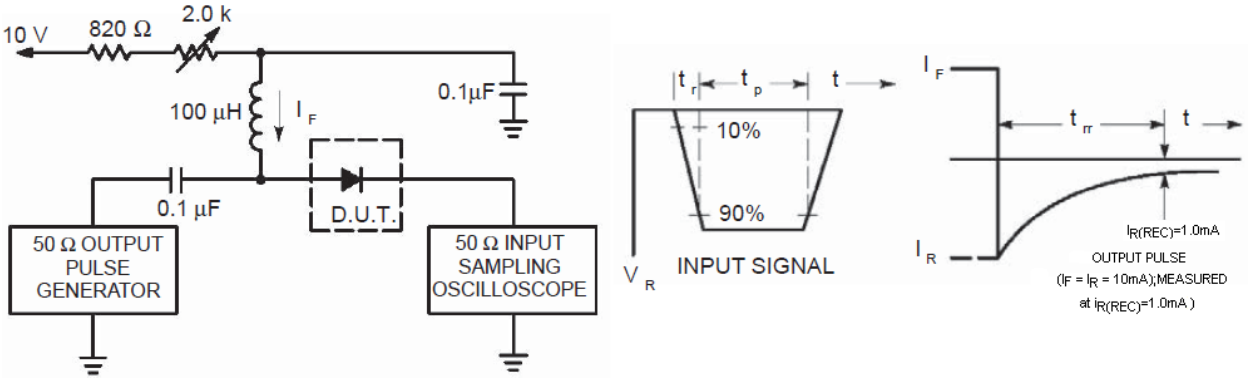
ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Conditions	Min.	Max.	Unit
OFF CHARACTERISTICS					
Reverse Breakdown Voltage	$V_{(BR)}$	$I_{(BR)}$ = 100μA	70		Vdc
Reverse Voltage Leakage Current	I_R	V_R = 70Vdc		2.5	μAdc
		V_R = 25Vdc, T_J = 150°C		30	
		V_R = 70Vdc, T_J = 150°C		50	
Diode Capacitance	C_D	V_R = 0, f = 1.0 MHz		1.5	pF
Forward Voltage	V_F	I_F = 1.0mAdc		715	mVdc
		I_F = 10mAdc		855	
		I_F = 50mAdc		1000	
		I_F = 150mAdc		1250	
Reverse Recovery Time R_L=100 Ω	t_{rr}	I_F=I_R=10mAdc, $I_{R(REC)}$=1.0mAdc(Figure 1)		6.0	ns
Forward Recovery Voltage	V_{FR}	I_F = 10mA, t_r = 20ns		1.75	V

TYPICAL CHARACTERISTICS

Figure 1. Recovery Time Equivalent Test Circuit



Note1: A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.
Note2: Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
Note3: $t_p \gg t_{rr}$

Figure 2. Forward Voltage

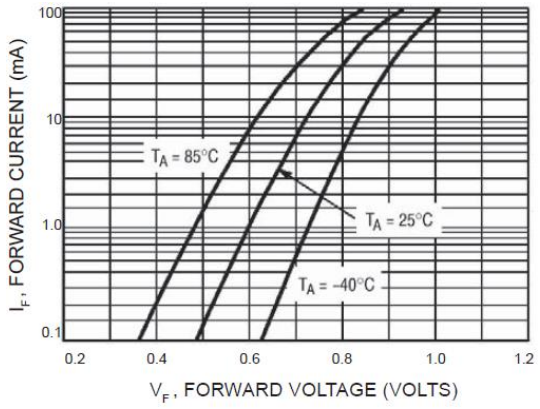


Figure 3. Leakage Current

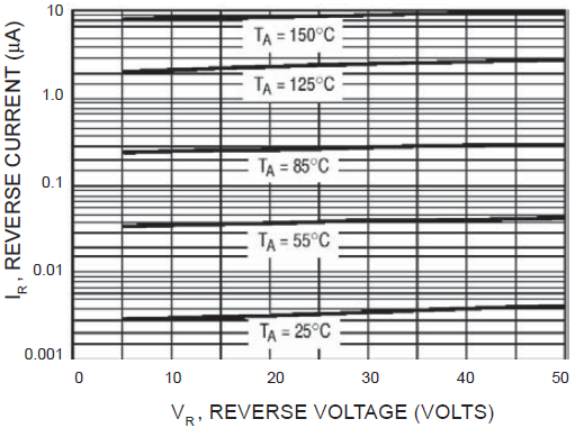
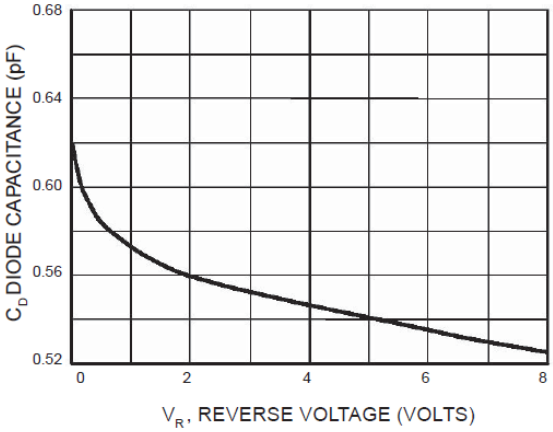
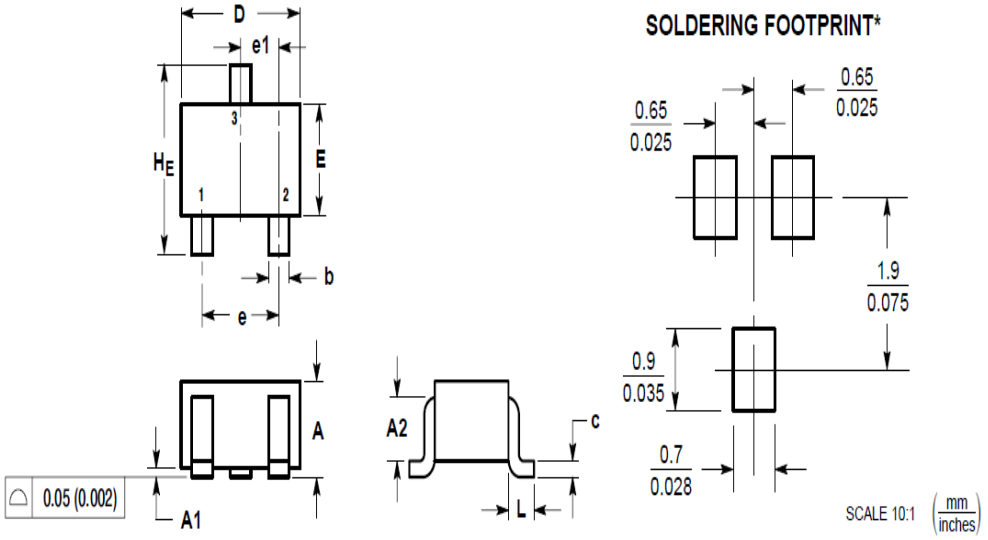


Figure 4. Capacitance



PACKAGE INFORMATION

Dimension in SC-70 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.032	0.040
A1	0.00	0.10	0.000	0.004
A2	0.7 REF		0.028 REF	
b	0.30	0.40	0.012	0.016
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
e	1.20	1.40	0.047	0.055
e1	0.65 BSC		0.026 BSC	
L	0.425 REF		0.017 REF	
H_E	2.00	2.40	0.079	0.095

IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc.'s integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or servere property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.