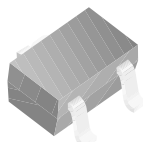
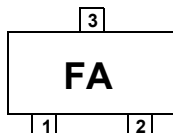


BAV99WT1G

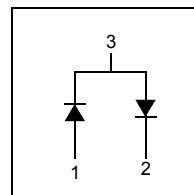
Small Signal Diode



SOT-323



Connection Diagram



Absolute Maximum Ratings * $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	70	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	1.0	A
		2.0	A
T_{STG}	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	270	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	460	$^\circ\text{C/W}$

FR-4 board (3.0 × 4.5 × 0.062" by 1.0 × 0.5" land pads)

Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
V_R	Breakdown Voltage	$I_R = 100\mu\text{A}$	70		V
V_F	Forward Voltage	$I_F = 1.0\text{mA}$		715	mV
		$I_F = 10\text{mA}$		855	mV
		$I_F = 50\text{mA}$		1.0	V
		$I_F = 150\text{mA}$		1.25	V
I_R	Reverse Leakage	$V_R = 70\text{V}$		2.5	μA
		$V_R = 25\text{V}, T_A = 150^\circ\text{C}$		50	μA
		$V_R = 70\text{V}, T_A = 150^\circ\text{C}$		70	μA
C_T	Total Capacitance	$V_R = 0\text{V}, f = 1.0\text{MHz}$		2.0	pF
t_{rr}	Reverse Recovery Time	$I_F = I_R = 10\text{mA}, I_{RR} = 1.0\text{mA}, R_L = 100\Omega$		6.0	ns

Typical Performance Characteristics

Figure 1. Power Voltage Characteristics

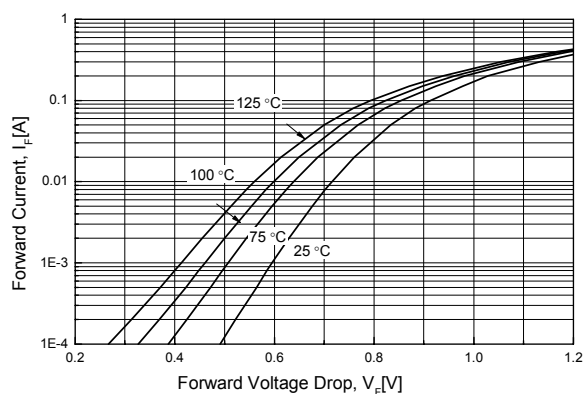


Figure 2. Reverse Current vs Reverse Voltage

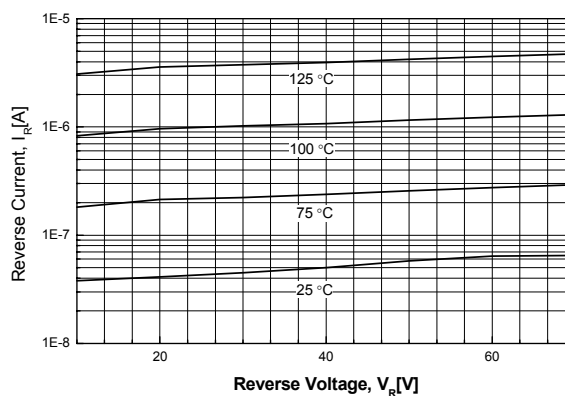


Figure 3. Total Capacitance

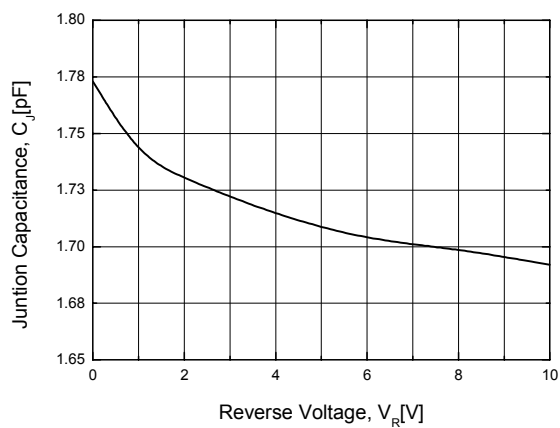
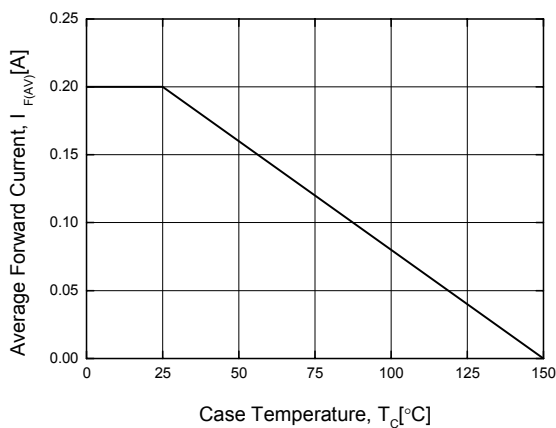


Figure 4. Power Derating Curve



TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACE [™]	FAST [®]	IntelliMAX [™]	POP [™]	SPM [™]
ActiveArray [™]	FAST [™]	ISOPLANAR [™]	Power247 [™]	Stealth [™]
Bottomless [™]	FPS [™]	LittleFET [™]	PowerEdge [™]	SuperFET [™]
CoolFET [™]	FRFET [™]	MICROCOUPLER [™]	PowerSaver [™]	SuperSOT [™] -3
CROSSVOLT [™]	GlobalOptoisolator [™]	MicroFET [™]	PowerTrench [®]	SuperSOT [™] -6
DOVE [™]	GTO [™]	MicroPak [™]	QFET [®]	SuperSOT [™] -8
EcoSPARK [™]	HiSeC [™]	MICROWIRE [™]	QS [™]	SyncFET [™]
E ² CMOS [™]	I ² C [™]	MSX [™]	QT Optoelectronics [™]	TinyLogic [®]
EnSigna [™]	i-Lo [™]	MSXPro [™]	Quiet Series [™]	TINYOPTO [™]
FACT [™]	ImpliedDisconnect [™]	OCX [™]	RapidConfigure [™]	TruTranslation [™]
FACT Quiet Series [™]		OCXPro [™]	RapidConnect [™]	UHC [™]
Across the board. Around the world. [™]		OPTOLOGIC [®]	μSerDes [™]	UltraFET [®]
The Power Franchise [®]		OPTOPLANAR [™]	SILENT SWITCHER [®]	UniFET [™]
Programmable Active Droop [™]		PACMAN [™]	SMART START [™]	VCX [™]

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Rev. I15