

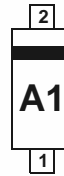
FAIRCHILD
SEMICONDUCTOR®

BAS16HT1G

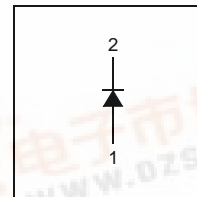
BAS16HT1G



SOD-323



Connection Diagram



Small Signal Diode

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

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	85	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second	600	mA
T_{STG}	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	-55 to +150	$^\circ\text{C}$

* These ratings are limiting values above which the serviceability of the diode may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	600	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Test Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	$I_R = 5.0\mu\text{A}$	85		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	$V_R = 75\text{V}$		1.0	μA
		$V_R = 25\text{V}, T_A = 150^\circ\text{C}$		30	μA
		$V_R = 75\text{V}, T_A = 150^\circ\text{C}$		50	μA
C_T	Total Capacitance	$V_R = 0, f = 1.0\text{MHz}$		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 Characteristics

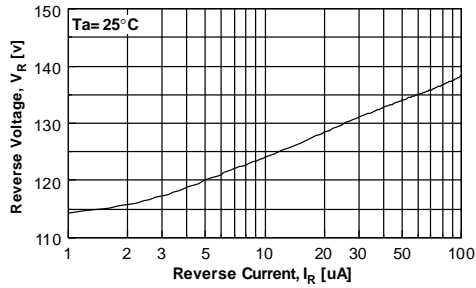


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 μA

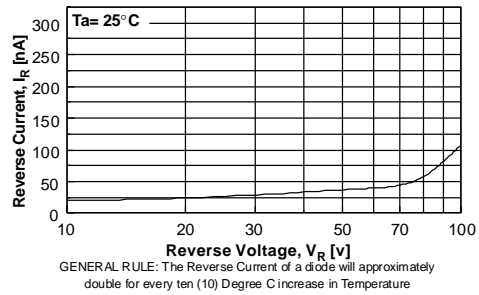


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100V

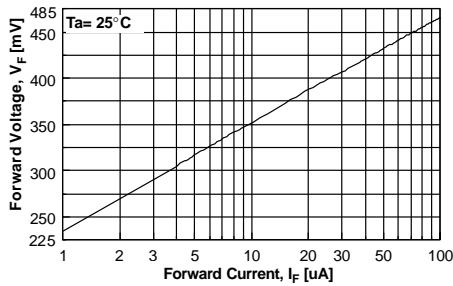


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 μA

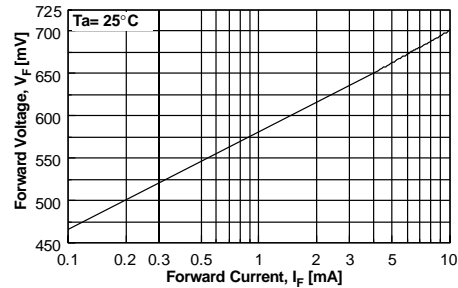


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

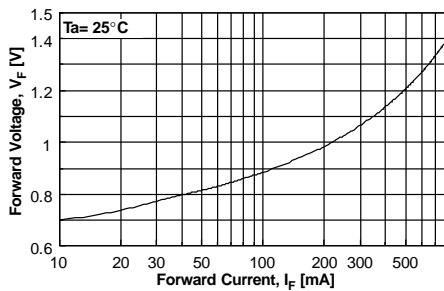


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800mA

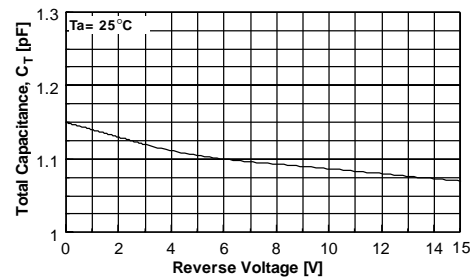


Figure 6. Total Capacitance

Typical Characteristics (Continued)

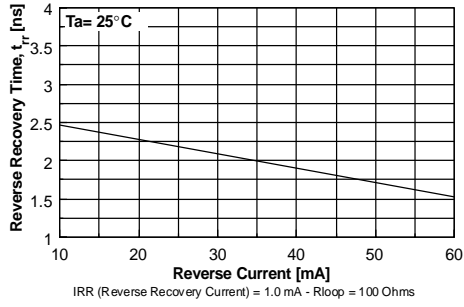


Figure 7. Reverse Recovery Time vs Reverse Current
TRR - IR 10mA vs 60mA

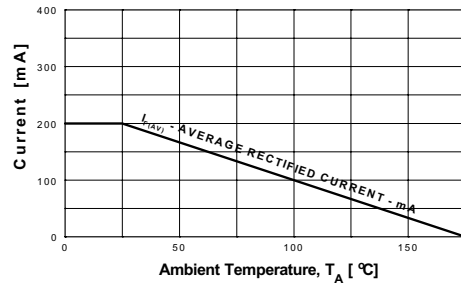


Figure 8. Average Rectified Current ($I_{F(AV)}$) vs Ambient Temperature (T_A)

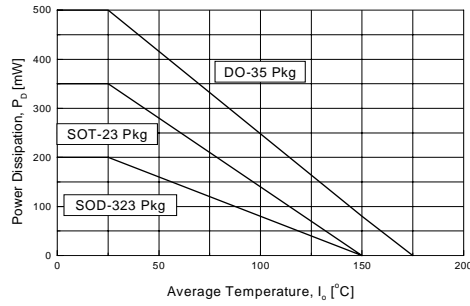
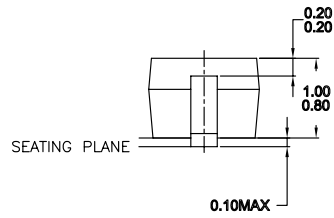
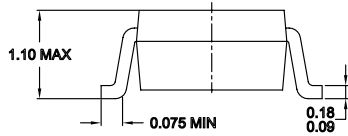
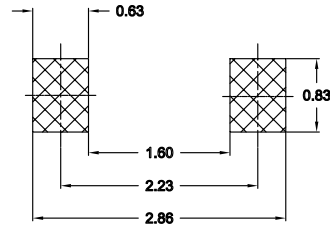
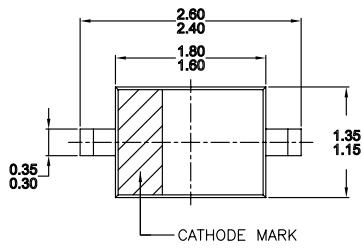


Figure 9. Power Derating Curve

Package Dimension

BAS16HT1G

SOD-323



NOTES: UNLESS OTHERWISE SPECIFIED
A) THIS PACKAGE CONFORMS TO EIAJ SC76
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSIONS ARE EXCLUSIVE OF BURRS,
MOLD FLASH, AND TIE BAR EXTRUSIONS.
D) DIMENSIONS AND TOLERANCES PER
ASME Y14.5M-1994

Dimensions in Millimeters

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

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.