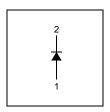


BAS16HT1G





Connection Diagram



Small Signal Diode

Absolute Maximum Ratings * T_A = 25°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	°C	
 Г _Ј	Operating Junction Temperature	-55 to +150	°C	

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

Thermal Characteristics

Symbol	Parameter	Value	Units	
P _D	Power Dissipation	200	mW	
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	600	°C/W	

$\textbf{Electrical Characteristics} \quad \textbf{T}_{A} = 25^{\circ}\text{C unless otherwise noted}$

Symbol	Parameter	Test Conditions	Min.	Max.	Units
V _R	Breakdown Voltage	$I_R = 5.0 \mu A$	85		V
V _F	Forward Voltage	I _F = 1.0mA		715	mV
		I _F = 10mA		855	mV
		$I_F = 50 \text{mA}$		1.0	V
		I _F = 150mA		1.25	V
I _R	Reverse Leakage	V _R = 75V		1.0	μΑ
		$V_R = 25V, T_A = 150^{\circ}C$		30	μΑ
		$V_R = 75V, T_A = 150^{\circ}C$		50	μΑ
C _T	Total Capacitance	$V_{R} = 0, f = 1.0MHz$		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

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.

Typical Characteristics

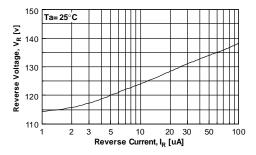


Figure 1. Reverse Voltage vs Reverse Current BV - 1.0 to $100\mu A$

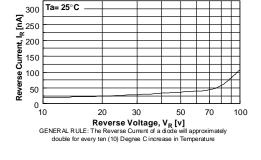


Figure 2. Reverse Current vs Reverse Voltage IR - 10 to 100V

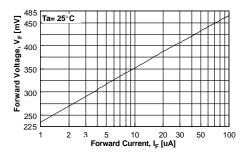


Figure 3. Forward Voltage vs Forward Current VF - 1.0 to $100 \mu A$

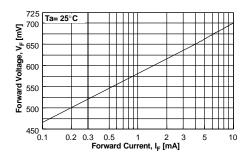


Figure 4. Forward Voltage vs Forward Current VF - 0.1 to 10mA

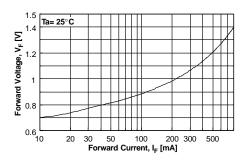


Figure 5. Forward Voltage vs Forward Current VF - 10 - 800mA

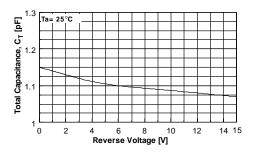


Figure 6. Total Capacitance

©2004 Fairchild Semiconductor Corporation

Typical Characteristics (Continued)

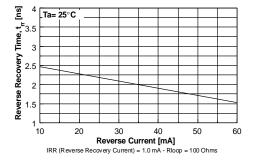


Figure 7. Reverse Recovery Time vs Reverse Current TRR - IR 10mA vs 60mA

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

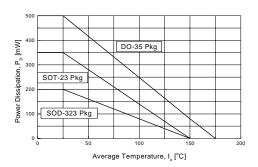
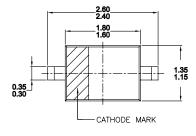
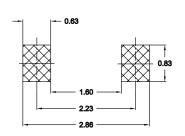
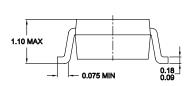


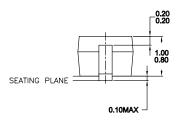
Figure 9. Power Derating Curve

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.

FAST[®] $ACEx^{TM}$ ISOPLANAR™ Power247™ SuperFET™ $\mathsf{FASTr}^{\mathsf{TM}}$ ActiveArrav™ LittleFET™ PowerSaver™ SuperSOT™-3 FPS™ MICROCOUPLER™ $\mathsf{PowerTrench}^{\mathbb{R}}$ SuperSOT™-6 Bottomless™ QFET® $\mathsf{CoolFET}^{\mathsf{TM}}$ FRFET™ MicroFET™ SuperSOT™-8 QS™ SyncFET™ GlobalOptoisolator™ MicroPak™ $CROSSVOLT^{TM}$ MICROWIRE™ TinyLogic[®] GTO™ QT Optoelectronics™ $\mathsf{DOME}^\mathsf{TM}$ HiSeC™ TINYOPTO™ MSX^{TM} EcoSPARK™ Quiet Series™ I^2C^{TM} $MSXPro^{TM}$ RapidConfigure™ TruTranslation™ E²CMOS™ OCX^{TM} EnSigna™ i-Lo™ RapidConnect™ UHC™ $\mathsf{UltraFET}^{\circledR}$ ImpliedDisconnect™ FACT™ OCXPro™ uSerDes™ OPTOLOGIC® VCX^{TM} SILENT SWITCHER® FACT Quiet Series™ OPTOPLANAR™ SMART START™

Across the board. Around the world.™

The Power Franchise® Programmable Active Droop™

PACMAN™ SPM™ РОР™ Stealth™

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.