

# BAS16HT1G

## Small Signal Diode



Connection Diagram



### 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	°C
$T_J$	Operating Junction Temperature	-55 to +150	°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.

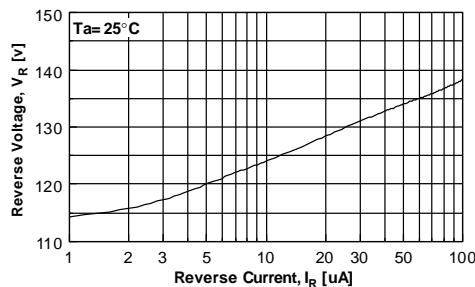
### Thermal Characteristics

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

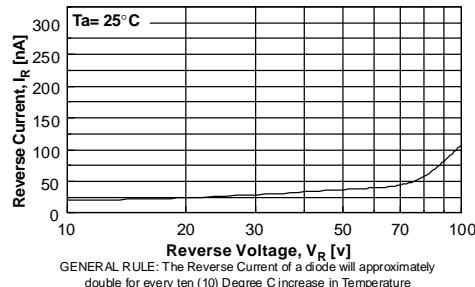
### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
$V_R$	Breakdown Voltage	$I_R = 5.0\mu\text{A}$	85		V
$V_F$	Forward Voltage	$I_F = 0.1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$		715 855 1.0 1.25	mV mV V V
$I_R$	Reverse Leakage	$V_R = 75\text{V}$ $V_R = 25\text{V}, T_A = 150^\circ\text{C}$ $V_R = 75\text{V}, T_A = 150^\circ\text{C}$		1.0 30 50	$\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$
$C_T$	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

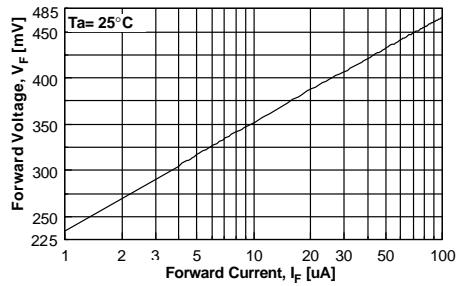
## Typical Performance Characteristics



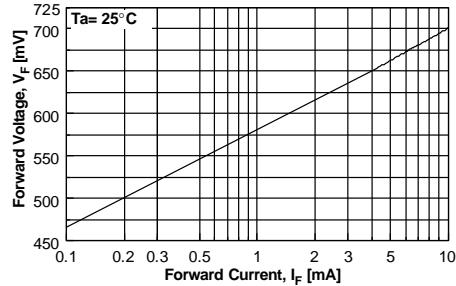
**Figure 1. Reverse Voltage vs Reverse Current**  
BV - 1.0 to 100 $\mu$ A



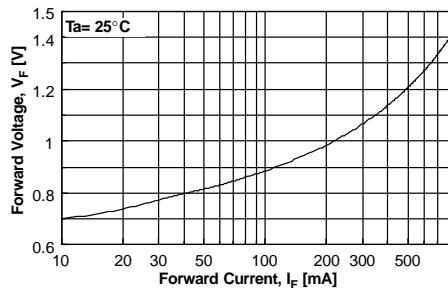
**Figure 2. Reverse Current vs Reverse Voltage**  
IR - 10 to 100V



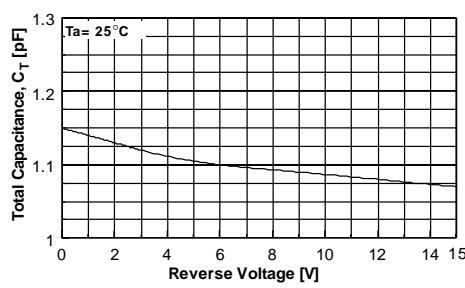
**Figure 3. Forward Voltage vs Forward Current**  
VF - 1.0 to 100 $\mu$ A



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

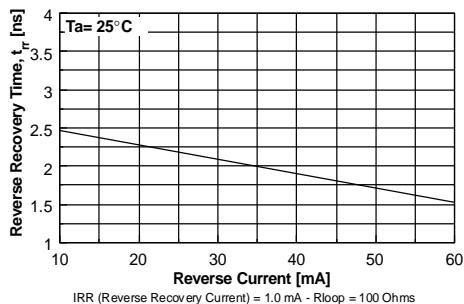


**Figure 5. Forward Voltage vs Forward Current**  
VF - 10 - 800mA

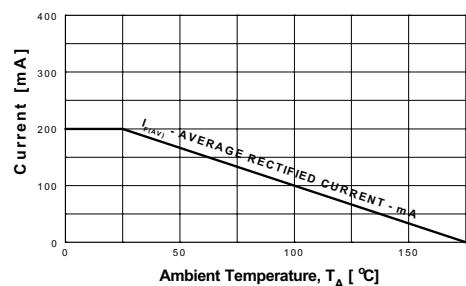


**Figure 6. Total Capacitance**

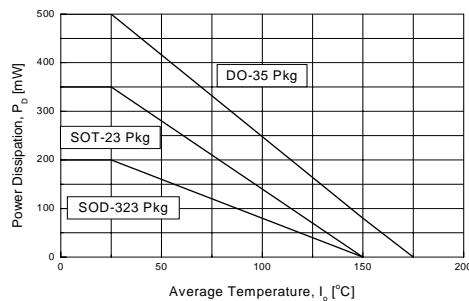
## Typical Performance Characteristics (Continued)



**Figure 1. Reverse Recovery Time vs Reverse Current**  
TRR - IR 10mA vs 60mA



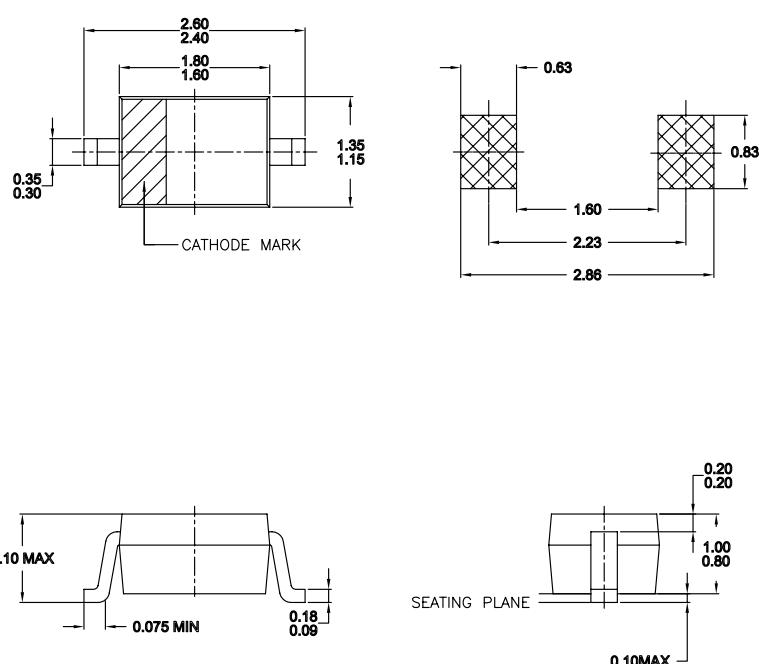
**Figure 2. Average Rectified Current ( $I_{F(AV)}$ ) vs Ambient Temperature ( $T_A$ )**



**Figure 3. Power Derating Curve**

## Physical Dimension

### SOD-323



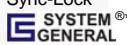
NOTES: UNLESS OTHERWISE SPECIFIED  
 A) THIS PACKAGE CONFORMS TO EIAJ SC76  
 B) ALL DIMENSIONS ARE IN MILLIMETERS.  
 C) DIMENSIONS ARE EXCLUSIVE OF BURRS,  
 MOLD FLASH, AND TIE BAR EXTRUSIONS.  
 D) DIMENSIONS AND TOLERANCES PER  
 ASME Y14.5M-1994

Dimensions in Millimeters



## TRADEMARKS

The following includes registered and unregistered trademarks and service marks, owned by Fairchild Semiconductor and/or its global subsidiaries, and is not intended to be an exhaustive list of all such trademarks.

AccuPower™	FRFET®	PowerTrench®	The Power Franchise®
Auto-SPM™	Global Power Resource™	PowerXS™	the power franchise
Build it Now™	Green FPS™	Programmable Active Droop™	TinyBoost™
CorePLUS™	Green FPS™ e-Series™	QFET®	TinyBuck™
CorePOWER™	Gmax™	QS™	TinyCalc™
CROSSVOLT™	GTO™	Quiet Series™	TinyLogic®
CTL™	IntelliMAX™	RapidConfigure™	TINYOPTO™
Current Transfer Logic™	ISOPLANAR™	Saving our world, 1mW/W/kW at a time™	TinyPower™
DEUXPEED®	MegaBuck™	SignalWise™	TinyPWM™
Dual Cool™	MICROCOUPLER™	SmartMax™	TinyWire™
EcoSPARK®	MicroFET™	SMART START™	TriFault Detect™
EfficientMax™	MicroPak™	SPM®	TRUECURRENT™*
 Fairchild®	MicroPak2™	STEALTH™	µSerDes™
Fairchild Semiconductor®	MillerDrive™	SuperFET™	 UHC®
FACT Quiet Series™	MotionMax™	SuperSOT™-3	Ultra FRFET™
FACT®	Motion-SPM™	SuperSOT™-6	UniFET™
FAST®	OptoHit™	SuperSOT™-8	VCX™
FastvCore™	OPTOLOGIC®	SupreMOS™	VisualMax™
FETBench™	OPTOPLANAR®	SyncFET™	XS™
FlashWriter®*	 PDP SPM™	Sync-Lock™	
FPS™	Power-SPM™	 SYSTEM GENERAL	
F-PFS™			

\* Trademarks of System General Corporation, used under license by Fairchild Semiconductor.

## 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. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

## 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, and (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 a significant injury of the user.
2. A critical component in 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.

## ANTI-COUNTERFEITING POLICY

Fairchild Semiconductor Corporation's Anti-Counterfeiting Policy. Fairchild's Anti-Counterfeiting Policy is also stated on our external website, [www.fairchildsemi.com](http://www.fairchildsemi.com), under Sales Support.

Counterfeiting of semiconductor parts is a growing problem in the industry. All manufacturers of semiconductor products are experiencing counterfeiting of their parts. Customers who inadvertently purchase counterfeit parts experience many problems such as loss of brand reputation, substandard performance, failed applications, and increased cost of production and manufacturing delays. Fairchild is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. Fairchild strongly encourages customers to purchase Fairchild parts either directly from Fairchild or from Authorized Fairchild Distributors who are listed by country on our web page cited above. Products customers buy either from Fairchild directly or from Authorized Fairchild Distributors are genuine parts, have full traceability, meet Fairchild's quality standards for handling and storage and provide access to Fairchild's full range of up-to-date technical and product information. Fairchild and our Authorized Distributors will stand behind all warranties and will appropriately address any warranty issues that may arise. Fairchild will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. Fairchild is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

## PRODUCT STATUS DEFINITIONS

### Definition of Terms

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

Rev. I47



# OCEAN CHIPS

## Океан Электроники

### Поставка электронных компонентов

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибутором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибутором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А