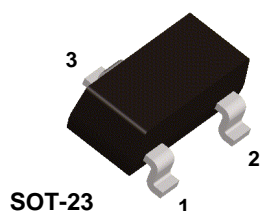


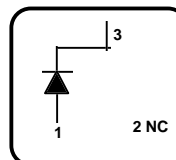
## BAS21



SOT-23



CONNECTION DIAGRAM



### General Purpose High Voltage Diode

Sourced from Process 1H. See MMBD1401 for characteristics.

#### Absolute Maximum Ratings\*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
$W_{IV}$	Working Inverse Voltage	250	V
$I_O$	Average Rectified Current	200	mA
$I_F$	DC Forward Current	600	mA
$i_f$	Recurrent Peak Forward Current	700	mA
$i_{f(surge)}$	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	1.0 2.0	A A
$T_{stg}$	Storage Temperature Range	-55 to +150	°C
$T_J$	Operating Junction Temperature	150	°C

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

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

#### Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BAS21	
$P_D$	Total Device Dissipation Derate above 25°C	350	mW
		2.8	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

**General Purpose High Voltage Diode**

(continued)

**BAS21**

**Electrical Characteristics**

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
B <sub>V</sub>	Breakdown Voltage	I <sub>R</sub> = 100 μA	250		V
I <sub>R</sub>	Reverse Voltage Leakage Current	V <sub>R</sub> = 200 V V <sub>R</sub> = 200 V, T <sub>A</sub> = 150 °C		100 100	nA μA
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> = 100 mA I <sub>F</sub> = 200 mA		1.0 1.25	V V
C <sub>O</sub>	Diode Capacitance	V <sub>R</sub> = 0, f = 1.0 MHz		5.0	pF
T <sub>RR</sub>	Reverse Recovery Time	I <sub>F</sub> = I <sub>R</sub> = 30 mA, I <sub>RR</sub> = 3.0 mA, R <sub>L</sub> = 100 Ω		50	nS

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FACT Quiet Series™	Quiet Series™	
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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
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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.
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