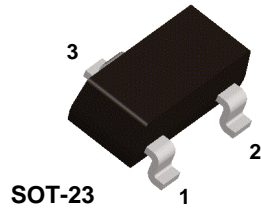
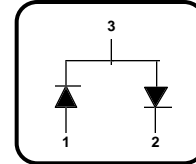


BAS31



CONNECTION DIAGRAM



High Voltage General Purpose Diode

Sourced from Process 1H. See BAV19 / 20 / 21 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
W_{IV}	Working Inverse Voltage	90	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	-50 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
		BAS31	
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

High Voltage General Purpose Diode

(continued)

BAS31

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
B_V	Breakdown Voltage	$I_R = 1.0 \text{ mA}$	120		V
I_R	Reverse Current	$V_R = 90 \text{ V}$ $V_R = 90 \text{ V}, T_A = 150^\circ\text{C}$		100 100	nA μA
V_F	Forward Voltage	$I_F = 10 \text{ mA}$ $I_F = 50 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 200 \text{ mA}$ $I_F = 400 \text{ mA}$		750 840 900 1.0 1.25	mV mV mV V V
C_O	Diode Capacitance	$V_R = 0, f = 1.0 \text{ MHz}$		35	pF
T_{RR}	Reverse Recovery Time	$I_F = I_R = 30 \text{ mA}, V_R = 6.0 \text{ V},$ $I_{RR} = 3.0 \text{ mA}, R_L = 100\Omega$		50	nS