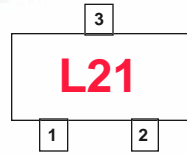
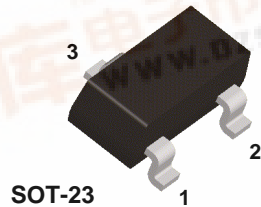


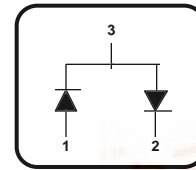


Discrete POWER & Signal Technologies

# 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	1.0	A
	Pulse width = 1.0 microsecond	2.0	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 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W



## High Voltage General Purpose Diode

(continued)

### Electrical Characteristics

$T_A = 25^\circ\text{C}$  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 $\mu\text{A}$
$V_F$	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

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