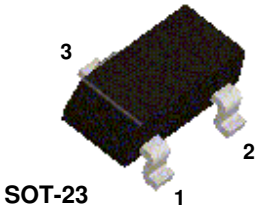
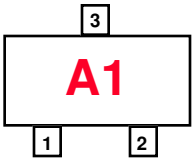
FAIRCHILD SEMICONDUCTOR TM

Discrete POWER & Signal Technologies

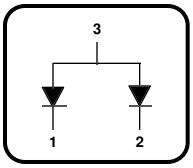
BAW56



SOT-23



CONNECTION DIAGRAMS



High Conductance Ultra Fast Diode

Sourced from Process 1P. See BAV99 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
W_{IV}	Working Inverse Voltage	70	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
		BAW56	
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 Conductance Ultra Fast Diode

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
B_V	Breakdown Voltage	I_R = 5.0 μA	85		V
I_R	Reverse Current	V_R = 70 V V_R = 25 V, T_A = 150°C V_R = 70 V, T_A = 150°C		2.5 30 50	μA μA μA
V_F	Forward Voltage	I_F = 1.0 mA I_F = 10 mA I_F = 50 mA I_F = 150 mA		715 855 1.0 1.25	mV mV V V
C_O	Diode Capacitance	V_R = 0, f = 1.0 MHz		2.0	pF
T_{RR}	Reverse Recovery Time	I_F = I_R = 10 mA, I_{RR} = 1.0 mA, R_L = 100Ω		6.0	nS
V_{FM}	Peak Forward Voltage	I_F = 10 mA, t_r = 20 nS		1.75	V