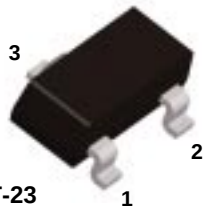
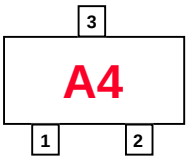
FAIRCHILD SEMICONDUCTOR TM

Discrete POWER & Signal Technologies

BAV70 / 74



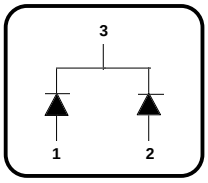
SOT-23



MARKING

BAV70 A4 BAV74 JA

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	**BAV70**	70	V
		BAV74	50	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		-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
		BAV70/74	
P_D	Total Device Dissipation	350	mW
	Derate above 25°C	2.8	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	**BAV70**	I_R = 100 µA	70		V
		BAV74	I_R = 100 µA	50		V
I_R	Reverse Current	**BAV70**	V_R = 25 V, T_A = 150°C		60	µA
			V_R = 70 V		5.0	µA
			V_R = 70 V, T_A = 150°C		100	µA
		BAV74	V_R = 50 V		100	nA
			V_R = 50 V, T_A = 150°C		100	µA
V_F	Forward Voltage	**BAV70**	I_F = 1.0 mA		715	mV
			I_F = 10 mA		855	mV
			I_F = 50 mA		1.0	V
			I_F = 150 mA		1.25	V
		BAV74	I_F = 100 mA		1.0	V
C_O	Diode Capacitance	**BAV70**	V_R = 0, f = 1.0 MHz		1.5	pF
		BAV74	V_R = 0, f = 1.0 MHz		2.0	pF
T_{RR}	Reverse Recovery Time	**BAV70**	I_F = I_R = 10 mA, I_{RR} = 1.0 mA, R_L = 100Ω		6.0	nS
		BAV74	I_F = I_R = 10 mA, I_{RR} = 1.0 mA, R_L = 100Ω		4.0	nS
Q_S	Stored Charge	**BAV70**	I_F = 10 mA		45	pC

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PRODUCT STATUS DEFINITIONS

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