Rochester Electronics Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All recreations are done with the approval of the OCM.

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

Quality Overview

• ISO-9001
• AS9120 certification
• Qualified Manufacturers List (QML) MIL-PRF-35835
   • Class Q Military
   • Class V Space Level
• Qualified Suppliers List of Distributors (QSLD)

   • Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OEM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

FAIRCHILD

SEMICONDUCTOR®

BAV70 / 74

3

A4

1   **2**

MARKING
BAV70   A4   BAV74   JA
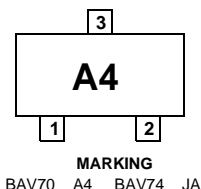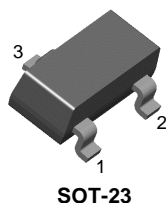
Connection Diagram

3

1   2

SOT-23
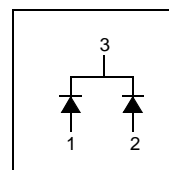
Small Signal Diode

Absolute Maximum Ratings * T_A = 25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	BAV70	70	V
		BAV74	50	V
$I_{F(AV)}$	Average Rectified Forward Current		200	mA
I_{FSM}	Non-repetitive 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 the diode may be impaired.

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

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter		Test Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	BAV70	I_R = 100µA	75		V
		BAV74	I_R = 5.0µA	50		V
V_F	Forward Voltage	BAV70	I_F = 1.0mA		715	mV
			I_F = 10mA		855	mV
			I_F = 50mA		1.0	V
			I_F = 150mA		1.25	V
		BAV74	I_F = 100mA		1.0	V
I_R	Reverse Leakage	BAV70	V_R = 25V, T_A = 150°C		60	µA
			V_R = 70V		5.0	µA
			V_R = 70V, T_A = 150°C		100	µA
		BAV74	V_R = 50V		100	nA
			V_R = 50V, T_A = 150°C		100	µA
C_T	Total Capacitance	BAV70	V_R = 0V, f = 1.0MHz		1.5	pF
		BAV74	V_R = 0V, f = 1.0MHz		2.0	pF
t_{rr}	Reverse Recovery Time	BAV70	I_F = I_R = 10mA, I_{RR} = 1.0mA, R_L = 100Ω		6.0	ns
		BAV74	I_F = I_R = 10mA, I_{RR} = 1.0mA, R_L = 100Ω		4.0	ns

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CoolFET™	FRFET™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	GlobalOptoisolator™	MicroPak™	QFET®	SuperSOT™-8
DOME™	GTO™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	HiSeC™	MSX™	QT Optoelectronics™	TinyLogic®
E^2CMOS™	I^2C™	MSXPro™	Quiet Series™	TINYOPTO™
EnSigna™	i-Lo™	OCX™	RapidConfigure™	TruTranslation™
FACT™	ImpliedDisconnect™	OCXPro™	RapidConnect™	UHC™
FACT Quiet Series™		OPTOLOGIC®	μSerDes™	UltraFET®
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The Power Franchise®		PACMAN™	SMART START™	
Programmable Active Droop™		POP™	SPM™	

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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
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.