

3469674 FAIRCHILD SEMICONDUCTOR

84D 27294 D1

**FAIRCHILD**

A Schlumberger Company

**BAX16**

General Purpose Industrial Diode

T-01-09

- BV... 180 V (MIN) @ 100  $\mu$ A
- I<sub>R</sub>... 100 nA (MAX) @ 150V

**PACKAGE**

BAX16

DO-35

**ABSOLUTE MAXIMUM RATINGS (Note 1)**

**Temperatures**

Storage Temperature Range	-65°C to +200°C
Maximum Junction Operating Temperature	+175°C
Lead Temperature	+260°C

**Power Dissipation (Note 2)**

Maximum Total Power Dissipation at 25°C Ambient	500 mW
Linear Power Derating Factor (from 25°C)	3.33 mW/°C

**Maximum Voltage and Currents**

WIV	Working Inverse Voltage	150 V
I <sub>O</sub>	Average Rectified Current	200 mA
I <sub>F</sub>	Continuous Forward Current	500 mA
I <sub>f</sub>	Peak Repetitive Forward Current	600 mA
I <sub>f(surge)</sub>	Peak Forward Surge Current	
	Pulse Width = 1 s	1.0 A
	Pulse Width = 1 $\mu$ s	4.0 A

**ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)**

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V <sub>F</sub>	Forward Voltage		1.5	V	I <sub>F</sub> = 200 mA
			1.4	V	I <sub>F</sub> = 200 mA, T <sub>A</sub> = 175°C
			1.3	V	I <sub>F</sub> = 100 mA
			0.85	V	I <sub>F</sub> = 10 mA, T <sub>A</sub> = 100°C
			0.65	V	I <sub>F</sub> = 1 mA
I <sub>R</sub>	Reverse Current		100	nA	V <sub>R</sub> = 150 V
			100	$\mu$ A	V <sub>R</sub> = 150 V, T <sub>A</sub> = 150°C
			25	nA	V <sub>R</sub> = 50 V
			25	$\mu$ A	V <sub>R</sub> = 50 V, T <sub>A</sub> = 150°C
BV	Breakdown Voltage	180		V	I <sub>R</sub> = 100 $\mu$ A
C	Capacitance		10	pf	V <sub>R</sub> = 0, f = 1 MHz
t <sub>rr</sub>	Reverse Recovery Time (Note 3)		120	ns	I <sub>F</sub> = 30 mA, I <sub>R</sub> = 30 mA R <sub>L</sub> = 100 $\Omega$
Q <sub>s</sub>	Stored Charge		700	pC	I <sub>F</sub> = 10 mA, V <sub>R</sub> = 5 V R <sub>L</sub> = 500 $\Omega$

**NOTES:**

1. These ratings are limiting values above which the serviceability of the diode may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. Recovery to I<sub>R</sub> = 3 mA.
4. For product family characteristic curves, refer to Chapter 4, D1.