

3469674 FAIRCHILD SEMICONDUCTOR

84D 27293 D

FAIRCHILD

A Schlumberger Company

BAX13

High Speed Switching Diode

- C...3.0 pF (MAX)
- t_{rr} ...4.0 ns (MAX)

PACKAGE

BAX13

DO-35

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

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

Power Dissipation (Note 2)

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

Maximum Voltages and Currents

V_{RRM}	Repetitive Peak Reverse Voltage	50 V
V_R	Reverse Voltage	50 V
I_O	Average Rectified Current	100 mA
I_F	Forward Current	300 mA
i_f	Recurrent Peak Forward Current	400 mA
I_{FSM}	Peak Forward Surge Current	
	Pulse Width = 1.0 s	1.0 A
	Pulse Width = 1.0 μ s	4.0 A

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage		0.7	V	$I_F = 2.0$ mA
			0.8	V	$I_F = 10$ mA, $T_A = 100^\circ$ C
			1.0	V	$I_F = 20$ mA
			1.53	V	$I_F = 75$ mA
I_R	Reverse Current		25	nA	$V_R = 10$ V
			10	μ A	$V_R = 10$ V, $T_A = 150^\circ$ C
			50	nA	$V_R = 25$ V
			200	nA	$V_R = 50$ V
			25	μ A	$V_R = 50$ V, $T_A = 150^\circ$ C
C	Capacitance		3.0	pF	$V_R = 0$, $f = 1.0$ MHz
t_{rr}	Reverse Recovery Time		4.0	ns	$I_f = 10$ mA, $V_r = 6.0$ V, $R_L = 100\Omega$, $I_r = 1.0$ mA
Q_S	Recovered Charge		45	pC	$I_f = 10$ mA, $V_r = 5.0$ V, $R_L = 500\Omega$

NOTES:

1. These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For product family characteristic curves, refer to Chapter 4, D4.