T-03-09

FAIRCHILD
A Schlumberger Company

BAY74

High Conductance Ultra Fast Diode

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

PACKAGE
BAY74 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 Deviation Factor (from 25° C)	3.33 mW

Maximum Voltage and Currents

WIV	Working Inverse Voltage	35 V
I_O	Average Rectified Current	100 mA
I_F	Continuous Forward Current	300 mA
i_f	Recurrent Peak Forward Current	400 mA
i_f (surge)	Peak Forward Surge Current	
	Pulse Width = 1.0 s	1.0 A
	Pulse Width = 1.0 μs	4.0 A

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage	0.85	1.10	V	I_F = 300 mA
		0.82	1.00	V	I_F = 200 mA
		0.78	0.93	V	I_F = 100 mA
		0.73	0.88	V	I_F = 50 mA
		0.65	0.77	V	I_F = 10 mA
		0.54	0.65	V	I_F = 1 0 mA
I_R	Reverse Current		100	nA	V_R = 35 V
			100	μA	V_R = 35 V,T_A = 125° C
BV	Breakdown Voltage	50		V	I_R = 5.0 μA
C	Capacitance		3.0	pF	V_R = 0, f = 1.0 MHz
t_{rr}	Reverse Recovery Time (Note 4)		4.0	ns	I_f = I_r = 10 mA to 200 mA
			6.0	ns	I_f = I_r = 200 mA to 400 mA
t_{rr}	Reverse Recovery Time (Note 3)		6.0	ns	I_f = 10 mA, I_r = 1.0 mA

NOTES:
1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady-state limits. The factory should be consulted on applications involving pulses or low duty-cycle operations.
3. Recovery to 0.1 mA.
4. Recovery to 10% of I_f.
5. For product family characteristic curves, refer to Chapter 4, D4.