

Silicon - Diode

BAY74

35V / 300mA / 500mW

High Conductance Ultra Fast Diode

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

BAY74

HIGH CONDUCTANCE ULTRA FAST DIODE

SILICON PLANAR EPITAXIAL

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

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

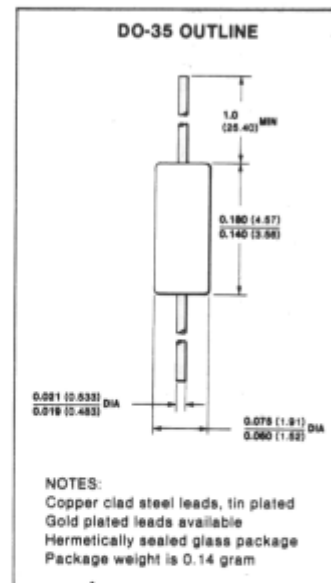
Storage Temperature Range	-65° C to +200° C
Maximum Operating Junction Temperature	+175° C
Lead Temperature	+260° C

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_{f1}	Recurrent Peak Forward Current	400 mA
I_f (surge)	Peak Forward Surge Current	1.0 A
	Pulse Width = 1.0 s	4.0 A
	Pulse Width = 1.0 μ s	

**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	μ A	$V_R = 35$ V, $T_A = 125^\circ$ C
BV	Breakdown Voltage	50		V	$I_R = 5.0$ μ A
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.