

FAIRCHILD

A Schlumberger Company

BAY82/1N4244
1N4376 T.03-09

Ultra Fast Switching Diodes

- t_{rr} ...750 ps (MAX)
- C...0.8 pF (MAX) 1N4244

PACKAGES	
BAY82	DO-7
1N4244	DO-7
1N4376	DO-7

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	250 mW
Linear Power Derating Factor (from 25°C)	1.67 mW/°C

Maximum Voltage and Currents	
WIV Working Inverse Voltage	10 V (12 V BAY82)
I_O Average Rectified Current	50 mA
I_F Continuous Forward Current	150 mA
I_f Peak Repetitive Forward Current	150 mA
i_f (surge) Peak Forward Surge Current	250 mA
Pulse Width = 1 s	

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

SYMBOL	CHARACTERISTIC	BAY82		1N4244		1N4376		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
V _F	Forward Voltage	0.90	1.35			0.89	1.10	V	$I_F = 50$ mA
		0.80	1.00		1.00	0.81	0.95	V	$I_F = 20$ mA
		0.77	0.94			0.76	0.88	V	$I_F = 10$ mA
		0.64	0.79			0.64	0.74	V	$I_F = 1.0$ mA
		0.53	0.66			0.52	0.61	V	$I_F = 0.1$ mA
		0.41	0.53			0.42	0.50	V	$I_F = 10$ μ A
I _R	Reverse Current				100		100	nA	$V_R = 10$ V
					100		100	μ A	$V_R = 10$ V, $T_A = 150^\circ$ C
			100					nA	$V_R = 12$ V
			50		250			μ A	$V_R = 12$ V, $T_A = 100^\circ$ C
							nA	$V_R = 15$ V	
BV	Breakdown Voltage	15		20		20		V	$I_R = 5.0$ μ A
C	Capacitance		1.3		0.8		1.0	pF	$V_R = 0$, $f = 1$ MHz
t_{rr}	Reverse Recovery Time (Note 3)		750		750		750	ps	$I_f = I_r = 10$ mA $R_L = 100$ Ω

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 $I_r = 1.0$ mA.
4. For product family characteristic curves, refer to Chapter 4, D3.