FAIRCHILD
A Schlumberger Company

BAY82/1N4244 T.03-09
1N4376

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	
	Pulse Width = 1 s	250 mA

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

SYMBOL	CHARACTERISTIC	BAY82 MIN	BAY82 MAX	1N4244 MIN	1N4244 MAX	1N4376 MIN	1N4376 MAX	UNITS	TEST CONDITIONS
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 μA
I_R	Reverse Current				100		100	nA	V_R = 10 V
					100		100	μA	V_R = 10 V, T_A = 150°C
			100					nA	V_R = 12 V
			50					μA	V_R = 12 V, T_A = 100°C
					250			nA	V_R = 15 V
BV	Breakdown Voltage	15		20		20		V	I_R = 5.0 μA
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.