FAIRCHILD
A Schlumberger Company

BAY73/BA129

T-01-09

High Voltage Low Leakage Diodes

- BV... 125 V (MIN) @ 100 μA (BAY73)
- BV... 200 V (MIN) @ 100 μA (BA129)

PACKAGES

BAY73	DO-35
BA129	DO-35

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	500 mW
Linear Power Derating Factor (from 25°C)	3.33 mW/°C

Maximum Voltage and Currents

WIV	Working Inverse Voltage	BAY73	100 V
		BA129	180 V
I_O	Average Rectified Current		200 mA
I_F	Continuous Forward Current		500 mA
i_f	Peak Repetitive Forward Current		600 mA
$i_{f(surge)}$	Peak Forward Surge Current		
	Pulse Width = 1 s		1.0 A
	Pulse Width = 1 μs		4.0 A

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

SYMBOL	CHARACTERISTIC	BAY73 MIN	BAY73 MAX	BA129 MIN	BA129 MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage	0.85	1.00			V	I_F = 200 mA
		0.81	0.94			V	I_F = 100 mA
		0.78	0.88	0.78	1.00	V	I_F =50 mA
		0.69	0.80	0.69	0.83	V	I_F = 10 mA
		0.67	0.75			V	I_F = 5.0 mA
		0.60	0.68	0.60	0.71	V	I_F = 1.0 mA
				0.51	0.60	V	I_F = 0.1 mA
I_R	Reverse Current		500			nA	V_R = 20 V, T_A = 125°C
			5.0			nA	V_R = 100 V
			1.0			μA	V_R = 100 V, T_A = 125°C
					10	nA	V_R = 180 V
					5.0	μA	V_R = 180 V, T_A = 100°C
BV	Breakdown Voltage	125		200		V	I_R = 100 μA
C	Capacitance		8.0		6.0	pf	V_R = 0, f = 1.0 MHz
t_{rr}	Reverse Recovery Time		3.0			μs	I_f = 10 mA, V_r = 35 V R_L = 1.0 to 100 KΩ C_L = 10 pf, JAN 256

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 pulses or low duty-cycle operation.
3. For product family characteristic curves, refer to Chapter 4, D2