

# Silicon - Diode

## **BAY73**

100V / 500mA / 500mW

High Voltage, Low Leakage Diode

# DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

# BAY73 • BA129

## HIGH VOLTAGE, LOW LEAKAGE DIODES

DIFFUSED SILICON PLANAR

- BV... 125 V (MIN) @ 100  $\mu$ A (BAY73)
- BV... 200 V (MIN) @ 100  $\mu$ A (BA129)

**ABSOLUTE MAXIMUM RATINGS** (Note 1)

**Temperatures**

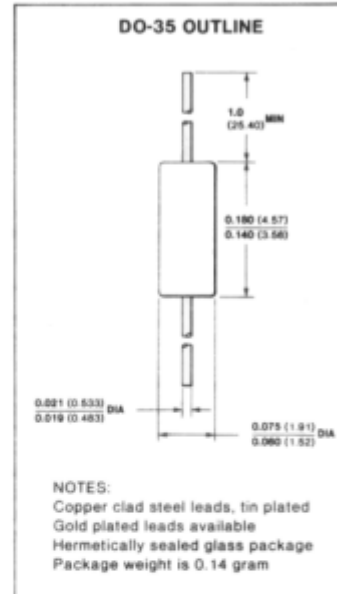
Storage Temperature Range	-65°C to +200°C
Maximum Junction Operating Temperature	+175°C
Lead Temperature	+260°C

**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
$i_f(\text{surge})$	Peak Forward Surge Current		1.0 A
	Pulse Width = 1 s		4.0 A
	Pulse Width = 1 $\mu$ s		



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

SYMBOL	CHARACTERISTIC	BAY73		BA129		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
$V_F$	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
$I_R$	Reverse Current		500			nA	$V_R = 20$ V, $T_A = 125^\circ$ C
			5.0			nA	$V_R = 100$ V
			1.0			$\mu$ A	$V_R = 100$ V, $T_A = 125^\circ$ C
					10	nA	$V_R = 180$ V
					5.0	$\mu$ A	$V_R = 180$ V, $T_A = 100^\circ$ C
BV	Breakdown Voltage	125		200		V	$I_R = 100$ $\mu$ A
C	Capacitance		8.0	6.0		pF	$V_R = 0$ , $f = 1.0$ MHz
$t_{rr}$	Reverse Recovery Time		3.0			$\mu$ s	$I_F = 10$ mA, $V_R = 35$ V $R_L = 1.0$ to 100 K $\Omega$ $C_L = 10$ 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