Silicon - Diode

BAX13

50V / 300mA / 500mW

High Speed Switching Diode

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

BAX13

HIGH SPEED SWITCHING DIODE

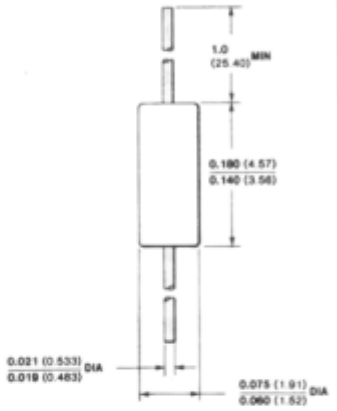
DIFFUSED SILICON PLANAR

- **C . . . 3.0 pF (MAX)**
- **t_{rr} . . . 4.0 ns (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 Derating Factor (from 25°C)		3.33 mW/°C
Maximum Voltages and Currents		
V_{RRM}	Repetitive Peak Reverse Voltage	50 V
V_R	Reverse Voltage	50 V
I_O	Average Rectified Current	100 mA
I_F	Forward Current	300 mA
i_f	Recurrent Peak Forward Current	400 mA
I_{FSM}	Peak Forward Surge Current	
	Pulse Width = 1.0 s	1.0 A
	Pulse Width = 1.0 μs	4.0 A

DO-35 OUTLINE



NOTES:
Copper clad steel leads, tin plated
Gold plated leads available
Hermetically sealed glass package
Package weight is 0.14 gram

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless . e noted)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage		0.7	V	I_F = 2.0 mA
			0.8	V	I_F = 10 mA, T_A = 100°C
			1.0	V	I_F = 20 mA
			1.53	V	I_F = 75 mA
I_R	Reverse Current		25	nA	V_R = 10 V
			10	μA	V_R = 10 V, T_A = 150°C
			50	nA	V_R = 25 V
			200	nA	V_R = 50 V
			25	μA	V_R = 50 V, T_A = 150°C
C	Capacitance		3.0	pF	V_R = 0, f = 1.0 MHz
t_{rr}	Reverse Recovery Time		4.0	ns	I_f = 10 mA, V_r = 6.0 V, R_L = 100Ω, I_r = 1.0 mA
Q_S	Recovered Charge		45	pC	I_f = 10 mA, V_r = 5.0 V, R_L = 500Ω

NOTES:
1. These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For product family characteristic curves, refer to Chapter 4, D4.