

# Silicon – AFC Diode

## **RF400**

10pF

# DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

**RF400 • RF401****AFC DIODES**

SILICON PLANAR EPITAXIAL

- $C_3/C_{20} \dots 2.0$  (MIN)
- $Q \dots 350$  (MIN)

**ABSOLUTE MAXIMUM RATINGS (Note 1)****Temperatures**

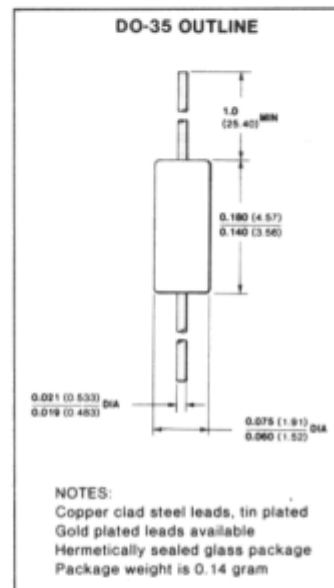
Storage Temperature Range	-65°C to +200°C
Maximum Junction Operating Temperature	+175°C
Lead Temperature	+260°C

**Power Dissipation (Note 2)**

Maximum Total Power Dissipation at 25°C Ambient	350 mW
Linear Power Derating Factor	2.33 mW/°C

**Maximum Voltage and Currents**

WIV Working Inverse Voltage	30 V
$I_F$ Continuous Forward Current	250 mA

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

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	TEST CONDITIONS
BV	Breakdown Voltage	35			V	$I_R = 10 \mu A$
$I_R$	Reverse Current		3.0 5.0	30 50	nA $\mu A$	$V_R = 30 V$ $V_R = 30 V, T_A = 150^\circ C$
Q	Figure of Merit	350				$V_R = 4.0 V, f = 50 MHz$
C	Capacitance		10 7.0		pF pF	$V_R = 4.0 V, f = 1 MHz$ $V_R = 4.0 V, f = 1 MHz$
$C_{0.1}/C_4$	Capacitance Ratio	2.0				$V_R = 0.1 V (C_{0.1}), V_R = 4.0 V (C_4), f = 1 MHz$
$C_3/C_{20}$	Capacitance Ratio	2.0				$V_R = 3.0 V (C_3), V_R = 20 V (C_{20}), f = 1 MHz$

**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. For product family characteristic curves, refer to Chapter 4, DB.

**CURVE SET NUMBER D8**  
**ABRUPT JUNCTION VARACTOR**

**TYPICAL ELECTRICAL CHARACTERISTIC CURVES**  
 AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE NOTED

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