

# Silicon Diode

## **1N6099**

125V/500mA

# DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

## 1N3595 • 1N6099

### HIGH CONDUCTANCE LOW LEAKAGE DIODES

DIFFUSED SILICON PLANAR

- $V_F \dots 150 \text{ V (MIN) @ } 100 \mu\text{A}$
- $V_F \dots 1.0 \text{ V @ } 200 \text{ mA}$

#### ABSOLUTE MAXIMUM RATINGS (Note 1)

##### Temperatures

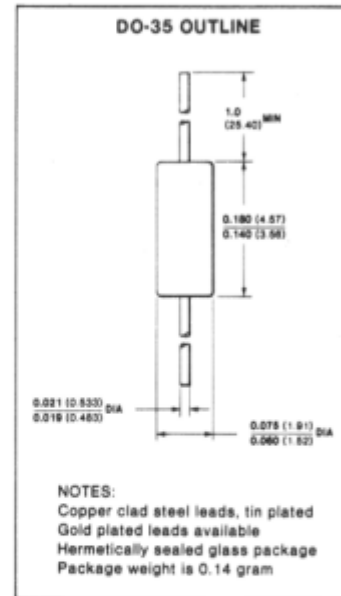
Storage Temperature Range	-65°C to +200°C
Max Junction Operating Temperature	+175°C
Lead Temperature	+260°C

##### Power Dissipation (Note 2)

Maximum Total Dissipation at 25°C Ambient	500 mW
Linear Derating Factor (From 25°C)	3.33 mW/°C

##### Maximum Voltage and Currents

$V_{IV}$ Working Inverse Voltage	125 V
$I_O$ Average Rectified Current	200 mA
$I_F$ Forward Current Steady State	500 mA
$I_F$ Peak Repetitive Forward Current	600 mA
$I_F$ (surge) Peak Forward Surge Current	
Pulse Width = 1.0 s	1.0 A
Pulse Width = 1.0 $\mu$ s	4.0 A



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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
$V_F$	Forward Voltage	0.83	1.0	V	$I_F = 200 \text{ mA}$
		0.79	0.92	V	$I_F = 100 \text{ mA}$
		0.75	0.88	V	$I_F = 50 \text{ mA}$
		0.65	0.80	V	$I_F = 10 \text{ mA}$
		0.60	0.75	V	$I_F = 5.0 \text{ mA}$
		0.52	0.68	V	$I_F = 1.0 \text{ mA}$
$I_R$	Reverse Current		1.0	nA	$V_R = 125 \text{ V}$
			300	nA	$V_R = 30 \text{ V}, T_A = 125^\circ\text{C}$
			500	nA	$V_R = 125 \text{ V}, T_A = 125^\circ\text{C}$
			3.0	$\mu\text{A}$	$V_R = 125 \text{ V}, T_A = 150^\circ\text{C}$
$t_{rr}$	Reverse Recovery Time	-	3.0	$\mu\text{s}$	$I_F = 10 \text{ mA}, V_r = 3.5 \text{ V}, R_L = 1.0 \text{ k}\Omega$
C	Capacitance		8.0	pF	$V_R = 0, f = 1.0 \text{ MHz}$
BV	Breakdown Voltage	150		V	$I_R = 100 \mu\text{A}$

#### NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. 1N3595 and 1N6099 are electrically and mechanically identical.
4. For product family characteristic curves, refer to Chapter 4, D2.

**CURVE SET NUMBER D2**  
**LOW LEAKAGE SMALL SIGNAL DIODE**

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

