

Silicon Diode Array

1N6101

65V/350mA

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

1N6100 • 1N6101

PLANAR AIR-ISOLATED MONOLITHIC DIODE ARRAYS

- C ... 3.0 pF (MAX)
- ΔV_F ... 10 mV (MAX) @ 10 μ A

ABSOLUTE MAXIMUM RATINGS (Note 1)

Temperatures

| | |
|--|-----------------|
| Storage Temperature Range | -55°C to +200°C |
| Maximum Junction Operating Temperature | +175°C |
| Lead Temperature | +260°C |

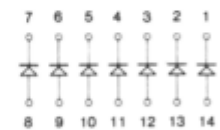
Power Dissipation (Note 2)

| | |
|--|------------|
| Maximum Dissipation per Junction at 25°C Ambient | 400 mW |
| Maximum Dissipation per Package at 25°C Ambient | 600 mW |
| Linear Derating Factor (from 25°C) Junction | 2.67 mW/°C |
| Package | 4.0 mW/°C |

Maximum Voltage and Currents

| | | |
|---------------|----------------------------|--------|
| WIV | Working Inverse Voltage | 65 V |
| I_F | Continuous Forward Current | 350 mA |
| I_F (surge) | Peak Forward Surge Current | |
| | Pulse Width = 1.0 s | 1.0 A |
| | Pulse Width = 1.0 μ s | 2.0 A |

CONNECTION DIAGRAM



See Package Outlines

| | |
|----------|--------|
| TO-86 | 1N6100 |
| TO-116-2 | 1N6101 |

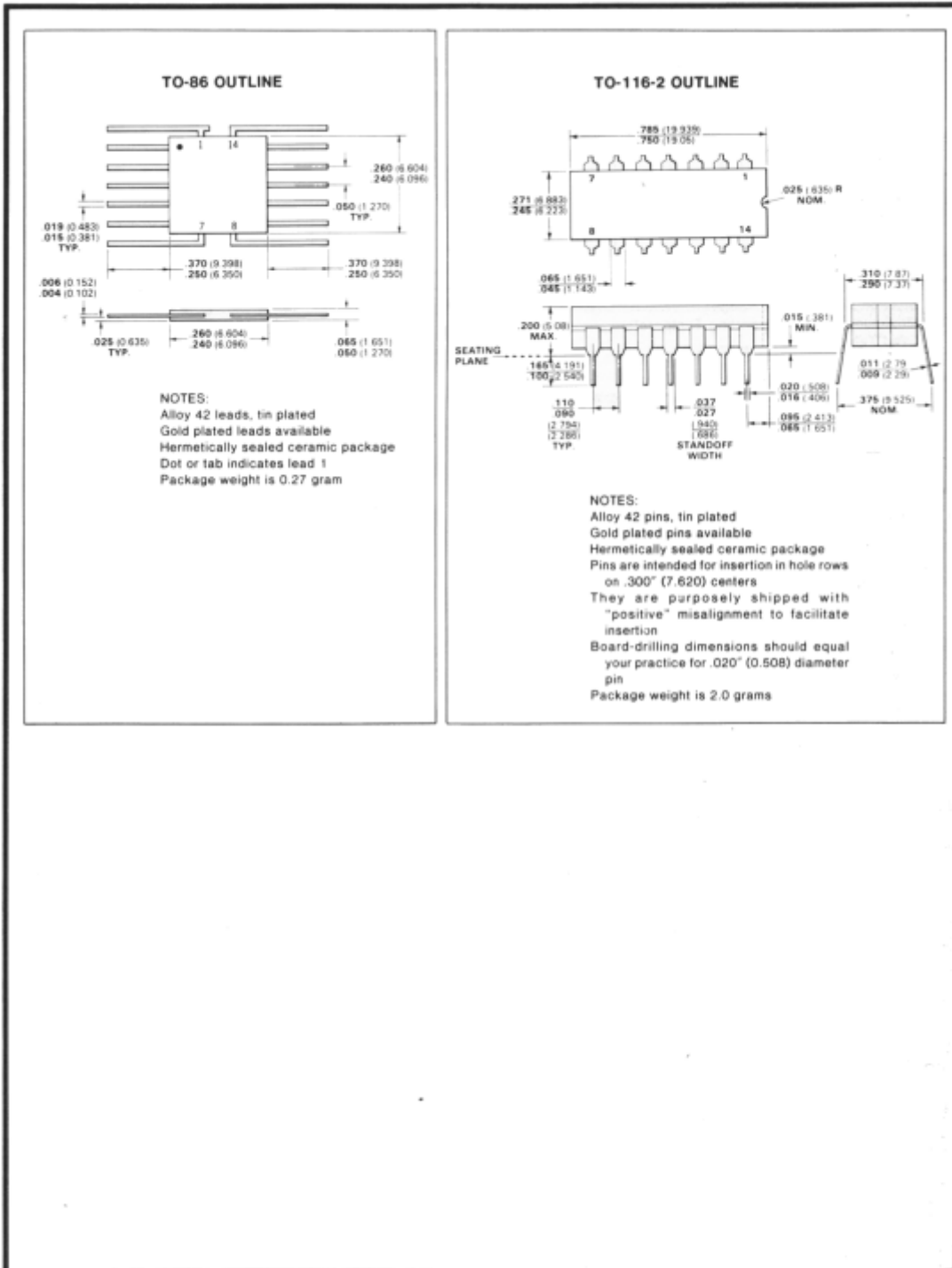
ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

| SYMBOL | CHARACTERISTIC | MIN | MAX | UNITS | TEST CONDITIONS |
|--------------|--------------------------------|-----|----------|---------------|--|
| BV | Breakdown Voltage | 75 | | V | $I_R = 5.0 \mu$ A |
| I_R | Reverse Current (Note 4) | | 25 50 | nA μ A | $V_R = 20$ V $V_R = 20$ V, $T_A = 150^\circ$ C |
| V_F | Forward Voltage (Note 3) | | 1.0 | V | $I_F = 100$ mA |
| V_{FM} | Peak Forward Voltage | | 5.0 | V | $I_F = 100 \mu$ A, PW = 100 ns Duty Cycle $\leq 2\%$ |
| I_{RX} | Reverse Current (Note 5) | | 10 | μ A | $V_R = 40$ V |
| V_{FX} | Forward Voltage (Note 5) | | 1.0 | V | $I_F = 25$ mA |
| C | Capacitance | | 3.0 | pF | $V_R = 0$, $f = 1$ MHz |
| t_{fr} | Forward Recovery Time (Note 6) | | 15 | ns | $I_F = 100$ mA, $R_S = 50 \Omega$ $V_R = 1.1$ V, $t_r \leq 10$ ns |
| t_{rr} | Reverse Recovery Time (Note 6) | | 5.0 | ns | $I_F = I_r = 10$ mA $I_{rr} = 1.0$ mA, $R_L = 100 \Omega$ |
| ΔV_F | Forward Voltage Match (Note 6) | | 10 | mV | $I_F = 10$ mA |

NOTES

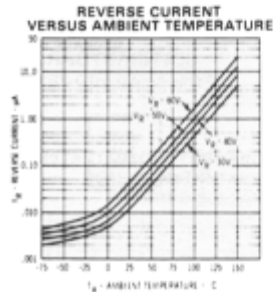
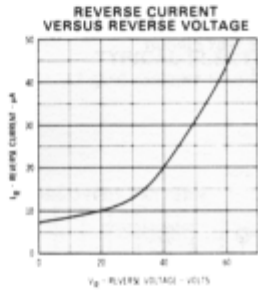
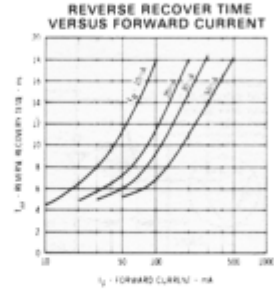
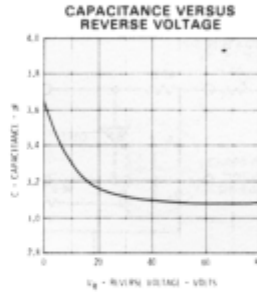
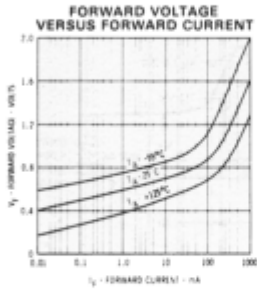
- 1 These ratings are limiting values above which life or satisfactory performance may be impaired.
- 2 These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- 3 V_F is measured using an 8 ms pulse.
- 4 See Test circuits (Note 6) for measurement of reverse current of an individual diode.
- 5 $I_r = 25$ mA for each of the other diodes in the array.
- 6 For product family characteristic curves and test circuits, refer to Chapter 4, D15.

FAIRCHILD • DIODE ARRAYS



CURVE SET NUMBER D15
AIR-ISOLATED MONOLITHIC DIODE ARRAY

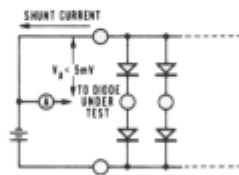
TYPICAL ELECTRICAL CHARACTERISTIC CURVES
 AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE NOTED



TEST CIRCUITS

To measure reverse current of an individual diode, the following test circuits are used:

COMMON CATHODE DIODES



COMMON ANODE DIODES

