

Silicon Diode

1N627

75V/400mA

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

1N625 through 1N629

GENERAL PURPOSE DIODES

DIFFUSED SILICON PLANAR

- $V_F \dots 1.5 \text{ V (MAX) @ } 4.0 \text{ mA}$
- $I_R \dots 1.0 \mu\text{A (MAX) @ WIV}$

ABSOLUTE MAXIMUM RATINGS (Note 1)

Temperatures

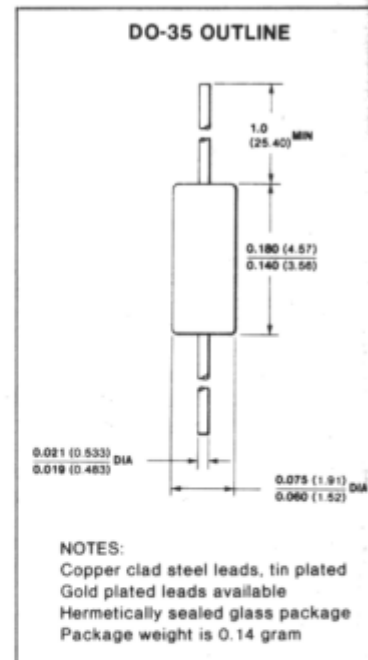
| | |
|--|-----------------|
| Storage Temperature Range | -65°C to +200°C |
| Maximum Operating Junction Temperature | 175°C |
| Lead Temperatures | 260°C |

Power Dissipation (Notes 2)

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

Maximum Voltage and Currents

| | 1N625 | 1N626 | 1N627 | 1N628 | 1N629 |
|--|--------|--------|--------|--------|--------|
| WIV Working Inverse Voltage | 20 V | 35 V | 75 V | 125 V | 175 V |
| I_O Average Rectified Current | 175 mA | 175 mA | 175 mA | 175 mA | 175 mA |
| I_F Forward Current Steady State | 400 mA | 400 mA | 400 mA | 400 mA | 400 mA |
| $i_F(\text{surge})$ Peak Forward Surge Current | | | | | |
| Pulse Width = 1.0 s | 1.0 A | 1.0 A | 1.0 A | 1.0 A | 1.0 A |
| Pulse Width = 1.0 μs | 4.0 A | 4.0 A | 4.0 A | 4.0 A | 4.0 A |



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

| SYMBOL | CHARACTERISTIC | MIN | MAX | UNITS | TEST CONDITIONS |
|----------|-----------------------|---|-------------------------------|--------------------------------|---|
| V_F | Forward Voltage | | 1.5 | V | $I_F = 4.0 \text{ mA}$ |
| I_R | Reverse Current | | 1.0 30 | μA μA | $V_R = \text{rated WIV}$ $V_R = \text{rated WIV, } T_A = 100^\circ\text{C}$ |
| BV | Breakdown Voltage | 1N625 1N626 1N627 1N628 1N629 | 30 50 100 150 200 | V V V V V | $I_R = 100 \mu\text{A}$ $I_R = 100 \mu\text{A}$ $I_R = 100 \mu\text{A}$ $I_R = 100 \mu\text{A}$ $I_R = 100 \mu\text{A}$ |
| t_{rr} | Reverse Recovery Time | | 1.0 | μs | $I_F = 30 \text{ mA, } V_R = 35 \text{ V,}$ Recovery to 400 k Ω |

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 operations.
3. For product family characteristic curves, refer to Chapter 4, D1.

CURVE SET NUMBER D1
HIGH VOLTAGE SMALL SIGNAL DIODE

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

