

Silicon Diode

1N457

60V/500mA

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

1N456/A • 1N457/A • 1N458/A • 1N459/A

LOW LEAKAGE DIODES

DIFFUSED SILICON PLANAR

- I_R ... 25 nA (MAX) @ WIV
- C ... 6.0 pF (MAX)

ABSOLUTE MAXIMUM RATINGS (Note 1)

Temperatures

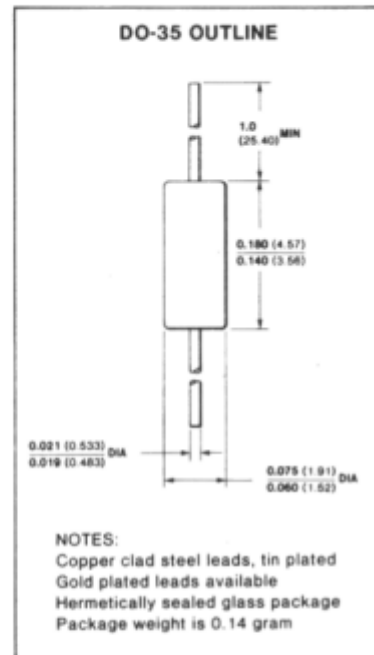
Storage Temperature Range	-65°C to +200°C
Maximum Junction Operating Temperature	+175°C
Lead Temperature	+260°C

Power Dissipation (Note 2)

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

Maximum Voltage and Currents

	1N456/A	1N457/A	1N458/A	1N459/A
WIV Working Inverse Voltage	25 V	60 V	125 V	175 V
I_O Average Rectified Current				200 mA
I_F Continuous Forward Current				500 mA
i_f Peak Repetitive Forward Current				600 mA
$i_f(\text{surge})$ Peak Forward Surge Current				
Pulse Width = 1 μ s				4.0 A
Pulse Width = 1 s				1.0 A



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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage 1N456A/7A/8A/9A		1.0	V	$I_F = 100$ mA
		1N456	1.0	V	$I_F = 40$ mA
		1N457	1.0	V	$I_F = 20$ mA
		1N458	1.0	V	$I_F = 7$ mA
		1N459	1.0	V	$I_F = 3$ mA
I_R	Reverse Current		25	nA	$V_R = \text{Rated WIV}$
			5.0	μ A	$V_R = \text{Rated WIV}, T_A = 150^\circ\text{C}$
BV	Breakdown Voltage	1N456/A	30	V	$I_R = 100$ μ A
		1N457/A	70	V	$I_R = 100$ μ A
		1N458/A	150	V	$I_R = 100$ μ A
		1N459/A	200	V	$I_R = 100$ μ A
C	Capacitance		6.0	pF	$V_R = 0, f = 1$ 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, D2.

CURVE SET NUMBER D2
LOW LEAKAGE SMALL SIGNAL DIODE

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

