

368-090

FAIRCHILD

A Schlumberger Company

1N3595/6099

FDLL3595/6099

High Conductance Low
Leakage Diodes

- BV... 150 V (MIN) @ 100 μ A
- V_F... 1.0 V @ 200 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

WIV	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 μ s	4.0 A

PACKAGES

1N3595	DO-35
1N6099	DO-35
FDLL3595	LL-34
FDLL6099	LL-34

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1500 family.

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

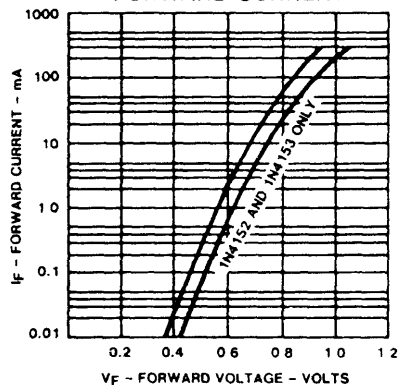
SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V _F	Forward Voltage	0.83	1.0	V	I _F = 200 mA
		0.79	0.92	V	I _F = 100 mA
		0.75	0.88	V	I _F = 50 mA
		0.65	0.80	V	I _F = 10 mA
		0.60	0.75	V	I _F = 5.0 mA
		0.52	0.68	V	I _F = 1.0 mA
I _R	Reverse Current		1.0	nA	V _R = 125 V
			300	nA	V _R = 30 V, T _A = 125°C
			500	nA	V _R = 125 V, T _A = 125°C
			3.0	μ A	V _R = 125 V, T _A = 150°C
t _{rr}	Reverse Recovery Time		3.0	μ s	I _F = 10 mA, V _r = 3.5 V, R _L = 1.0 k Ω
C	Capacitance		8.0	pF	V _R = 0, f = 1.0 MHz
BV	Breakdown Voltage	150		V	I _R = 100 μ A

NOTES

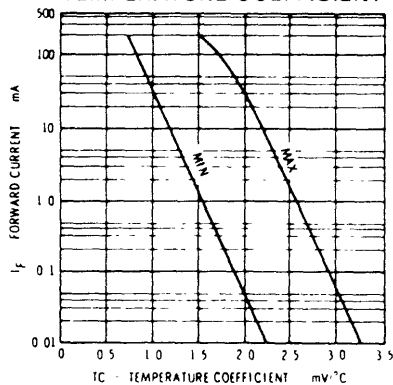
1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. 1N3595 and 1N6099 are electrically and mechanically identical.
4.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

Typical Electrical Characteristic Curves 25°C Ambient Temperature unless otherwise noted

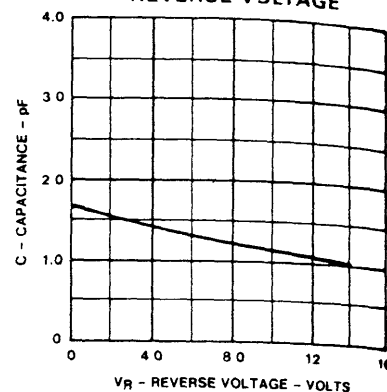
FORWARD VOLTAGE VERSUS FORWARD CURRENT



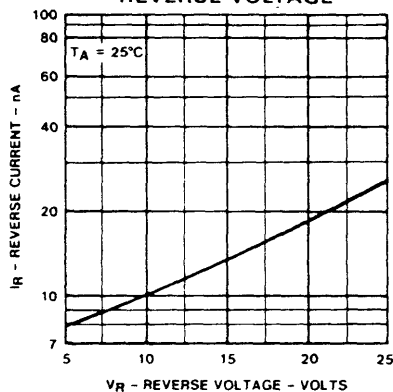
FORWARD CURRENT VERSUS TEMPERATURE COEFFICIENT



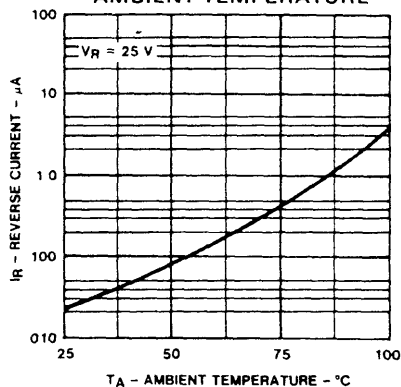
CAPACITANCE VERSUS REVERSE VOLTAGE



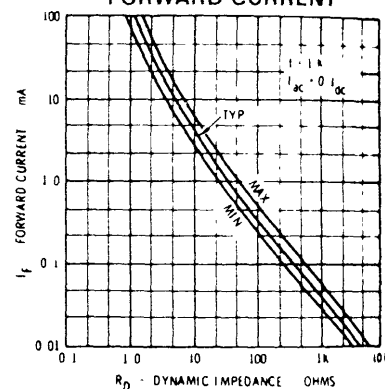
REVERSE CURRENT VERSUS REVERSE VOLTAGE



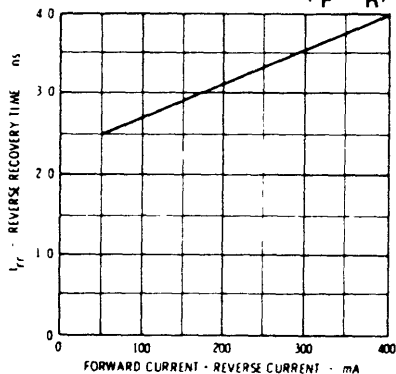
REVERSE CURRENT VERSUS AMBIENT TEMPERATURE



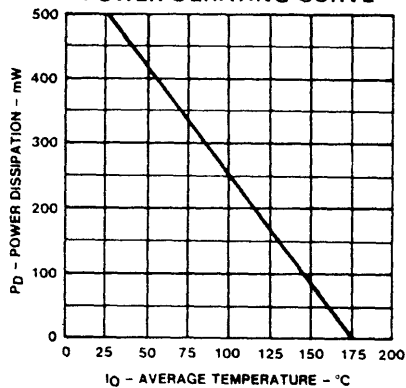
DYNAMIC IMPEDANCE VERSUS FORWARD CURRENT



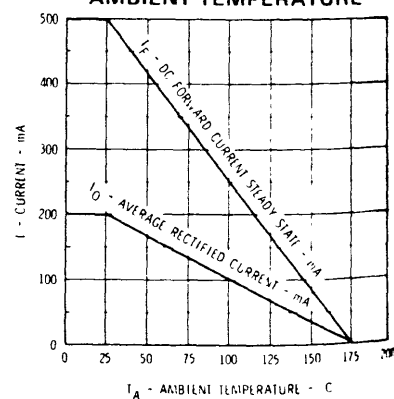
REVERSE RECOVERY TIME VERSUS FORWARD CURRENT ($I_F = I_R$)



POWER DERATING CURVE

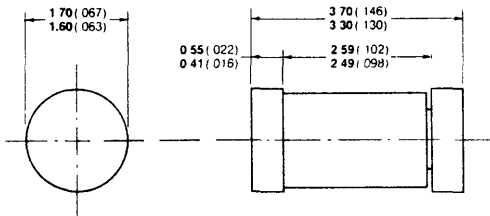


AVERAGE RECTIFIED CURRENT AND FORWARD CURRENT VERSUS AMBIENT TEMPERATURE



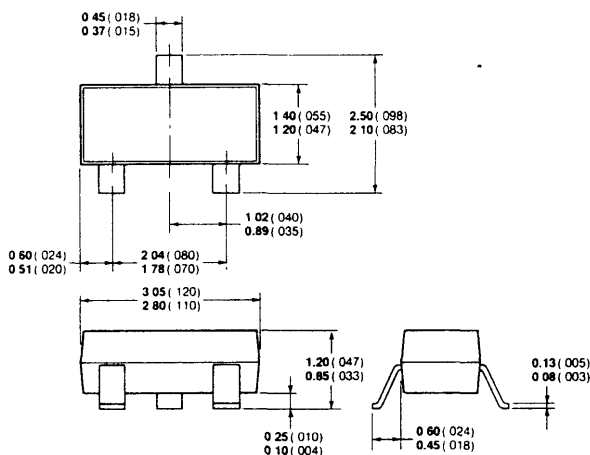
Packaging And Order Information

LL-34



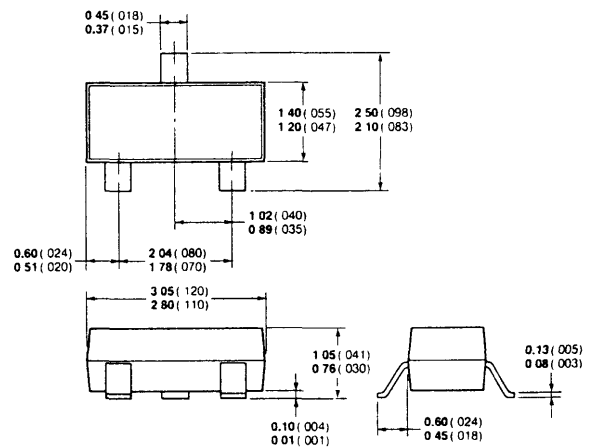
Note: All dimensions in millimeters (bold) and inches (parenthesis)

TO-236AA

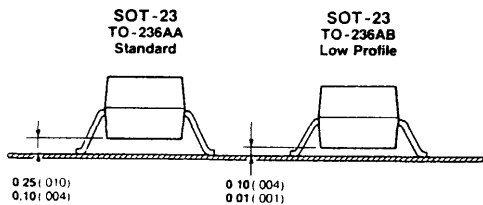


NOTES: 1. Meets all JEDEC dimensional requirements for TO-236AA
2. Controlling dimension, millimeters

TO-236AB



NOTES: 1. Dimensioning and tolerancing per ANSI Y14.5, 1982
2. Controlling dimension, millimeters

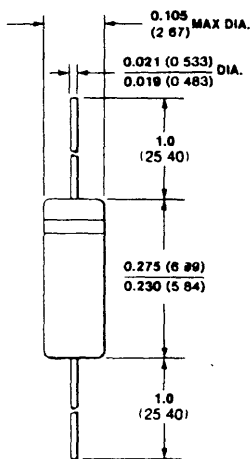


NOTE: Footprint is the same for standard and low profile package

Note: All dimensions in millimeters (bold) and inches (parenthesis)

Packaging And Order Information

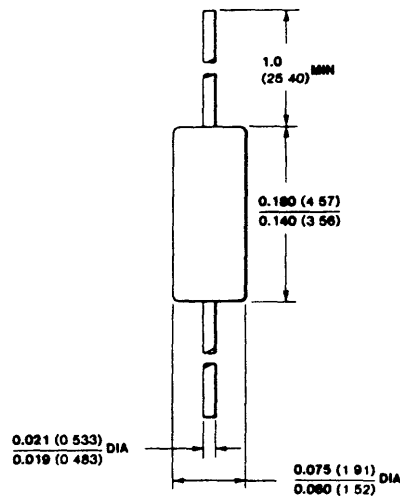
DO-7



NOTES:

Dumet leads, tin plated
Gold plated leads available
Hermetically sealed glass package
Package weight is 0.19 gram

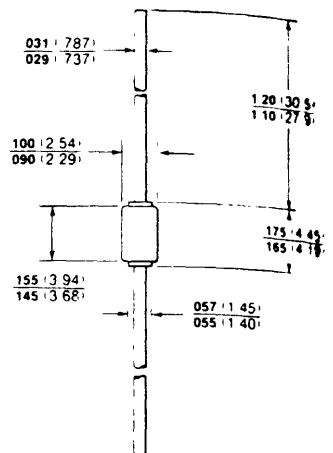
DO-35



NOTES:

Copper clad steel leads, tin plated
Gold plated leads available
Hermetically sealed glass package
Package weight is 0.14 gram

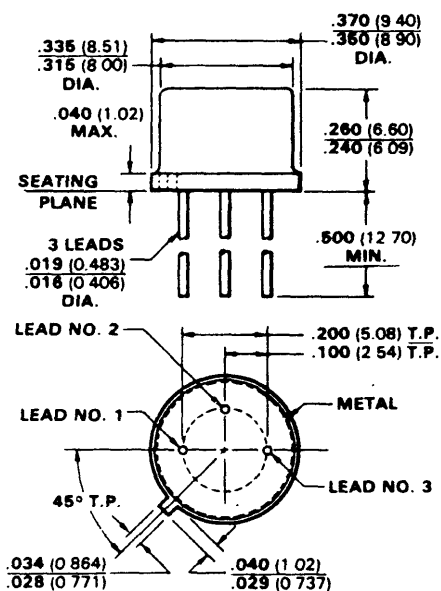
DO-41



NOTES:

Copper clad steel leads, tin plated
Gold plated leads available
Hermetically sealed glass package
Package weight is 0.30 gram

TO-39



NOTES:

Leads are solder dipped kovar
Lead 3 connected to case
This is a standard package and does not fall
into the "special" classification
Package weight is 0.76 gram

Note: All dimensions in inches (bold) and millimeters (parenthesis).