FAIRCHILD
SEMICONDUCTOR TM

FDH/FDLL 300/A / 333

DO-35

LL-34

THE PLACEMENT OF THE EXPANSION GAP HAS NO RELATIONSHIP TO THE LOCATION OF THE CATHODE TERMINAL

COLOR BAND MARKING

DEVICE	1ST BAND	2ND BAND
FDLL300	BROWN	GREEN
FDLL300A	BROWN	YELLOW
FDLL333	BROWN	BLUE

High Conductance Low Leakage Diode

Sourced from Process 1M. See MMBD1501/A-1505/A for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
W_{IV}	Working Inverse Voltage	125	V
I_O	Average Rectified Current	200	mA
I_F	DC Forward Current	500	mA
i_f	Recurrent Peak Forward Current	600	mA
$i_{f(surge)}$	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	 1.0 4.0	 A A
T_{stg}	Storage Temperature Range	-65 to +200	°C
T_J	Operating Junction Temperature	175	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 200 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		FDH/FDLL 300/A / 333	
P_D	Total Device Dissipation Derate above 25°C	500 3.33	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	°C/W

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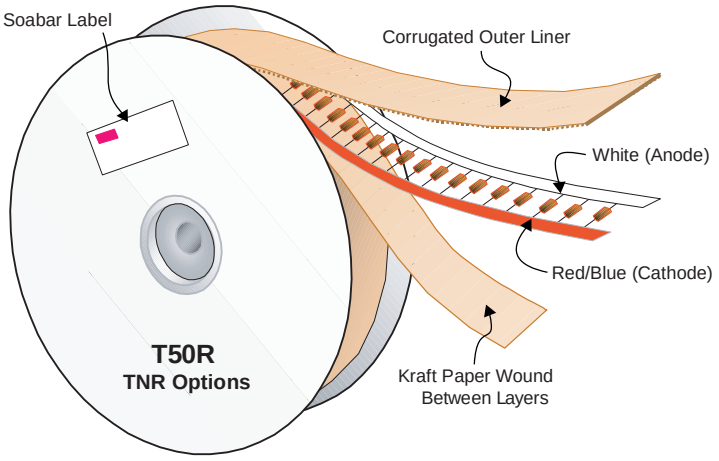
High Conductance Low Leakage Diode
(continued)

Electrical Characteristics
TA = 25°C unless otherwise noted

Symbol	Parameter		Test Conditions	Min	Max	Units
B_V	Breakdown Voltage		I_R = 100 µA	150		V
I_R	Reverse Current	**FDH/FDLL 300/A**	V_R = 125 V		1.0	nA
			V_R = 125 V, T_A = 150°C		3.0	µA
		FDH/FDLL 333	V_R = 125 V		3.0	nA
			V_R = 125 V, T_A = 100°C		500	nA
V_F	Forward Voltage	**FDH/FDLL 300/A**	I_F = 1.0 mA		680	mV
		FDH/FDLL 300	I_F = 5.0 mA		750	mV
		FDH/FDLL 300A	I_F = 5.0 mA		760	mV
		FDH/FDLL 300/A	I_F = 10 mA		800	mV
		FDH/FDLL 300	I_F = 50 mA		880	mV
		FDH/FDLL 300A	I_F = 50 mA		890	mV
		FDH/FDLL 300/A	I_F = 100 mA		920	mV
		FDH/FDLL 300/A	I_F = 200 mA		1.0	V
		FDH/FDLL 333	I_F = 50 mA	800	890	mV
			I_F = 100 mA	830	940	mV
			I_F = 150 mA	860	970	mV
			I_F = 200 mA	0.87	1.05	V
			I_F = 250 mA	0.88	1.08	V
			I_F = 300 mA	0.9	1.15	V
C_O	Diode Capacitance		V_R = 0, f = 1.0 MHz		6.0	pF

DO-35 Tape and Reel Data

DO-35 Packaging
Configuration: Figure 1.0



DO-35 Packaging
Information Table: Figure 2.0

DO-35 Packaging Information			
Packaging Option	T50R	T50A	Standard (no flow code)
Packaging type	TNR	Ammo	Bag
Qty per Reel/Tube/Bag	10,000	5,000	500
Reel Size (inch diameter)	13	-	-
Inside Tape Spacing (mm)	52	52	-
Int Box Dimension (mm)	254x79x794	406x267x184	279x133x108
Max qty per Box	30,000	50,000	5,000
Weight per unit (gm)	0.137	0.137	0.137
Weight per Reel/Ammo (kg)	2.23	0.800	-
Note/Comments			Bulk

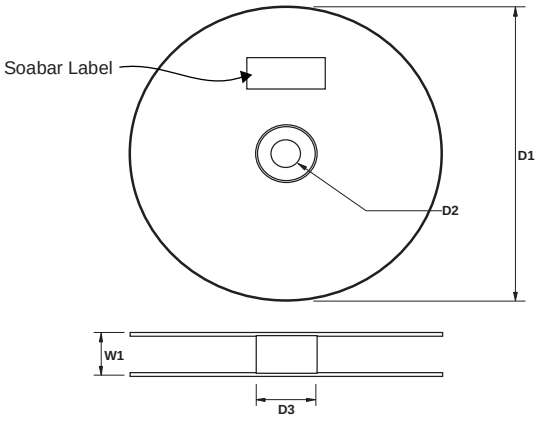
Soabar Label sample

FAIRCHILD SEMICONDUCTOR

TYPE	IN5225A	**P.O. No.**	
REV	A2	**MARK**	BLK-BRN
PKG		**PART No.**	
QTY	10,000	**EC No.**	
Q.C.		**M.O. No.**	OX5046F035
		DATE	D9903

MFD. UNDER US PAT 3.025.589 & OTHER US PATS & APPLICATIONS

DO-35 Reel Dimensions:
Figure 3.0



REEL DIMENSIONS

ITEM DESCRIPTION	SYMBOL	MINIMUM	MAXIMUM
Reel Diameter	D1	10.375	10.625
Arbor Hole Diameter (Standard)	D2	1.245	1.255
Core Diameter	D3	3.190	3.310
Flange to Flange Inner Width	W1		3.400

Note: All Dimensions are in inches

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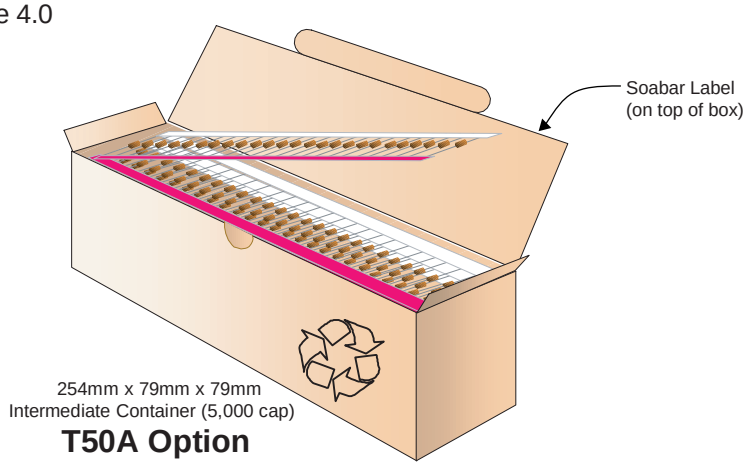
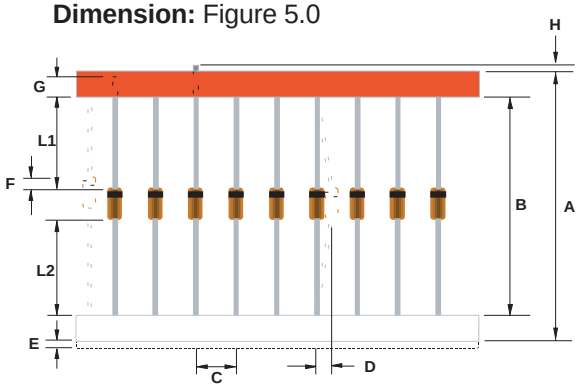
DO-35 Tape and Ammo Data, continued

DO-35 Ammo Packing
Configuration: Figure 4.0



T50A Option

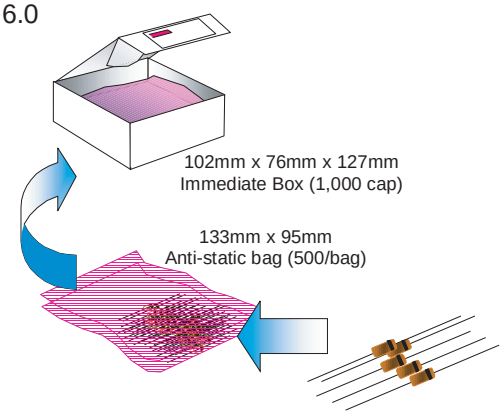
DO-35 Taping
Dimension: Figure 5.0



TAPING DIMENSIONS

	INCH	MM	MILS	NOTES
A	2.520 +0.066/ -0.027	64.00 +1.69/ -0.69	2519 +66.5/ -27.0	Overall width
B	2.047±0.027	52 ±0.69	2047±27	Inside Tape Spacing
C	0.200 ±0.0157	5.08 ±0.40	200 ±15.7	Component Pitch
D	0.047(max)	1.2(max)	47(max)	Component Misalignment
E	0.022(max)	0.55(max)	22(max)	Tape Mismatch
F	0.027(max)	±0.69	±27	Units in line w/ one another
G	0.126(min)	3.2(min)	126(min)	Lead amount between tapes
H	0	0	0	Lead amount beyond tapes
L1-L2	±0.027	±0.69	±27	Delta between two leads

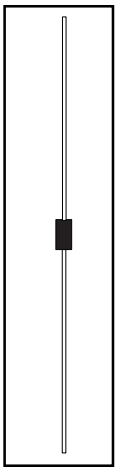
DO-35 Bulk Packing
Configuration: Figure 6.0



DO-35 Package Dimensions

FAIRCHILD SEMICONDUCTOR™

DO-35 (FS PKG Code D2)

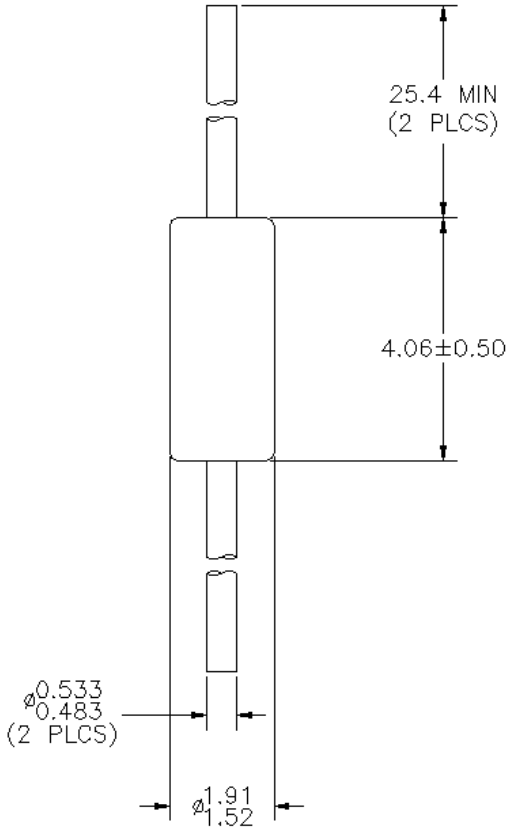


1:1

Scale 1:1 on letter size paper

Dimensions shown below are in millimeters

Part Weight per unit (gram): 0.137



NOTES: UNLESS OTHERWISE SPECIFIED

A) THIS PACKAGE CONFORMS TO JEDEC DO-204, VAR. AH, ISSUE B, DATED JANUARY 20, 1976.

B) HERMITICALLY SEALED GLASS PACKAGE

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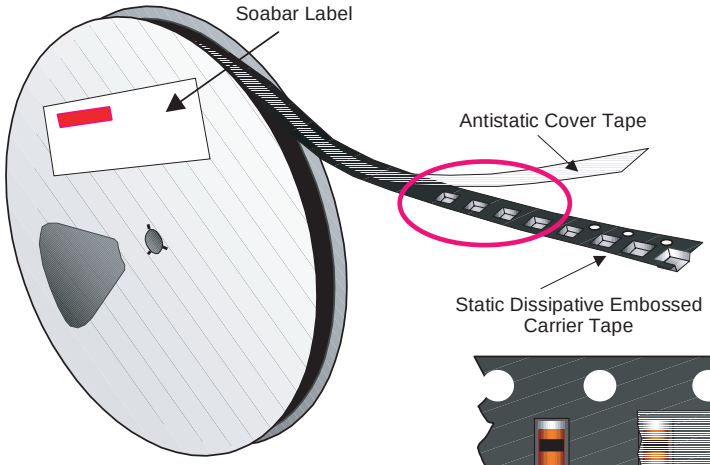
LL-34 Tape and Reel Data

FAIRCHILD SEMICONDUCTOR TM

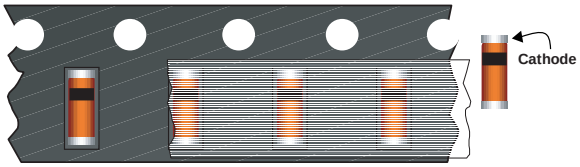
LL-34 Packaging
Configuration: Figure 1.0



Packaging Description:

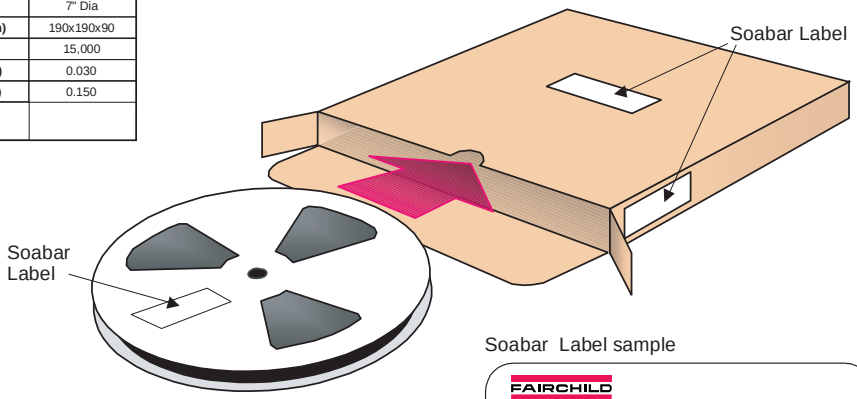
LL-34 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2,500 units per 7" or 178cm diameter reel. The reels are white in color and is made of recyclable chipboard. Other option comes in 10,000 units per 13" or 330cm diameter reel. This and some other options are described in the Packaging Information table.

These full reels are individually labeled and placed inside a bleach box (illustrated in figure 1.0) made of recyclable corrugated paper. One bleach box contains six reels maximum. These bleach boxes are placed inside a labeled shipping box which comes in different sizes depending on the number of reels shipped.



LL-34 Unit Orientation

LL-34 Packaging Information	
Packaging Option	Standard (no flow code)
Packaging type	TNR
Qty per Reel/Tube/Bag	2,500/1,000 (bulk)
Reel Size	7" Dia
Box Dimension (mm)	190x190x90
Max qty per Box	15,000
Weight per unit (gm)	0.030
Weight per Reel (kg)	0.150
Note/Comments	



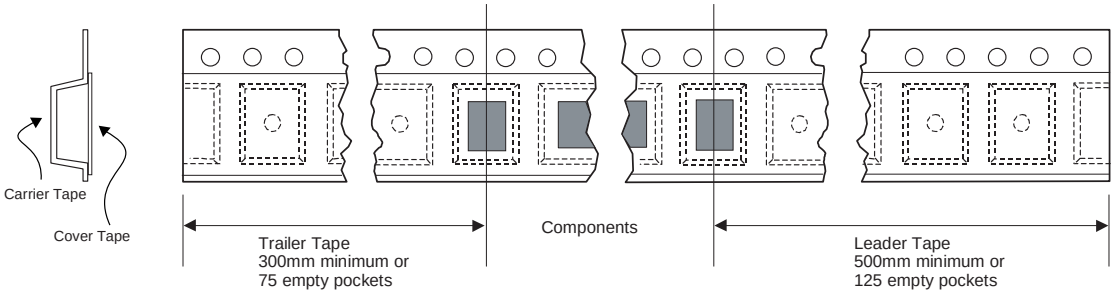
Soabar Label sample

FAIRCHILD SEMICONDUCTOR

		P.O. No.	
TYPE	FDLL4148	MARK	BLK-BRN
REV	A2	PART No.	
PKG		EC No.	
QTY	2,500	M.O. No.	OX5046F035
Q.C.		DATE	D9903

MFD. UNDER US PAT 3.025.589 & OTHER US PATS & APPLICATIONS

LL-34 Tape Leader and Trailer
Configuration: Figure 2.0



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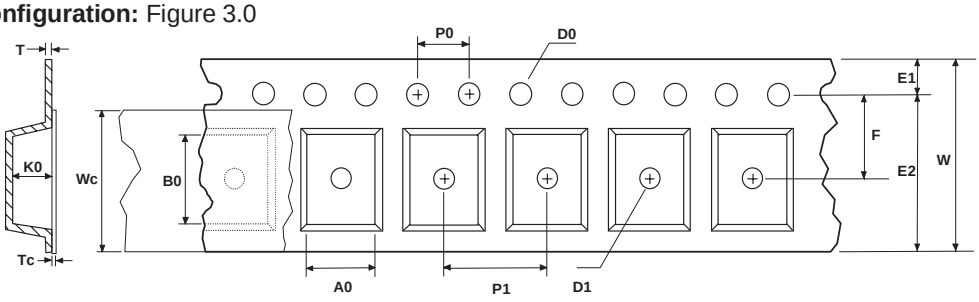
LL-34 Tape and Reel Data,continued

LL-34 Embossed Carrier Tape
Configuration: Figure 3.0

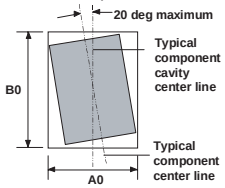


User Direction of Feed

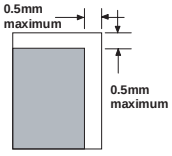
Dimensions are in millimeter														
Pkg type	**A0**	**B0**	**W**	**D0**	**D1**	**E1**	**E2**	**F**	**P1**	**P0**	**K0**	**T**	**Wc**	**Tc**
LL-34 (8mm)	1.7 +/-0.10	3.7 +/-0.10	8.0 +/-0.3	1.5 +/-0.10	1.1 +/-0.10	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.1	4.05 +/-0.05	1.7 +/-0.10	0.3 +/-0.05	5.5 +/-0.2	0.10 max

Notes: A0, B0, and K0 dimensions are determined with respect to the EIA/Jedec RS-481 rotational and lateral movement requirements (see sketches A, B, and C).

Sketch A (Side or Front Sectional View)
Component Rotation

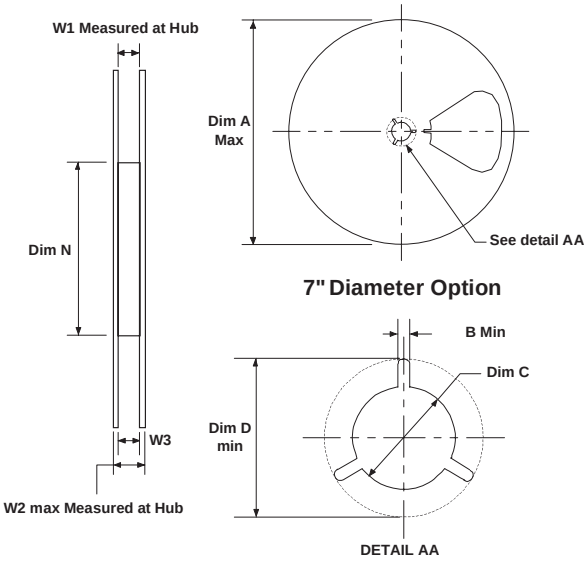


Sketch B (Top View)
Component Rotation



Sketch C (Top View)
Component lateral movement

LL-34 Carton Reel Configuration: Figure 4.0



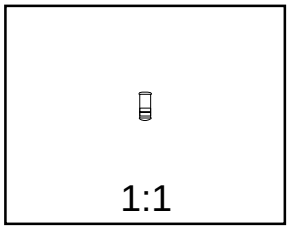
7" Diameter Option

Dimensions are in inches and millimeters									
Tape Size	**Reel Option**	**Dim A**	**Dim B**	**Dim C**	**Dim D**	**Dim N**	**Dim W1**	**Dim W2**	**Dim W3 (LSL-USL)**
8mm	7" Dia	7.00 178	0.059 1.5	512 +0.020/-0.008 13 +0.5/-0.2	0.795 20.2	2.165 55	0.331 +0.059/-0.000 8.4 +1.5/0	0.567 14.4	0.311 – 0.429 7.9 – 10.9
8mm	13" Dia	13.00 330	0.059 1.5	512 +0.020/-0.008 13 +0.5/-0.2	0.795 20.2	4.00 100	0.331 +0.059/-0.000 8.4 +1.5/0	0.567 14.4	0.311 – 0.429 7.9 – 10.9

LL-34 Package Dimensions

FAIRCHILD SEMICONDUCTOR™

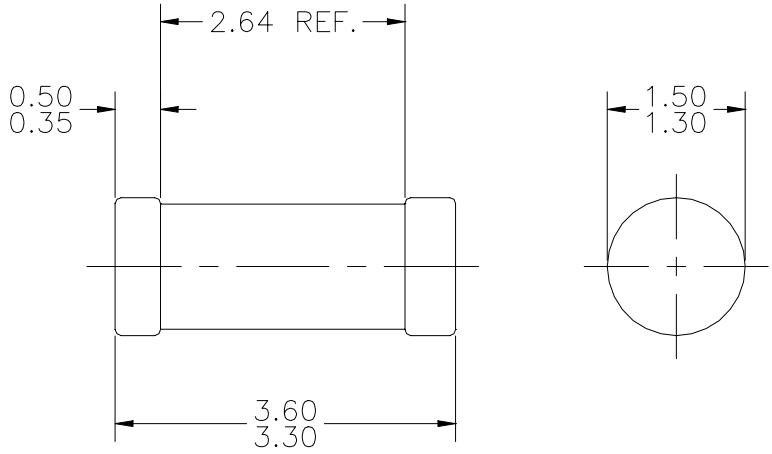
LL-34 (FS PKG Code D3)



Scale 1:1 on letter size paper

Dimensions shown below are in millimeters

Part Weight per unit (gram): 0.030



NOTE: UNLESS OTHERWISE SPECIFIED

A) THIS PACKAGE CONFORMS TO JEDEC DO-213, VAR AC, ISSUE D, DATED SEPTEMBER 1988.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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