

## 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	1.0	A
	Pulse width = 1.0 microsecond	4.0	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	mW
		3.33	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	°C/W

## High Conductance Low Leakage Diode

(continued)

### Electrical Characteristics

TA = 25°C unless otherwise noted

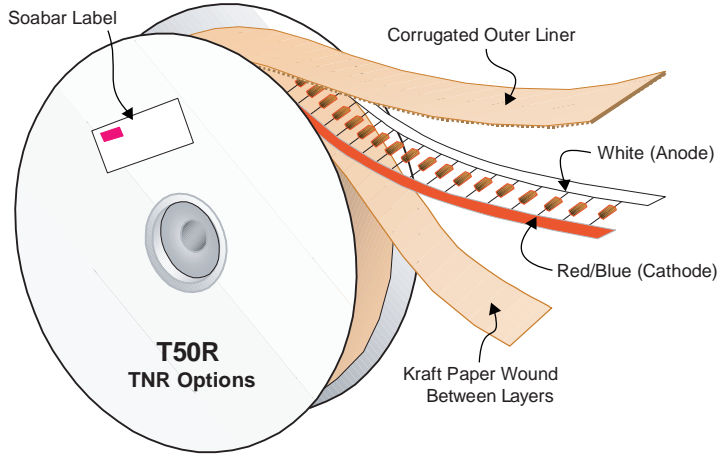
Symbol	Parameter	Test Conditions	Min	Max	Units
B <sub>V</sub>	Breakdown Voltage	I <sub>R</sub> = 100 µA	150		V
I <sub>R</sub>	Reverse Current	<b>FDH/FDLL 300/A</b> V <sub>R</sub> = 125 V V <sub>R</sub> = 125 V, T <sub>A</sub> = 150°C <b>FDH/FDLL 333</b> V <sub>R</sub> = 125 V V <sub>R</sub> = 125 V, T <sub>A</sub> = 100°C		1.0 3.0 3.0 500	nA µA nA nA
V <sub>F</sub>	Forward Voltage	<b>FDH/FDLL 300/A</b> I <sub>F</sub> = 1.0 mA <b>FDH/FDLL 300</b> I <sub>F</sub> = 5.0 mA <b>FDH/FDLL 300A</b> I <sub>F</sub> = 5.0 mA <b>FDH/FDLL 300/A</b> I <sub>F</sub> = 10 mA <b>FDH/FDLL 300</b> I <sub>F</sub> = 50 mA <b>FDH/FDLL 300A</b> I <sub>F</sub> = 50 mA <b>FDH/FDLL 300/A</b> I <sub>F</sub> = 100 mA <b>FDH/FDLL 300/A</b> I <sub>F</sub> = 200 mA  <b>FDH/FDLL 333</b> I <sub>F</sub> = 50 mA I <sub>F</sub> = 100 mA I <sub>F</sub> = 150 mA I <sub>F</sub> = 200 mA I <sub>F</sub> = 250 mA I <sub>F</sub> = 300 mA		680 750 760 800 880 890 920 1.0  800 830 860 0.87 0.88 0.9	mV mV mV mV mV mV mV V V V V V mV mV mV V V V
C <sub>O</sub>	Diode Capacitance	V <sub>R</sub> = 0, f = 1.0 MHz		6.0	pF

FDH300/A / FDLL300/A / FDH333 / FDLL333

# DO-35 Tape and Reel Data



## DO-35 Packaging Configuration: Figure 1.0



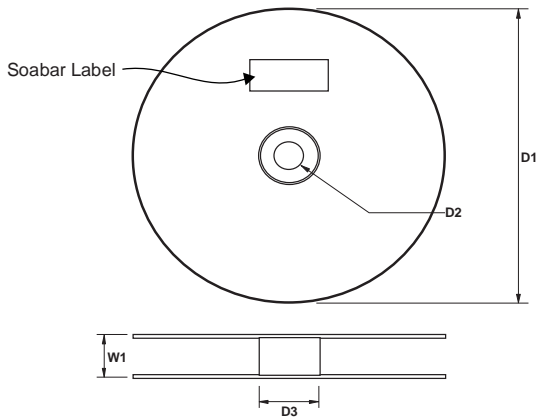
## DO-35 Packaging Information Table: Figure 2.0

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

<b>FAIRCHILD</b> SEMICONDUCTOR		P.O. No.	
TYPE	IN5225A	MARK	BLK-BRN
REV	A2	PART No.	
PKG		EC No.	
QTY	10,000	M.O. No.	OX5046F035
Q.C.		DATE	D9903
MFD. UNDER US PAT 3,025,589 & OTHER US PATS & APPLICATIONS			

## DO-35 Reel Dimensions: Figure 3.0



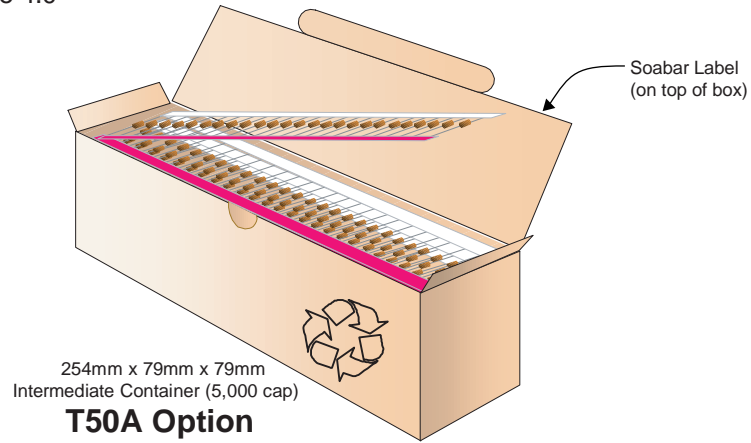
### REEL DIMENSIONS

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

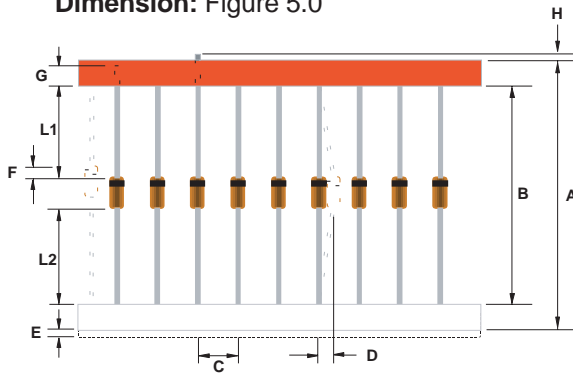
Note: All Dimensions are in inches

## DO-35 Tape and Ammo Data, continued

### DO-35 Ammo Packing Configuration: Figure 4.0



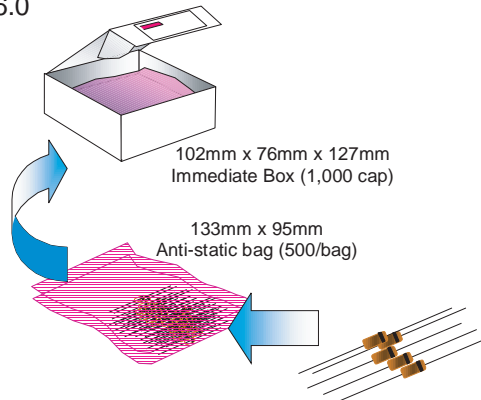
### DO-35 Taping Dimension: Figure 5.0



#### 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

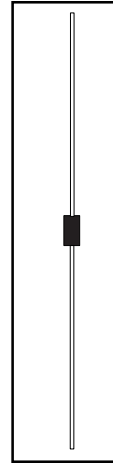
### DO-35 Bulk Packing Configuration: Figure 6.0



# DO-35 Package Dimensions



## DO-35 (FS PKG Code D2)

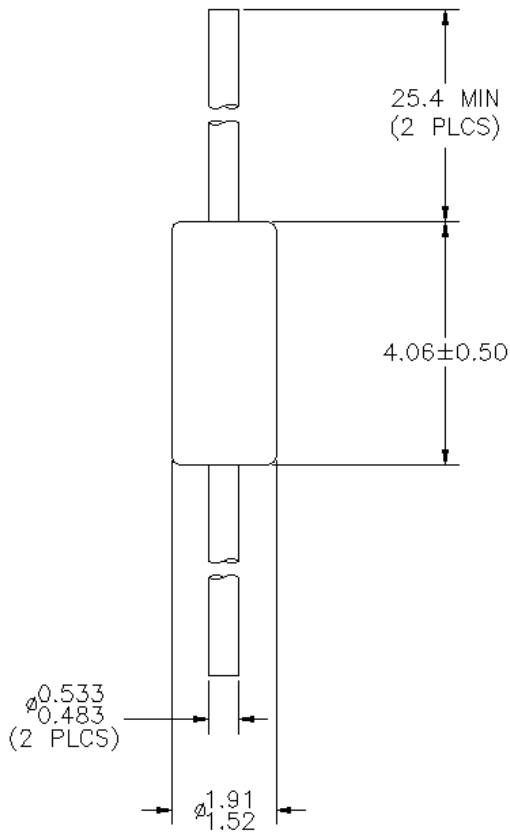


1:1

Scale 1:1 on letter size paper

Dimensions shown below are in millimeters

Part Weight per unit (gram): 0.137



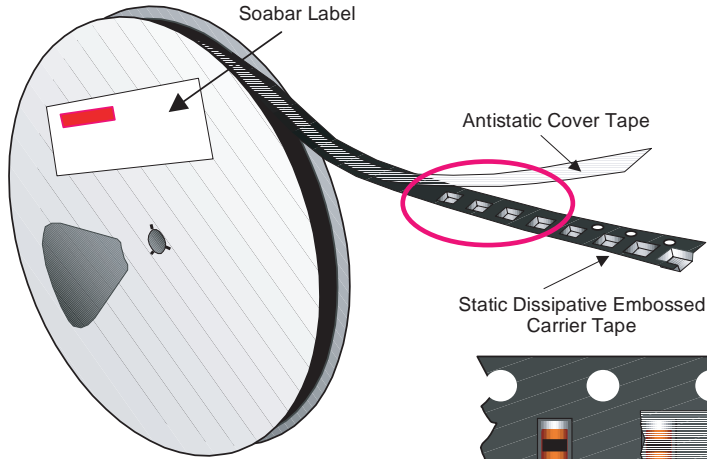
NOTES: UNLESS OTHERWISE SPECIFIED

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

# LL-34 Tape and Reel Data



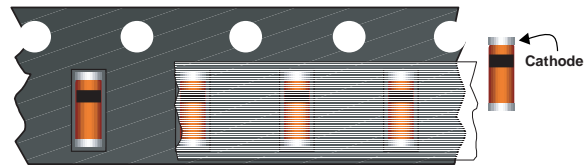
## LL-34 Packaging Configuration: Figure 1.0



### Packaging Description:

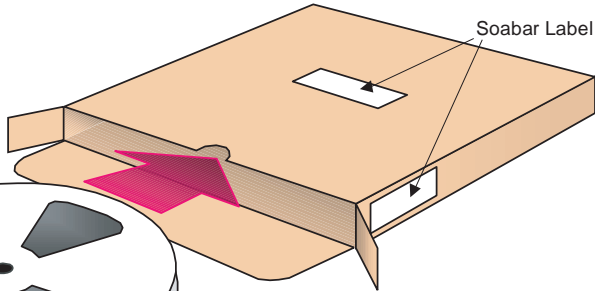
LL-34 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in 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

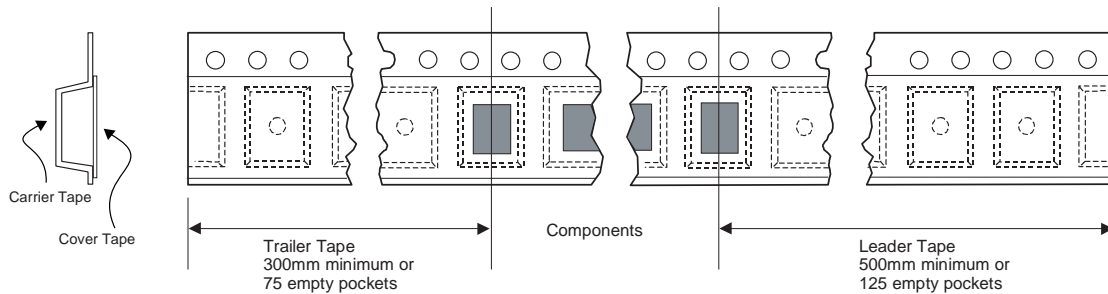
LL-34 Packaging Information	
Packaging Option	Standard (no flow code)
Packaging type	TNR
Qty per Reel/Tube/Bag	2,500/1,000 (bulk)
Reel Size	7" Dia
Box Dimension (mm)	190x190x90
Max qty per Box	15,000
Weight per unit (gm)	0.030
Weight per Reel (kg)	0.150
Note/Comments	



### Soabar Label sample

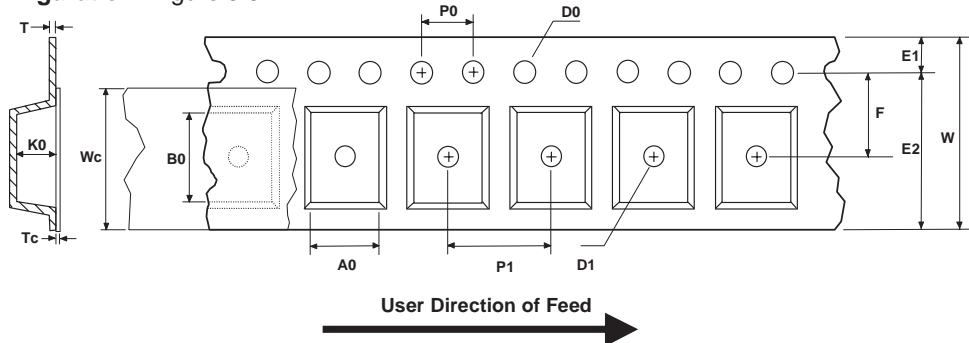
<b>FAIRCHILD</b> SEMICONDUCTOR		P.O. No.	
TYPE	FDLL4148	MARK	BLK-BRN
REV	A2	PART No.	
PKG		EC No.	
QTY	2,500	M.O. No.	OX5046F035
Q.C.		DATE	D9903
MFD. UNDER US PAT 3,025,589 & OTHER US PATS & APPLICATIONS			

## LL-34 Tape Leader and Trailer Configuration: Figure 2.0



# LL-34 Tape and Reel Data, continued

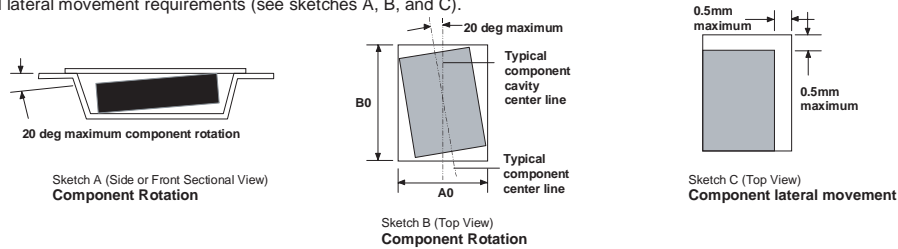
## LL-34 Embossed Carrier Tape Configuration: Figure 3.0



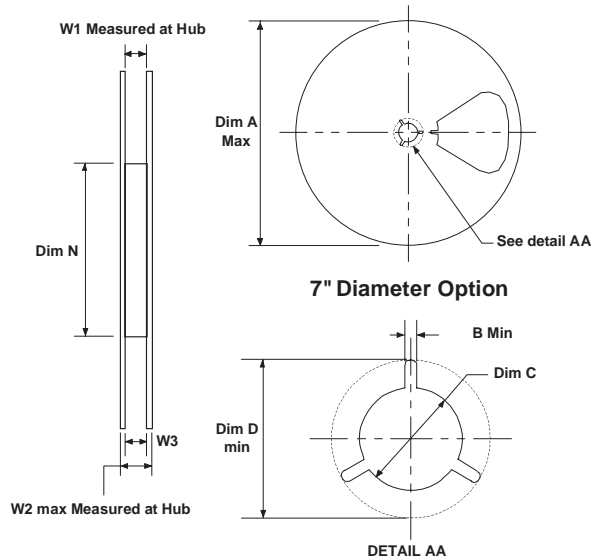
Dimensions are in millimeter

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).



## LL-34 Carton Reel Configuration: Figure 4.0



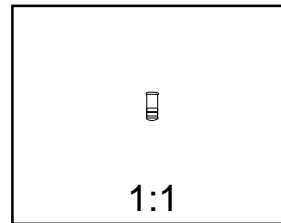
Dimensions are in inches and millimeters

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



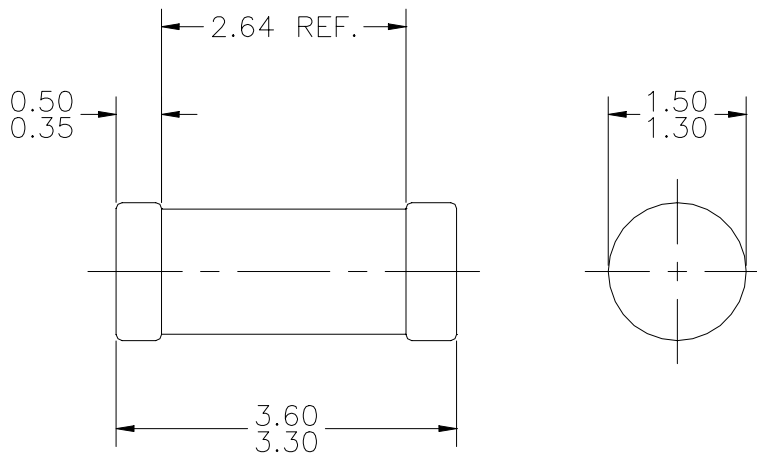
## LL-34 (FS PKG Code D3)



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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CoolFET™	GTO™	QS™	UHC™
CROSSVOLT™	HiSeC™	QT Optoelectronics™	VCX™
DOME™	ISOPLANAR™	Quiet Series™	
E <sup>2</sup> CMOS™	MICROWIRE™	SILENT SWITCHER®	
EnSigna™	OPTOLOGIC™	SMART START™	
FACT™	OPTOPLANAR™	SuperSOT™-3	
FACT Quiet Series™	PACMAN™	SuperSOT™-6	
FAST®	POP™	SuperSOT™-8	

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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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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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