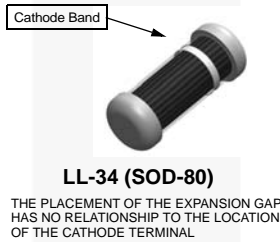
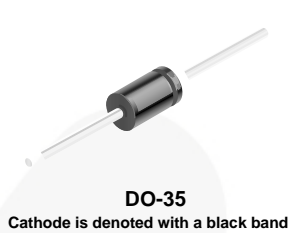




February 2016

# FDH300 / FDH300A / FDLL300A / FDH333 / FDLL333 High Conductance Low Leakage Diode



LL-34 COLOR BAND MARKING	
DEVICE	1ST BAND
FDLL300A	WHITE
FDLL333	WHITE

-1st band denotes cathode terminal and has wider width

## Ordering Information

Part Number	Top Mark	Package	Packing Method
FDH300TR	H300	DO-204AH (DO-35)	Tape and Reel
FDH300A	H300A	DO-204AH (DO-35)	Bulk
FDH300ATR	H300A	DO-204AH (DO-35)	Tape and Reel
FDH333	H333	DO-204AH (DO-35)	Bulk
FDH333TR	H333	DO-204AH (DO-35)	Tape and Reel
FDLL300A	WHITE	SOD-80 2L	Tape and Reel
FDLL333	WHITE	SOD-80 2L	Tape and Reel

## Absolute Maximum Ratings<sup>(1), (2)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$W_{IV}$	Working Inverse Voltage	125	V
$I_O$	Average Rectified Forward Current	200	mA
$I_F$	DC Forward Current	500	mA
$i_f$	Recurrent Peak Forward Current	600	mA
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current	Pulse Width = 1.0 s	1.0
		Pulse Width = 1.0 $\mu\text{s}$	4.0
$T_{STG}$	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	175	$^\circ\text{C}$

### Notes:

1. These ratings are based on a maximum junction temperature of  $175^\circ\text{C}$ .
2. These are steady-state limits. Fairchild Semiconductor should be consulted on applications involving pulsed or low-duty-cycle operations.

FDH300 / FDH300A / FDLL300A / FDH333 / FDLL333 — High Conductance Low Leakage Diode

## Thermal Characteristics

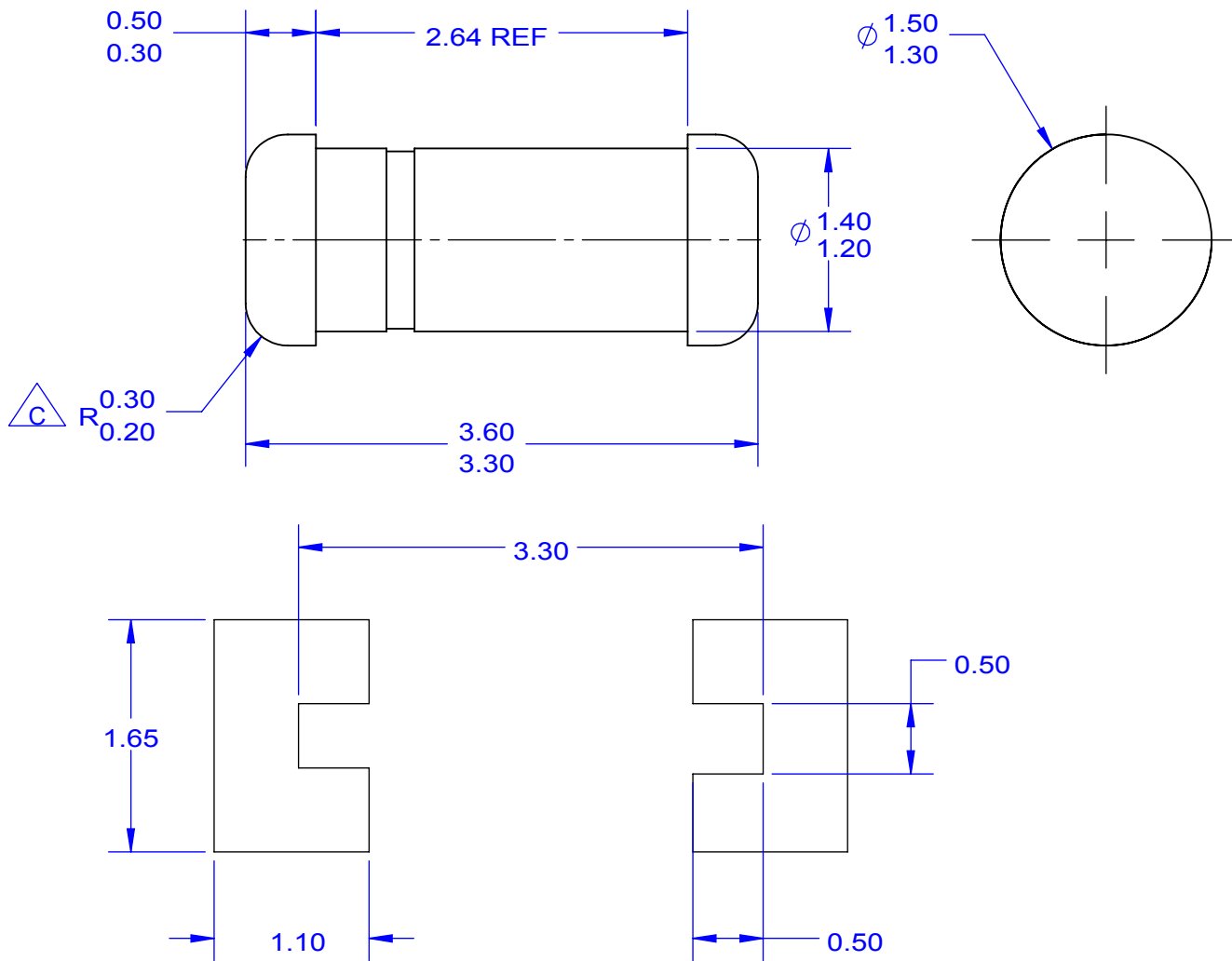
Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Max.	Unit
$P_D$	Total Device Dissipation	500	mW
	Derate Above $25^\circ\text{C}$	3.33	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	300	$^\circ\text{C}/\text{W}$

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit	
$V_R$	Breakdown Voltage	$I_R = 100 \mu\text{A}$	150		V	
$V_F$	Forward Voltage	FDH300 / FDH300A / FDLL300A	$I_F = 1.0 \text{ mA}$		680	mV
		FDH300	$I_F = 5.0 \text{ mA}$		750	mV
		FDH300A / FDLL300A	$I_F = 5.0 \text{ mA}$		760	mV
		FDH300 / FDH300A / FDLL300A	$I_F = 10 \text{ mA}$		800	mV
		FDH300	$I_F = 50 \text{ mA}$		880	mV
		FDH300A / FDLL300A	$I_F = 50 \text{ mA}$		890	mV
		FDH300 / FDH300A / FDLL300A	$I_F = 100 \text{ mA}$		920	mV
		FDH300 / FDH300A / FDLL300A	$I_F = 200 \text{ mA}$		1.0	V
		FDH333 / FDLL333	$I_F = 50 \text{ mA}$	800	890	mV
			$I_F = 100 \text{ mA}$	830	940	mV
			$I_F = 150 \text{ mA}$	860	970	mV
			$I_F = 200 \text{ mA}$	0.87	1.05	V
$I_F = 250 \text{ mA}$	0.88		1.08	V		
$I_R$	Reverse Current	FDH300 / FDH300A / FDLL300A	$V_R = 125 \text{ V}$		1.0	nA
			$V_R = 125 \text{ V}, T_A = 150^\circ\text{C}$		3.0	$\mu\text{A}$
		FDH333 / FDLL333	$V_R = 125 \text{ V}$		3.0	nA
			$V_R = 125 \text{ V}, T_A = 100^\circ\text{C}$		500	nA
$C_O$	Diode Capacitance	$V_R = 0, f = 1.0 \text{ MHz}$		6.0	pF	



### LAND PATTERN RECOMMENDATION

NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-213, VARIATION AC.

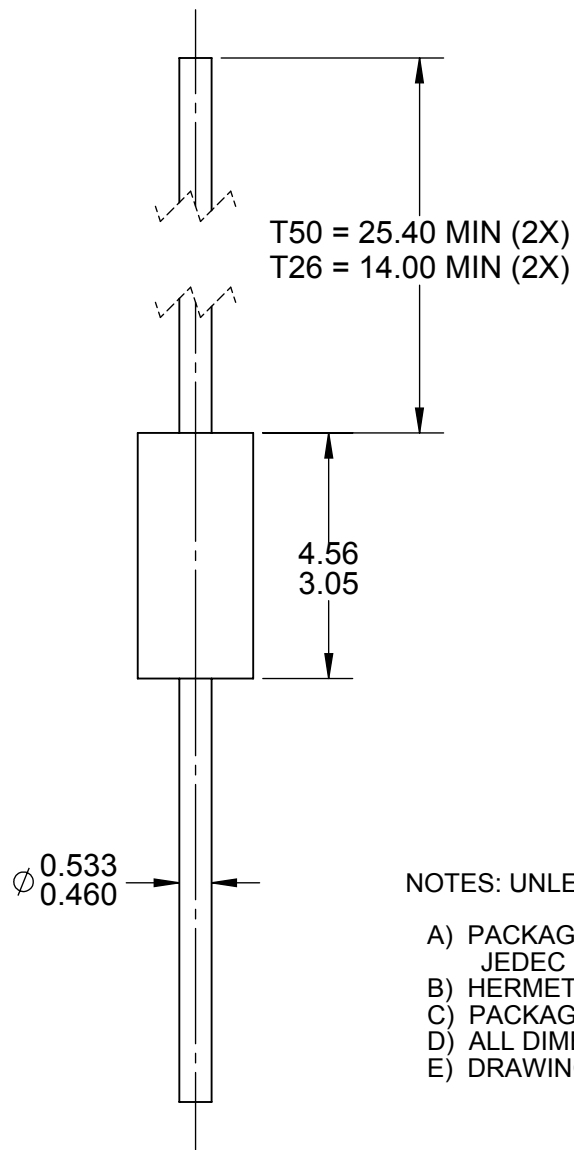
B) ALL DIMENSIONS ARE IN MILLIMETERS.

 CORNER RADIUS IS OPTIONAL.

D) LAND PATTERN RECOMMENDATION PER IPC DI0MELF3414N

E) DRAWING FILE NAME: SOD80A REV3





NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-204, VARIATION AH.
- B) HERMETICALLY SEALED GLASS PACKAGE.
- C) PACKAGE WEIGHT IS 0.137 GRAM.
- D) ALL DIMENSIONS ARE IN MILLIMETERS.
- E) DRAWING FILE NAME: DO35AREV03





### TRADEMARKS

The following includes registered and unregistered trademarks and service marks, owned by Fairchild Semiconductor and/or its global subsidiaries, and is not intended to be an exhaustive list of all such trademarks.

- |   |  |   |   |
|---|--|---|---|
| AccuPower™  | F-PFS™   | OPTOPLANAR®   |  |
| AttitudeEngine™   | FRFET®   |  | TinyBoost®  |
| Awinda®   | Global Power Resource <sup>SM</sup>            | Power Supply WebDesigner™   | TinyBuck®   |
| AX-CAP®*  | GreenBridge™                                   | PowerTrench®  | TinyCalc™   |
| BitSiC™   | Green FPS™                                     | PowerXS™  | TinyLogic®  |
| Build it Now™   | Green FPS™ e-Series™                           | Programmable Active Droop™  | TINYOPTO™   |
| CorePLUS™   | Gmax™  | QFET®   | TinyPower™  |
| CorePOWER™  | GTO™   | QS™   | TinyPWM™  |
| CROSSVOL™   | IntelliMAX™                                    | Quiet Series™   | TinyWire™   |
| CTL™  | ISOPLANAR™                                     | RapidConfigure™   | TranSiC™  |
| Current Transfer Logic™   | Making Small Speakers Sound Louder and Better™ |  | TriFault Detect™  |
| DEUXPEED®   | MegaBuck™                                      | Saving our world, 1mW/W/kW at a time™   | TRUECURRENT®*   |
| Dual Cool™  | MICROCOUPLER™                                  | SignalWise™   | μSerDes™  |
| EcoSPARK®   | MicroFET™                                      | SmartMax™   |  |
| EfficientMax™   | MicroPak™                                      | SMART START™  | UHC®  |
| ESBC™   | MicroPak2™                                     | Solutions for Your Success™   | Ultra FRFET™  |
|  | MillerDrive™                                   | SPM®  | UniFET™   |
| Fairchild®  | MotionMax™                                     | STEALTH™  | VCX™  |
| Fairchild Semiconductor®  | MotionGrid®                                    | SuperFET®   | VisualMax™  |
| FACT Quiet Series™  | MTi®   | SuperSOT™-3   | VoltagePlus™  |
| FACT®   | MTx®   | SuperSOT™-6   | XS™   |
| FastvCore™  | MVN®   | SuperSOT™-8   | Xsens™  |
| FETBench™   | mWSaver®                                       | SupreMOS®   | 仙童®   |
| FPS™  | OptoHiT™                                       | SyncFET™  |   |
|   | OPTOLOGIC®                                     | Sync-Lock™  |   |

\* Trademarks of System General Corporation, used under license by Fairchild Semiconductor.

### DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. TO OBTAIN THE LATEST, MOST UP-TO-DATE DATASHEET AND PRODUCT INFORMATION, VISIT OUR WEBSITE AT [HTTP://WWW.FAIRCHILDSEMI.COM](http://www.fairchildsemi.com). FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

### AUTHORIZED USE

Unless otherwise specified in this data sheet, this product is a standard commercial product and is not intended for use in applications that require extraordinary levels of quality and reliability. This product may not be used in the following applications, unless specifically approved in writing by a Fairchild officer: (1) automotive or other transportation, (2) military/aerospace, (3) any safety critical application – including life critical medical equipment – where the failure of the Fairchild product reasonably would be expected to result in personal injury, death or property damage. Customer's use of this product is subject to agreement of this Authorized Use policy. In the event of an unauthorized use of Fairchild's product, Fairchild accepts no liability in the event of product failure. In other respects, this product shall be subject to Fairchild's Worldwide Terms and Conditions of Sale, unless a separate agreement has been signed by both Parties.

### ANTI-COUNTERFEITING POLICY

Fairchild Semiconductor Corporation's Anti-Counterfeiting Policy. Fairchild's Anti-Counterfeiting Policy is also stated on our external website, [www.fairchildsemi.com](http://www.fairchildsemi.com), under Terms of Use

Counterfeiting of semiconductor parts is a growing problem in the industry. All manufacturers of semiconductor products are experiencing counterfeiting of their parts. Customers who inadvertently purchase counterfeit parts experience many problems such as loss of brand reputation, substandard performance, failed applications, and increased cost of production and manufacturing delays. Fairchild is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. Fairchild strongly encourages customers to purchase Fairchild parts either directly from Fairchild or from Authorized Fairchild Distributors who are listed by country on our web page cited above. Products customers buy either from Fairchild directly or from Authorized Fairchild Distributors are genuine parts, have full traceability, meet Fairchild's quality standards for handling and storage and provide access to Fairchild's full range of up-to-date technical and product information. Fairchild and our Authorized Distributors will stand behind all warranties and will appropriately address any warranty issues that may arise. Fairchild will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. Fairchild is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

### PRODUCT STATUS DEFINITIONS

#### Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

Rev. I77

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Fairchild Semiconductor:](#)

[FDH300TR](#) [FDH300](#) [FDH300\\_T50R](#) [FDH300\\_Q](#)