



Is Now Part of



**ON Semiconductor®**

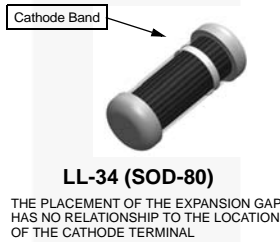
To learn more about ON Semiconductor, please visit our website at  
[www.onsemi.com](http://www.onsemi.com)

ON Semiconductor and the ON Semiconductor logo are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.



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

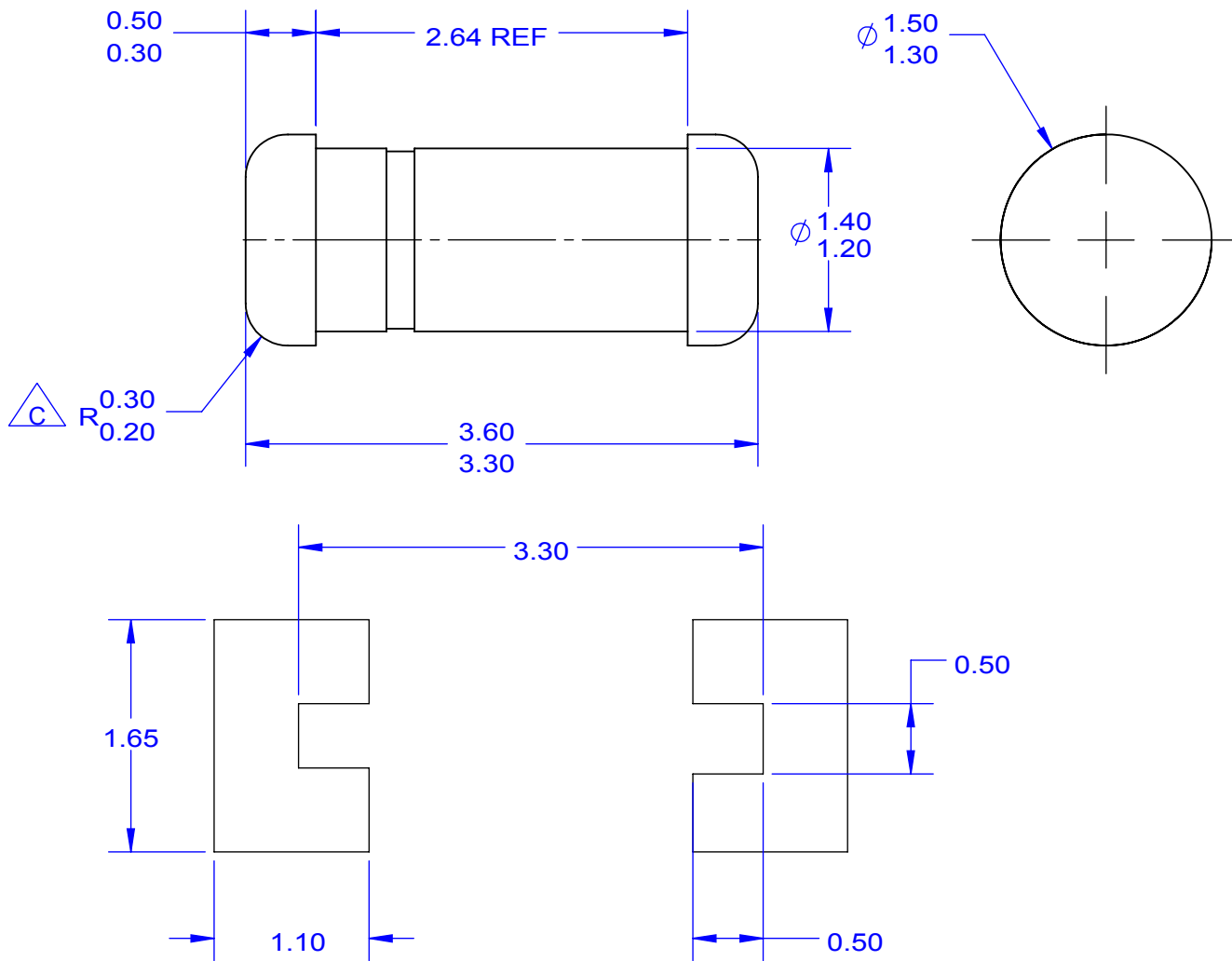
Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

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 DIOMELF3414N

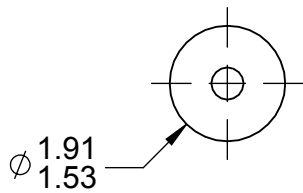
E) DRAWING FILE NAME: SOD80A REV3





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



ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

## PUBLICATION ORDERING INFORMATION

### LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor  
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA  
**Phone:** 303-675-2175 or 800-344-3860 Toll Free USA/Canada  
**Fax:** 303-675-2176 or 800-344-3867 Toll Free USA/Canada  
**Email:** [orderlit@onsemi.com](mailto:orderlit@onsemi.com)

**N. American Technical Support:** 800-282-9855 Toll Free  
USA/Canada  
**Europe, Middle East and Africa Technical Support:**  
Phone: 421 33 790 2910  
**Japan Customer Focus Center**  
Phone: 81-3-5817-1050

**ON Semiconductor Website:** [www.onsemi.com](http://www.onsemi.com)  
**Order Literature:** <http://www.onsemi.com/orderlit>  
For additional information, please contact your local  
Sales Representative