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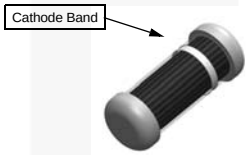
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

February 2016

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

DO-35
Cathode is denoted with a black band



LL-34 (SOD-80)
THE PLACEMENT OF THE EXPANSION GAP HAS NO RELATIONSHIP TO THE LOCATION OF THE CATHODE TERMINAL

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(1), (2)

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°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	A
		Pulse Width = 1.0 μs	4.0	
T_{STG}	Storage Temperature Range		-65 to +200	°C
T_J	Operating Junction Temperature		175	°C

Notes:

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

Thermal Characteristics

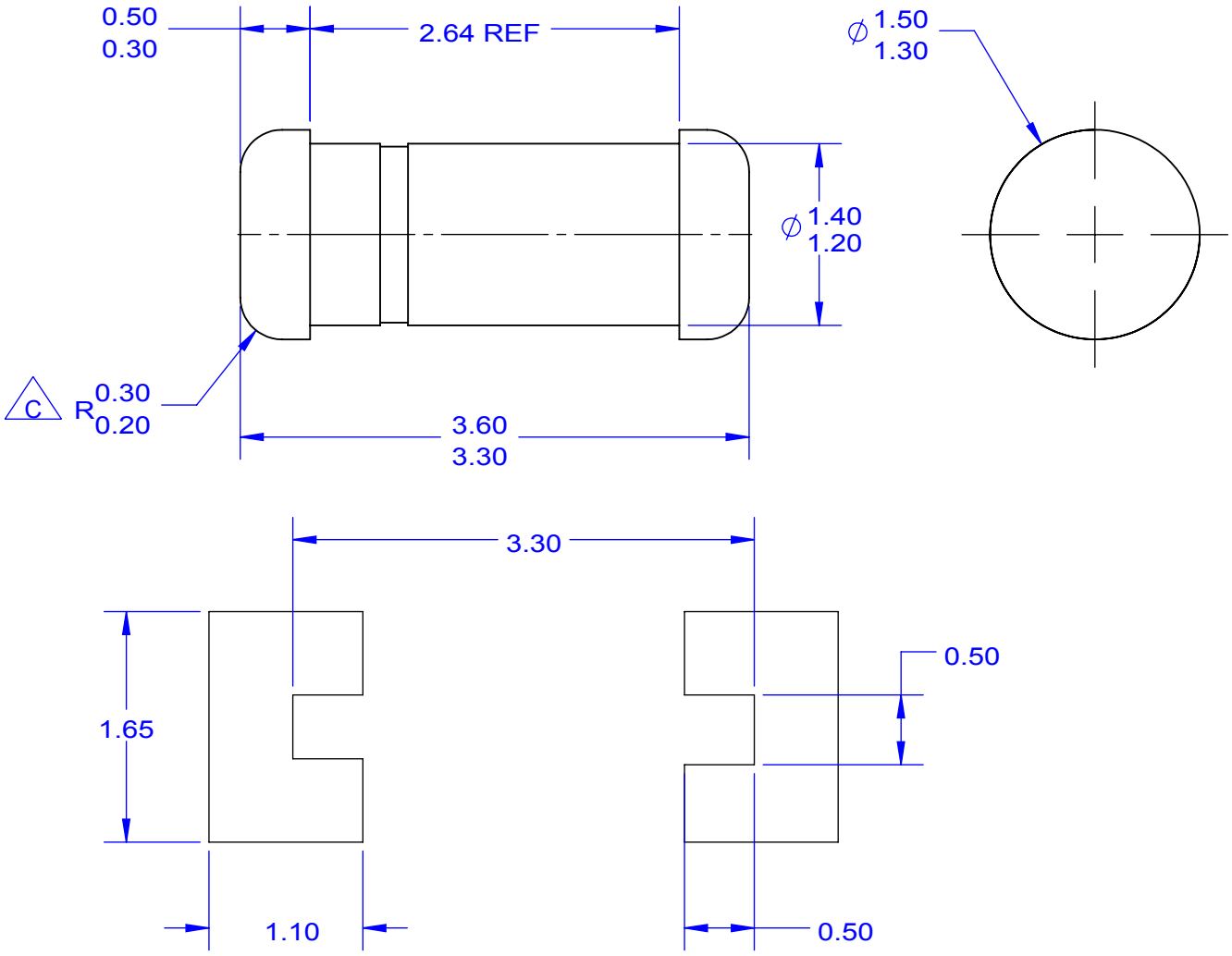
Values are at T_A = 25°C unless otherwise noted.

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

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter		Conditions	Min.	Max.	Unit
V_R	Breakdown Voltage		I_R = 100 μA	150		V
V_F	Forward Voltage	FDH300 / FDH300A / FDLL300A	I_F = 1.0 mA		680	mV
		FDH300	I_F = 5.0 mA		750	mV
		FDH300A / FDLL300A	I_F = 5.0 mA		760	mV
		FDH300 / FDH300A / FDLL300A	I_F = 10 mA		800	mV
		FDH300	I_F = 50 mA		880	mV
		FDH300A / FDLL300A	I_F = 50 mA		890	mV
		FDH300 / FDH300A / FDLL300A	I_F = 100 mA		920	mV
		FDH300 / FDH300A / FDLL300A	I_F = 200 mA		1.0	V
		FDH333 / FDLL333	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	0.90	1.15	V
I_R	Reverse Current	FDH300 / FDH300A / FDLL300A	V_R = 125 V		1.0	nA
			V_R = 125 V, T_A = 150°C		3.0	μA
		FDH333 / FDLL333	V_R = 125 V		3.0	nA
			V_R = 125 V, T_A = 100°C		500	nA
C_O	Diode Capacitance		V_R = 0, f = 1.0 MHz		6.0	pF



LAND PATTERN RECOMMENDATION

NOTES: UNLESS OTHERWISE SPECIFIED

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

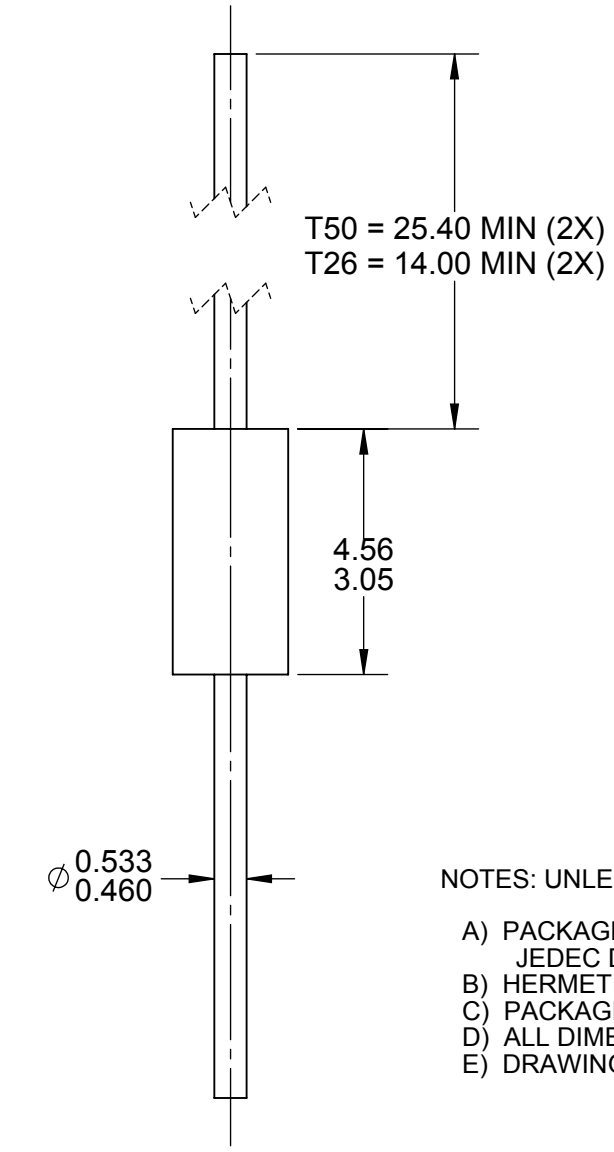
B) ALL DIMENSIONS ARE IN MILLIMETERS.

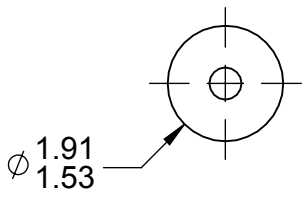
C CORNER RADIUS IS OPTIONAL.

D) LAND PATTERN RECOMMENDATION PER IPC DIOMELF3414N

E) DRAWING FILE NAME: SOD80A REV3

FAIRCHILD™





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

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PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
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Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
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FDLL300A FDLL300A_Q