

Product Summary

V_R (V)	I_F (A)	V_F max @ 400mA (V)	I_R max @ 30V (μ A)
40	0.52	0.5	10

Features and Benefits

- Low Equivalent On-Resistance
- Extremely Low Leakage (10 μ A @30v)
- High Current Capability ($I_F = 0.52A$)
- Low V_F , Fast Switching Schottky
- ZLLS400 Complements Low Temperature Equivalent ZHCS400
- Package Thermally Rated to +150°C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified To AEC-Q101 Standards For High Reliability**

Description and Applications

This compact SOD323 packaged Schottky diode offers users an excellent performance combination comprising high current operation, extremely low leakage and low forward voltage, ensuring suitability for applications requiring efficient operation at higher temperatures (above +85°C) see Operational Efficiency Chart on page 3.

- DC – DC Converters
- Mobile Telecoms
- Charging Circuits
- Motor Control

Mechanical Data

- Case: SOD323
- Case Material: UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208 E3
- Weight: 0.004 grams (Approximate)



Ordering Information (Note 4 & 5)

Device	Compliance	Packaging	Shipping
ZLLS400QTA	Automotive	SOD323	3,000/Tape & Reel
ZLLS400QTC	Automotive	SOD323	10,000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.
 5. Automotive products are AEC-Q101 qualified and are PPAP capable. Automotive, AEC-Q101 and standard products are electrically and thermally the same, except where specified. For more information, please refer to http://www.diodes.com/quality/product_compliance_definitions/.

Marking Information



40 = Product Type Marking Code

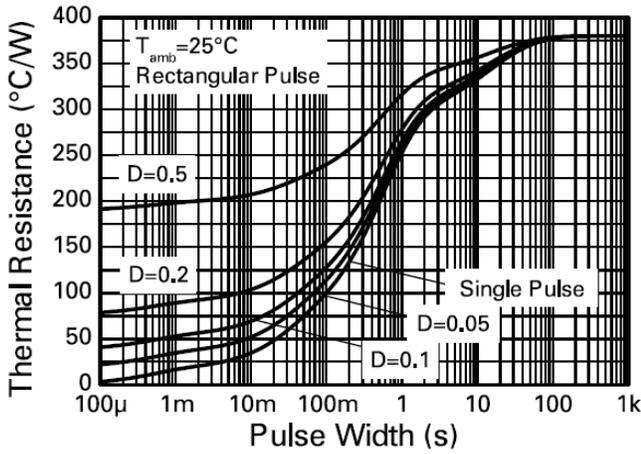
Top View

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

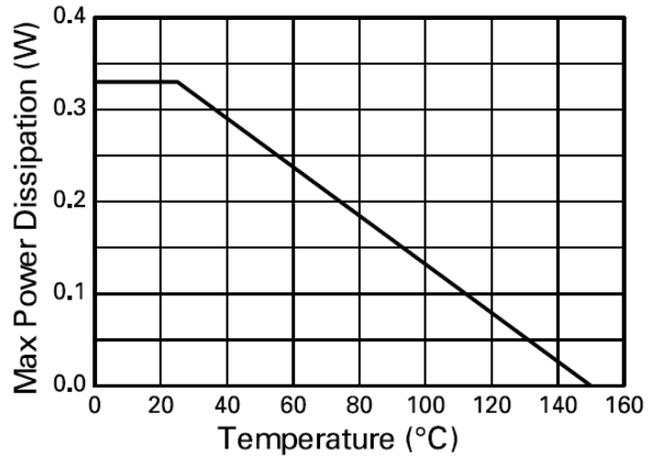
Characteristic	Symbol	Value	Units
Continuous Reverse Voltage	V _R	40	V
Continuous Forward Current	I _F	0.52	A
Peak Repetitive Forward Current Rectangular Pulse Duty Cycle	I _{FPK}	0.85	A
Non Repetitive Forward Current		t ≤ 100μs	12
		t ≤ 10ms	2.5

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation, T _A = +25°C Single Die Continuous Single Die Measured at t < 5 secs	P _D	330 390	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	(Note 6)	379
		(Note 7)	317
Junction Temperature	T _J	+150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C



Transient Thermal Impedance



Derating Curve

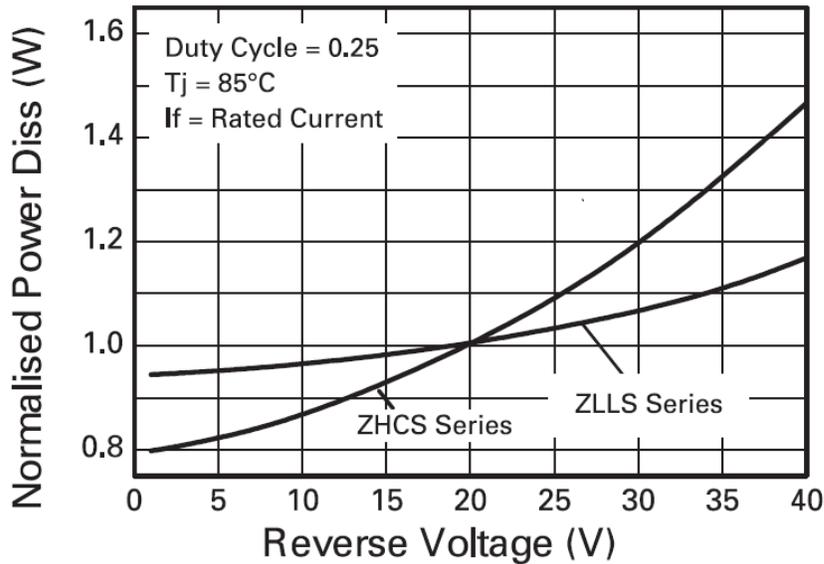
- Notes: 6. For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
7. For a device surface mounted on FR4 PCB measured at t < 5 secs.

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	40	60	-	V	I _R = 200µA
Forward Voltage (Note 8)	V _F	-	305	360	mV	I _F = 50mA
		-	335	390		I _F = 100mA
		-	395	450		I _F = 250mA
		-	445	500		I _F = 400mA
		-	550	630		I _F = 750mA
		-	620	710		I _F = 1A
		-	710	800		I _F = 1.5A
		-	405	-		I _F = 400mA, T _A = +100°C
Reverse Current	I _R	-	6	10	µA	V _R = 30V
		-	370	-		V _R = 30V, T _A = +85°C
Diode Capacitance	C _D	-	15	-	pF	f = 1MHz, V _R = 30V
Reverse Recovery Time	t _{rr}	-	3	-	ns	Switched from I _F = 500mA to V _R = 5.5V Measured @ I _R = 50mA
Reverse Recovery Charge	Q _{rr}	-	210	-	pC	di/dt = 500mA / ns R _{source} = 6Ω; R _{load} = 10Ω

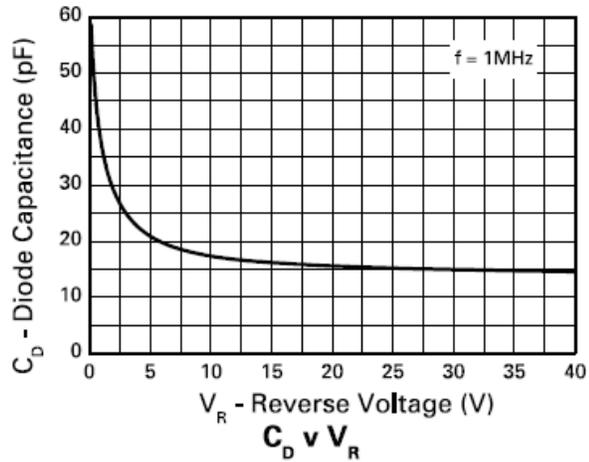
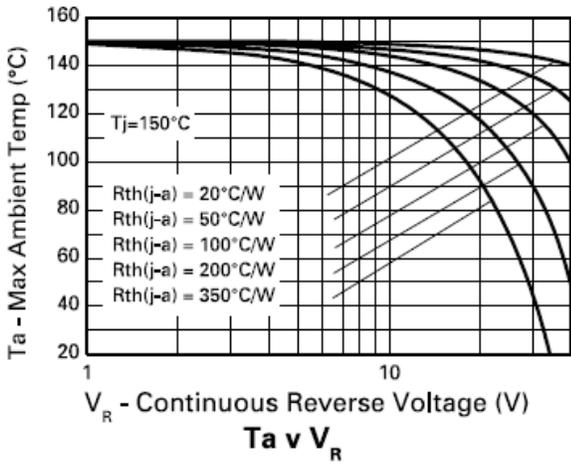
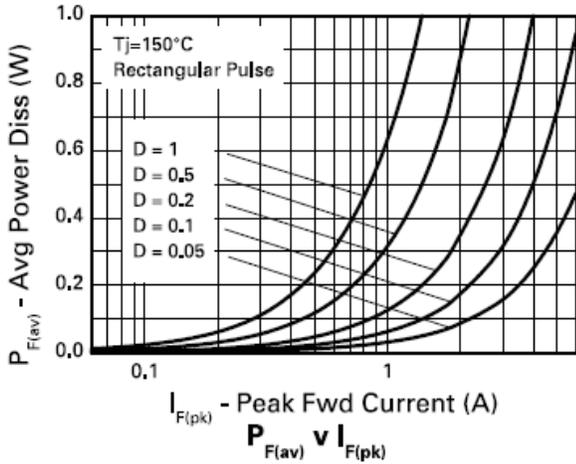
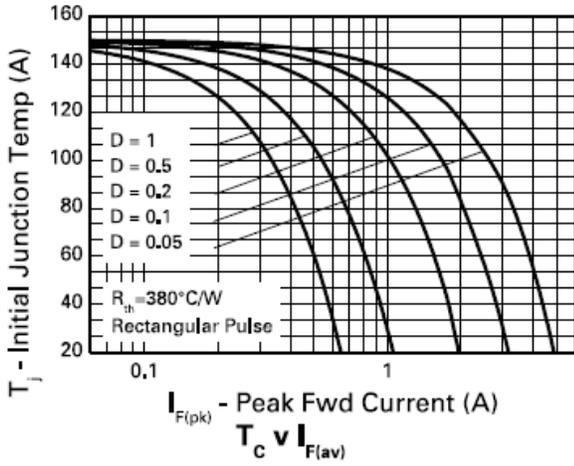
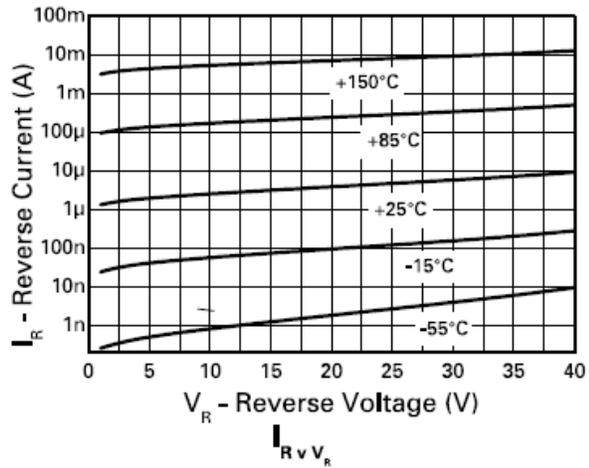
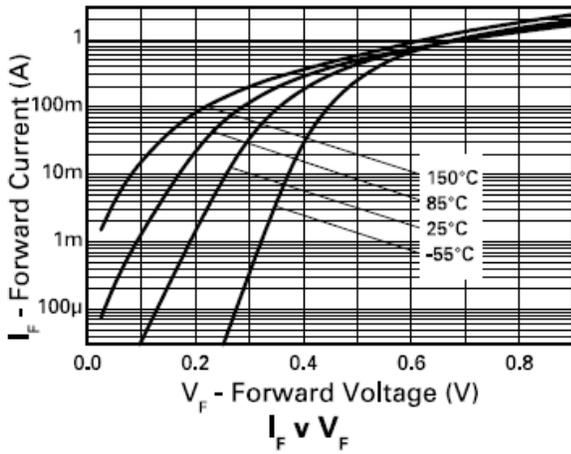
Note: 8. Measured under pulsed conditions. Pulse width = 300µs. Duty cycle ≤ 2%.

Operational Efficiency Chart



Operational Efficiency Example

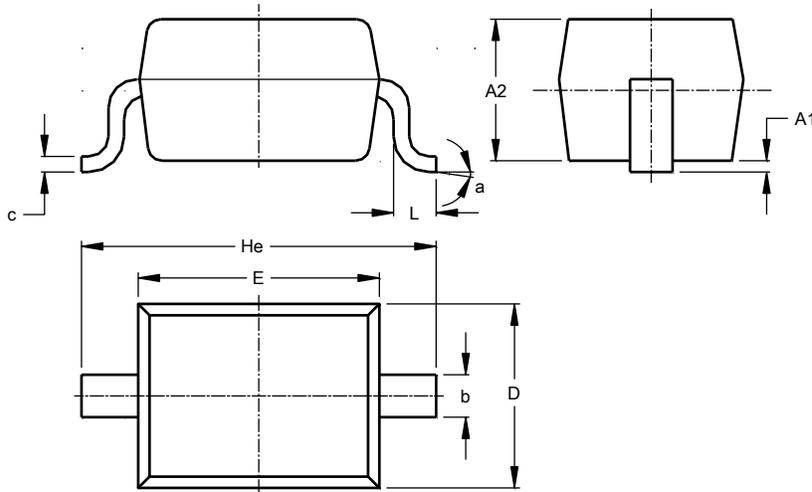
The operational efficiency chart indicates the beneficial use of the ZLLS series diodes in applications requiring higher voltage and higher temperature operation. Circuits requiring low voltage, low temperature operation will benefit from using Diodes' low V_F ZHCS series.



Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

SOD323

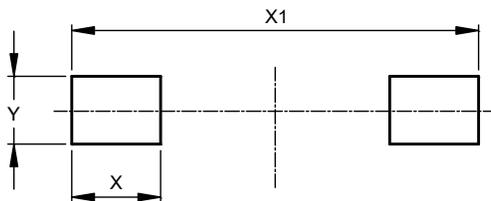


SOD323			
Dim	Min	Max	Typ
A1	--	0.10	0.05
A2	1.00	1.10	1.05
b	0.25	0.35	0.30
c	0.10	0.15	0.11
D	1.20	1.40	1.30
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L	0.20	0.40	0.30
a	8°		
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.

SOD323



Dimensions	Value (in mm)
X	0.590
X1	2.700
Y	0.450

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2015, Diodes Incorporated

www.diodes.com

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9