Product Summary

V_{RRM} (V)	I_O (mA)	$V_{F\ (MAX)}$ (mV) @ 400mA	$I_{R\ (MAX)}$ (µA) @ 30V
40	400	500	40

Features and Benefits

- Low V_F
- High Current Capability (I_F = 0.40A)
- Miniature Surface Mount Package
- Low V_F, Fast Switching Schottky
- Package Thermally Rated to +150°C
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at https://www.diodes.com/products/automotive/automotive-products/.**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability. https://www.diodes.com/quality/product-definitions/**

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 4.

- DC – DC converters
- Mobile telecomms
- PCMCIA

Mechanical Data

- Package: SOD323
- Package Material: UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.004 grams (Approximate)

SOD323

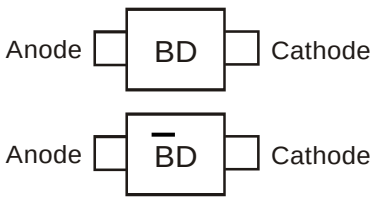
Top View

Ordering Information (Note 4)

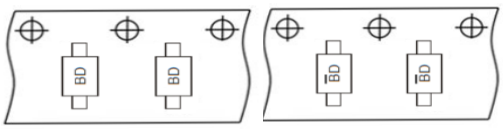
Part Number	Package	Packing	
		Qty.	Carrier
ZHCS400TA	SOD323	3,000	Tape & Reel
ZHCS400TC	SOD323	10,000	Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ 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 https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



BD & $\overline{B}D$ = Product Type Marking Code

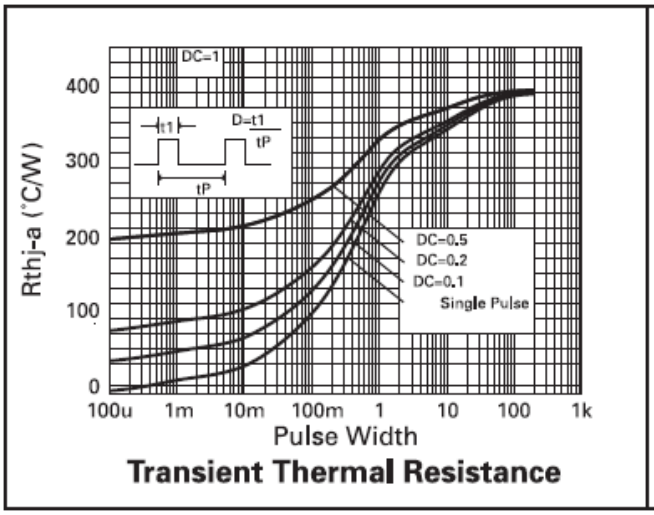


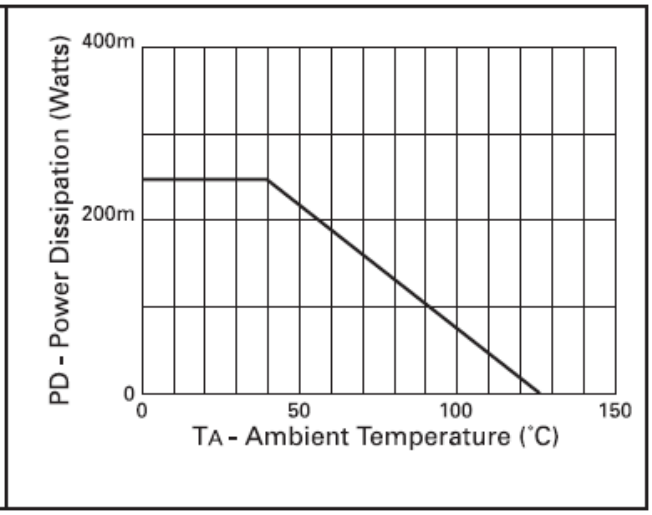
Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Units
Continuous Reverse Voltage		V_R	40	V
Continuous Forward Current		I_F	400	mA
Forward Voltage @I_F = 400mA		V_F	500	mV
Average Peak Forward Current; D.C. = 50%		I_{FAV}	1000	mA
Continuous Drain Current	t ≤ 100µs	I_{FSM}	6.75	A
	t ≤ 10ms		3	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation, T_A = +25°C	P_D	250	mW
Storage Temperature Range	T_{STG}	-55 to +150	°C

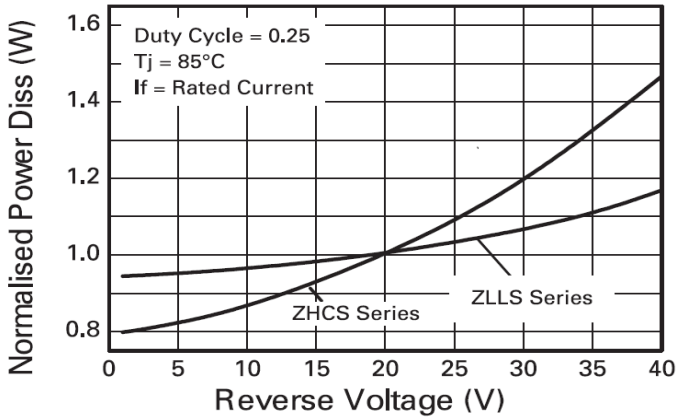




Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

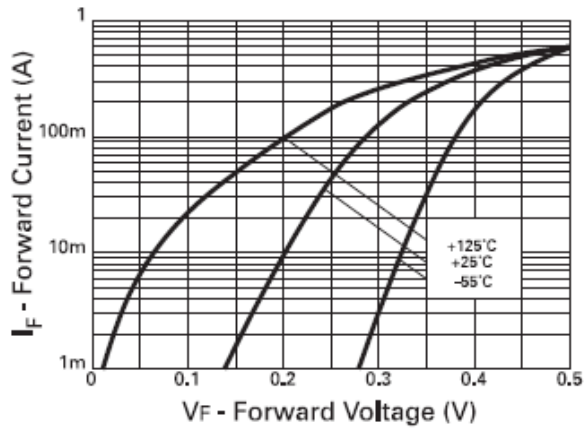
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60	—	V	I_R = 200µA
Forward Voltage	V_F	—	270	300	mV	I_F = 50mA
		—	300	350		I_F = 100mA
		—	370	460		I_F = 250mA
		—	425	500		I_F = 400mA
		—	550	670		I_F = 750mA
		—	640	780		I_F = 1,000mA
		—	810	1050		I_F = 1,500mA
		—	440	—		I_F = 500mA, T_A = +100°C
Reverse Current	I_R	—	15	40	µA	V_R = 30V
Diode Capacitance	C_D	—	20	—	pF	f = 1MHz, V_R = 25V

Operational Efficiency Chart

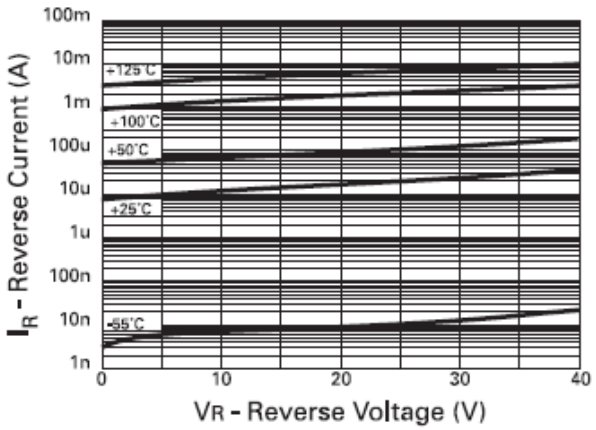


Operational Efficiency Example

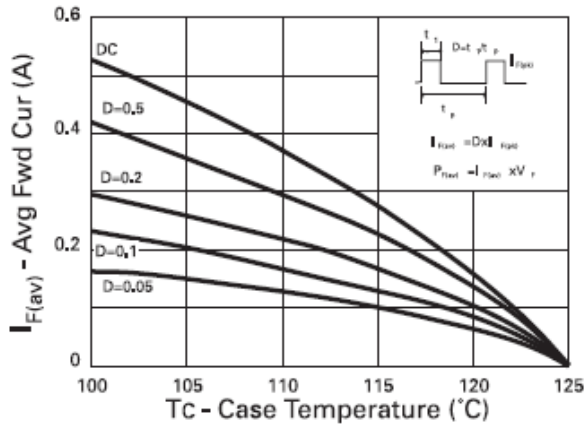
The operational efficiency chart indicates the beneficial use of the ZLLS series diodes in applications requiring higher voltage, higher temperature operation. Circuits requiring low voltage low temperature operation will benefit from using Zetex low V_F ZHCS series diodes.



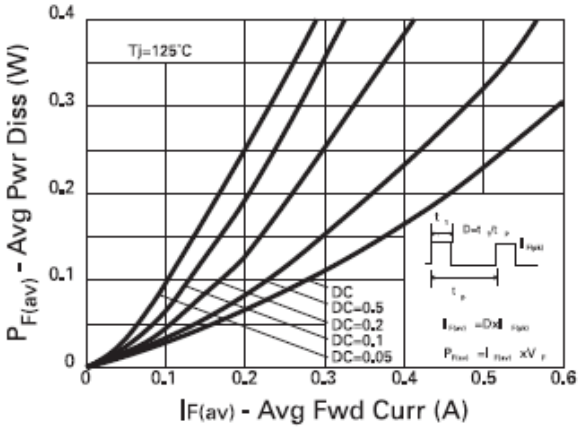
IF v VF



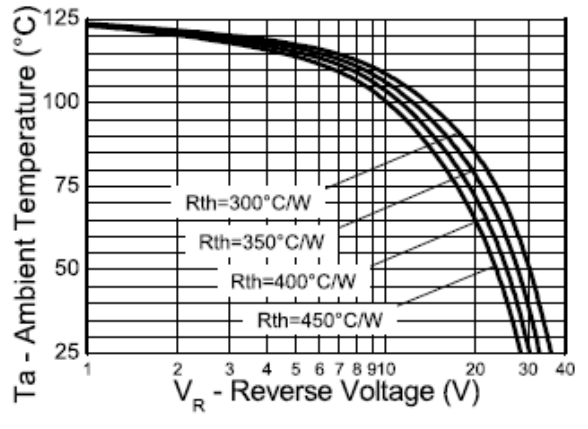
IR v VR



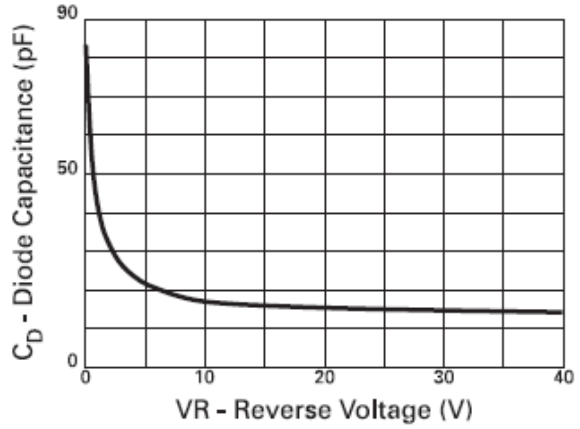
IF(av) v TC



PF(av) v IF(av)



Ta v VR

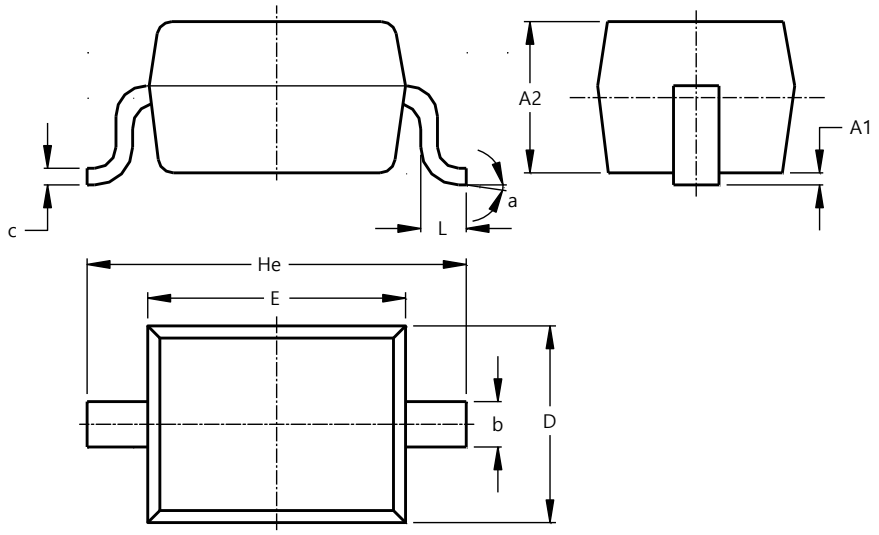


CD v VR

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOD323

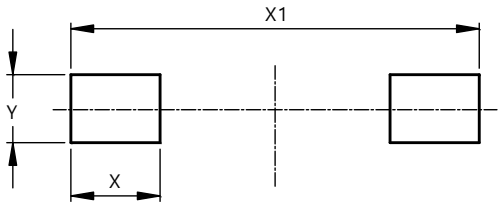


SOD323			
Dim	**Min**	**Max**	**Typ**
A1	—	0.10	0.05
A2	1.00	1.10	1.05
b	0.25	0.35	0.30
c	0.10	0.15	0.11
D	1.20	1.40	1.30
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L	0.20	0.40	0.30
a	0º	8º	—
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOD323



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

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