



# THE DATASHEET OF ZHCS400TA



**40V SURFACE MOUNT SCHOTTKY BARRIER DIODE**
**Product Summary**

- $V_R = 40V$
- $I_F = 0.40A$
- $I_R = 40\mu A$

**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

**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
- **Qualified to AEC-Q101 Standards for High Reliability**

**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
- Weight: 0.004 grams (approximate)

SOD323



Top View

**Ordering Information** (Note 1)

Device	Packaging	Shipping
ZHCS400TA	SOD323	3,000/Tape & Reel
ZHCS400TC	SOD323	10,000/Tape & Reel

Notes: 1. For Packaging Details, go to our website at <http://www.diodes.com>.

**Marking Information**

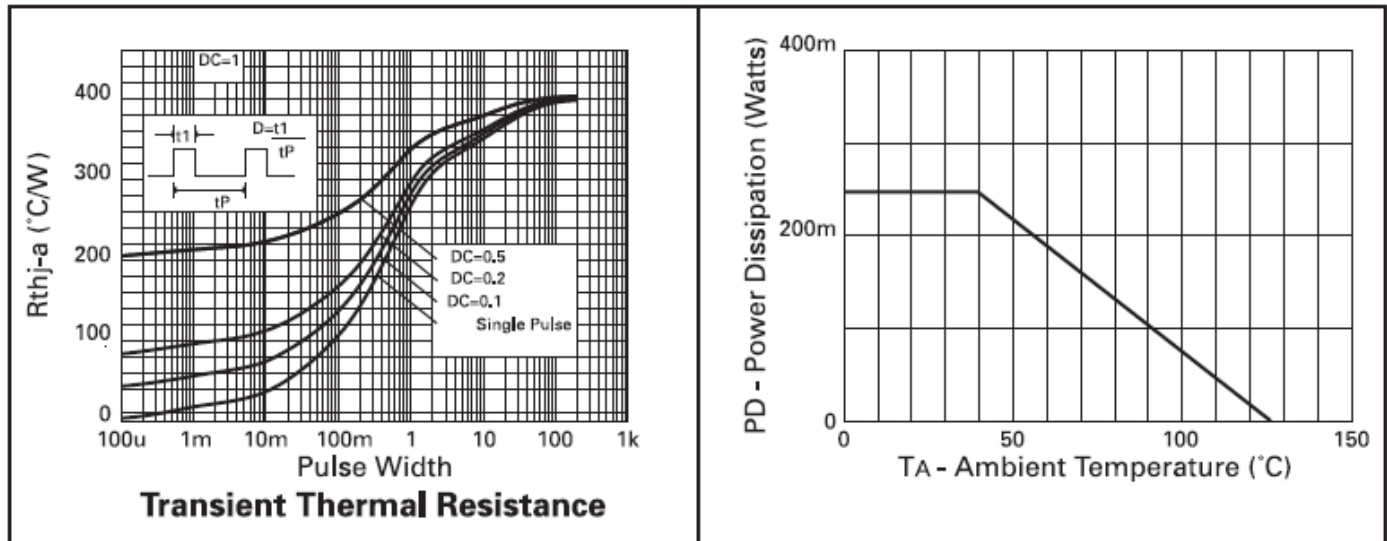

BD = Product Type Marking Code

**Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units	
Continuous Reverse Voltage	V <sub>R</sub>	40	V	
Continuous Forward Current	I <sub>F</sub>	400	mA	
Forward Voltage @I <sub>F</sub> = 400mA	V <sub>F</sub>	500	mV	
Average Peak Forward Current; D.C. = 50%	I <sub>FAV</sub>	1000	mA	
Continuous Drain Current (Note x)	I <sub>FSM</sub>	t ≤ 100μs	6.75	A
		t ≤ 10ms	3	A

**Thermal Characteristics**

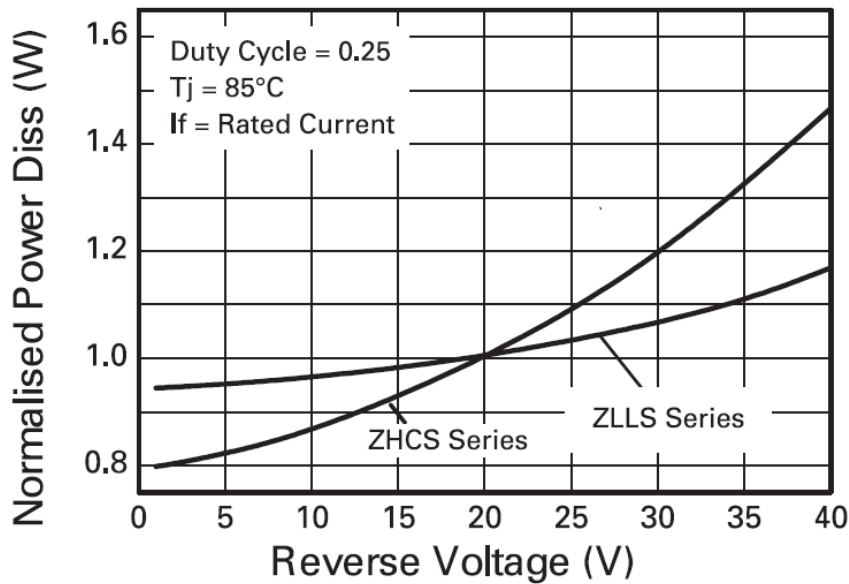
Characteristic	Symbol	Value	Unit
Power Dissipation, T <sub>A</sub> = 25°C	P <sub>D</sub>	250	mW
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C



**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

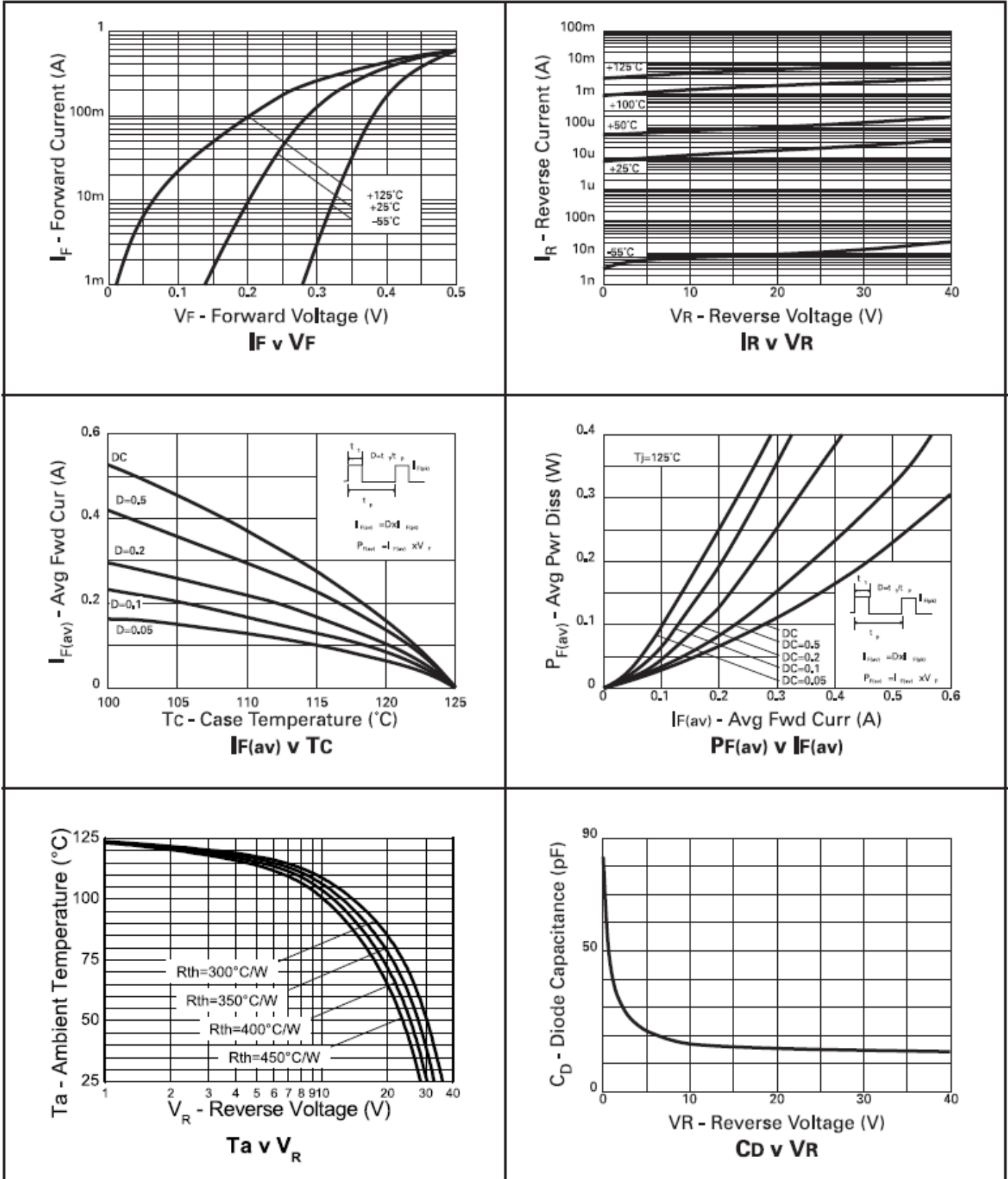
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	40	60	-	V	I <sub>R</sub> = 200μA
Forward Voltage	V <sub>F</sub>	-	270	300	mV	I <sub>F</sub> = 50mA
		-	300	350		I <sub>F</sub> = 100mA
		-	370	460		I <sub>F</sub> = 250mA
		-	425	500		I <sub>F</sub> = 400mA
		-	550	670		I <sub>F</sub> = 750mA
		-	640	780		I <sub>F</sub> = 1,000mA
		-	810	1050		I <sub>F</sub> = 1,500mA
		-	440	-		I <sub>F</sub> = 500mA, T <sub>A</sub> = 100°C
Reverse Current	I <sub>R</sub>	-	15	40	μA	V <sub>R</sub> = 30V
Diode Capacitance	C <sub>D</sub>	-	20	-	pF	f = 1MHz, V <sub>R</sub> = 25V

**Operational efficiency chart**

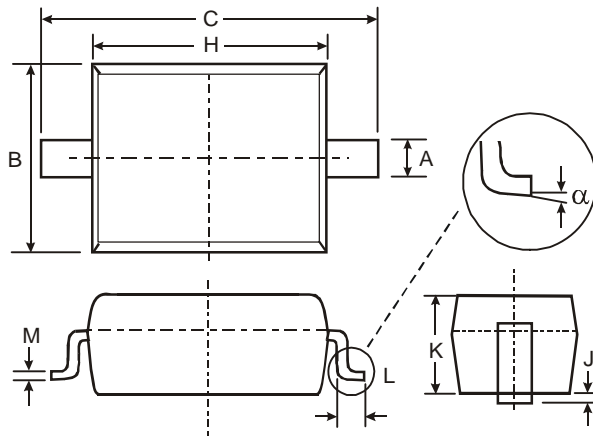


**Operational Efficiency Example**

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<sub>F</sub> ZHCS series diodes.

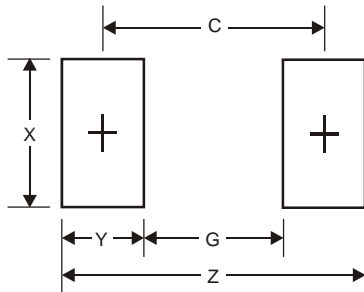


**Package Outline Dimensions**



SOD323		
Dim	Min	Max
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
α	0°	8°
All Dimensions in mm		

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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