



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



SURFACE MOUNT SCHOTTKY BARRIER DIODE
Product Summary

- $V_R = 40V$
- $I_F = 500mA$
- $I_R = 40\mu A$

Applications

- DC – DC Converters
- Mobile Telecomms
- PC/MIA

Features

- High Current Capability ($I_F = 500mA$)
- Low V_F
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

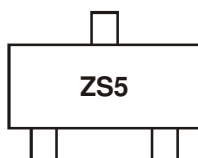
Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 **(e3)**
- Weight: 0.0089 grams (approximate)


Ordering Information (Note 4)

Part Number	Case	Packaging
ZHCS500TA	SOT23	3000/Tape & Reel
ZHCS500QTA	SOT23	3000/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> 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>.

Marking Information


ZS5 = 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	500	mA
Forward Voltage @ I _F = 500mA		V _F	550	mV
Average Peak Forward Current; D.C. = 50%		I _{FAV}	1000	mA
Non Repetitive Forward Current	t ≤ 100μs	I _{FSM}	6.75	A
	t ≤ 10ms		3	A

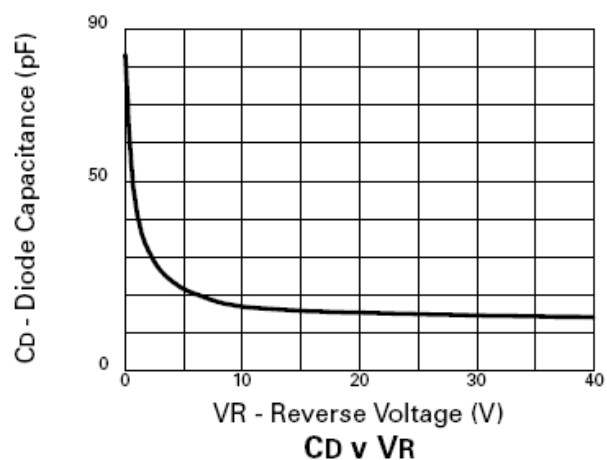
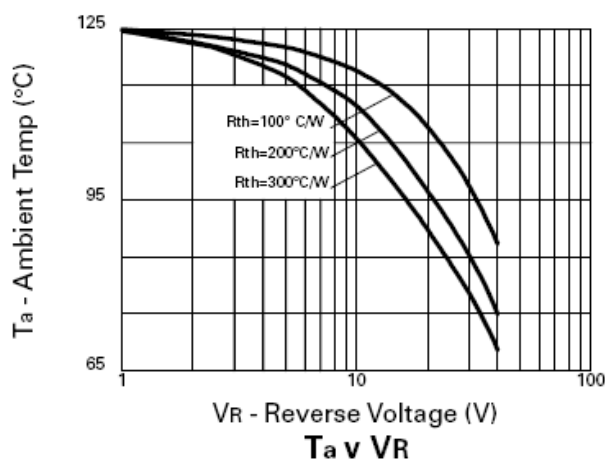
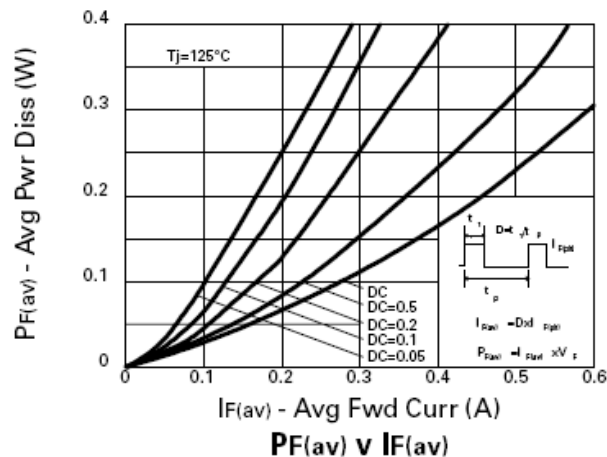
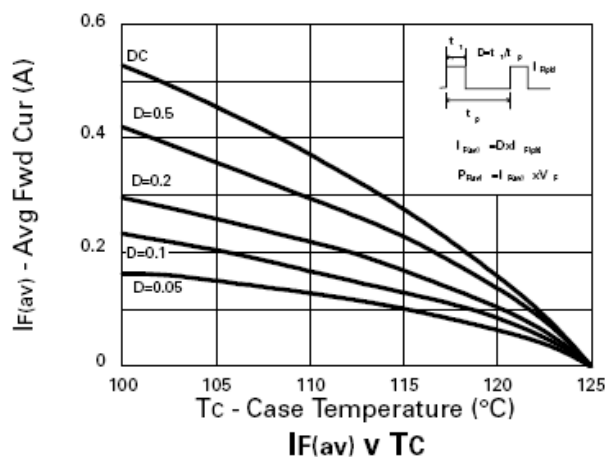
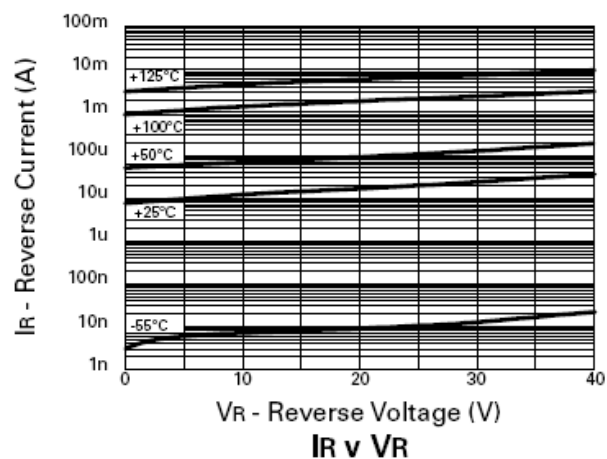
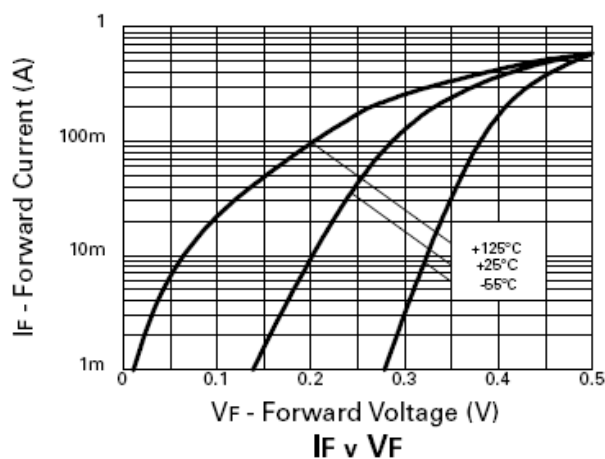
Thermal Characteristics

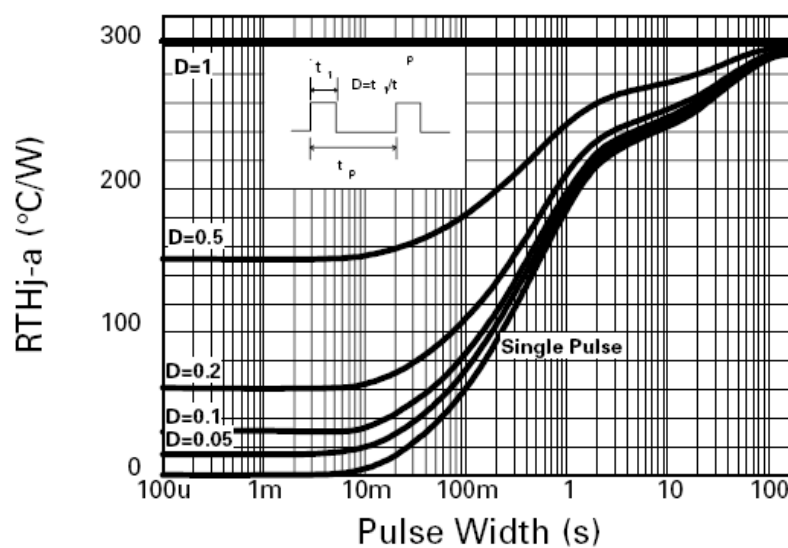
Characteristic	Symbol	Value	Unit
Power Dissipation, T _A = +25°C	P _D	330	mW
Junction Temperature	T _J	125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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 (Note 5)	V _F	—	270	300	mV	I _F = 50mA
		—	300	350		I _F = 100mA
		—	370	460		I _F = 250mA
		—	465	550		I _F = 500mA
		—	550	670		I _F = 750mA
		—	640	780		I _F = 1A
		—	810	1050		I _F = 1.5A
		—	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
Reverse Recovery Time	trr	—	10	—	ns	Switched from I _F = 500mA to I _R = 500mA Measured @ I _R = 50mA

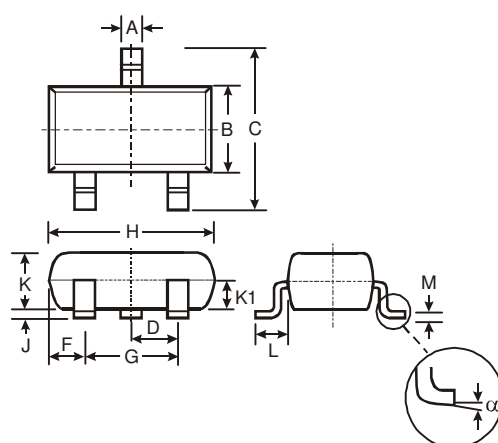
Notes: 5. Measured under pulsed conditions. Pulse width = 300μs. Duty cycle – 2%.





Package Outline Dimensions

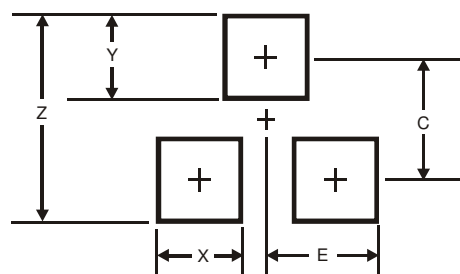
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout

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



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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