



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

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## Product Summary

$V_{RRM}$ (V)	$I_O$ (A)	$V_{F(MAX)}$ @ 0.75A (V)	$I_{R(MAX)}$ @ $V_R=30V$ ( $\mu A$ )
40	0.75	0.49	100

## Description and Applications

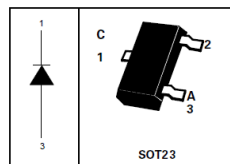
- DC – DC Converters
- Mobile Telecomms
- PCMIA

## Features and Benefits

- High current capability ( $I_F = 750mA$ )
- Low  $V_F$
- **Totally Lead-Free & Fully 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
- Weight: 0.0089 grams (approximate)



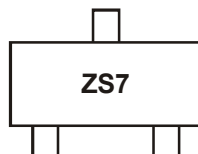
Top View

## Ordering Information (Note 4)

Device	Packaging	Shipping
ZHCS750TA	SOT23	3000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](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>.

## Marking Information



ZS7 = 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>	750	mA
Forward Voltage @ I <sub>F</sub> = 750mA	V <sub>F</sub>	490	mV
Average Peak Forward Current; D.C. = 50%	I <sub>FAV</sub>	1500	mA
Non Repetitive Forward Current	t ≤ 100μs	12	A
	t ≤ 10ms	5.2	A

**Thermal Characteristics**

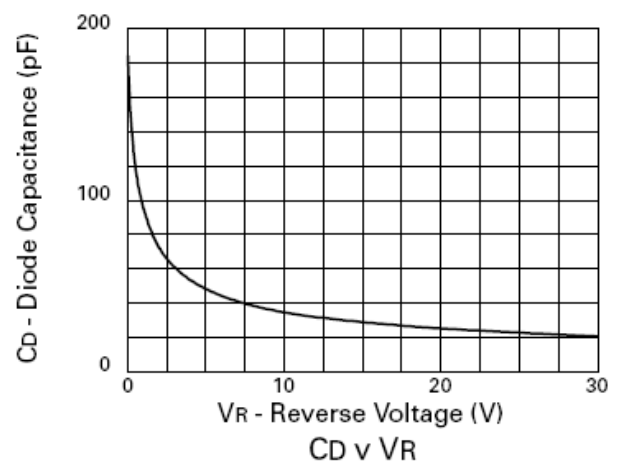
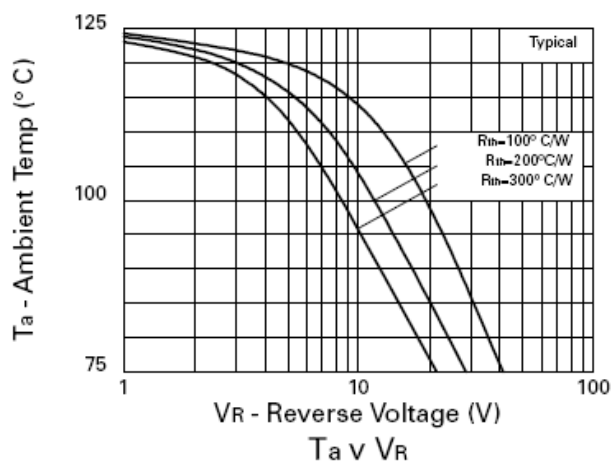
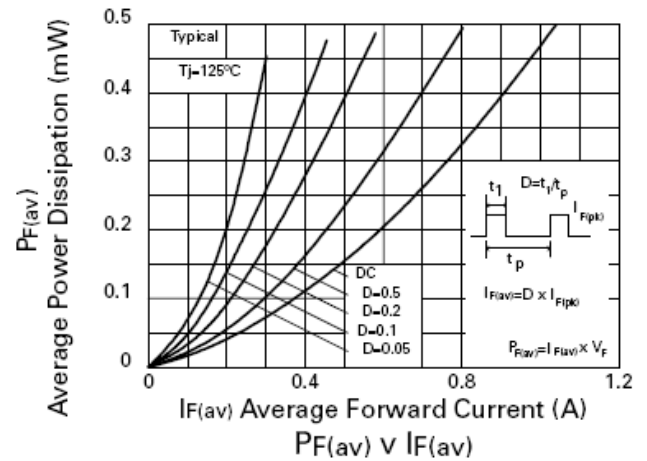
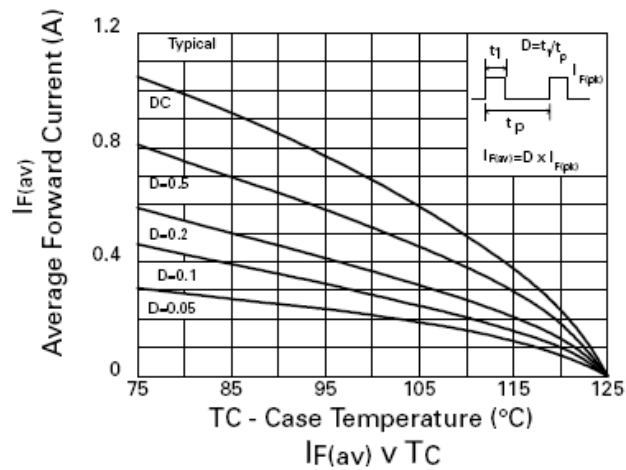
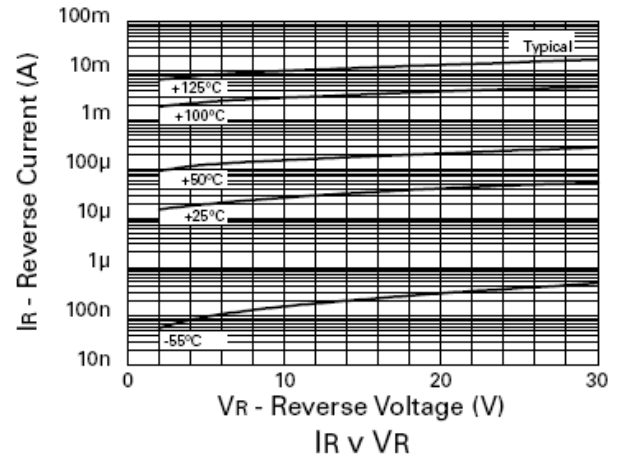
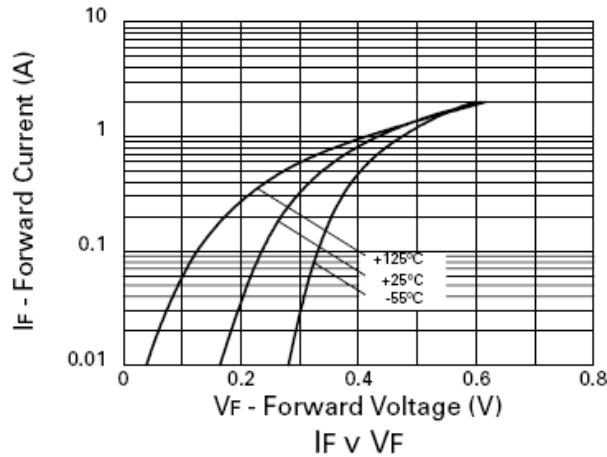
Characteristic	Symbol	Value	Unit
Power Dissipation, T <sub>A</sub> = +25°C	P <sub>D</sub>	500	mW
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

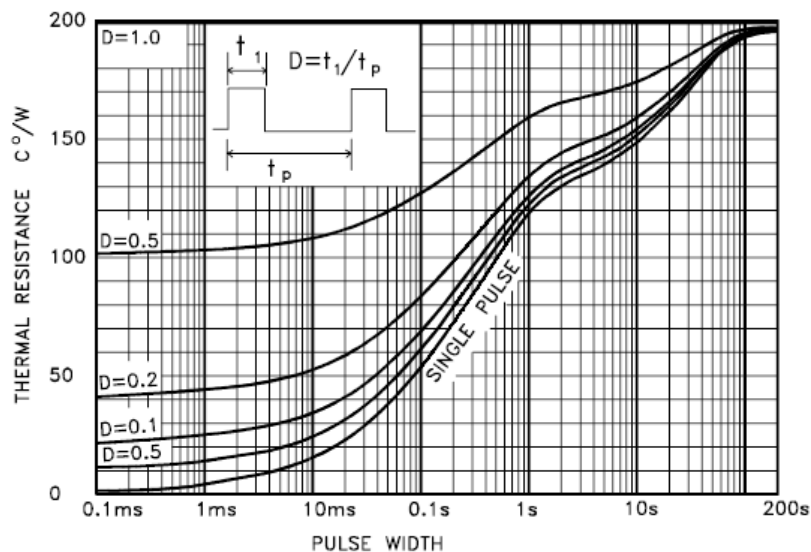
**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	40	60	—	V	I <sub>R</sub> = 300μA
Forward Voltage (Note 5)	V <sub>F</sub>	—	225	280	mV	I <sub>F</sub> = 50mA
		—	235	310		I <sub>F</sub> = 100mA
		—	290	350		I <sub>F</sub> = 250mA
		—	340	420		I <sub>F</sub> = 500mA
		—	390	490		I <sub>F</sub> = 750mA
		—	440	540		I <sub>F</sub> = 1A
		—	530	650		I <sub>F</sub> = 1.5A
Reverse Current (Note 6)	I <sub>R</sub>	—	50	100	μA	V <sub>R</sub> = 30V
Diode Capacitance	C <sub>D</sub>	—	25	—	pF	f = 1MHz, V <sub>R</sub> = 25V
Reverse Recovery Time	T <sub>rr</sub>	—	12	—	ns	Switched from I <sub>F</sub> = 500mA to I <sub>R</sub> = 500mA Measured @ I <sub>R</sub> = 50mA

Notes: 5. Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤ 2%.  
6. Short duration pulse test used to minimize self-heating effect.



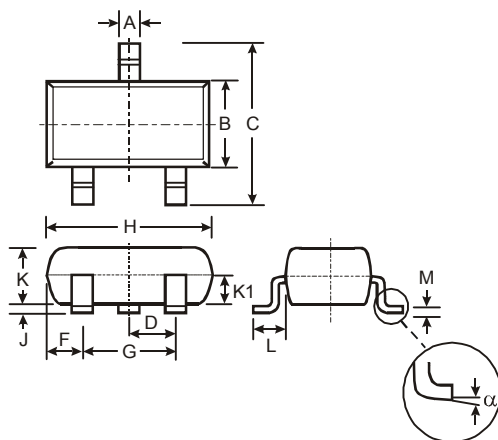




\* Reference above figure, devices were mounted on a 15mmx15mm ceramic substrate.

## Package Outline Dimensions

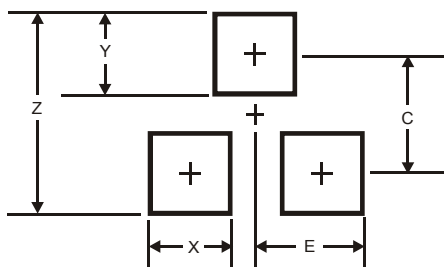
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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 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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