

SOD523 40V LOW V_F SCHOTTKY BARRIER DIODE

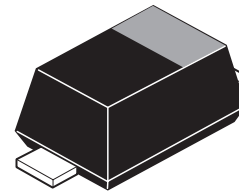
SUMMARY

$V_R = 40V$; $I_{FAV} = 510mA$;

$V_F = 405mV$ typ @ 100mA; $I_R = 7\mu A$ typ @ 30V

DESCRIPTION

Packaged in the SOD523 package this addition to the Zetex Schottky diode range offers an ideal low V_F/I_R performance combined with a low package height of 0.9mm making the device suitable for various converter, charger, and LED driver circuits.



SOD523

FEATURES

- $V_r = 40V$
- Low V_F
- 350mA continuous current rating
- Low profile SOD523 package (0.9mm)
- 100% matte tin plated external leads

APPLICATIONS

- DC - DC converters
- Mobile telecomms
- Charger circuits
- LED driver circuits
- MOSFET voltage protection circuits
- High frequency rectification

ORDERING INFORMATION

DEVICE	REEL SIZE	TAPE WIDTH	QUANTITY PER REEL
ZHCS350TA	7"	8mm embossed	3,000 units
ZHCS350TC	13"	8mm embossed	10,000 units

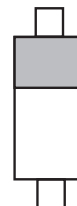
Prior to May 2005 (Pb free conversion date) a prefix 'u' will be applied to the part number to denote Pb free for ordering purposes only.

DEVICE MARKING

- 35

PINOUT

Cathode



Anode

TOP VIEW

ZHCS350

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	LIMIT	UNIT
Continuous Reverse Voltage	V_R	40	V
Continuous Forward Current	I_F	350	mA
Average Peak Forward Current; D.C. = 50%	I_{FAV}	510	mA
Non Repetitive Forward Current $t < 100\mu S$ $< 10mS$	I_{FSM}	4.2 910	A mA
Power Dissipation at $T_A=25^\circ C$ ^(a)	P_D	285	mW
Power Dissipation at $T_A=25^\circ C$ ^(b)	P_D	330	mW
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ C$
Junction Temperature	T_j	125	$^\circ C$

THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to Ambient ^(a)	$R_{\theta JA}$	350	$^\circ C/W$
Junction to Ambient ^(b)	$R_{\theta JA}$	303	$^\circ C/W$

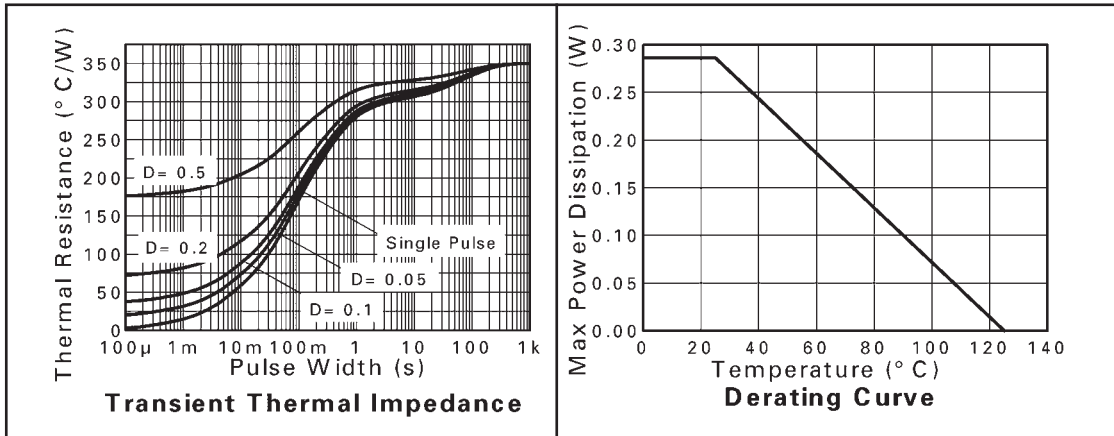
NOTES

(a) For a single device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of 1oz copper in still air conditions.

(b) As (a) above measured at $t < 5$ secs.

ZHCS350

CHARACTERISTICS



ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

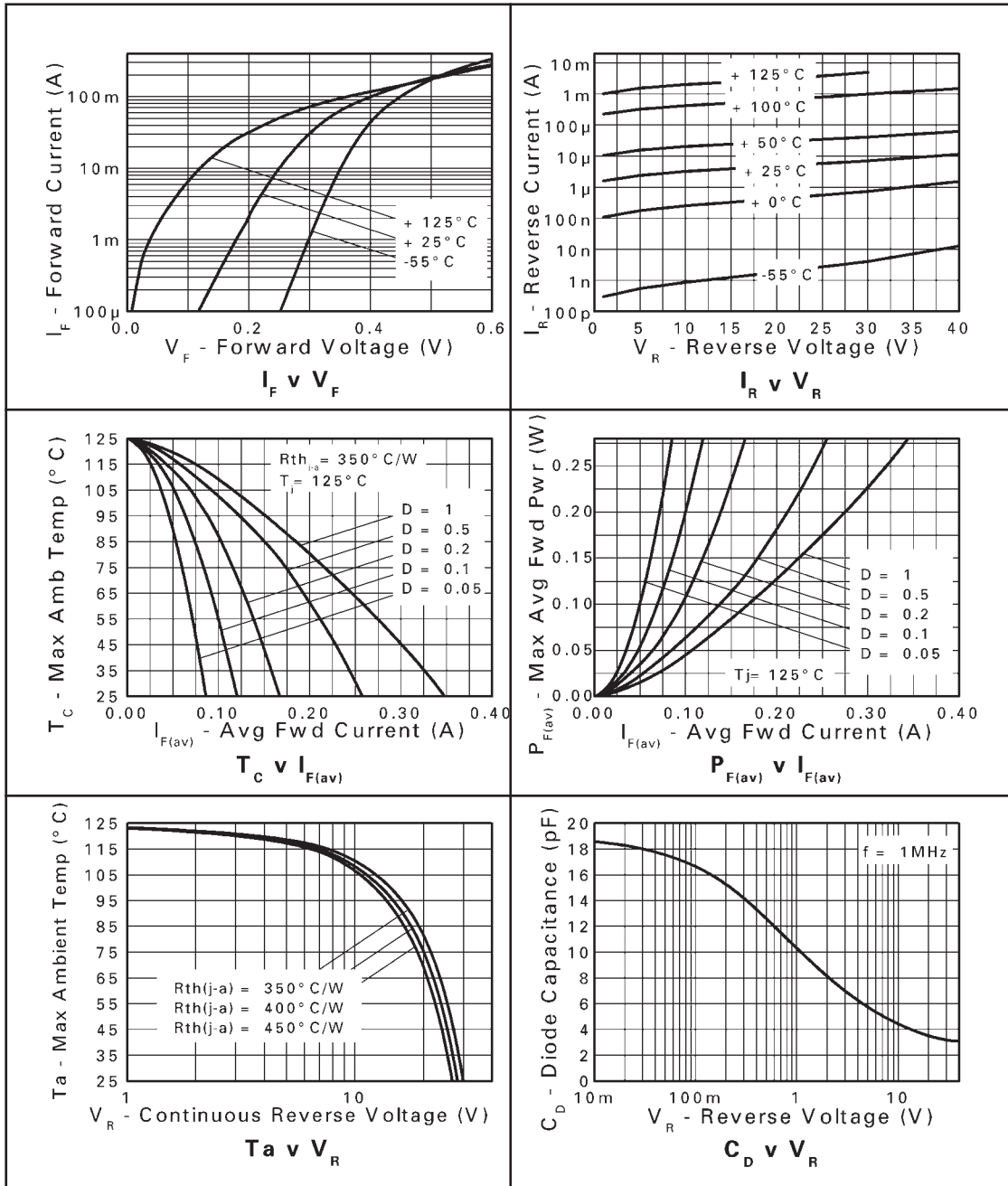
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60		V	$I_R=100\mu\text{A}$
Forward Voltage	V_F		300	325	mV	$I_F=30\text{mA}^*$
			335	370	mV	$I_F=50\text{mA}^*$
			405	460	mV	$I_F=100\text{mA}^*$
			730	810	mV	$I_F = 350\text{mA}^*$
Reverse Current	I_R		7	12	μA	$V_R=30\text{V}$
Diode Capacitance	C_D		3.3	6	pF	$f=1\text{MHz}; V_R=25\text{V}$
Reverse Recovery Time	t_{rr}		1.6		nS	Switched from $I_F=100\text{mA}$ to $I_R=100\text{mA}$ Measured at $I_R=10\text{mA}$

NOTES

* Measured under pulsed conditions. Pulse width=300 μS . Duty cycle $\leq\%$

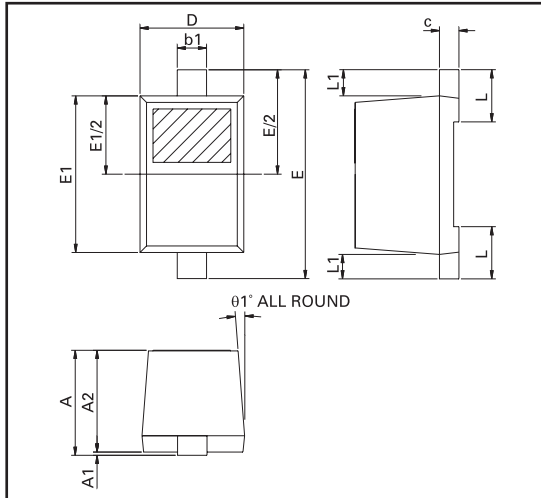
ZHCS350

TYPICAL CHARACTERISTICS



ZHCS350

PACKAGE OUTLINE



Controlling dimensions are in millimeters. Approximate conversions are given in inches

PACKAGE DIMENSIONS

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min	Max	Min	Max		Min	Max	Min	Max
A	–	0.800	–	0.0314	E	1.500	1.700	0.0590	0.0669
A1	0.000	0.100	0.000	0.0039	E1	1.100	1.300	0.0433	0.0511
A2	0.600	0.800	0.0236	0.0314	L	0.200	0.400	0.0078	0.0157
b1	0.160	0.300	0.0062	0.0118	L1	0.170	0.230	0.0066	0.0090
c	0.080	0.220	0.0031	0.0086	01°	4°	10°	4°	10°
D	0.700	0.900	0.0275	0.0354					

© Zetex Semiconductors plc 2004

Europe	Americas	Asia Pacific	Corporate Headquarters
Zetex GmbH Streitfeldstraße 19 D-81673 München Germany	Zetex Inc 700 Veterans Memorial Hwy Hauppauge, NY 11788 USA	Zetex (Asia) Ltd 3701-04 Metroplaza Tower 1 Hing Fong Road, Kwai Fong Hong Kong	Zetex Semiconductors plc Lansdowne Road, Chadderton Oldham, OL9 9TY United Kingdom
Telefon: (49) 89 45 49 49 0 Fax: (49) 89 45 49 49 49 europe.sales@zetex.com	Telephone: (1) 631 360 2222 Fax: (1) 631 360 8222 usa.sales@zetex.com	Telephone: (852) 26100 611 Fax: (852) 24250 494 asia.sales@zetex.com	Telephone (44) 161 622 4444 Fax: (44) 161 622 4446 hq@zetex.com

These offices are supported by agents and distributors in major countries world-wide.

This publication is issued to provide outline information only which (unless agreed by the Company in writing) may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

For the latest product information, log on to www.zetex.com

ISSUE 1 - AUGUST 2004