

SOD523 40V LOW V_F SCHOTTKY BARRIER DIODE

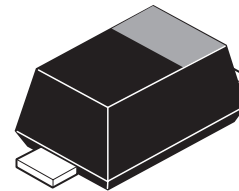
SUMMARY

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

$V_F = 405mV$ 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

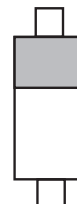
Prior to May 2005 (Pb free conversion date) a prefix 'u' will be applied to the part number to denote Pb free for ordering purposes only.

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

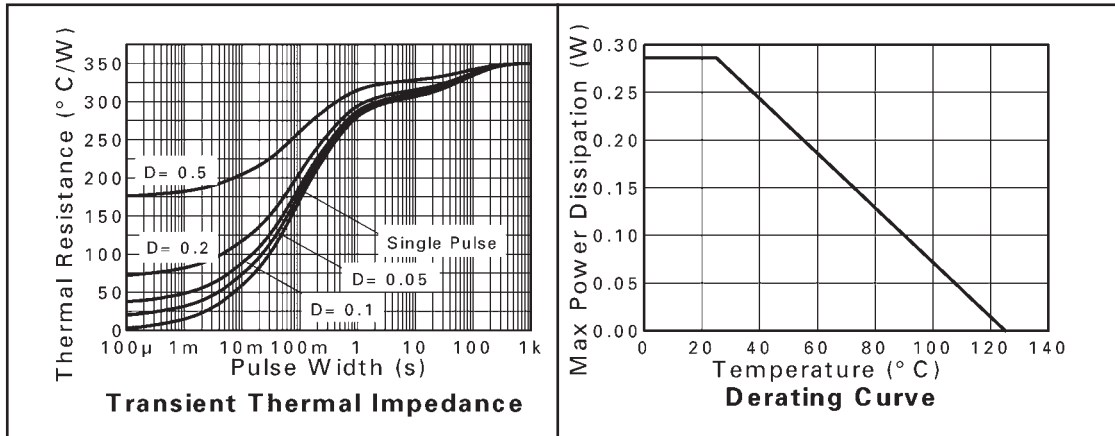
PARAMETER	SYMBOL	VALUE	UNIT
Junction to Ambient ^(a)	$R_{\theta JA}$	350	$^\circ C/W$
Junction to Ambient ^(b)	$R_{\theta JA}$	303	$^\circ C/W$

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.

CHARACTERISTICS



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

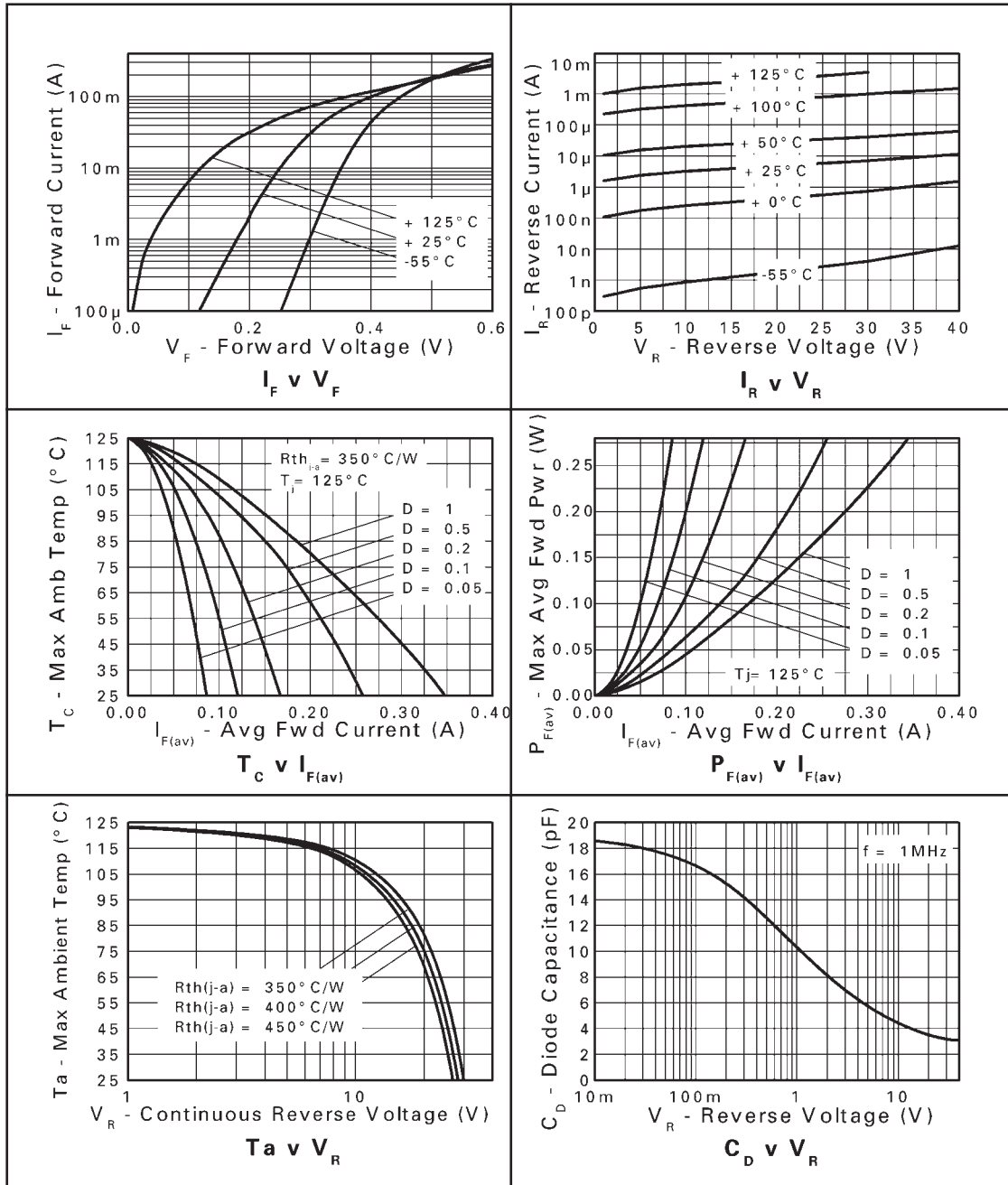
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60		V	$I_R=100\mu\text{A}$
Forward Voltage	V_F		300	325	mV	$I_F=30\text{mA}^*$
			335	370	mV	$I_F=50\text{mA}^*$
			405	460	mV	$I_F=100\text{mA}^*$
			730	810	mV	$I_F = 350\text{mA}^*$
Reverse Current	I_R		7	12	μA	$V_R=30\text{V}$
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 $\leq\%$

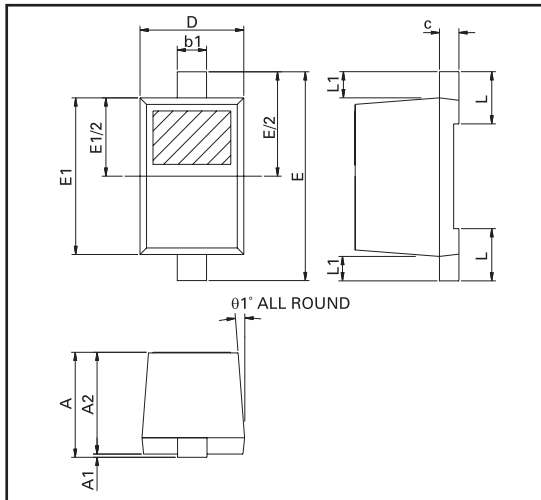
ZHCS350

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	$\Theta 1^\circ$	4°	10°	4°	10°
D	0.700	0.900	0.0275	0.0354					

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