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## SOD523 40V LOW $V_F$ SCHOTTKY BARRIER DIODE

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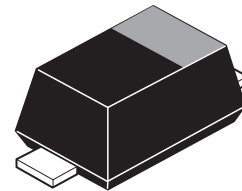
### SUMMARY

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

$V_F = 405mV$  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

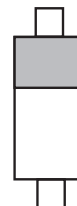
Prior to May 2005 (Pb free conversion date) a prefix 'u' will be applied to the part number to denote Pb free for ordering purposes only.

### 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 $T_A=25^\circ C$ <sup>(a)</sup>	$P_D$	285	mW
Power Dissipation at $T_A=25^\circ C$ <sup>(b)</sup>	$P_D$	330	mW
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ C$
Junction Temperature	$T_j$	125	$^\circ C$

## THERMAL RESISTANCE

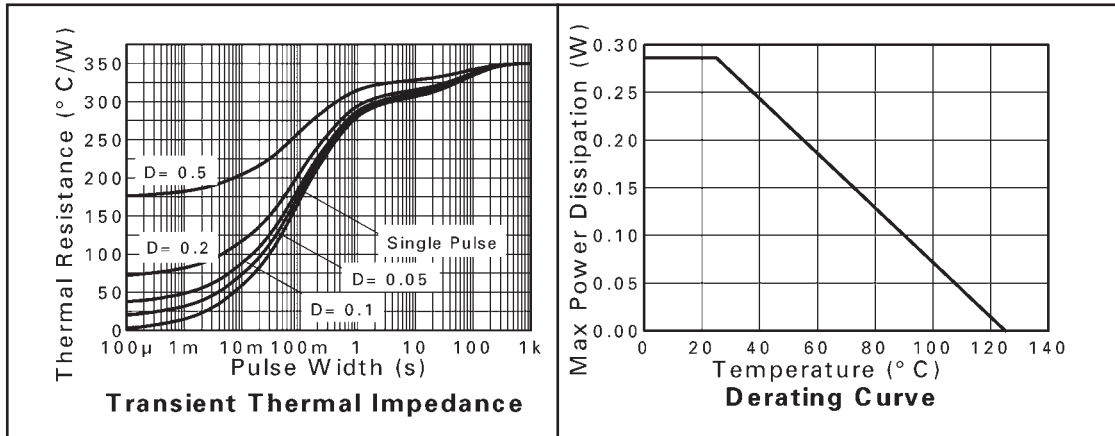
PARAMETER	SYMBOL	VALUE	UNIT
Junction to Ambient <sup>(a)</sup>	$R_{\theta JA}$	350	$^\circ C/W$
Junction to Ambient <sup>(b)</sup>	$R_{\theta JA}$	303	$^\circ C/W$

### 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)

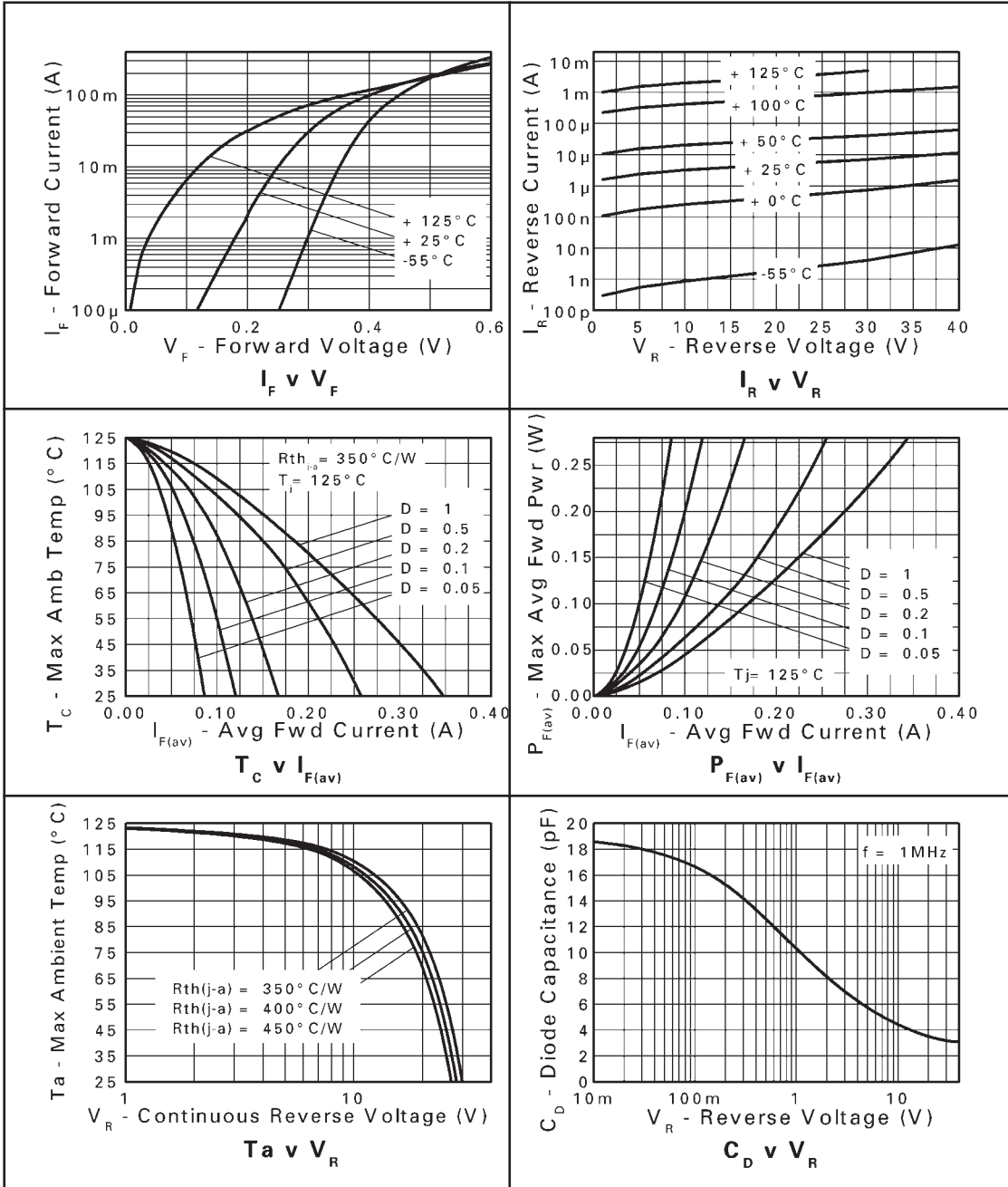
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60		V	$I_R=100\mu\text{A}$
Forward Voltage	$V_F$		300	325	mV	$I_F=30\text{mA}^*$
			335	370	mV	$I_F=50\text{mA}^*$
			405	460	mV	$I_F=100\text{mA}^*$
			730	810	mV	$I_F=350\text{mA}^*$
Reverse Current	$I_R$		7	12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

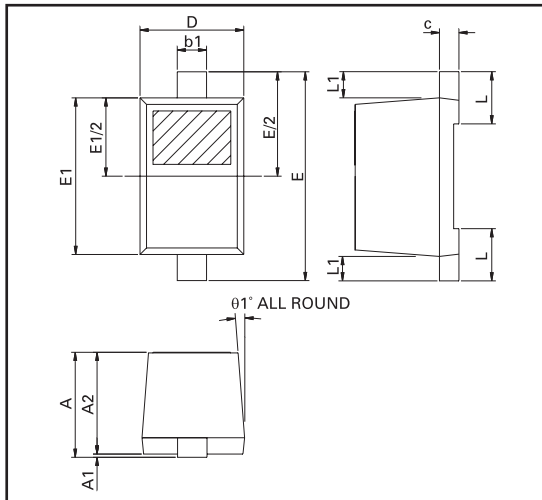
# ZHCS350

## 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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