

SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE "SuperBAT"

ZHCS500

ISSUE 1- September 1997

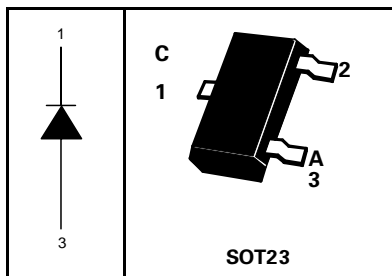
FEATURES:

- Low V_F
- High Current Capability

APPLICATIONS:

- DC - DC converters
- Mobile telecomms
- PCMCIA

PARTMARK DETAIL: ZS5



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	V_R	40	V
Forward Current (Continuous)	I_F	500	mA
Forward Voltage @ $I_F = 500\text{mA}$	V_F	550	mV
Average Peak Forward Current; D.C. = 50%	I_{FAV}	1000	mA
Non Repetitive Forward Current $t \leq 100\mu\text{s}$ $t \leq 10\text{ms}$	I_{FSM}	6.75 3	A A
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	330	mW
Storage Temperature Range	T_{stg}	-55 to + 150	$^\circ\text{C}$
Junction Temperature	T_j	125	$^\circ\text{C}$

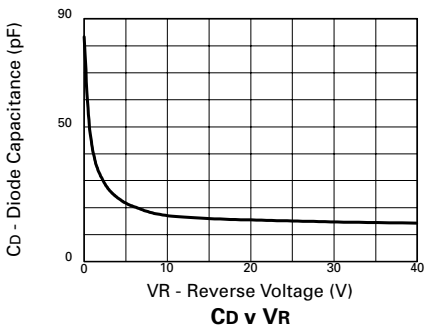
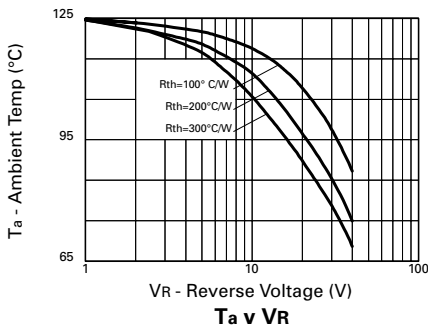
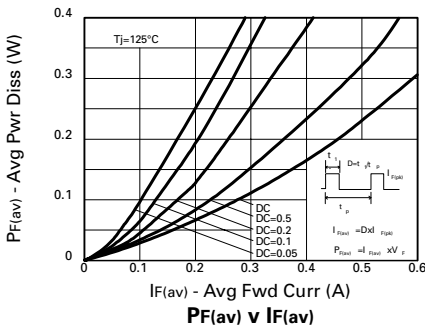
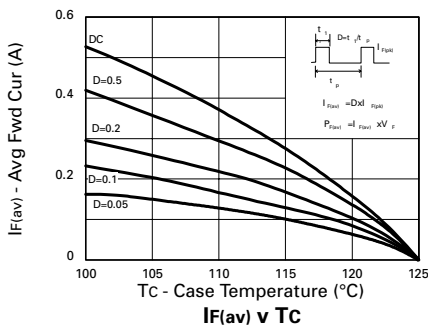
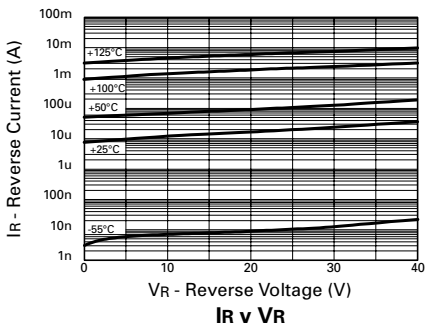
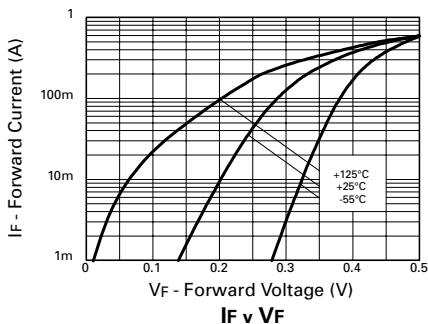
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60		V	$I_R = 200\mu\text{A}$
Forward Voltage	V_F		270 300 370 465 550 640 810 440	300 350 460 550 670 780 1050	mV mV mV mV mV mV mV mV	$I_F = 50\text{mA}^*$ $I_F = 100\text{mA}^*$ $I_F = 250\text{mA}^*$ $I_F = 500\text{mA}^*$ $I_F = 750\text{mA}^*$ $I_F = 1000\text{mA}^*$ $I_F = 1500\text{mA}^*$ $I_F = 500\text{mA}, T_{amb} = 100^\circ\text{C}^*$
Reverse Current	I_R		15	40	μA	$V_R = 30\text{V}$
Diode Capacitance	C_D		20		pF	$f = 1\text{MHz}, V_R = 25\text{V}$
Reverse Recovery Time	t_{rr}		10		ns	switched from $I_F = 500\text{mA}$ to $I_R = 500\text{mA}$ Measured at $I_R = 50\text{mA}$

*Measured under pulsed conditions. Pulse width= $300\mu\text{s}$; duty cycle $\leq 2\%$.

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TYPICAL CHARACTERISTICS



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