

# SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE “SuperBAT”

## ZHCS750

ISSUE 2 - October 1997



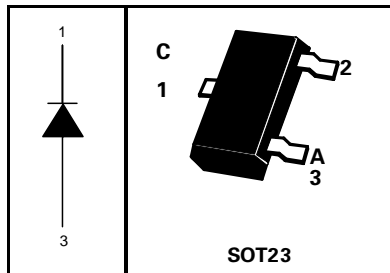
### FEATURES:

- \* Low  $V_F$
- \* High Current Capability

### APPLICATIONS:

- \* DC - DC converters
- \* Mobile telecomms
- \* PCMCIA

PARTMARK DETAIL: ZS7



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	$V_R$	40	V
Forward Current (Continuous)	$I_F$	750	mA
Forward Voltage @ $I_F = 750\text{mA}$	$V_F$	490	mV
Average Peak Forward Current; D.C. = 50%	$I_{FAV}$	1500	mA
Non Repetitive Forward Current $t \leq 100\mu\text{s}$ $t \leq 10\text{ms}$	$I_{FSM}$	12 5.2	A A
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	500	mW
Storage Temperature Range	$T_{stg}$	-55 to + 150	$^\circ\text{C}$
Junction Temperature	$T_j$	125	$^\circ\text{C}$

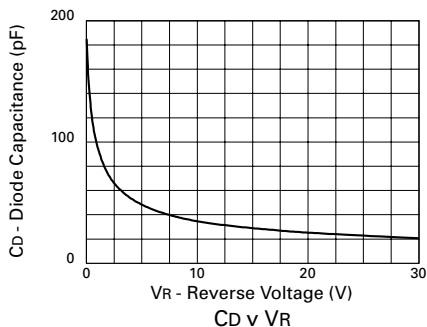
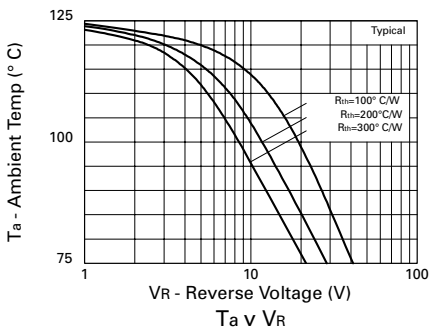
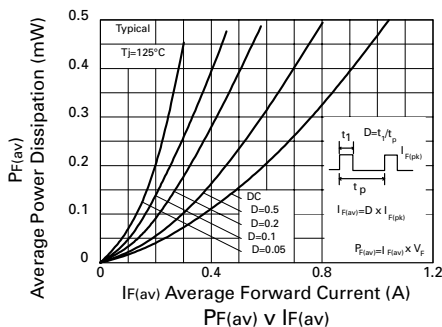
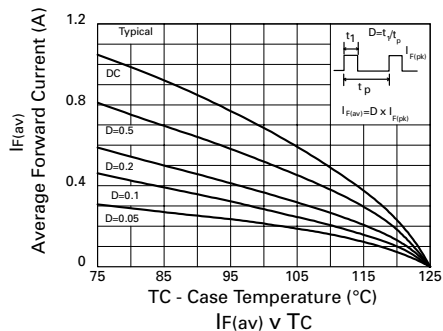
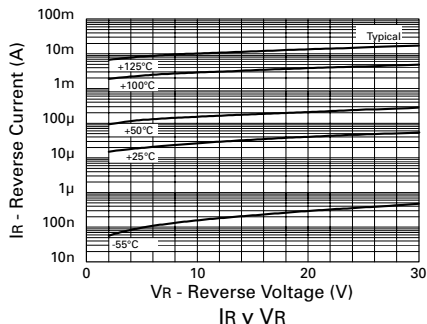
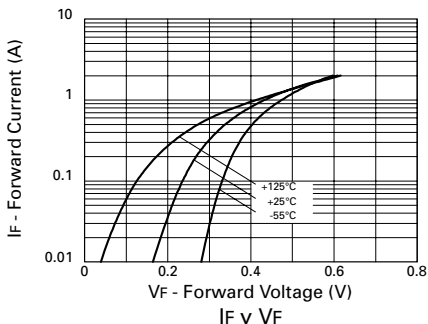
### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60		V	$I_R = 300\mu\text{A}$
Forward Voltage	$V_F$		225 235 290 340 390 440 530	280 310 350 420 490 540 650	mV mV mV mV mV mV mV	$I_F = 50\text{mA}^*$ $I_F = 100\text{mA}^*$ $I_F = 250\text{mA}^*$ $I_F = 500\text{mA}^*$ $I_F = 750\text{mA}^*$ $I_F = 1000\text{mA}^*$ $I_F = 1500\text{mA}^*$
Reverse Current	$I_R$		50	100	$\mu\text{A}$	$V_R = 30\text{V}$
Diode Capacitance	$C_D$		25		pF	$f = 1\text{MHz}, V_R = 25\text{V}$
Reverse Recovery Time	$t_{rr}$		12		ns	switched from $I_F = 500\text{mA}$ to $I_R = 500\text{mA}$ Measured at $I_R = 50\text{mA}$

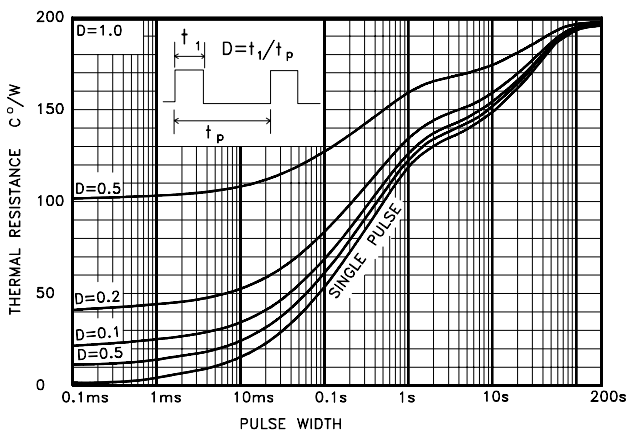
\* Measured under pulsed conditions. Pulse width= 300 $\mu\text{s}$ ; duty cycle  $\leq 2\%$ .

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## TYPICAL CHARACTERISTICS



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MAXIMUM TRANSIENT THERMAL RESISTANCE

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