

# SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE "SuperBAT"

ZHCS506

ISSUE 1 - September 1997

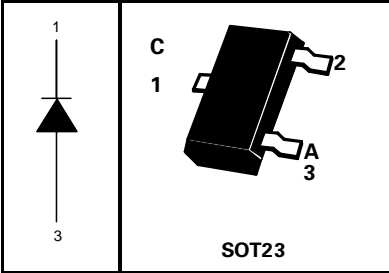
**FEATURES:**

- Low  $V_F$
- High Current Capability

**APPLICATIONS:**

- DC - DC converters
- Mobile telecomms
- PCMCIA

PARTMARK DETAIL: S56



**ABSOLUTE MAXIMUM RATINGS.**

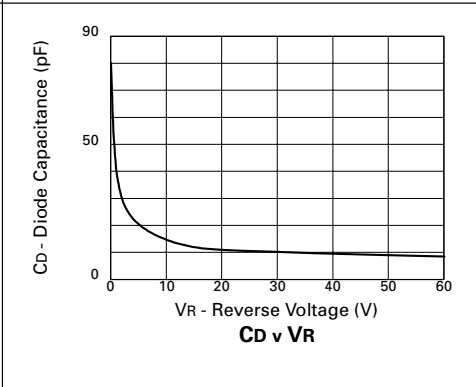
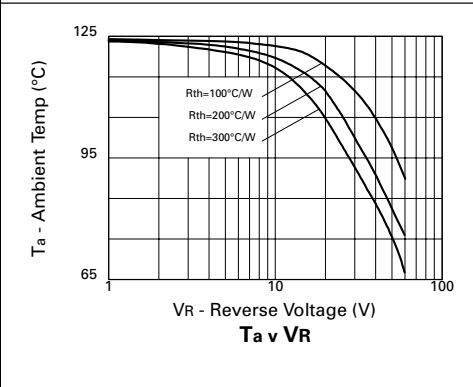
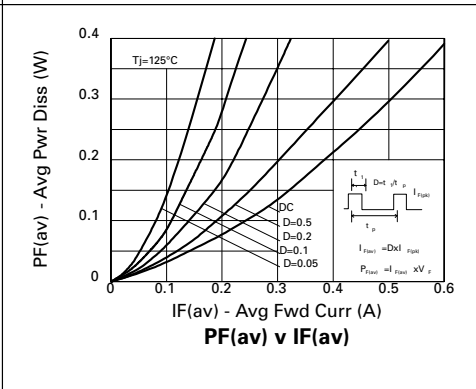
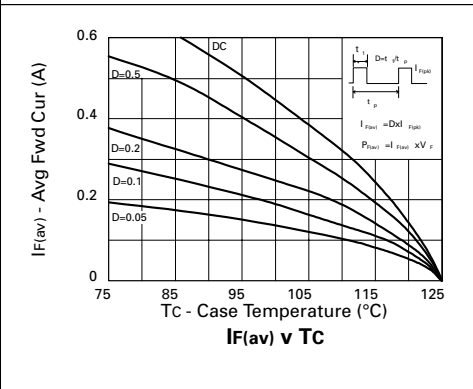
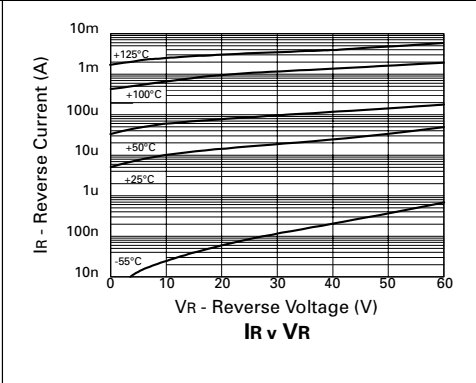
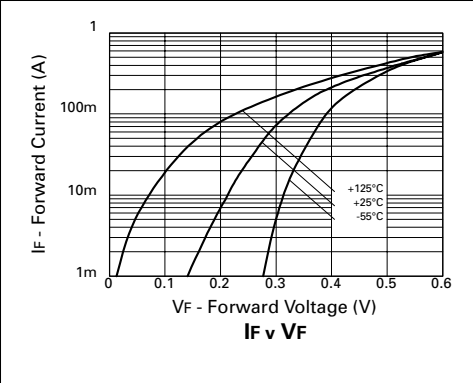
PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	$V_R$	60	V
Forward Current (Continuous)	$I_F$	500	mA
Forward Voltage @ $I_F = 500\text{mA}$	$V_F$	630	mV
Average Peak Forward Current; D.C. = 50%	$I_{FAV}$	1000	mA
Non Repetitive Forward Current $t \leq 100\mu\text{s}$ $t \leq 10\text{ms}$	$I_{FSM}$	5.5 2.5	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	$V_{(BR)R}$	60	80		V	$I_R = 200\mu\text{A}$
Forward Voltage	$V_F$		275 320 415 550 680 820 1120 565	310 360 470 630 800 960 1350	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	$I_R$		20	40	$\mu\text{A}$	$V_R = 45\text{V}$
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

