

SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE "SuperBAT"

ZHCS1000

ISSUE 2 - OCTOBER 1997

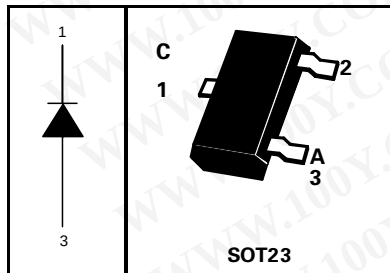
FEATURES:

- High current capability
- Low V_F

APPLICATIONS:

- Mobile telecomms, PCMCIA & SCSI
- DC-DC Conversion

PARTMARKING DETAILS : ZS1



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	V_R	40	V
Forward Current	I_F	1000	mA
Forward Voltage @ $I_F = 1000\text{mA}(\text{typ})$	V_F	425	mV
Average Peak Forward Current; D.C. = 50%	I_{FAV}	1750	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	$^\circ\text{C}$

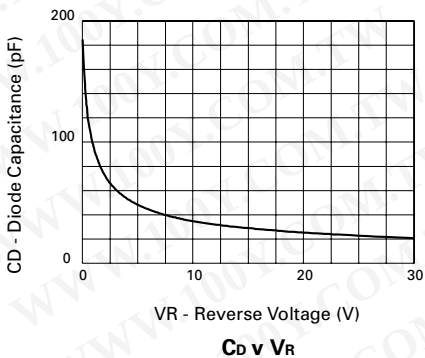
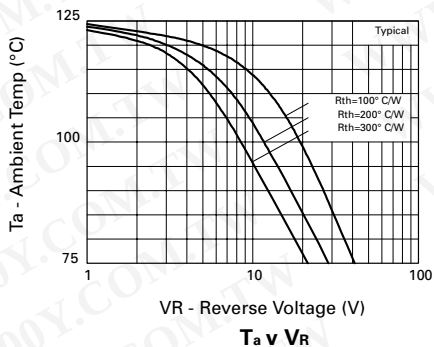
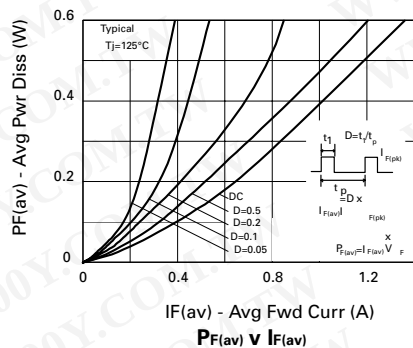
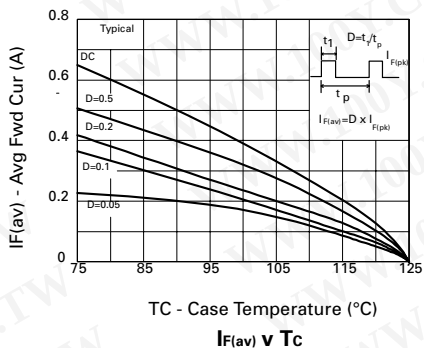
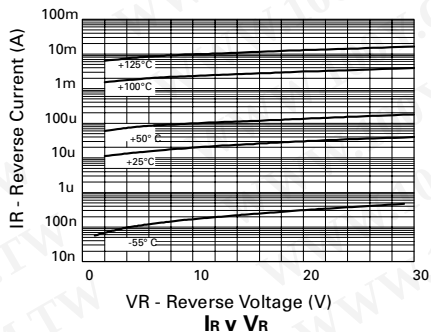
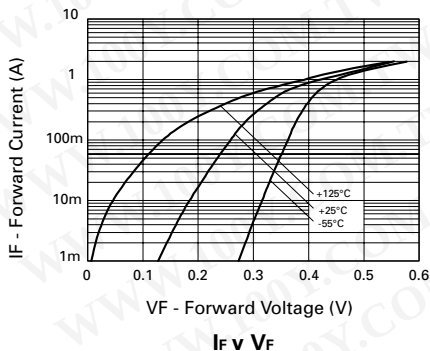
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

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		240 265 305 355 390 425 495 420	270 290 340 400 450 500 600 —	mV mV mV mV mV mV mV mV	$I_F = 50\text{mA}^*$ $I_F = 100\text{mA}^*$ $I_F = 250\text{mA}^*$ $I_F = 500\text{mA}^*$ $I_F = 750\text{mA}^*$ $I_F = 1000\text{mA}^*$ $I_F = 1500\text{mA}^*$ $I_F = 1000\text{mA}, T_a = 100^\circ\text{C}$ * Measured at $I_R = 50\text{mA}$
Reverse Current	I_R		50	100	μA	$V_R = 30\text{V}$
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 $I_R = 50\text{mA}$

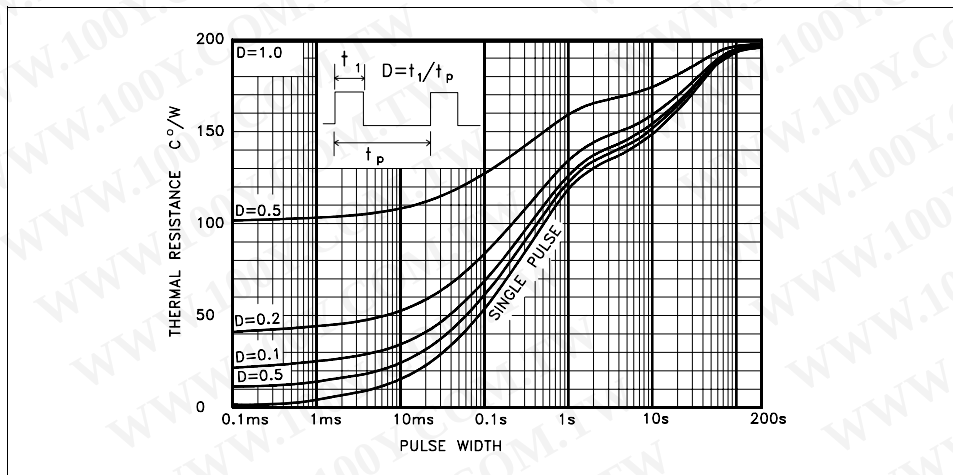
* Measured under pulsed conditions. Pulse width = 300 μs . Duty cycle $\leq 2\%$

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TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS



MAXIMUM TRANSIENT THERMAL RESISTANCE

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