SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE "SuperBAT"

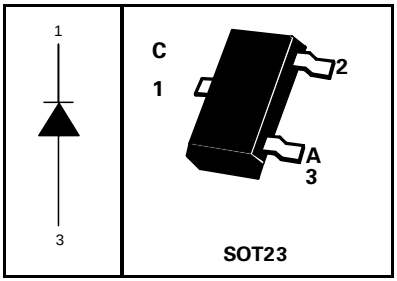
ZHCS1000

ISSUE 2 - OCTOBER 1997 ✪

FEATURES:
- High current capability
- Low V_F

APPLICATIONS:
- Mobile telecomms, PCMIA & SCSI
- DC-DC Conversion

PARTMARKING DETAILS : ZS1



ABSOLUTE MAXIMUM RATINGS.

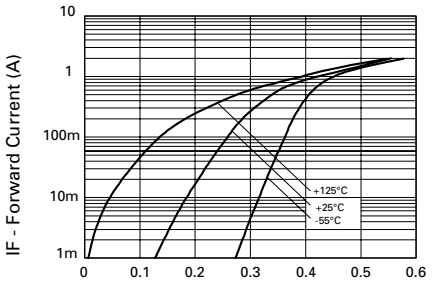
PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	V_R	40	V
Forward Current	I_F	1000	mA
Forward Voltage @ I_F = 1000mA(typ)	V_F	425	mV
Average Peak Forward Current;D.C.= 50%	I_{FAV}	1750	mA
Non Repetitive Forward Current t≤100µs t≤10ms	I_{FSM}	12 5.2	A A
Power Dissipation at T_{amb}= 25° C	P_{tot}	500	mW
Storage Temperature Range	T_{stg}	-55 to + 150	° C
Junction Temperature	T_j	125	° C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25° C unless otherwise stated).

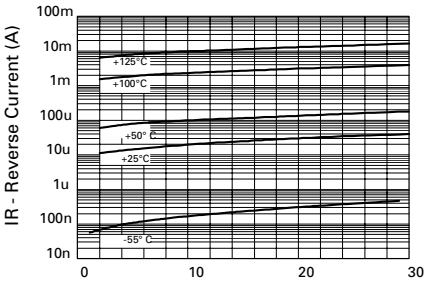
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60		V	I_R= 300µA
Forward Voltage	V_F		240 265 305 355 390 425 495 420	270 290 340 400 450 500 600 —	mV mV mV mV mV mV mV mV	I_F= 50mA* I_F= 100mA* I_F= 250mA* I_F= 500mA* I_F= 750mA* I_F= 1000mA* I_F= 1500mA* I_F= 1000mA,T_a= 100° C*
Reverse Current	I_R		50	100	µA	V_R= 30V
Diode Capacitance	C_D		25		pF	f= 1MHz,V_R= 25V
Reverse Recovery Time	t_{rr}		12		ns	switched from I_F = 500mA to I_R = 500mA Measured at I_R = 50mA

*Measured under pulsed conditions. Pulse width= 300µs. Duty cycle ≤2%

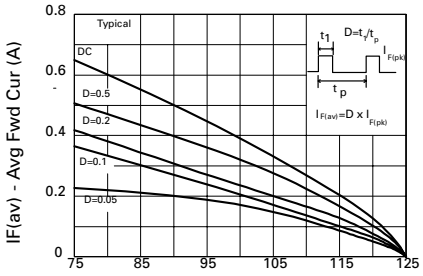
TYPICAL CHARACTERISTICS



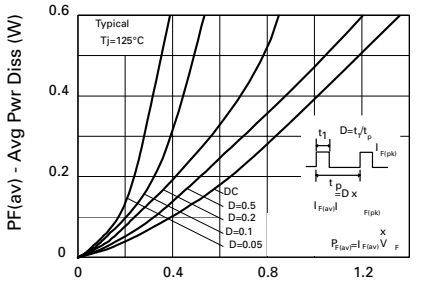
I_F v V_F



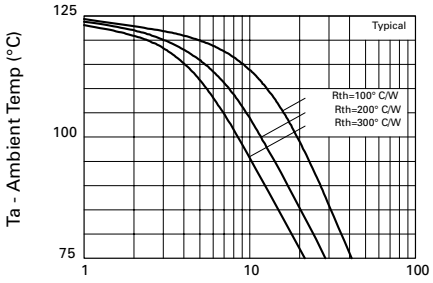
I_R v V_R



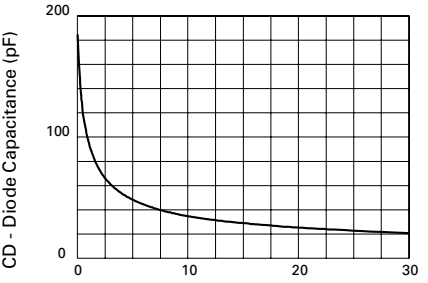
$I_{F(av)}$ v T_C



$P_{F(av)}$ v $I_{F(av)}$

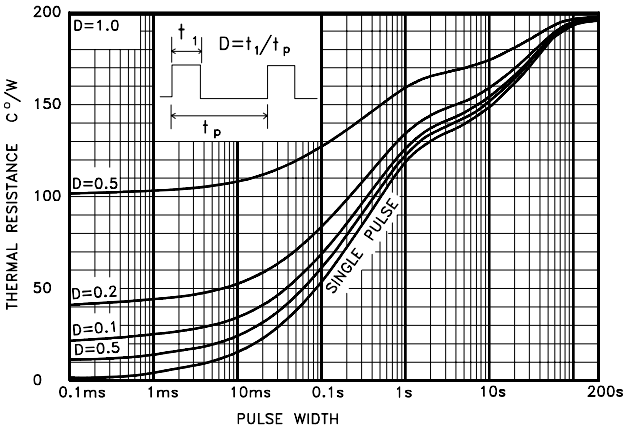


T_a v V_R



C_D v V_R

TYPICAL CHARACTERISTICS



MAXIMUM TRANSIENT THERMAL RESISTANCE

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