

SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE "SuperBAT"

ZHCS1006

ISSUE 1 - NOVEMBER 1997

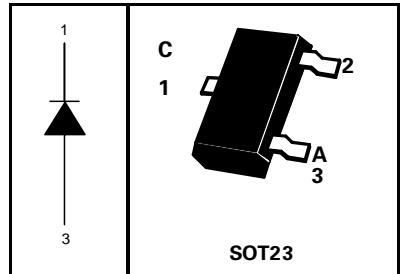
FEATURES:

- High current capability
- Low V_F

APPLICATIONS:

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

PARTMARKING DETAILS : S16



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	V_R	60	V
Forward Current	I_F	900	mA
Forward Voltage @ $I_F = 1000\text{mA}$ (typ)	V_F	600	mV
Average Peak Forward Current;D.C.= 50%	I_{FAV}	1600	mA
Non Repetitive Forward Current $t \leq 100\mu\text{s}$ $t \leq 10\text{ms}$	I_{FSM}	12 5	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).

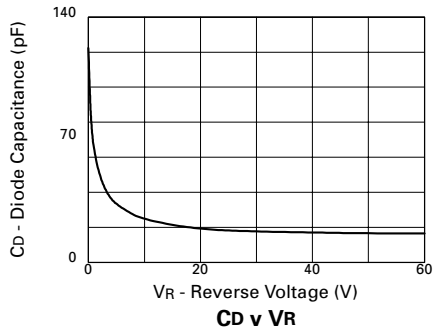
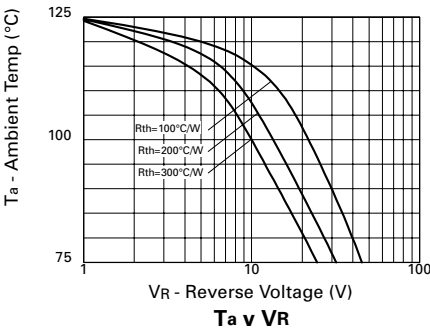
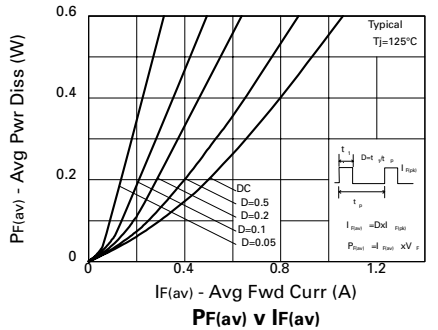
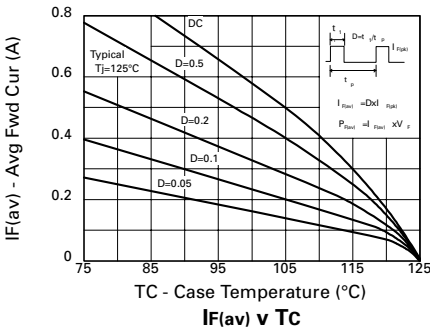
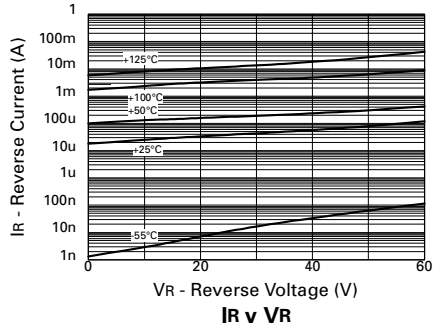
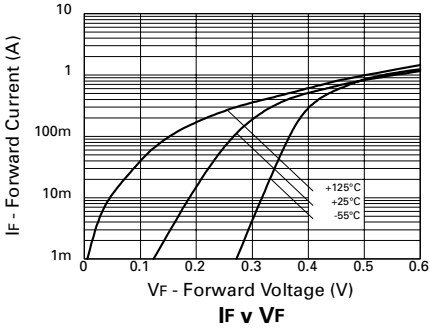
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)R}$	60	80		V	$I_R = 300\mu\text{A}$
Forward Voltage	V_F		245 275 330 395 455 510 620	280 320 390 470 530 600 740	mV mV mV mV mV mV mV	$I_F = 50\text{mA}^*$ $I_F = 100\text{mA}^*$ $I_F = 250\text{mA}^*$ $I_F = 500\text{mA}^*$ $I_F = 750\text{mA}^*$ $I_F = 1000\text{mA}^*$ $I_F = 1500\text{mA}^*$
Reverse Current	I_R		50	100	μA	$V_R = 45\text{V}$
Diode Capacitance	C_D		17		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 $\leq 2\%$

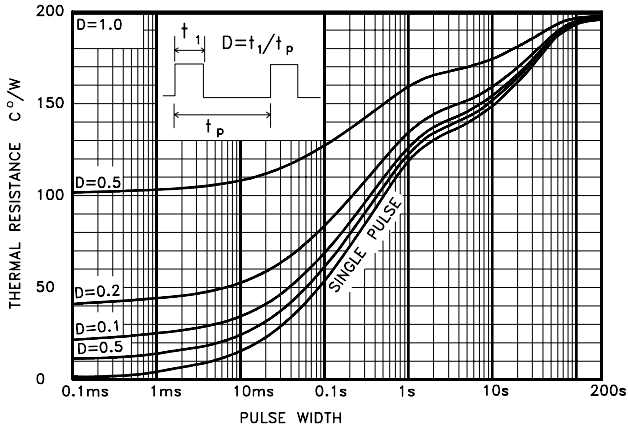
ZHCS1006

TYPICAL CHARACTERISTICS

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS



MAXIMUM TRANSIENT THERMAL RESISTANCE

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