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SOT23 SILICON HIGH CURRENT SCHOTTKY BARRIER DIODE "SuperBAT"

ZHCS1006

ISSUE 1 - NOVEMBER 1997 ☺

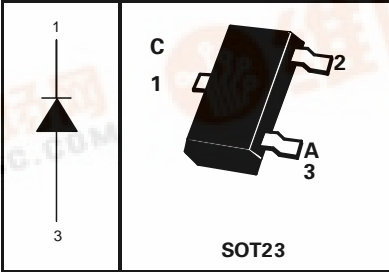
FEATURES:

- High current capability
- Low V_F

APPLICATIONS:

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

PARTMARKING DETAILS : S16



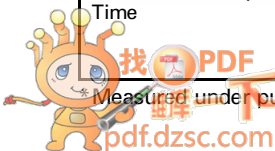
ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|-----------|--------------|------------------|
| Continuous Reverse Voltage | V_R | 60 | V |
| Forward Current | I_F | 900 | mA |
| Forward Voltage @ $I_F = 1000\text{mA}(\text{typ})$ | 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 $I_R = 50\text{mA}$ |

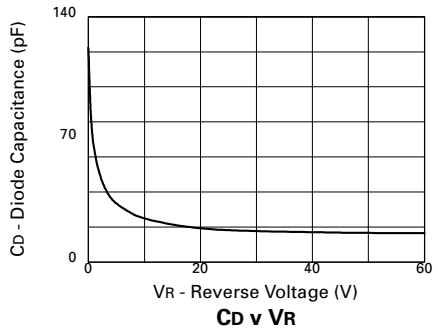
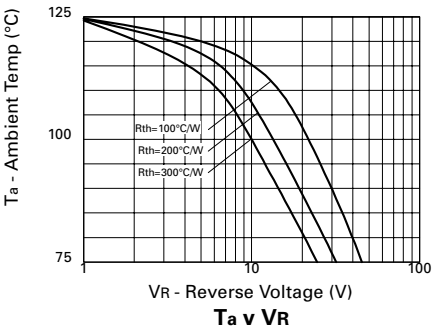
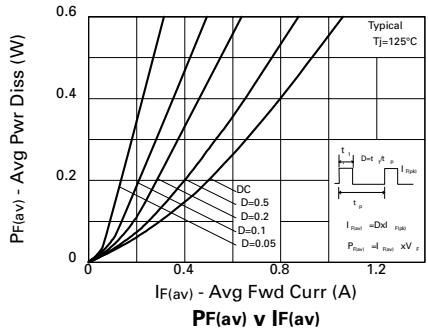
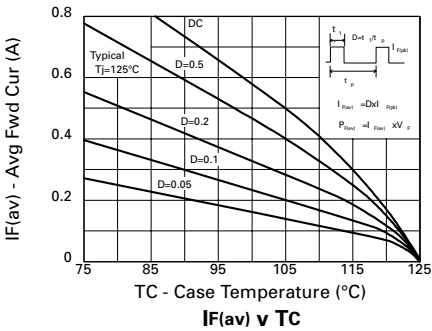
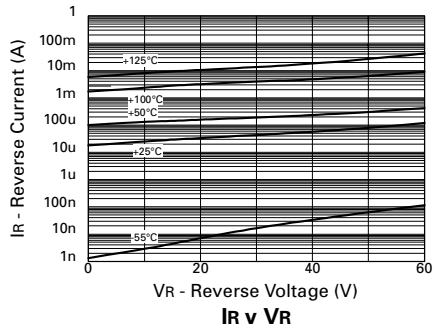
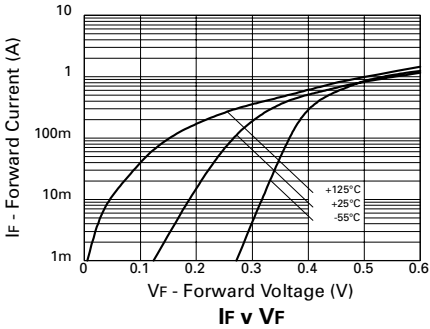
*Measured under pulsed conditions. Pulse width= 300 μs . Duty cycle $\leq 2\%$



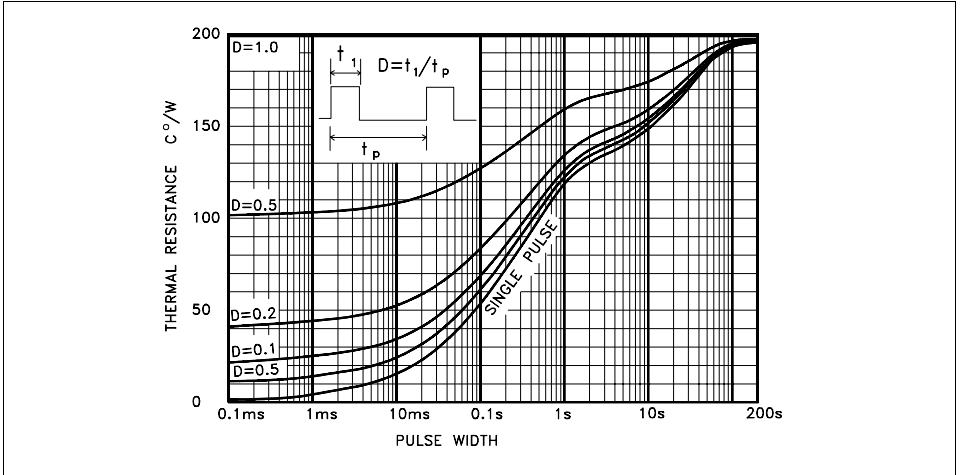
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TYPICAL CHARACTERISTICS

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MAXIMUM TRANSIENT THERMAL RESISTANCE

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