JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

# SOD-323 Plastic-Encapsulate Diodes

## BAT42WS/BAT43WS SCHOTTKY DIODES

**FEATURES**

Low Forward Voltage Drop
Fast Switching Time
Surface Mount Package Ideally Suited for Automatic Insertion
Also Available in Lead Free Version

**MARKING: BAT42WS S7**
**BAT43WS S8**

**Maximum Ratings and Electrical Characteristics, Single Diode @$T_A$=25℃**

| Parameter | Symbol | BAT42WS/BAT43WS | Unit |
|---|---|---|---|
| Peak Repetitive Peak reverse voltage<br>Working Peak<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 30 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 21 | V |
| Forward Continuous Current | $I_{FM}$ | 200 | mA |
| Repetitive Peak Forward Current@t<1.0s | $I_{FRM}$ | 500 | mA |
| Peak forward surge current @<10ms | $I_{FSM}$ | 4.0 | A |
| Power Dissipation | Pd | 200 | mW |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 625 | K/W |
| Storage temperature | $T_{STG}$ | -55~+125 | ℃ |

**Electrical Ratings @$T_A$=25℃**

| Parameter | | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | | $V_{(BR)R}$ | 30 | | | V | IR=100μA |
| Forward voltage | All Types | $V_F$ | | | 1.0 | V | $I_F$=200mA |
| | BAT42WS | $V_F$ | | | 0.4 | V | $I_F$=10mA |
| | BAT42WS | $V_F$ | | | 0.65 | V | $I_F$=50mA |
| | BAT43WS | $V_F$ | 0.26 | | 0.33 | V | $I_F$=2mA |
| | BAT43WS | $V_F$ | | | 0.45 | V | $I_F$=15mA |
| Reverse current | | $I_R$ | | | 0.5 | μA | $V_R$=25V |
| Capacitance between terminals | | $C_T$ | | | 10 | pF | $V_R$=1.0V,f=1.0MHz |
| Reverse Recovery Time | | $t_{rr}$ | | | 5 | ns | $I_F$=$I_R$=10mA<br>Irr=0.1X$I_R$,$R_L$=100Ω |

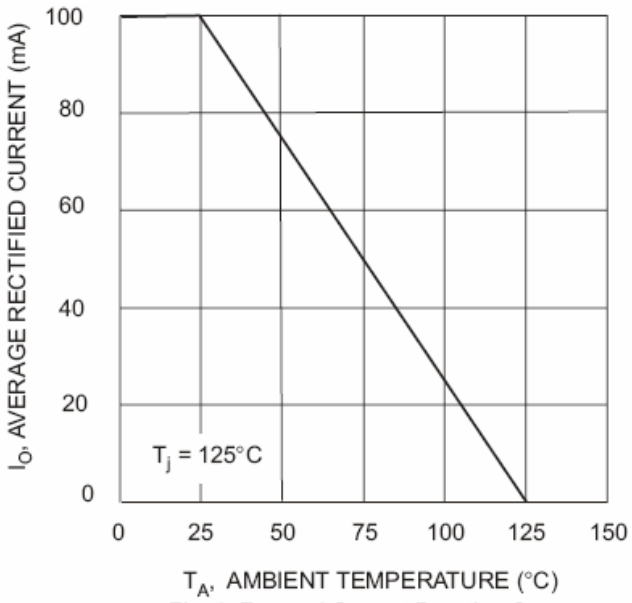


Fig. 1 Forward Current Derating Curve

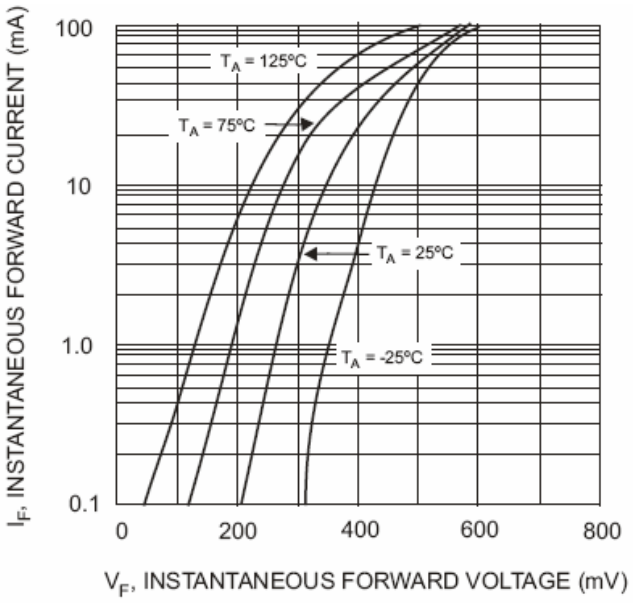


Fig. 2 Typical Forward Characteristics

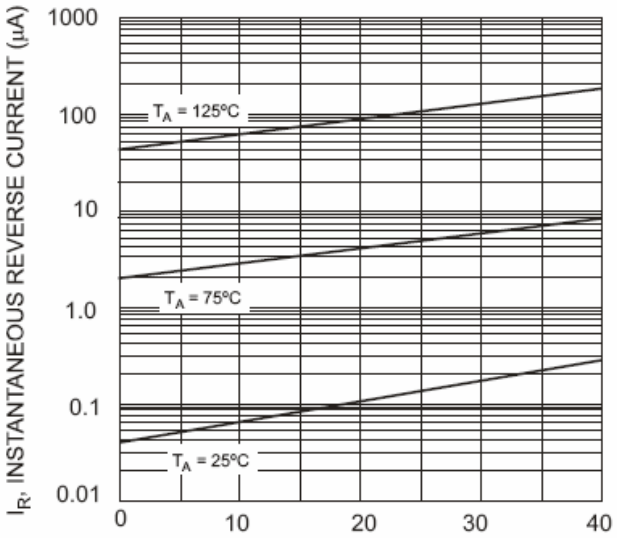


Fig. 3 Typical Reverse Characteristics

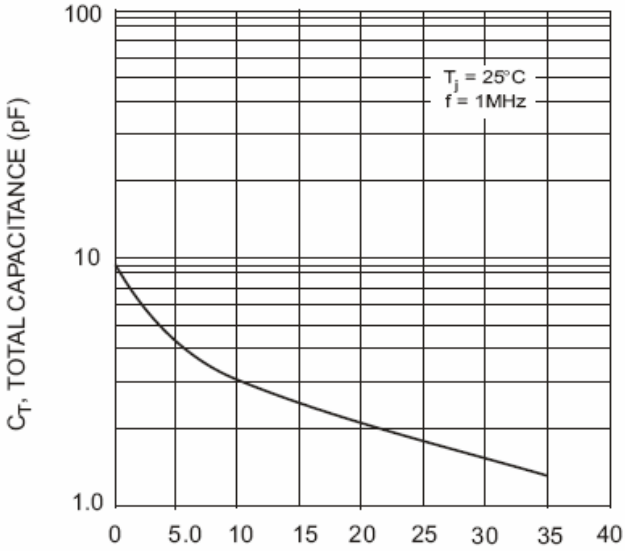


Fig. 4 Total Capacitance vs. Reverse Voltage