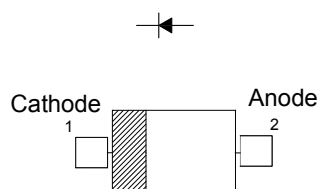


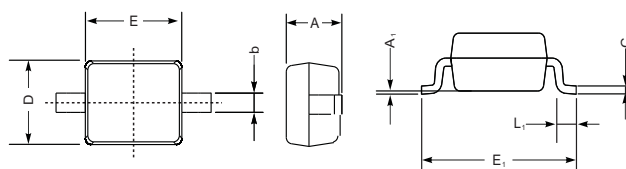
### Features

- Low Forward Voltage Drop
- Fast Switching



SOD-323

### SOD323



| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | b    | L <sub>1</sub> | A <sub>1</sub> |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|
| mm   | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75           | 0.4  | 0.45           | 0.2            |
|      | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55           | 0.25 | 0.2            | —              |
| mil  | max | 43  | 5.9  | 55  | 70  | 108            | 16   | 16             | 8              |
|      | min | 32  | 3.1  | 47  | 63  | 100            | 9.8  | 7.9            | —              |

### Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)

| Parameter                                              | Symbol                            | Value         | Unit |
|--------------------------------------------------------|-----------------------------------|---------------|------|
| Repetitive Peak Reverse Voltage                        | V <sub>RRM</sub>                  | 30            | V    |
| Reverse Voltage                                        | V <sub>R</sub>                    | 30            | V    |
| Forward Continuous Current                             | I <sub>FM</sub>                   | 200           | mA   |
| Repetitive Peak Forward Current at t < 1 s             | I <sub>FRM</sub>                  | 500           | mA   |
| Non-repetitive Peak Forward Surge Current at t < 10 ms | I <sub>FSM</sub>                  | 0.8           | A    |
| Power Dissipation                                      | P <sub>tot</sub>                  | 200           | mW   |
| Thermal Resistance Junction to Ambient                 | R <sub>θJA</sub>                  | 500           | °C/W |
| Operating and Storage Temperature Range                | T <sub>J</sub> , T <sub>stg</sub> | - 55 to + 125 | °C   |

# BAT42WS/BAT43WS

## Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

| Parameter                                                                                                      | Symbol      | Min. | Max. | Unit |
|----------------------------------------------------------------------------------------------------------------|-------------|------|------|------|
| Reverse Breakdown Voltage<br>at $I_R = 100\text{ }\mu\text{A}$                                                 | $V_{(BR)R}$ | 30   | -    | V    |
| Reverse Current<br>at $V_R = 25\text{ V}$                                                                      | $I_R$       | -    | 500  | nA   |
| Forward Voltage<br>at $I_F = 200\text{ mA}$                                                                    | $V_F$       | -    | 1    | V    |
| at $I_F = 10\text{ mA}$                                                                                        |             | -    | 0.4  | V    |
| at $I_F = 50\text{ mA}$                                                                                        |             | -    | 0.65 | V    |
| at $I_F = 2\text{ mA}$                                                                                         |             | 0.26 | 0.33 | V    |
| at $I_F = 15\text{ mA}$                                                                                        |             | -    | 0.45 | V    |
| Total Capacitance<br>at $V_R = 1\text{ V}$ , $f = 1\text{ MHz}$                                                | $C_T$       | -    | 10   | pF   |
| Reverse Recovery Time<br>at $I_F = I_R = 10\text{ mA}$ , $I_{rr} = 0.1 \times I_R$ , $R_L = 100\text{ }\Omega$ | $t_{rr}$    | -    | 5    | ns   |

## RATING AND CHARACTERISTIC CURVES (BAT42WS/BAT43WS)

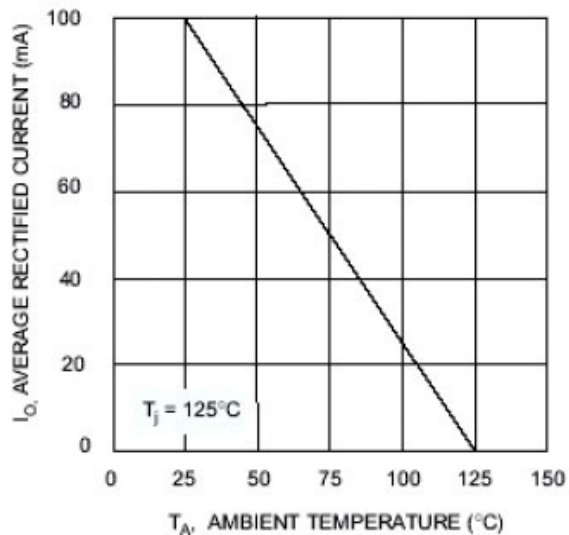


Fig. 1 Forward Current Derating Curve

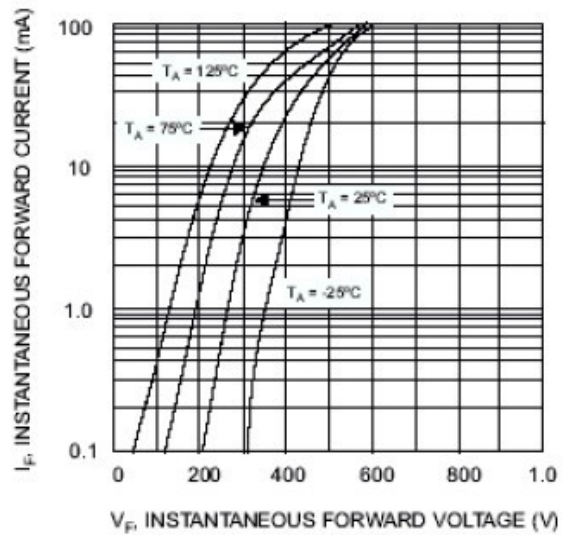


Fig. 2 Typical Forward Characteristics

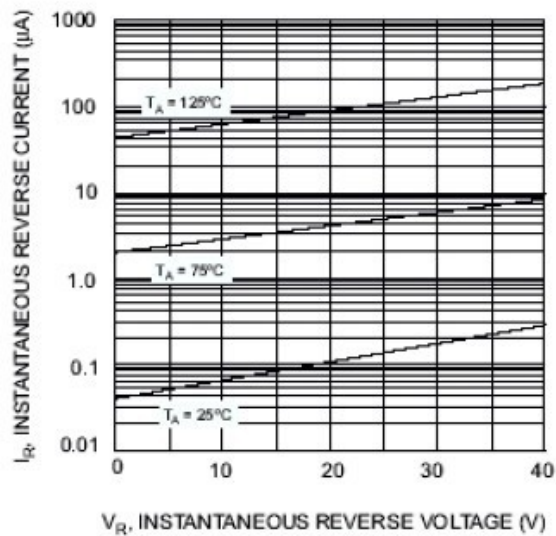


Fig. 3 Typical Reverse Characteristics

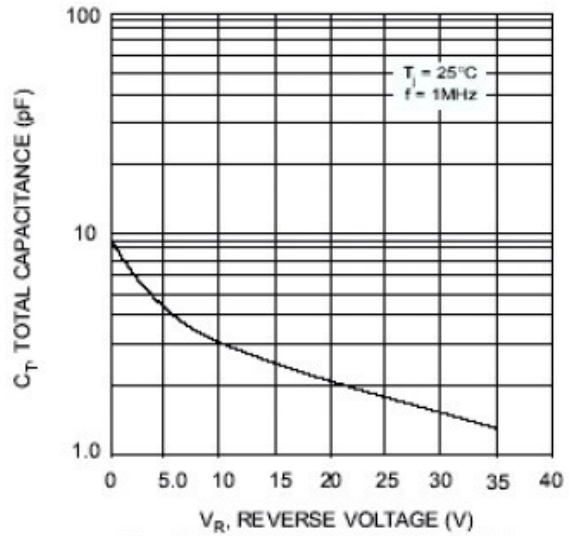


Fig. 4 Total Capacitance vs. Reverse Voltage