



BAT54STB

DIODE

SCHOTTKY BARRIER (DUAL) DIODES

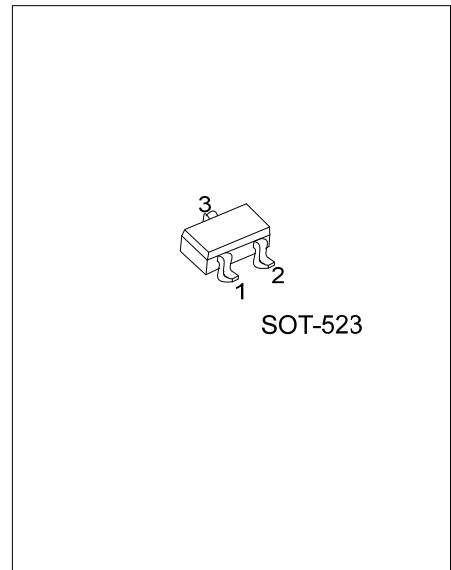
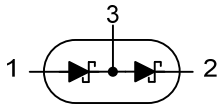
DESCRIPTION

Planar Schottky barrier diodes are encapsulated in the SOT-523 small plastic SMD package. Single diodes and dual diodes with different pin configuration are available.

FEATURES

- * Low forward voltage
- * Guard ring protected
- * Small plastic SMD package

SYMBOL



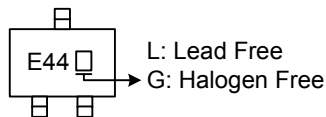
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|-----------------|---------|----------------|----|------|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| BAT54STBL-AN3-R | BAT54STBG-AN3-R | SOT-523 | A1 | K2 | K1A2 | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

| | |
|------------------------|--|
| <p>BAT54STBG-AN3-R</p> | <p>(1) R: Tape Reel (2) AN3: SOT-523 (3) G: Halogen Free and Lead Free, L: Lead Free</p> |
|------------------------|--|

MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---|-----------|------------|------------------|
| PER DIODE | | | |
| Continuous Reverse Voltage | V_R | 30 | V |
| Continuous Forward Current | I_F | 200 | mA |
| Repetitive Peak Forward Current ($t_P < 1\text{s}$, $\delta \leq 0.5$) | I_{FRM} | 300 | mA |
| Non-repetitive Peak Forward Current ($t_P < 10\text{ms}$) | I_{FSM} | 600 | mA |
| Junction Temperature | T_J | +125 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -60 ~ +150 | $^\circ\text{C}$ |
| PER DEVICE | | | |
| Power Dissipation ($T_A \leq 25^\circ\text{C}$) | P_D | 230 | mW |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------|---------------|---------|---------------------------|
| Junction to Ambient | θ_{JA} | 500 | $^\circ\text{C}/\text{W}$ |

■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------------------------|----------|--|-----|-----|-----|---------------|
| Forward Voltage (See Fig.1) | V_F | $I_F = 0.1\text{mA}$ | | | 240 | mV |
| | | $I_F = 1\text{mA}$ | | | 320 | mV |
| | | $I_F = 10\text{mA}$ | | | 400 | mV |
| | | $I_F = 30\text{mA}$ | | | 500 | mV |
| | | $I_F = 100\text{mA}$ | | | 800 | mV |
| Reverse Current (See Fig.2) | I_R | $V_R = 25\text{V}$ | | | 2 | μA |
| Reverse Recovery Time (see Fig.4) | t_{rr} | When switched from $I_F = 10\text{mA}$ to $I_R = 10\text{mA}$, $R_L = 100\Omega$ measured at $I_R = 1\text{mA}$ | | | 5 | ns |
| Diode Capacitance (see Fig.3) | C_D | $f = 1\text{MHz}$, $V_R = 1\text{V}$; | | | 10 | pF |

TYPICAL CHARACTERISTICS

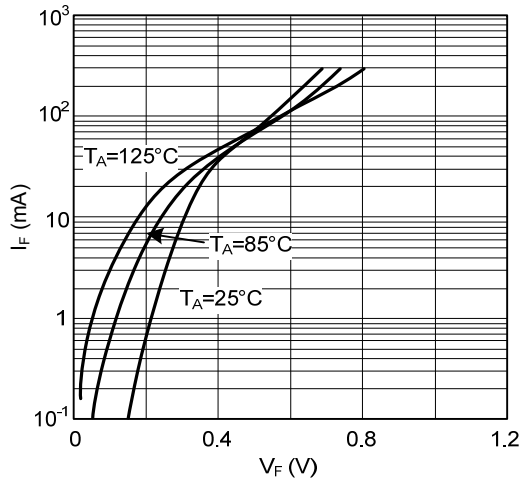


Fig.1 Forward current as a function of forward voltage; typical values.

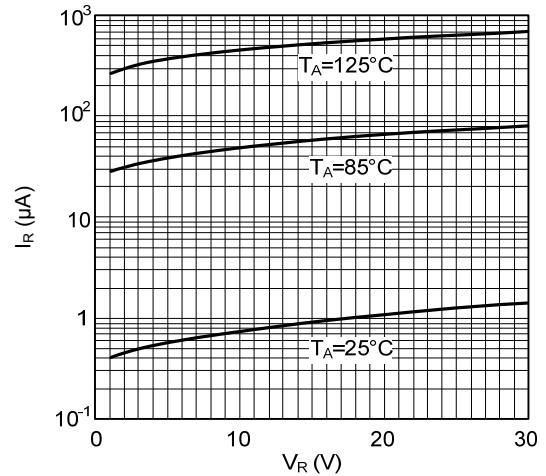


Fig.2 Reverse current as a function of reverse voltage; typical values.

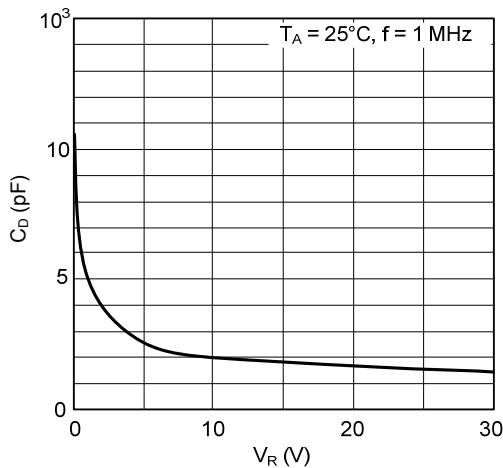


Fig.3 Diode capacitance as a function of reverse voltage; typical values.

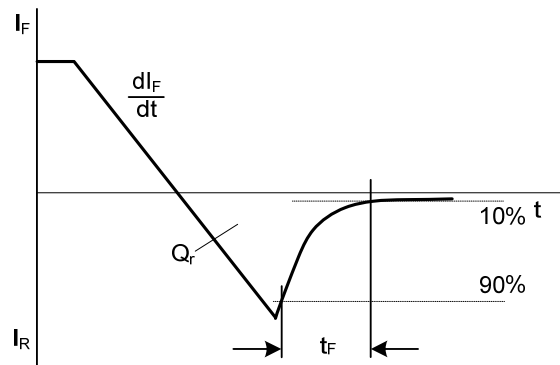


Fig.4 Reverse recovery definitions

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