



# BAT54A

DIODE

## SCHOTTKY BARRIER (DUAL) DIODES

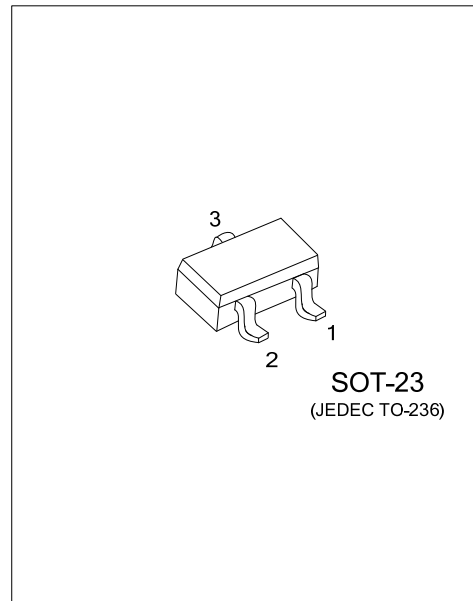
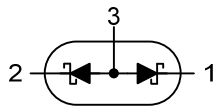
### DESCRIPTION

Planar Schottky barrier diodes are encapsulated in the SOT-23 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



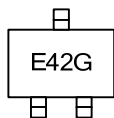
### ORDERING INFORMATION

| Ordering Number | Package | Pin Assignment |    |      | Packing   |
|-----------------|---------|----------------|----|------|-----------|
|                 |         | 1              | 2  | 3    |           |
| BAT54AG-AE3-R   | SOT-23  | K1             | K2 | A2A1 | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

|  |   |
|--|---|
| <p>BAT54AG-AE3-R</p> <p>(1)Packing Type<br/>(2)Package Type<br/>(3)Green Package</p> | <p>(1) R: Tape Reel<br/>(2) AE3: SOT-23<br/>(3) G: Halogen Free and Lead Free</p> |
|--|---|

### MARKING



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

| PARAMETER   | SYMBOL    | RATINGS    | UNIT             |
|---|-----------|------------|------------------|
| <b>PER DIODE</b>  |           |            |                  |
| 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 | $^\circ\text{C}$ |
| <b>PER DEVICE</b>   |           |            |                  |
| 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 | $\theta_{JA}$ | 500     | $^\circ\text{C/W}$ |

■ 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   | $\mu\text{A}$ |
| 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

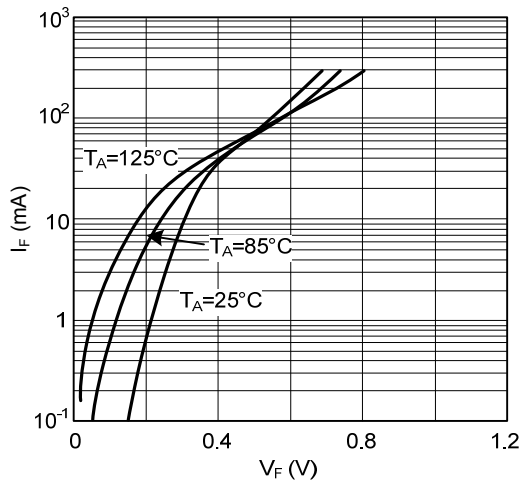


Fig.1 Forward current as a function of forward voltage; typical values.

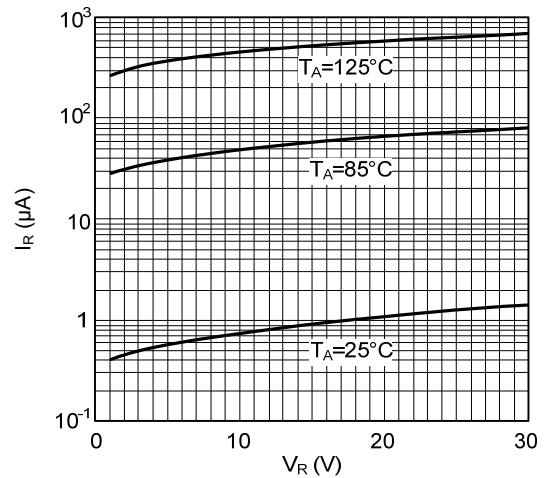


Fig.2 Reverse current as a function of reverse voltage; typical values.

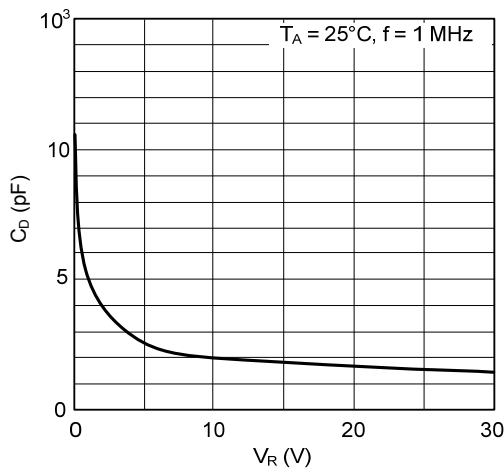


Fig.3 Diode capacitance as a function of reverse voltage; typical values.

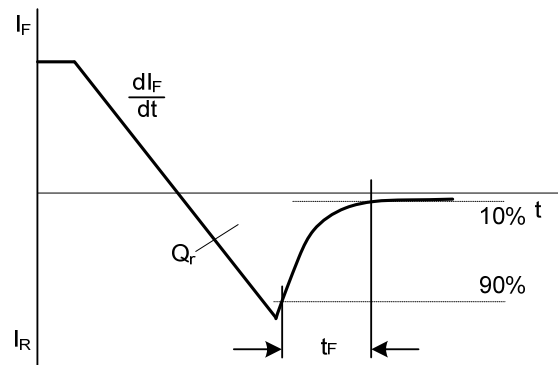


Fig.4 Reverse recovery definitions

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