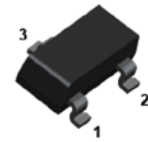
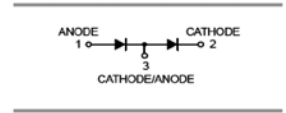


# Schottky Barrier Diode



## Features:

- Extremely Fast Switching Speed
- Low Forward Voltage
- Power Dissipation  $P_D = 200\text{mW}$
- Pb-Free Package is Available



SOT-23

## Applications:

Fast switching speed diode

## Max. Rating @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Parameter  | Symbol                          | Limits      | Unit               |
|--|---------------------------------|-------------|--------------------|
| Peak repetitive peak reverse voltage<br>Working peak<br>DC reverse voltage | $V_{RRM}$<br>$V_{RMS}$<br>$V_R$ | 30          | V                  |
| Forward continuous current   | $I_F$                           | 200         | mA                 |
| Repetitive peak forward current  | $I_{FRM}$                       | 200         | mA                 |
| Forward surge current @ $t < 1.0\text{s}$                                  | $I_{FSM}$                       | 600         | mA                 |
| Power dissipation  | $P_D$                           | 200         | mW                 |
| Thermal resistance, junction to ambient air                                | $R_{\theta JA}$                 | 500         | $^\circ\text{C/W}$ |
| Operating and Storage temperature  | $T_j, T_{STG}$                  | -55 to +150 | $^\circ\text{C}$   |

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Parameter                 | Symbol     | Conditions  | Min. | Max. | Unit          |
|---------------------------|------------|---|------|------|---------------|
| Reverse breakdown voltage | $V_{(BR)}$ | $I_R = 100\mu\text{A}$  | 30   | -    | V             |
| Forward voltage           | $V_{F1}$   | $I_F = 0.1\text{mA}$  | -    | 0.24 | V             |
|                           | $V_{F2}$   | $I_F = 1\text{mA}$  | -    | 0.32 | V             |
|                           | $V_{F3}$   | $I_F = 10\text{mA}$   | -    | 0.4  | V             |
|                           | $V_{F4}$   | $I_F = 30\text{mA}$   | -    | 0.5  | V             |
|                           | $V_{F5}$   | $I_F = 100\text{mA}$  | -    | 1    | V             |
| Reverse current           | $I_R$      | $V_R = 25\text{V}$  | -    | 2    | $\mu\text{A}$ |
| Diode capacitance         | $C_D$      | $V_R = 1\text{V}, f = 1\text{MHz}$                                      | -    | 10   | pF            |
| Reverse recovery time     | $t_{rr}$   | $I_F = I_R = 10\text{mA}$<br>$I_{RR} = 0.1 \times I_R, R_L = 100\Omega$ | -    | 5    | ns            |

# Schottky Barrier Diode



Typical Characteristics @  $T_A = 25^\circ\text{C}$  unless otherwise specified

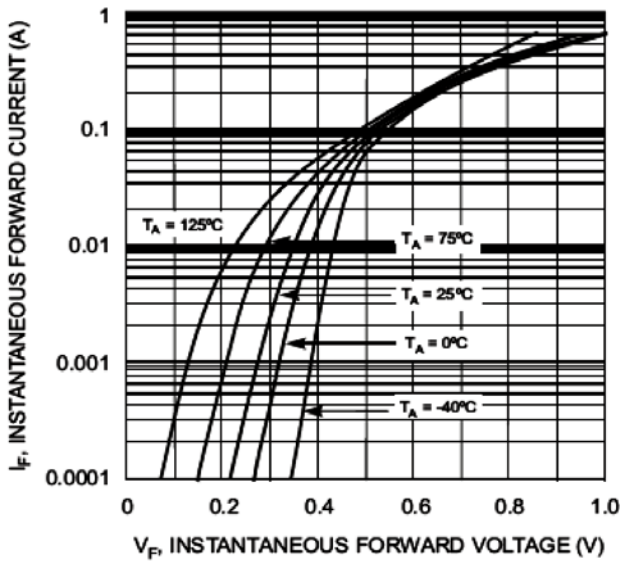


Fig. 1 Forward Characteristics

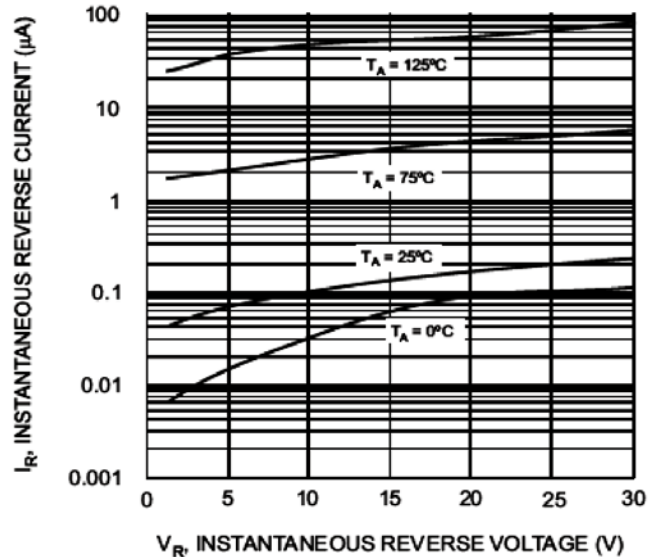


Fig. 2 Typical Reverse Characteristics

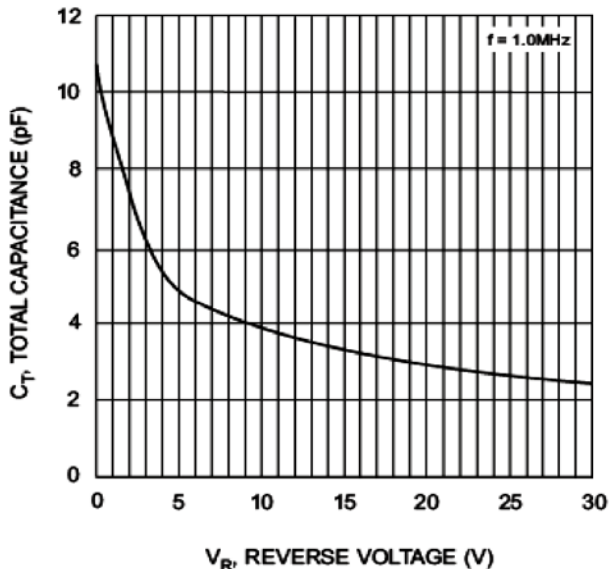


Fig. 3 Typical Capacitance vs. Reverse Voltage

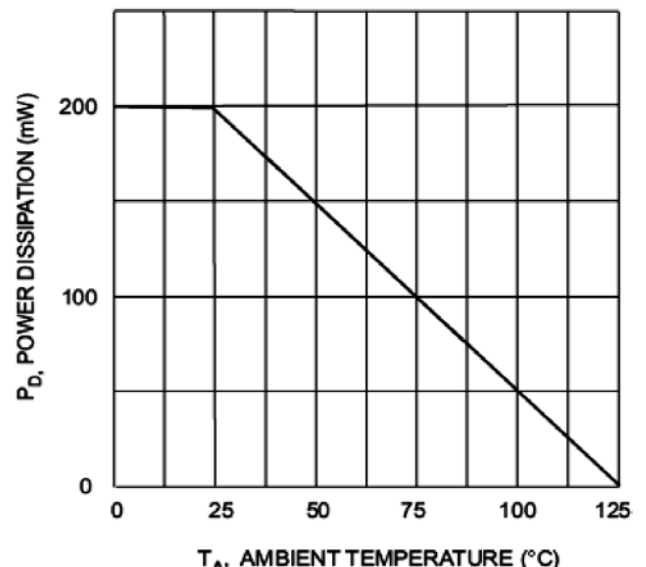


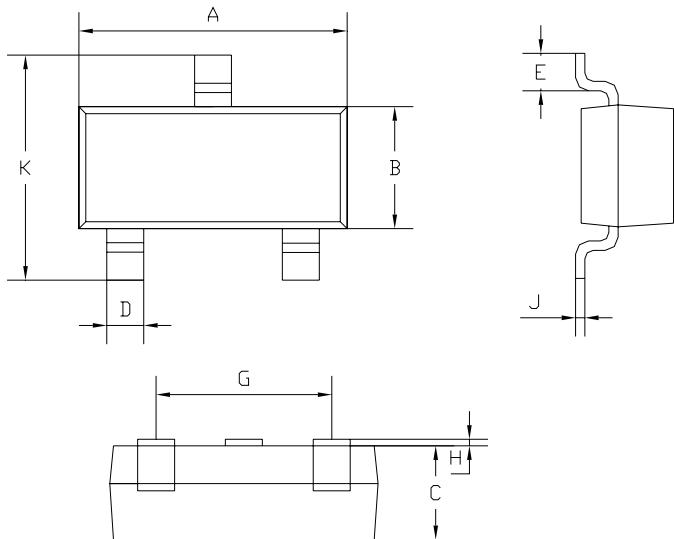
Fig. 4 Power Derating Curve



# Schottky Barrier Diode

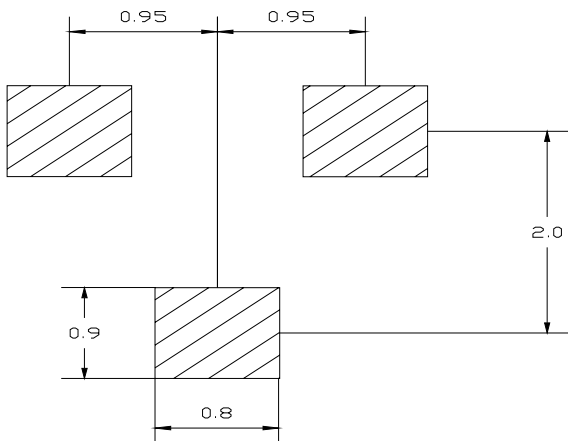


## Plastic surface mounted package



| SOT-23               |             |      |
|----------------------|-------------|------|
| Dim                  | Min         | Max  |
| A                    | 2.85        | 2.95 |
| B                    | 1.25        | 1.35 |
| C                    | 1 Typical   |      |
| D                    | 0.37        | 0.43 |
| E                    | 0.35        | 0.48 |
| G                    | 1.85        | 1.95 |
| H                    | 0.02        | 0.1  |
| J                    | 0.1 Typical |      |
| K                    | 2.35        | 2.45 |
| All Dimensions in mm |             |      |

## Soldering Footprint



Unit : mm

## Package Information

| Device     | Package | Shipping            |
|------------|---------|---------------------|
| BAT54S-7-F | SOT-23  | 3,000 / Tape & Reel |

## Part Number Table

| Description            | Part Number |
|------------------------|-------------|
| Schottky Barrier Diode | BAT54S-7-F  |

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