



## DESCRIPTION

These Schottky barrier diodes are designed for high speed applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface package is excellent for hand held and portable applications space is limited.

The BAT54CW is available in SC-70 Package

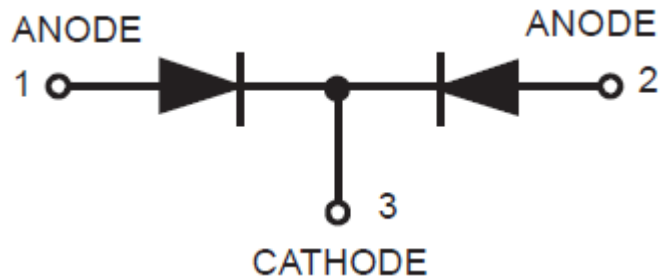
## FEATURES

- Extremely Fast Switching Speed
- Low Forward Voltage — 0.35 Volts (Typ)  
@  $I_F = 10\text{mA}$
- Available in SC-70 Package

## ORDERING INFORMATION

| Package Type                             | Part Number        |
|--|--------------------|
| SC-70                                    | BAT54CW            |
| Note                                     | SPQ: 3,000pcs/Reel |
| AiT provides all RoHS Compliant Products |                    |

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

T<sub>A</sub> = 25°C, unless otherwise noted

|   |                |
|---|----------------|
| V <sub>R</sub> , Reverse Voltage  | 30V            |
| P <sub>D</sub> , Total Device Dissipation FR-5 Board,<br>@T <sub>A</sub> = 25°C | 225mW          |
| Derate above 25°C   | 1.8mW/°C       |
| I <sub>F</sub> , DC Forward Current   | 200mA          |
| T <sub>J</sub> , Junction Temperature   | 125 °C         |
| T <sub>STG</sub> , Storage Temperature Range                                    | -55°C ~ +150°C |

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub> = 25°C, unless otherwise noted

| Parameter                                    | Symbol             | Conditions   | Min | Typ. | Max  | Unit |
|--|--------------------|--|-----|------|------|------|
| Reverse Breakdown Voltage                    | V <sub>(BR)R</sub> | I <sub>R</sub> =10μA   | 30  | -    | -    | V    |
| Forward Voltage                              | V <sub>F</sub>     | I <sub>F</sub> =0.1mA  | -   | 0.22 | 0.24 | V    |
|  |                    | I <sub>F</sub> =1mA  | -   | 0.29 | 0.32 |      |
|  |                    | I <sub>F</sub> =10mA   | -   | 0.35 | 0.4  |      |
|  |                    | I <sub>F</sub> =30mA   | -   | 0.41 | 0.5  |      |
|  |                    | I <sub>F</sub> =100mA  | -   | 0.52 | 1    |      |
| Reverse Current                              | I <sub>R</sub>     | V <sub>R</sub> =25V  | -   | 0.5  | 2    | μA   |
| Repetitive Peak Forward Current              | I <sub>FRM</sub>   |  | -   | -    | 300  | mA   |
| Non-Repetitive Peak Forward Current (t<1.0s) | I <sub>FSM</sub>   |  | -   | -    | 600  | mA   |
| Total Capacitance                            | C <sub>T</sub>     | V <sub>R</sub> =1.0V, f=1.0MHz                                   | -   | -    | 10   | pF   |
| Reverse Recovery Time                        | t <sub>rr</sub>    | I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>R(REC)</sub> =1.0mA | -   | -    | 5    | ns   |



## TYPICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$

Figure 1. Forward Characteristics

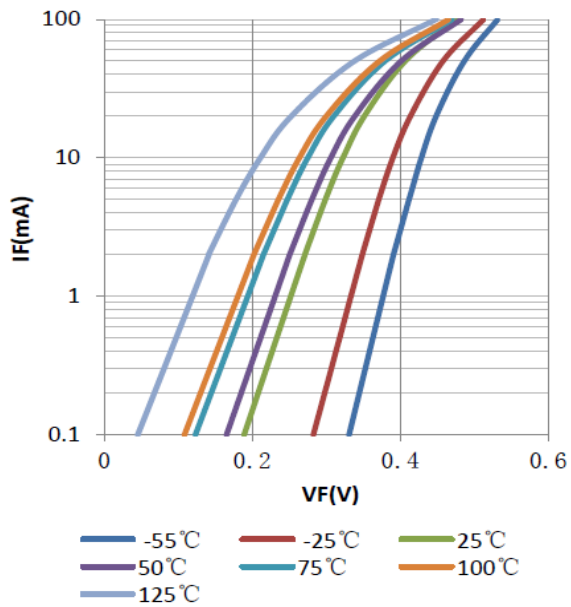


Figure 2. Reverse Characteristics

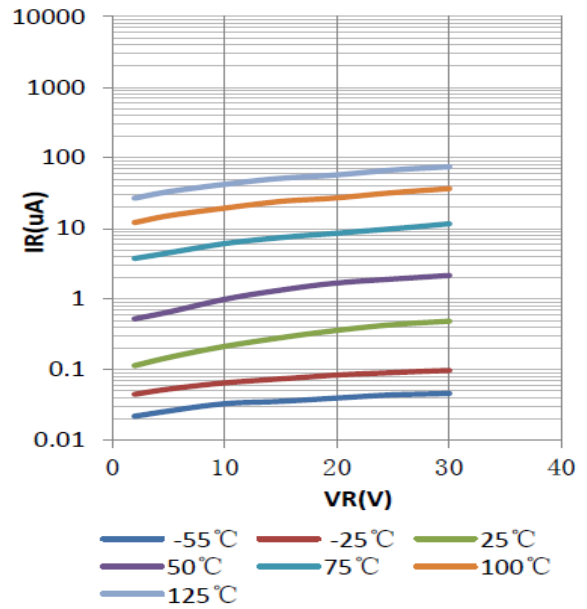
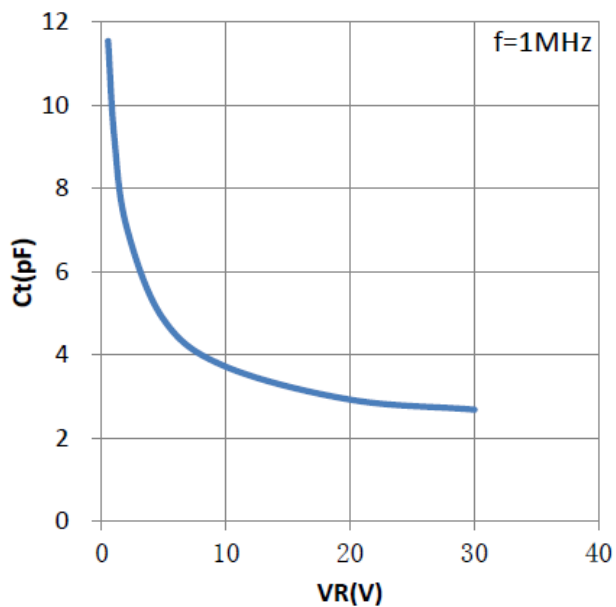


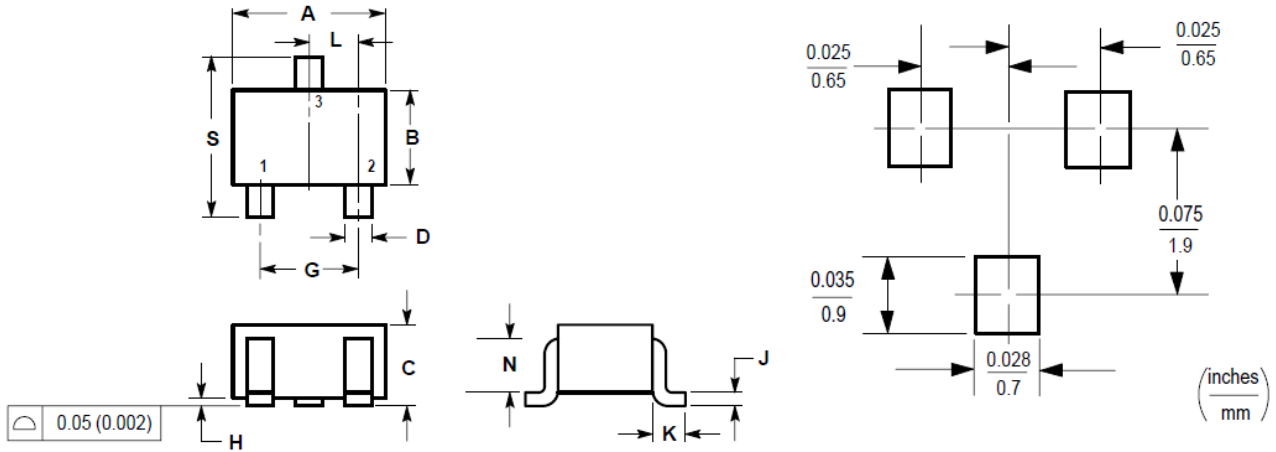
Figure 3. Capacitance





**PACKAGE INFORMATION**

Dimension in SC-70 Package (Unit: mm)



| DIM | MILLIMETERS |      | INCHES    |       |
|-----|-------------|------|-----------|-------|
|     | MIN         | MAX  | MIN       | MAX   |
| A   | 1.80        | 2.20 | 0.071     | 0.087 |
| B   | 1.15        | 1.35 | 0.045     | 0.053 |
| C   | 0.80        | 1.00 | 0.032     | 0.040 |
| D   | 0.30        | 0.40 | 0.012     | 0.016 |
| G   | 1.20        | 1.40 | 0.047     | 0.055 |
| H   | 0.00        | 0.10 | 0.000     | 0.004 |
| J   | 0.10        | 0.25 | 0.004     | 0.010 |
| K   | 0.425 REF   |      | 0.017 REF |       |
| L   | 0.650 BSC   |      | 0.026 BSC |       |
| N   | 0.700 REF   |      | 0.028 REF |       |
| S   | 2.00        | 2.40 | 0.079     | 0.095 |



## IMPORTANT NOTICE

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