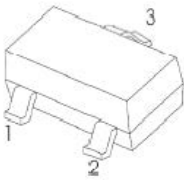
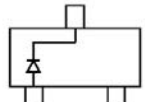
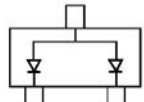
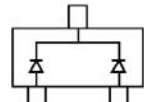
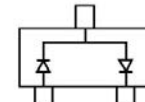
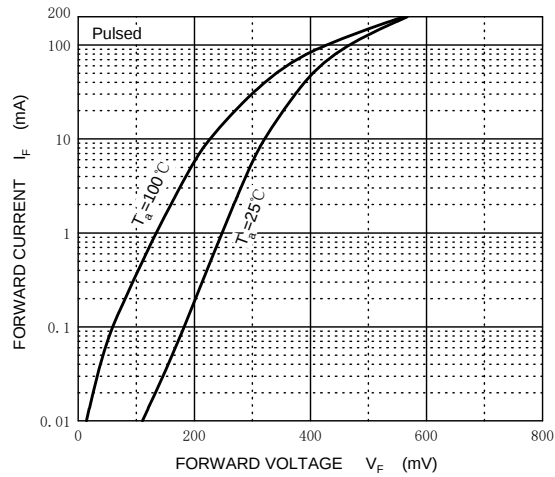


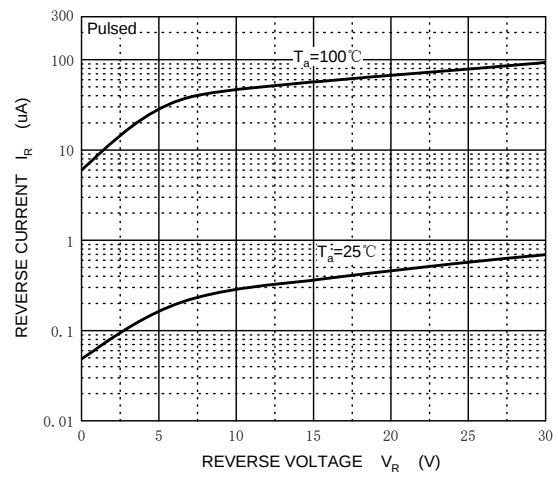
| SCHOTTKY BARRIER DIODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  | SOT-323 Plastic-Encapsulate Diodes                                                                                             |                             |     |      |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----|------|---------------|
| <div><u>SOT-323</u></div> <div></div>                                                                                                                                                                                                                                                                                                                                                                         |                  | <div>Features</div> <ul style="list-style-type: none"><li>Extremely Fast Switching Speed</li><li>Low forward voltage</li></ul> |                             |     |      |               |
| <div><div><br/>BAT54W Marking: KL5</div><div><br/>BAT54AW Marking: KL6</div><div><br/>BAT54CW Marking: KL7</div><div><br/>BAT54SW Marking: KL8</div></div> |                  |                                                                                                                                |                             |     |      |               |
| MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                                                                                                                                |                             |     |      |               |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Symbol           | Value                                                                                                                          | Unit                        |     |      |               |
| Peak Repetitive Reverse Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                | $V_{RRM}$        | 30                                                                                                                             | V                           |     |      |               |
| Working Peak Reverse Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | $V_{RWM}$        |                                                                                                                                |                             |     |      |               |
| DC Blocking Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $V_R$            |                                                                                                                                |                             |     |      |               |
| Forward Continuous Current                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | $I_{FM}$         | 200                                                                                                                            | mA                          |     |      |               |
| Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$                                                                                                                                                                                                                                                                                                                                                                                                                                   | $I_{FSM}$        | 600                                                                                                                            | mA                          |     |      |               |
| Repetitive Peak Forward Current @ $t\leq 1\text{s}, \delta \leq 0.5$                                                                                                                                                                                                                                                                                                                                                                                                                           | $I_{FRM}$        | 300                                                                                                                            | mA                          |     |      |               |
| Power Dissipation                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | $P_D$            | 200                                                                                                                            | mW                          |     |      |               |
| Thermal Resistance from Junction to Ambient                                                                                                                                                                                                                                                                                                                                                                                                                                                    | $R_{\theta JA}$  | 500                                                                                                                            | $^{\circ}\text{C}/\text{W}$ |     |      |               |
| Operating Junction Temperature Range                                                                                                                                                                                                                                                                                                                                                                                                                                                           | $T_j$            | -40 ~ +125                                                                                                                     | $^{\circ}\text{C}$          |     |      |               |
| Storage Temperature Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | $T_{\text{stg}}$ | -55 ~ +150                                                                                                                     | $^{\circ}\text{C}$          |     |      |               |
| ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                |                             |     |      |               |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Symbol           | Test conditions                                                                                                                | Min                         | Typ | Max  | Unit          |
| Reverse voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | $V_{(BR)}$       | $I_R=100\mu\text{A}$                                                                                                           | 30                          |     |      | V             |
| Reverse current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | $I_R$            | $V_R=25\text{V}$                                                                                                               |                             |     | 2    | $\mu\text{A}$ |
| Forward voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | $V_F$            | $I_{F1}=0.1\text{mA}$                                                                                                          |                             |     | 0.24 | V             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  | $I_{F2}=1\text{mA}$                                                                                                            |                             |     | 0.32 | V             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  | $I_{F3}=10\text{mA}$                                                                                                           |                             |     | 0.40 | V             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  | $I_{F4}=30\text{mA}$                                                                                                           |                             |     | 0.50 | V             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  | $I_{F5}=100\text{mA}$                                                                                                          |                             |     | 1    | V             |
| 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            |

## Typical Characteristics

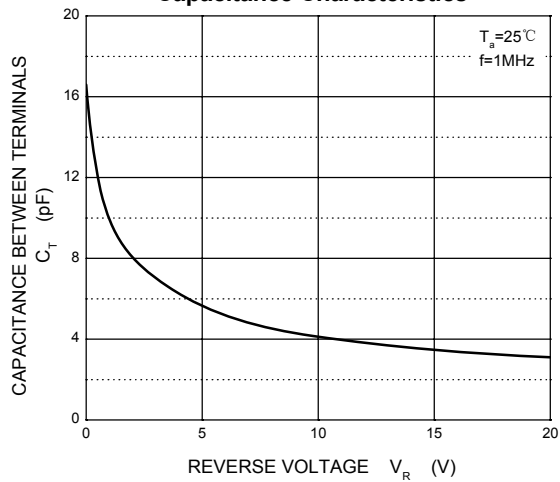
Forward Characteristics



Reverse Characteristics



Capacitance Characteristics



Power Derating Curve

