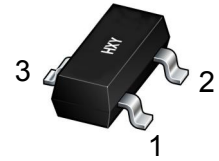




## FEATURES

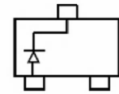
- Peak Forward Current:  $I_{FM}=200\text{mA}$
- Power Dissipation of 200mw



SOT-23

## Package Marking and Ordering Information

| Product ID | Pack   | Marking | Qty(PCS) |
|------------|--------|---------|----------|
| BAT54      | SOT-23 | KL1     | 3000     |



## MAXIMUM RATINGS (Ta=25 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=8.3ms | $I_{FSM}$       | 600        | mA   |
| Repetitive Peak Forward Current @ t≤1s, δ ≤0.5      | $I_{FRM}$       | 300        | mA   |
| Power Dissipation                                   | $P_D$           | 200        | mW   |
| Thermal Resistance from Junction to Ambient         | $R_{\theta JA}$ | 500        | °C/W |
| Operating Junction Temperature Range                | $T_j$           | -40 ~ +125 | °C   |
| Storage Temperature Range                           | $T_{stg}$       | -55 ~ +150 | °C   |

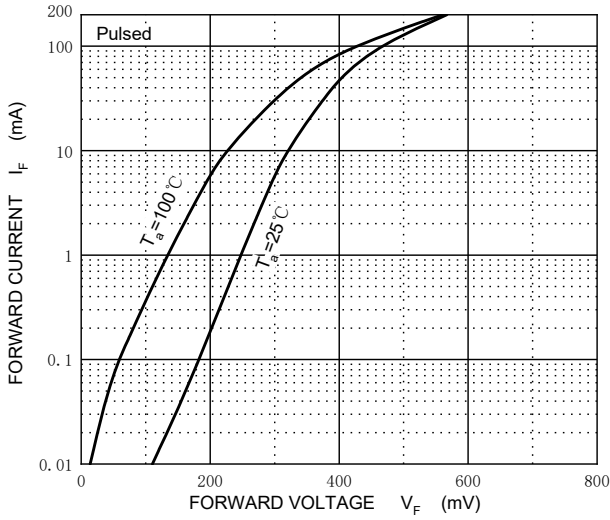
## ELECTRICAL CHARACTERISTICS (Ta=25 unless otherwise specified)

| Parameter             | Symbol     | Min | Typ | Max  | Unit | Test conditions   |
|-----------------------|------------|-----|-----|------|------|---|
| Reverse voltage       | $V_{(BR)}$ | 30  |     |      | V    | $I_R=100\mu\text{A}$  |
| Forward voltage       | $V_F$      |     |     | 0.24 | V    | $I_{F1}=0.1\text{mA}$   |
|                       |            |     |     | 0.32 | V    | $I_{F2}=1\text{mA}$   |
|                       |            |     |     | 0.40 | V    | $I_{F3}=10\text{mA}$  |
|                       |            |     |     | 0.50 | V    | $I_{F4}=30\text{mA}$  |
|                       |            |     |     | 1    | V    | $I_{F5}=100\text{mA}$   |
| Reverse current       | $I_R$      |     |     | 2    | μA   | $V_R=25\text{V}$  |
| Diode capacitance     | $C_D$      |     |     | 10   | pF   | $V_R=1\text{V}, f=1\text{MHz}$                                  |
| Reverse recovery time | $t_{rr}$   |     |     | 5    | ns   | $I_F=I_R=10\text{mA}$<br>$I_{rr}=0.1 \times I_R, R_L=100\Omega$ |

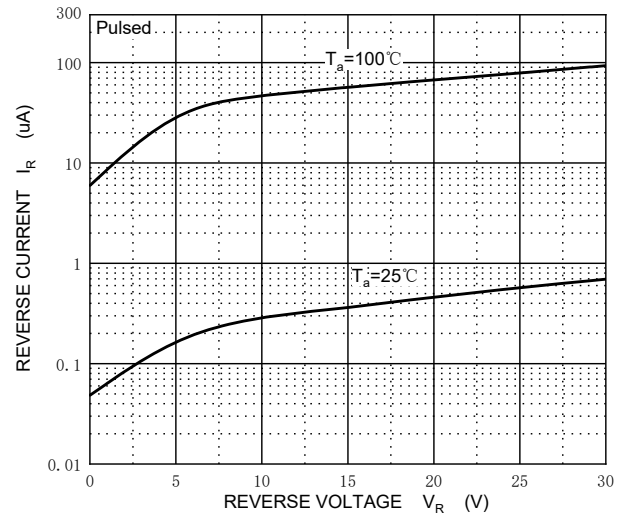


### Typical Characteristics

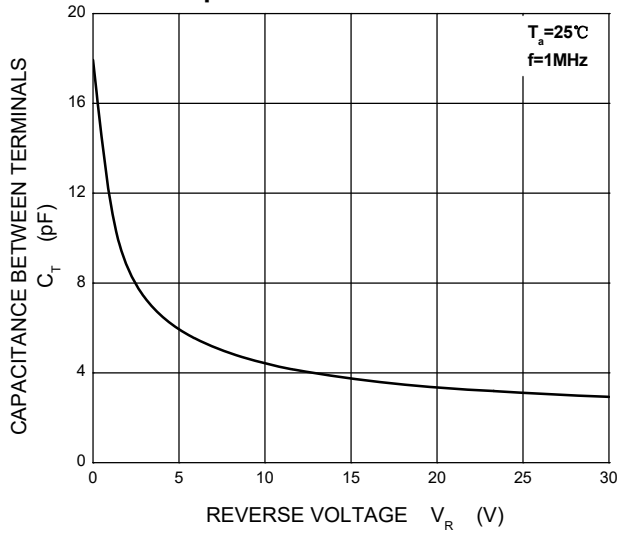
#### Forward Characteristics



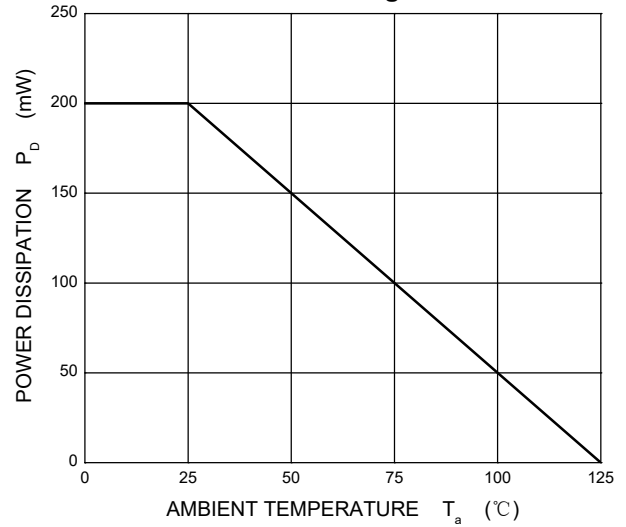
#### Reverse Characteristics



#### Capacitance Characteristics



#### Power Derating Curve



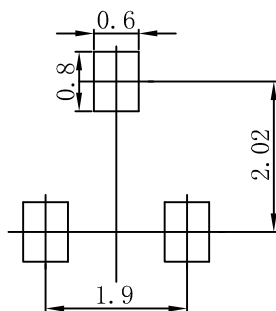


### SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

### SOT-23 Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.



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