

# Kingtronics®

## BAT54 SCHOTTKY BARRIER DIODE

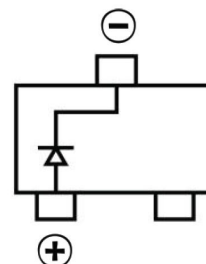
### FEATURES

Low Forward Voltage  
Fast Switching  
Surface Mount device  
For General Purpose Switching Applications

### MECHANICAL DATA

Case: SOT-23  
Case Material: Molded Plastic. UL flammability  
Classification Rating: 94V-0  
Moisture Sensitivity: Level 1 per J-STD-020  
Weight: 0.013 grams (approximate)

### SOT-23



BAT54:KL1

### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER   | SYMBOL          | VALUE    | UNIT               |
|---|-----------------|----------|--------------------|
| Reverse Voltage   | $V_R$           |          |                    |
| Peak Repetitive Peak Reverse Voltage                                  | $V_{RRM}$       | 30       | V                  |
| Working Peak Reverse Voltage  | $V_{RWM}$       |          |                    |
| Forward Continuous Current  | $I_F$           | 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      | $^\circ\text{C/W}$ |
| Junction Temperature  | $T_J$           | 125      | $^\circ\text{C}$   |
| Storage Temperature   | $T_{stg}$       | -55~+150 | $^\circ\text{C}$   |

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

| PARAMETER                       | SYMBOL     | MIN. | MAX. | UNIT          | CONDITION  |
|---------------------------------|------------|------|------|---------------|--|
| Reverse breakdown voltage       | $V_{(BR)}$ | 30   |      | V             | $I_R=100\mu\text{A}$   |
| Reverse voltage leakage current | $I_R$      |      | 2    | $\mu\text{A}$ | $V_R=25\text{V}$   |
| Forward voltage                 | $V_{F1}$   |      | 0.24 | V             | $I_{F1}=0.1\text{ mA}$   |
| Forward voltage                 | $V_{F2}$   |      | 0.32 | V             | $I_{F2}=1\text{ mA}$   |
| Forward voltage                 | $V_{F3}$   |      | 0.40 | V             | $I_{F3}=10\text{ mA}$  |
| Forward voltage                 | $V_{F4}$   |      | 0.50 | V             | $I_{F4}=30\text{ mA}$  |
| Forward voltage                 | $V_{F5}$   |      | 1    | V             | $I_{F5}=100\text{ mA}$   |
| Diode capacitance               | $C_D$      |      | 10   | pF            | $V_R=1\text{V}, f=1\text{MHz}$                                 |
| Reverse recovery time           | $T_{rr}$   |      | 5    | nS            | $I_F=I_R=10\text{ mA}$ $I_{rr}=0.1 \times I_R$ $R_L=100\Omega$ |

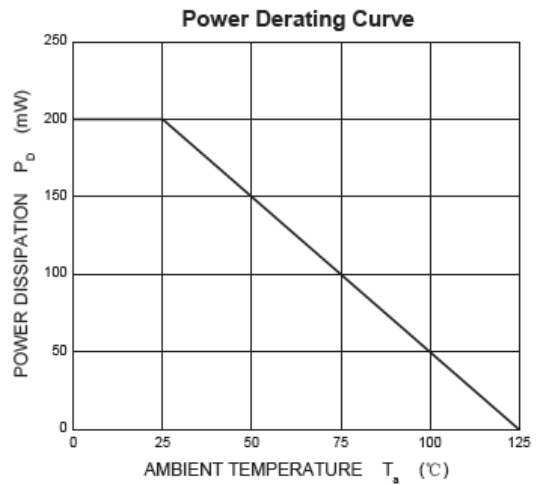
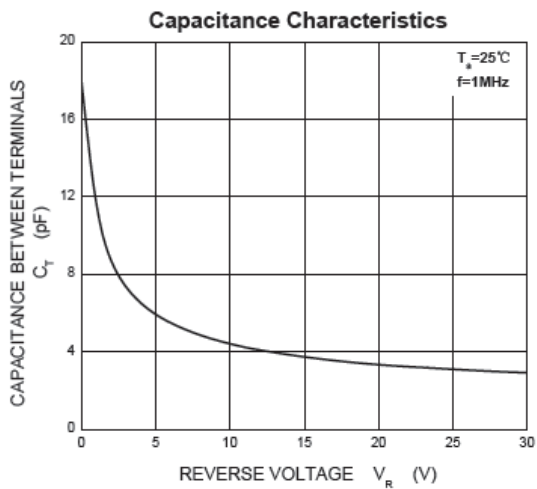
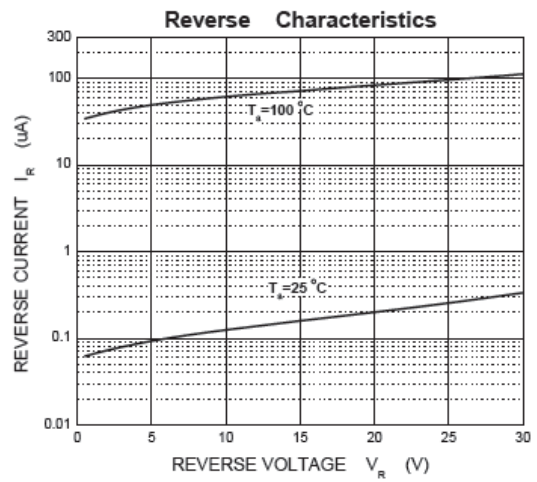
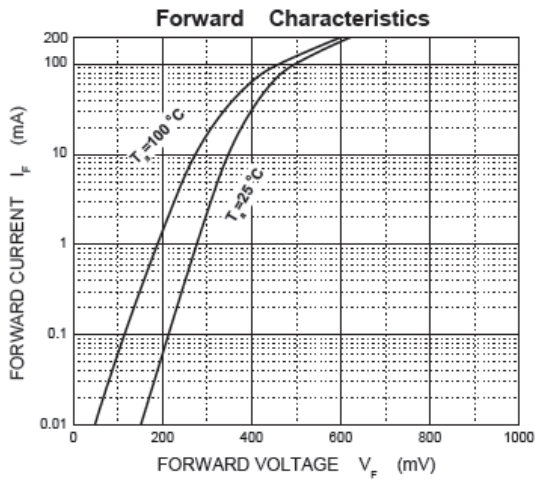
**Kingtronics® International Company**

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## BAT54 SCHOTTKY BARRIER DIODE

### Typical Characteristics

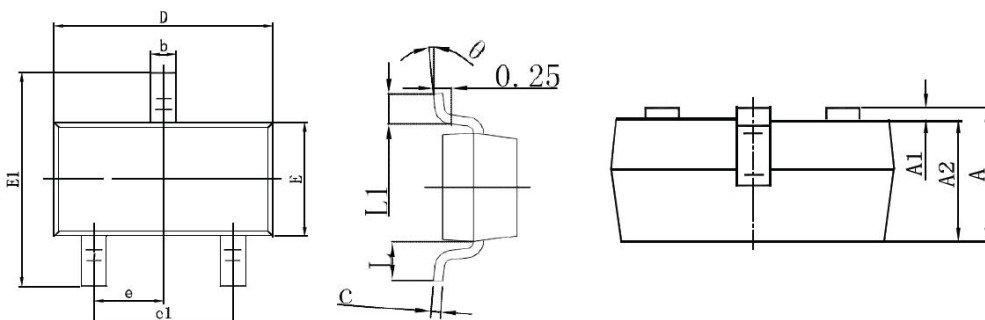


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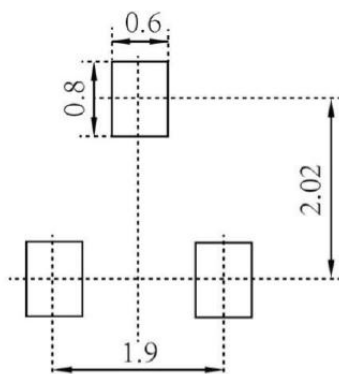
## BAT54 SCHOTTKY BARRIER DIODE

### 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

Note: Specifications are subject to change without notice.

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