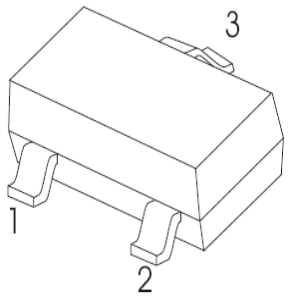
## SOT-23 Plastic-Encapsulate Diodes

# BAT54/A/C/S SCHOTTKY BARRIER DIODE

**SOT-23**




### FEATURES

- Extremely Fast Switching Speed


### MARKING:

| BAT54 | BAT54A | BAT54C | BAT54S |
|---|---|---|---|
| KL1 KL1 | KL2 KL2 | KL3 KL3 | KL4 KL4 |

Solid dot = Green molding compound device,
if none, the normal device

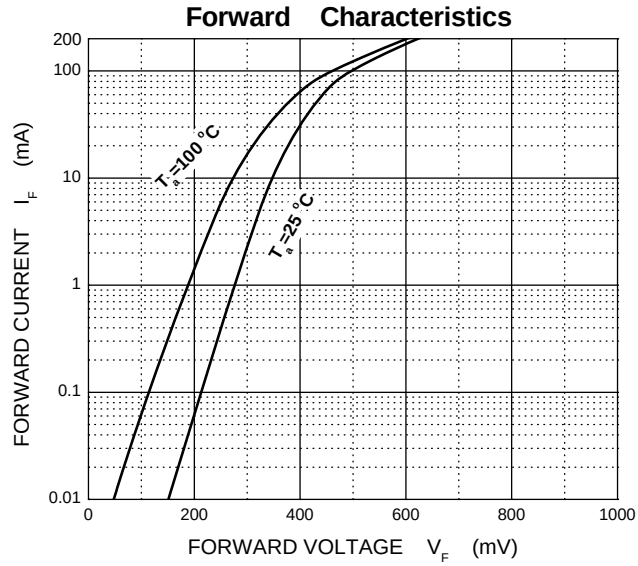
### Maximum Ratings (Ta=25℃ unless otherwise noted )

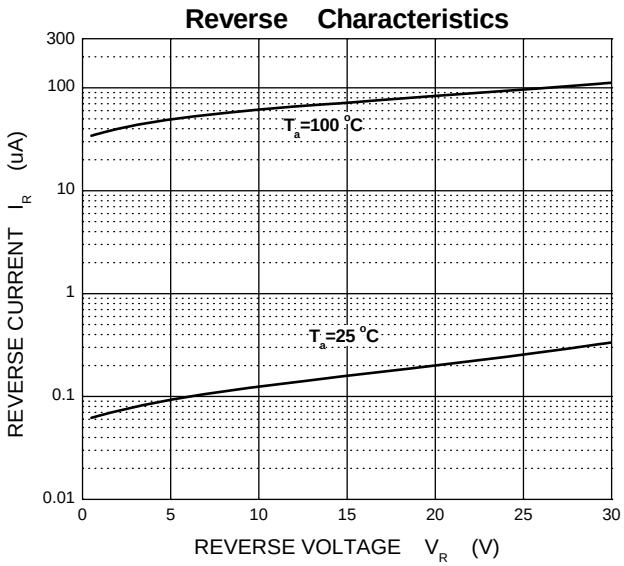
| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 30 | V |
| Forward Continuous Current | $I_{FM}$ | 200 | mA |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms | $I_{FSM}$ | 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 | ℃/W |
| Junction Temperature | $T_j$ | 125 | ℃ |
| Storage Temperature | $T_{stg}$ | -55~+150 | ℃ |

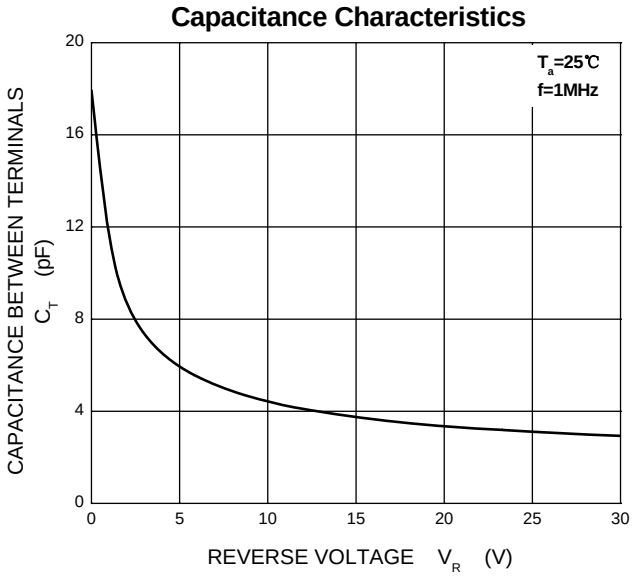
### ELECTRICAL CHARACTERISTICS($T_a$=25℃ unless otherwise specified)

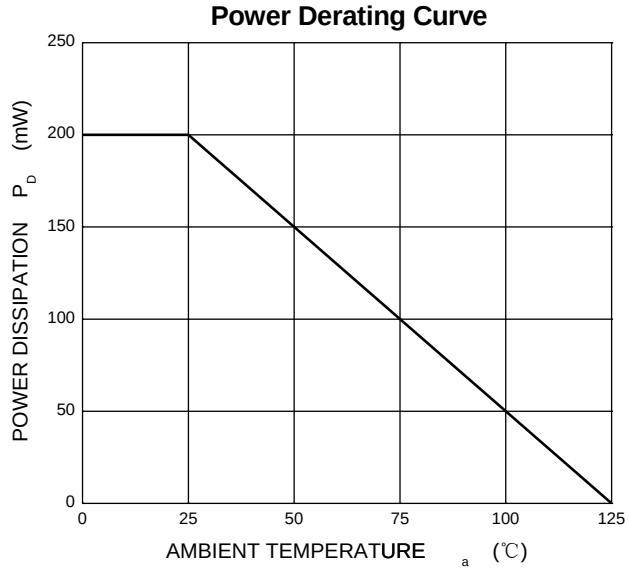
| Parameter | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---|---|---|---|---|---|
| **Reverse voltage** | $V_{(BR)}$ | 30 | | | V | $I_R$=100μA |
| **Forward voltage** | $V_F$ | | | 0.24 | V | $I_{F1}$=0.1mA |
| | | | | 0.32 | V | $I_{F2}$=1mA |
| | | | | 0.40 | V | $I_{F3}$=10mA |
| |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

## Typical Characteristics



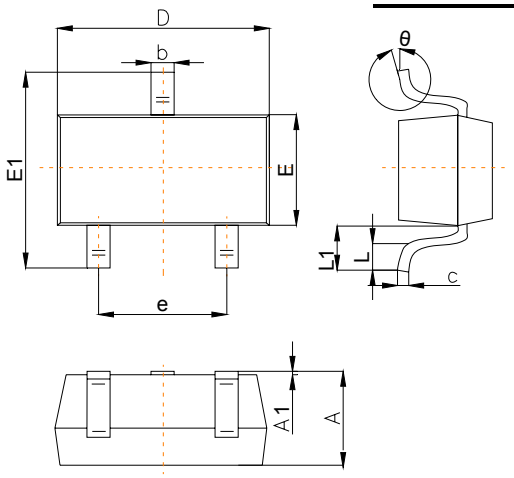



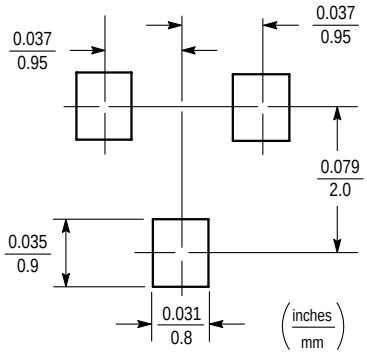
## Outlitne Drawing

SOT-23 Package Outline Dimensions




| Symbol | Dimensions In Millimeters | | |
|---|---|---|---|
| | Min | Typ | Max |
| A | 1.00 | | 1.40 |
| A1 | | | 0.10 |
| b | 0.35 | | 0.50 |
| c | 0.10 | | 0.20 |
| D | 2.70 | 2.90 | 3.10 |
| E | 1.40 | | 1.60 |
| E1 | 2.4 | | 2.80 |
| e | | 1.90 | |
| L | 0.10 | | 0.30 |
| L1 | 0.4 | | |
| θ | 0° | | 10° |

## Suggested Pad Layout




Note:
1.Controlling dimension:in/millimeters.
2.General tolerance: ±0.05mm.
3.The pad layout is for reference purposes only.

## PACKAGE SPECIFICATIONS

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (pcs) | Box Size (mm) | QTY/Box (pcs) | Carton Size (mm) | Q'TY/Carton (pcs) |
|---|---|---|---|---|---|---|---|
| SOT-23 | 7' | 330 | 3000 | 203×203×195 | 45000 | 438×438×220 | 180000 |

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