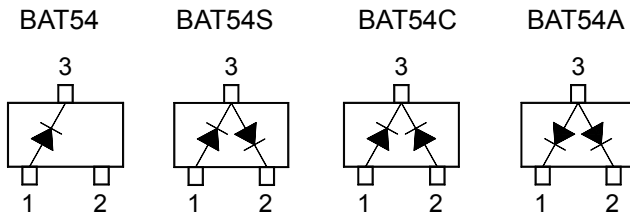




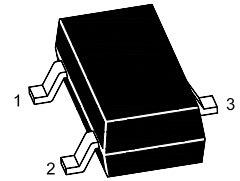
# BAT54 Series

## Schottky Barrier Diodes

### Equivalent Schematic Diagram



SOT-23  
(TO-236)



### Marking Information:

|        |     |
|--------|-----|
| BAT54  | L4  |
| BAT54S | L44 |
| BAT54C | L43 |
| BAT54A | L42 |

### Absolute Maximum Ratings (T<sub>A</sub> = 25°C )

| Parameter                                                            | Symbol             | Value         | Unit |
|----------------------------------------------------------------------|--------------------|---------------|------|
| Repetitive Peak Reverse Voltage                                      | V <sub>RRM</sub>   | 30            | V    |
| Average Rectified Forward Current                                    | I <sub>F(AV)</sub> | 200           | mA   |
| Repetitive Peak Forward Current                                      | I <sub>FRM</sub>   | 300           | mA   |
| Non-Repetitive Peak Forward Surge Current<br>at Pulse Width=1 second | I <sub>FSM</sub>   | 600           | mA   |
| Power Dissipation                                                    | P <sub>D</sub>     | 290           | mW   |
| Thermal Resistance Junction to Ambient Air                           | R <sub>θJA</sub>   | 430           | °C/W |
| Junction Temperature                                                 | T <sub>J</sub>     | - 55 to + 150 | °C   |
| Storage Temperature Range                                            | T <sub>STG</sub>   | - 55 to + 150 | °C   |

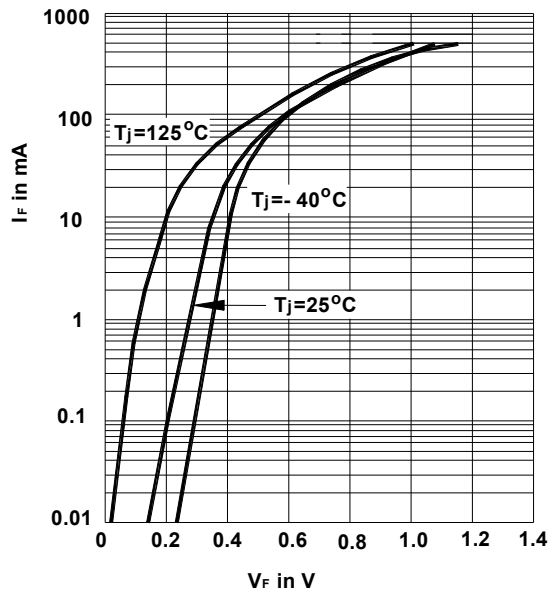
### Characteristics at T<sub>A</sub> = 25°C

| Parameter                                                                                                                                                         | Symbol           | Min.                  | Max.                             | Unit |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|----------------------------------|------|
| Forward Voltage<br>at I <sub>F</sub> = 0.1 mA<br>at I <sub>F</sub> = 1 mA<br>at I <sub>F</sub> = 10 mA<br>at I <sub>F</sub> = 30 mA<br>at I <sub>F</sub> = 100 mA | V <sub>F</sub>   | -<br>-<br>-<br>-<br>- | 240<br>320<br>400<br>500<br>1000 | mV   |
| Reverse Current<br>at V <sub>R</sub> = 25 V                                                                                                                       | I <sub>R</sub>   | -                     | 2                                | μA   |
| Breakdown Voltage<br>at I <sub>R</sub> = 10 μA                                                                                                                    | V <sub>R</sub>   | 30                    | -                                | V    |
| Total Capacitance<br>at V <sub>R</sub> = 1 V, f = 1 MHz                                                                                                           | C <sub>tot</sub> | -                     | 10                               | pF   |
| Reverse Recovery Time<br>at I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10 mA, I <sub>RR</sub> = 1 mA, R <sub>L</sub> = 100 Ω                                        | t <sub>rr</sub>  | -                     | 5                                | ns   |

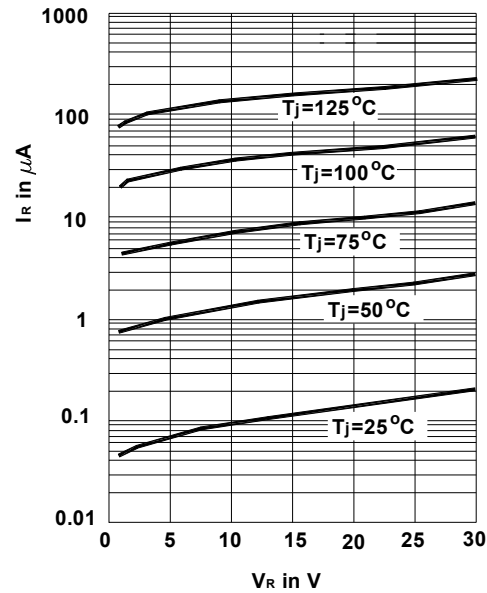


### Electrical Characteristics Curves

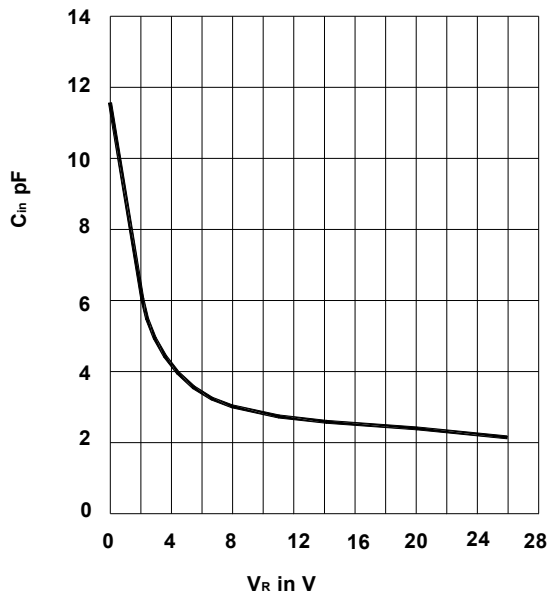
Typical Forward Voltage  
Forward Current  
at Various Temperatures



Typical Variation of Reverse  
Current at Various Temperatures

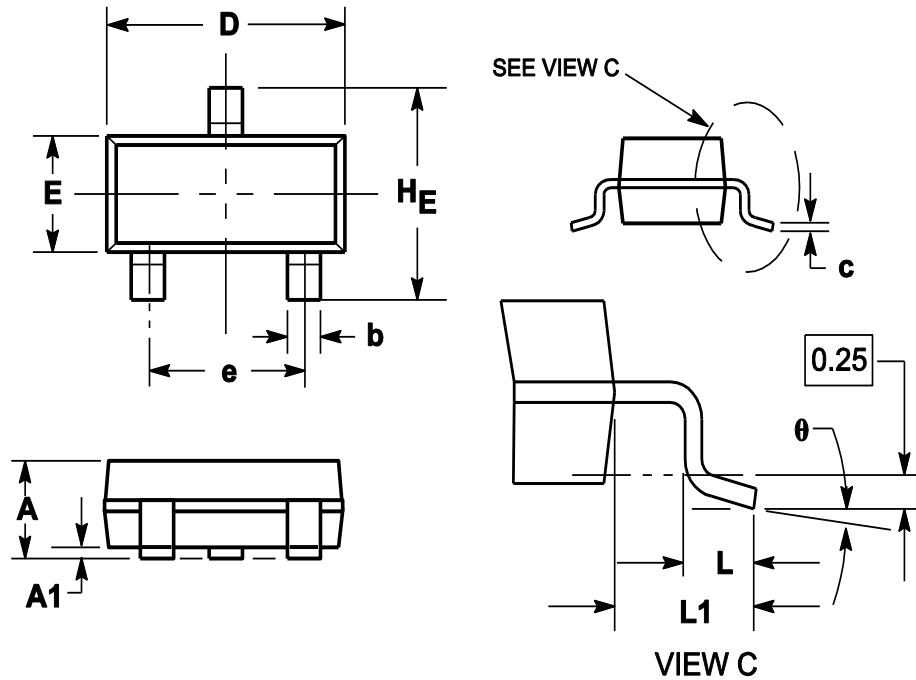


Typical Capacitance  $C_{in}$  vs.  
Reverse Applied Voltage  $V_R$





### Package Outline (SOT-23)



| Symbol   | Dimensions in millimeter |       |       |
|----------|--------------------------|-------|-------|
|          | Min.                     | Typ.  | Max.  |
| A        | 0.900                    | 1.025 | 1.150 |
| A1       | 0.000                    | 0.050 | 0.100 |
| b        | 0.300                    | 0.400 | 0.500 |
| c        | 0.080                    | 0.115 | 0.150 |
| D        | 2.800                    | 2.900 | 3.000 |
| E        | 1.200                    | 1.300 | 1.400 |
| HE       | 2.250                    | 2.400 | 2.550 |
| e        | 1.800                    | 1.900 | 2.000 |
| L1       | 0.550REF                 |       |       |
| L        | 0.300                    |       | 0.500 |
| $\theta$ | 0°                       |       | 8°    |

### Ordering Information

| Device       | Package | Reel Dimension (inch) | Shipping Quantity |
|--------------|---------|-----------------------|-------------------|
| BAT54 Series | SOT-23  | 7                     | 3,000             |