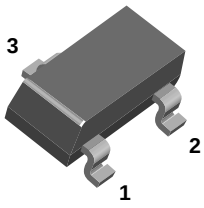
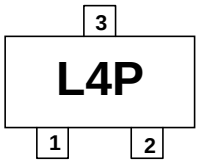
FAIRCHILD
SEMICONDUCTOR®

# BAT54/A/C/S

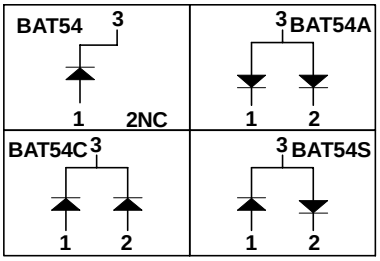



**SOT-23**




**MARKING**
BAT54 = L4P BAT54A = L42
BAT54C = L43 BAT54S = L44

**Connection DiagramS**




## Schottky Diodes

### Absolute Maximum Ratings* $T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{RRM}$ | Maximum Repetitive Reverse Voltage | 30 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | 200 | mA |
| $I_{FSM}$ | Non-repetitive Peak Forward Surge Current<br>Pulse width = 1.0 second | 600 | mA |
| $T_{stg}$ | Storage Temperature Range | -55 to +150 | °C |
| $T_J$ | Operating Junction Temperature | -55 to +150 | °C |

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $P_D$ | Power Dissipation | 290 | mW |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 430 | °C/W |

### Electrical Characteristics $T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|---|---|---|---|---|---|
| $V_R$ | Breakdown Voltage | $I_R$ = 10 μA | 30 | | V |
| $V_F$ | Forward Voltage | $I_F$ = 0.1 mA | | 240 | mV |
| | | $I_F$ = 1 mA | | 320 | mV |
| | | $I_F$ = 10 mA | | 400 | mV |
| | | $I_F$ = 30 mA | | 500 | mV |
| | | $I_F$ = 100 mA | | 1.0 | V |
| $I_R$ | Reverse Current | $V_R$ =25 V | | 2 | μA |
| $C_T$ | Total Capacitance | $V_R$ = 1V, f = 1.0 MHz | | 10 | pf |
| $t_{rr}$ | Reverse Recovery Time | $I_F = I_R$ = 10 mA, $I_{RR}$ = 1.0 mA,<br>$R_L$ = 100Ω | | 5.0 | ns |

## Typical Characteristics

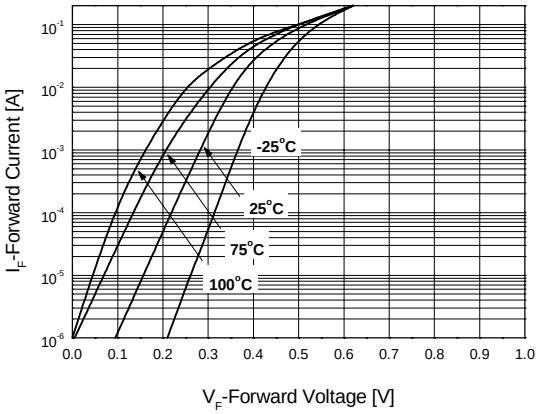



**Figure 1. Forward Voltage vs. Temperature**

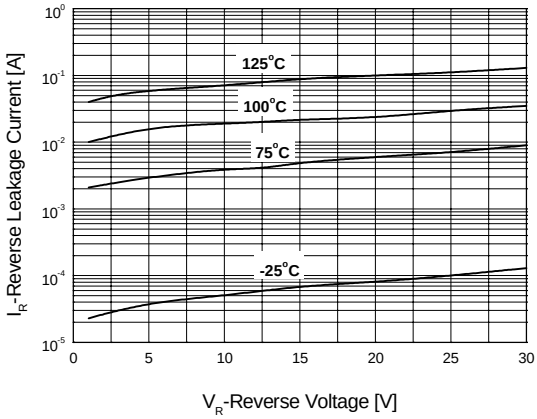



**Figure 2. Reverse Leakage Current vs. Temperature**

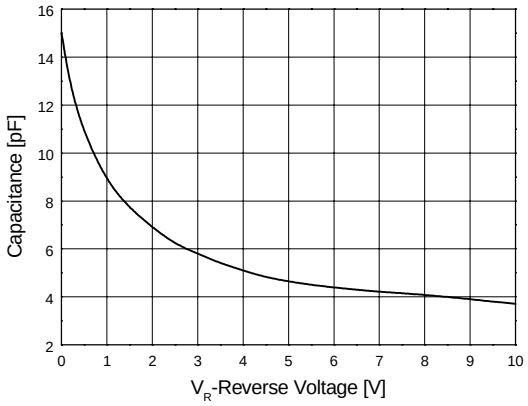



**Figure 3. Capacitance vs Reverse Bias Voltage**

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| Bottomless™ | FASTr™ | MicroFET™ | QFET® | SyncFET™ |
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**PRODUCT STATUS DEFINITIONS**

**Definition of Terms**

| Datasheet Identification | Product Status | Definition |
|---|---|---|
| Advance Information | Formative or In Design | This datasheet contains the design specifications for product development. Specifications may change in any manner without notice. |
| Preliminary | First Production | This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design. |
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