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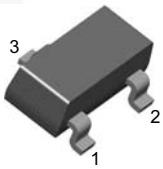
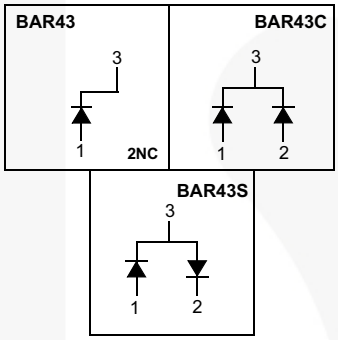
August 2015

# BAR43 / BAR43C / BAR43S
# Schottky Diodes




SOT-23

**Connection Diagram**




## Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|---|---|---|---|
| BAR43 | D95 | SOT-23 3L | Tape and Reel |
| BAR43C | DB2 | SOT-23 3L | Tape and Reel |
| BAR43S | DA5 | SOT-23 3L | Tape and Reel |

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{RRM}$ | 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 | 750 | mA |
| $T_{STG}$ | Storage Temperature Range | -55 to +150 | °C |
| $T_J$ | Operating Junction Temperature | 150 | °C |

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## Thermal Characteristics

Values are at $T_A$ = 25°C unless otherwise noted.

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

## Electrical Characteristics

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Conditions | Min. | Max. | Unit |
|---|---|---|---|---|---|
| $V_R$ | Breakdown Voltage | $I_R$ = 100 µA | 30 | | V |
| $V_F$ | Forward Voltage | $I_F$ = 2.0 mA | 260 | 330 | mV |
| | | $I_F$ = 15 mA | | 450 | mV |
| | | $I_F$ = 100 mA | | 0.8 | V |
| $I_R$ | Reverse Current | $V_R$ = 25 V | | 0.5 | µA |
| | | $V_R$ = 25 V, $T_A$ = 100°C | | 100 | |
| $t_{rr}$ | Reverse Recovery Time | $I_F = I_R$ = 10 mA, $I_{RR}$ = 1.0 mA, $R_L$ = 100 Ω | | 5.0 | ns |
| Minimum Detection Recovery Time | | $I_F = I_R$ = 10 mA, $I_{RR}$ = 1.0 mA, $R_L$ = 100 Ω | | 80 | % |

## Typical Performance Characteristics

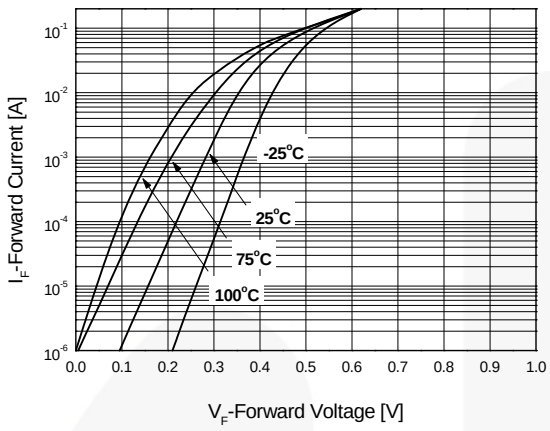


**Figure 1. Forward Voltage vs. Temperature**

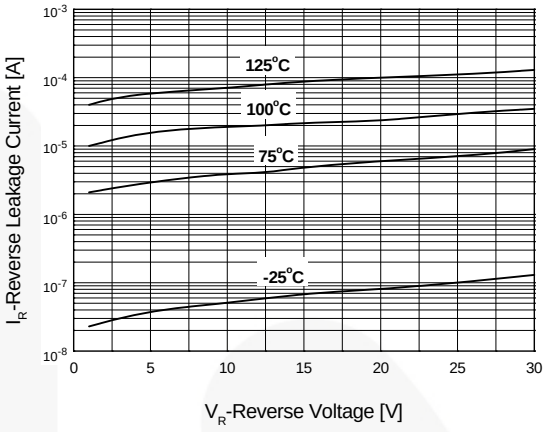


**Figure 2. Reverse Leakage Current vs. Temperature**

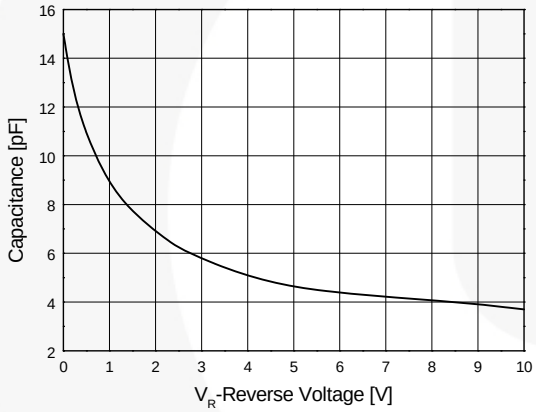


**Figure 3. Capacitance vs. Reverse Bias Voltage**

## Physical Dimensions

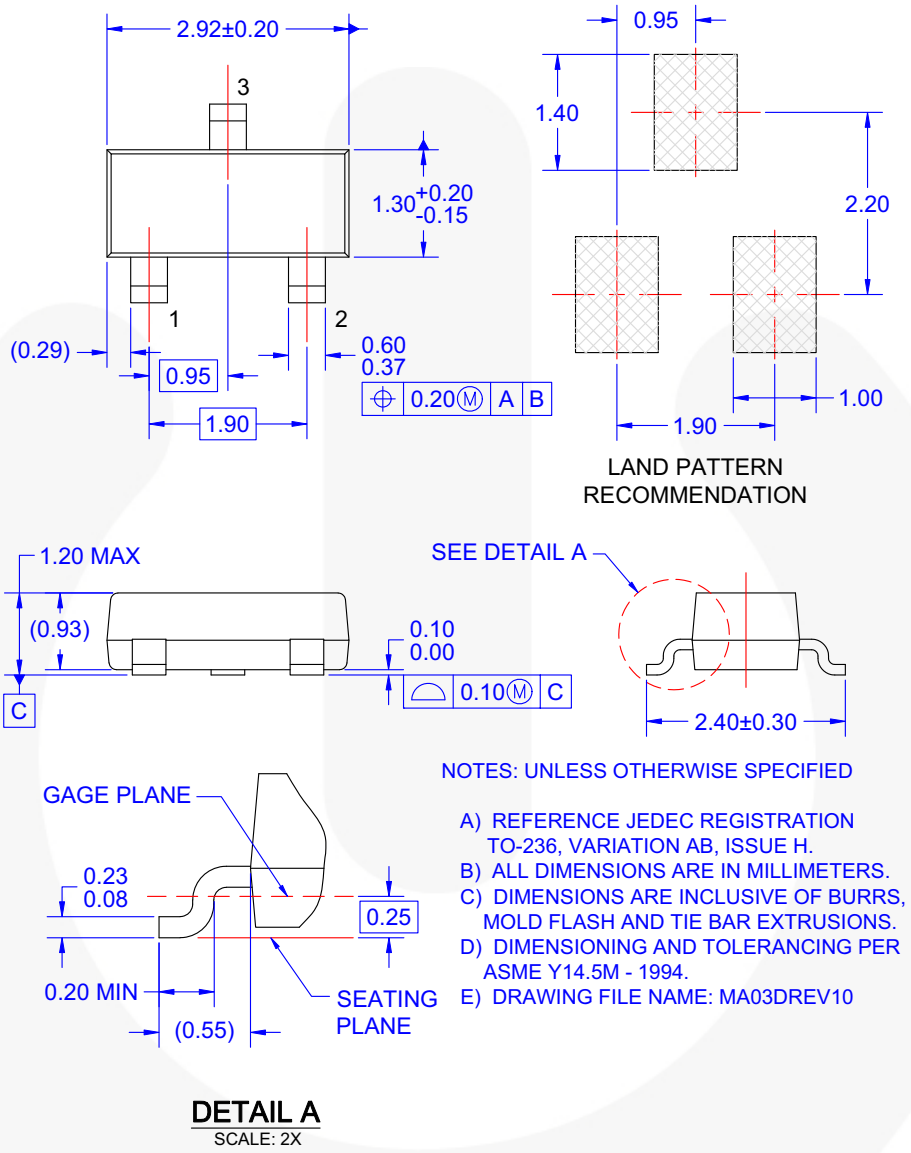


**Figure 4. 3-LEAD, SOT23, JEDEC TO-236, LOW PROFILE**

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| No Identification Needed | Full Production | Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design. |
| Obsolete | Not In Production | Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only. |

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