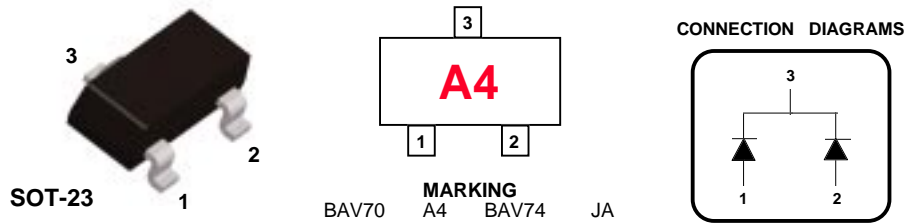


BAV70 / 74



High Conductance Ultra Fast Diode

Sourced from Process 1P. See BAV99 for characteristics.

Absolute Maximum Ratings* TA = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------------------|---|--------------|-------|
| W _{IV} | Working Inverse Voltage | BAV70 | 70 V |
| | | BAV74 | 50 V |
| I _O | Average Rectified Current | 200 | mA |
| I _F | DC Forward Current | 600 | mA |
| i _f | Recurrent Peak Forward Current | 700 | mA |
| i _{f(surge)} | Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond | 1.0 | A |
| | | 2.0 | A |
| | | | |
| T _{stg} | Storage Temperature Range | -55 to +150 | °C |
| T _J | Operating Junction Temperature | 150 | °C |

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

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics TA = 25°C unless otherwise noted

| Symbol | Characteristic | Max | Units |
|------------------|---|-----------------|-------|
| | | BAV70/74 | |
| P _D | Total Device Dissipation Derate above 25°C | 350 | mW |
| | | 2.8 | mW/°C |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 357 | °C/W |

High Conductance Ultra Fast Diode

(continued)

BAV70 / BAV74

Electrical Characteristics

TA = 25°C unless otherwise noted

| Symbol | Parameter | | Test Conditions | Min | Max | Units |
|-----------------|-----------------------|--------------|---|-----|------|-------|
| B _V | Breakdown Voltage | BAV70 | I _R = 100 μA | 70 | | V |
| | | BAV74 | I _R = 100 μA | 50 | | V |
| I _R | Reverse Current | BAV70 | V _R = 25 V, T _A = 150°C | | 60 | μA |
| | | | V _R = 70 V | | 5.0 | μA |
| | | BAV74 | V _R = 70 V, T _A = 150°C | | 100 | μA |
| | | | V _R = 50 V | | 100 | nA |
| | | | V _R = 50 V, T _A = 150°C | | 100 | μA |
| V _F | Forward Voltage | BAV70 | I _F = 1.0 mA | | 715 | mV |
| | | | I _F = 10 mA | | 855 | mV |
| | | | I _F = 50 mA | | 1.0 | V |
| | | | I _F = 150 mA | | 1.25 | V |
| | | BAV74 | I _F = 100 mA | | 1.0 | V |
| C _O | Diode Capacitance | BAV70 | V _R = 0, f = 1.0 MHz | | 1.5 | pF |
| | | BAV74 | V _R = 0, f = 1.0 MHz | | 2.0 | pF |
| T _{RR} | Reverse Recovery Time | BAV70 | I _F = I _R = 10 mA, I _{RR} = 1.0 mA, R _L = 100Ω | | 6.0 | nS |
| | | BAV74 | I _F = I _R = 10 mA, I _{RR} = 1.0 mA, R _L = 100Ω | | 4.0 | nS |
| | | | | | | |
| Q _S | Stored Charge | BAV70 | I _F = 10 mA | | 45 | pC |

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| | |
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PRODUCT STATUS DEFINITIONS

Definition of Terms

| Datasheet Identification | Product Status | Definition |
|--------------------------|------------------------|---|
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