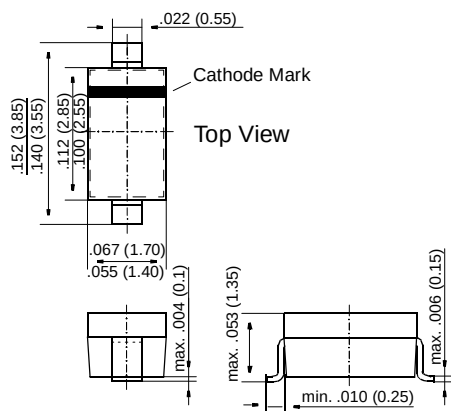


# BAV19W THRU BAV21W

## Small Signal Diodes

### SOD-123



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Silicon Epitaxial Planar Diodes
- ◆ For general purpose
- ◆ These diodes are also available in other case styles including: the DO-35 case with the type designations BAV19 to BAV21, the MiniMELF case with the type designations BAV100 to BAV103 and the SOT-23 case with the type designation BAS19 - BAS21.



### MECHANICAL DATA

**Case:** SOD-123 Plastic Case

**Weight:** approx. 0.01 g

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

|                                                                                                                                                 | Symbol                  | Value                     | Unit               |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------|--------------------|
| Reverse Voltage<br><b>BAV19W</b><br><b>BAV20W</b><br><b>BAV21W</b>                                                                              | $V_R$<br>$V_R$<br>$V_R$ | 120<br>200<br>250         | V<br>V<br>V        |
| Forward DC Current at $T_{amb} = 25\text{ }^{\circ}\text{C}$                                                                                    | $I_F$                   | 250 <sup>1)</sup>         | mA                 |
| Rectified Current (Average)<br>Half Wave Rectification with Resist. Load<br>at $T_{amb} = 25\text{ }^{\circ}\text{C}$ and $f \geq 50\text{ Hz}$ | $I_0$                   | 200 <sup>1)</sup>         | mA                 |
| Repetitive Peak Forward Current<br>at $f \geq 50\text{ Hz}$ , $\Theta = 180\text{ }^{\circ}$ , $T_{amb} = 25\text{ }^{\circ}\text{C}$           | $I_{FRM}$               | 625 <sup>1)</sup>         | mA                 |
| Surge Forward Current at $t < 1\text{ s}$ , $T_j = 25\text{ }^{\circ}\text{C}$                                                                  | $I_{FSM}$               | 1                         | A                  |
| Power Dissipation at $T_{amb} = 25\text{ }^{\circ}\text{C}$                                                                                     | $P_{tot}$               | 410 <sup>1)</sup>         | mW                 |
| Junction Temperature                                                                                                                            | $T_j$                   | 150 <sup>1)</sup>         | $^{\circ}\text{C}$ |
| Storage Temperature Range                                                                                                                       | $T_S$                   | -65 to +150 <sup>1)</sup> | $^{\circ}\text{C}$ |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature (SOD-123)

# BAV19W THRU BAV21W

## ELECTRICAL CHARACTERISTICS

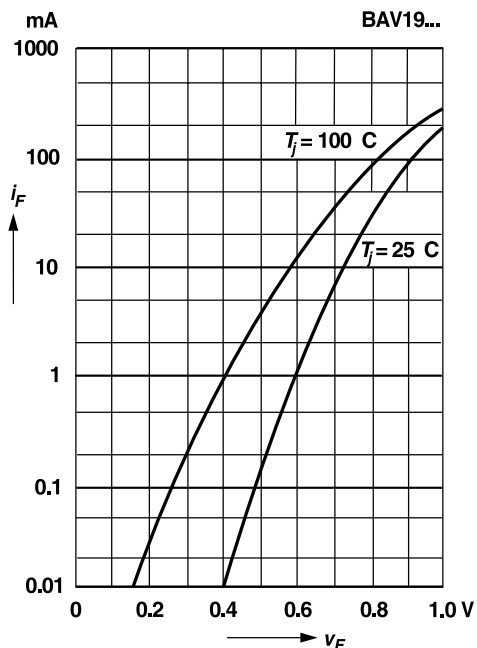
Ratings at 25 °C ambient temperature unless otherwise specified

|                                                                                                                                   | Symbol     | Min. | Typ. | Max.              | Unit |
|-----------------------------------------------------------------------------------------------------------------------------------|------------|------|------|-------------------|------|
| Forward voltage at $I_F = 100 \text{ mA}$                                                                                         | $V_F$      | —    | —    | 1                 | V    |
| Leakage Current<br>at $V_R = 100 \text{ V}$                                                                                       | $I_R$      | —    | —    | 100               | nA   |
| at $V_R = 100 \text{ V}, T_j = 100 \text{ °C}$                                                                                    | $I_R$      | —    | —    | 15                | μA   |
| at $V_R = 150 \text{ V}$                                                                                                          | $I_R$      | —    | —    | 100               | nA   |
| at $V_R = 150 \text{ V}, T_j = 100 \text{ °C}$                                                                                    | $I_R$      | —    | —    | 15                | μA   |
| at $V_R = 200 \text{ V}$                                                                                                          | $I_R$      | —    | —    | 100               | nA   |
| at $V_R = 200 \text{ V}, T_j = 100 \text{ °C}$                                                                                    | $I_R$      | —    | —    | 15                | μA   |
| Dynamic Forward Resistance<br>at $I_F = 10 \text{ mA}$                                                                            | $r_f$      | —    | 5    | —                 | Ω    |
| Capacitance<br>at $V_R = 0, f = 1 \text{ MHz}$                                                                                    | $C_{tot}$  | —    | 1.5  | —                 | pF   |
| Reverse Recovery Time<br>from $I_F = 30 \text{ mA}$ through $I_R = 30 \text{ mA}$ to<br>$I_R = 3 \text{ mA}; R_L = 100 \text{ Ω}$ | $t_{rr}$   | —    | —    | 50                | ns   |
| Thermal Resistance<br>Junction to Ambient Air                                                                                     | $R_{thJA}$ | —    | —    | 375 <sup>1)</sup> | K/W  |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature

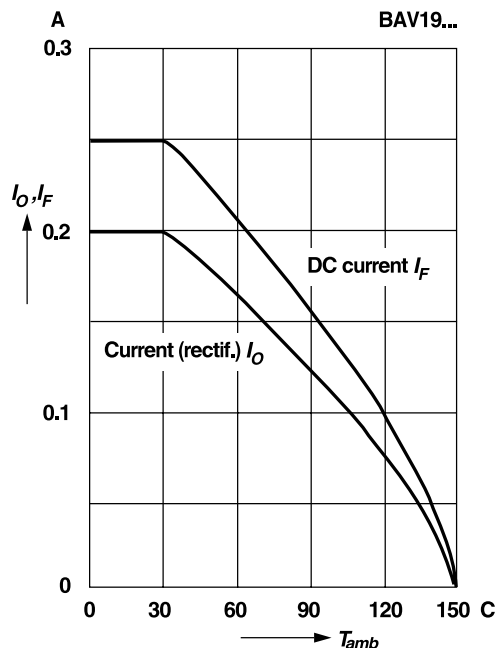
# RATINGS AND CHARACTERISTIC CURVES BAV19W THRU BAV21W

Forward characteristics



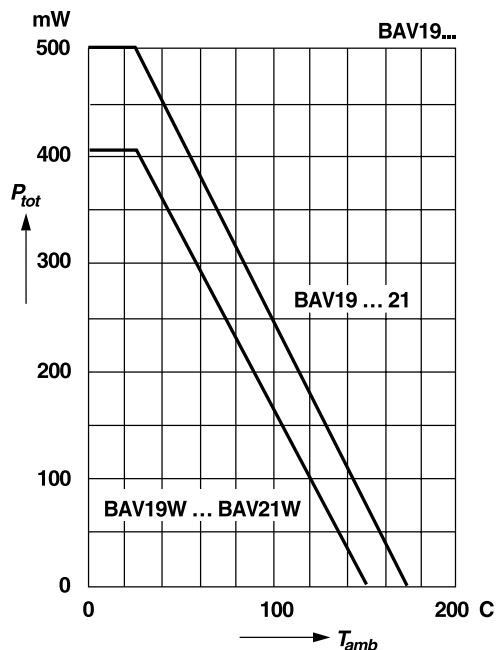
Admissible forward current versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"

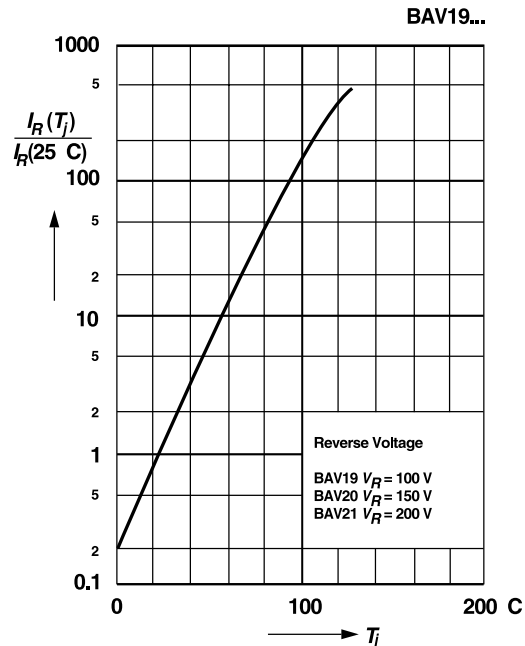


Admissible power dissipation versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"

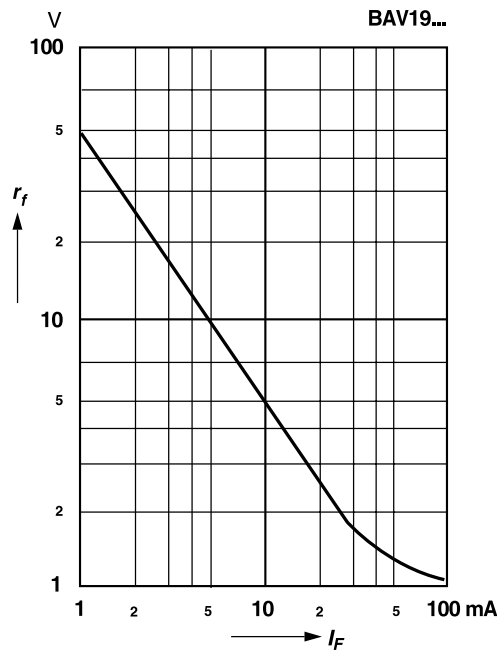


Leakage current versus junction temperature



# RATINGS AND CHARACTERISTIC CURVES BAV19W THRU BAV21W

Dynamic forward resistance  
versus forward current



Capacitance  
versus reverse voltage

