



# BAV19WS THRU BAV21WS

**250mW  
Small Signal  
Diodes  
120 to 250 Volts**

## Features

- Halogen free available upon request by adding suffix "-HF"
- Silicon Epitaxial Planar Diodes
- For General Purpose
- This diode is also available in other case.
- Lead Free Finish/RoHS Compliant("P" Suffix designates RoHS Compliant. See ordering information)

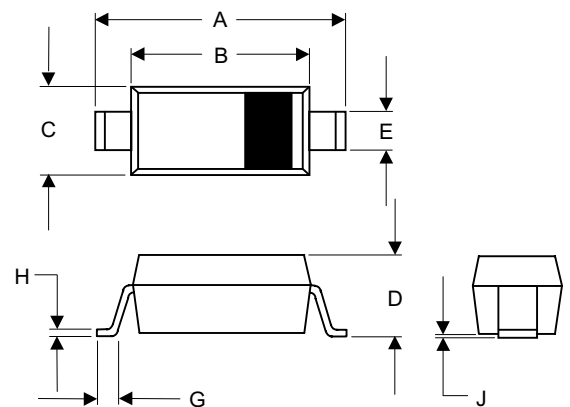
## Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking code: BAV19WS=A8 BAV20WS=T2 BAV21WS=T3

## Maximum Ratings

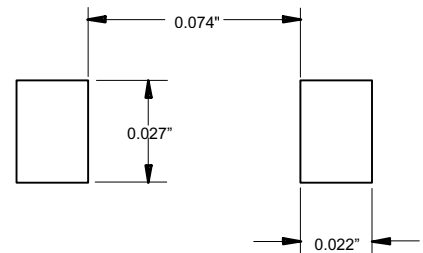
| Symbol       | Parameters  | Rating                        | Unit              |    |
|--------------|---|-------------------------------|-------------------|----|
| $V_R$        | Continuous Reverse Voltage  | BAV19WS<br>BAV20WS<br>BAV21WS | 100<br>150<br>200 | V  |
|              | Repetitive Peak Reverse Voltage                                   | BAV19WS                       | 120               | V  |
|              |   | BAV20WS                       | 200               |    |
| BAV21WS      |   | 250                           |                   |    |
| $V_{R(RMS)}$ | RMS Reverse Voltage   | BAV19WS                       | 71                | V  |
|              |   | BAV20WS                       | 106               |    |
|              |   | BAV21WS                       | 141               |    |
| $I_{FSM}$    | Non-Repetitive Peak Forward Surge Current@t=1us                   |                               | 2.5               | A  |
|              |   | @t=1s                         | 0.5               |    |
| $I_{FM}$     | Forward Continuous Current (Note1)                                |                               | 400               | mA |
| $I_O$        | Average Rectified Out put Current (Note1)                         |                               | 200               | mA |
| $I_{FRM}$    | Repetitive Peak Forward Current at f>50Hz, Ta=25°C <sup>(1)</sup> |                               | 625               | mA |
| $P_{tot}$    | Power Dissipation at Tamb=25°C <sup>(1)</sup>                     |                               | 250               | mW |
| $R_{thJA}$   | Thermal Resistance Junction to Ambient Air                        |                               | 500               | KW |
| $T_j$        | Operating Junction Temperature                                    |                               | -65 to +150       | °C |
| $T_{STG}$    | Storage Temperature   |                               | -65 to +150       | °C |

## SOD-323



| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .090   | .107 | 2.30  | 2.70 |      |
| B   | .063   | .071 | 1.60  | 1.80 |      |
| C   | .045   | .053 | 1.15  | 1.35 |      |
| D   | .031   | .045 | 0.80  | 1.15 |      |
| E   | .010   | .016 | 0.25  | 0.40 |      |
| G   | .004   | .018 | 0.10  | 0.45 |      |
| H   | .004   | .010 | 0.10  | 0.25 |      |
| J   | -----  | .006 | ----- | 0.15 |      |

### SUGGESTED SOLDER PAD LAYOUT



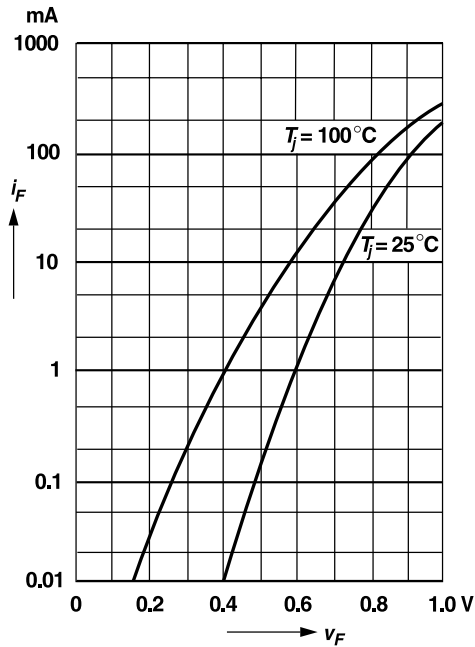
## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol    | Parameter   | Min                     | Typ | Max | Units |    |
|-----------|---|-------------------------|-----|-----|-------|----|
| $V_F$     | Forward Voltage (I <sub>F</sub> =100mA)   | (I <sub>F</sub> =200mA) | --- | --- | 1.00  | V  |
|           |   |                         | --- | --- | 1.25  |    |
| $I_R$     | Leakage Current (V <sub>R</sub> =100V)<br>(V <sub>R</sub> =100V, T <sub>j</sub> =100°C)<br>(V <sub>R</sub> =150V)<br>(V <sub>R</sub> =150V, T <sub>j</sub> =100°C)<br>(V <sub>R</sub> =200V)<br>(V <sub>R</sub> =200V, T <sub>j</sub> =100°C) | BAV19WS                 | --- | --- | 100   | nA |
|           |   | BAV19WS                 | --- | --- | 15    | µA |
|           |   | BAV20WS                 | --- | --- | 100   | nA |
|           |   | BAV20WS                 | --- | --- | 15    | µA |
|           |   | BAV21WS                 | --- | --- | 100   | nA |
|           |   | BAV21WS                 | --- | --- | 15    | µA |
| $C_{tot}$ | Capacitance (V <sub>R</sub> =0, f=1.0MHz)   | ---                     | 1.5 | --- | pF    |    |
| $t_{rr}$  | Reverse Recovery Time (I <sub>F</sub> =30mA, I <sub>R</sub> =30mA)<br>(I <sub>rr</sub> =3.0mA, R <sub>L</sub> =100OHMS)   | ---                     | --- | 50  | ns    |    |

Notes: 1. Valid provided that leads are kept at ambient temperature

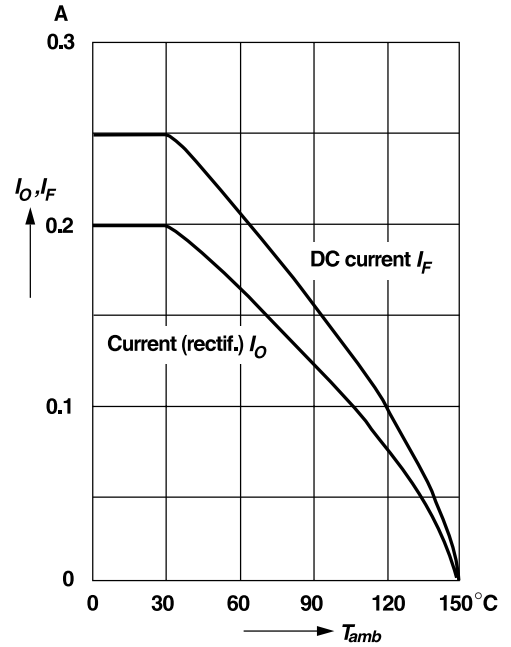
# BAV19WS thru BAV21WS

**Forward characteristics**



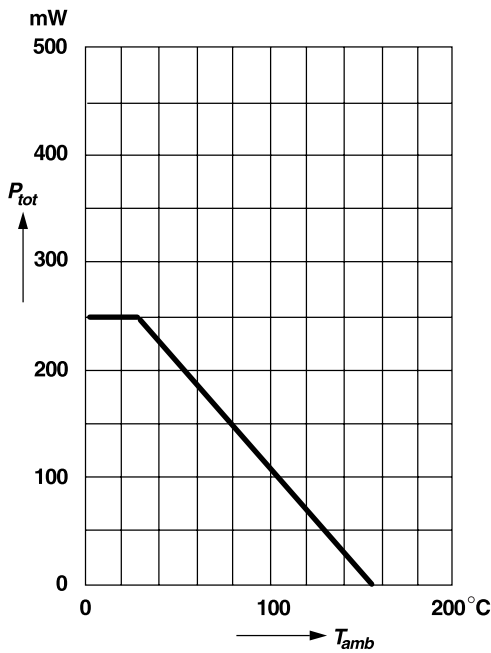
**Admissible forward current versus ambient temperature**

Valid provided that electrodes are kept at ambient temperature

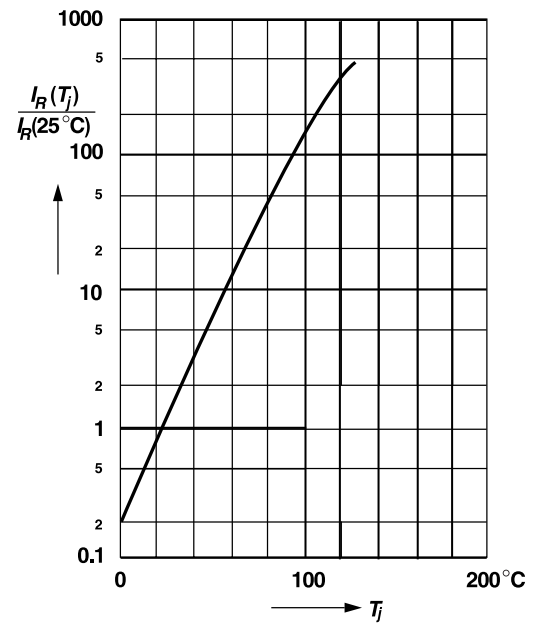


**Admissible power dissipation versus ambient temperature**

Valid provided that electrodes are kept at ambient temperature

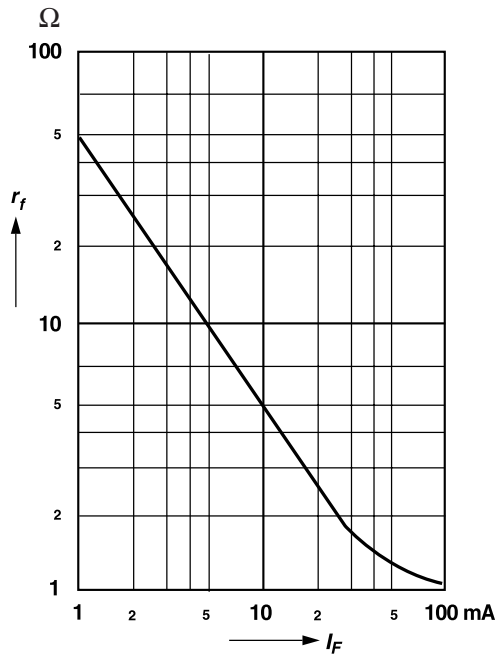


**Leakage current versus junction temperature**

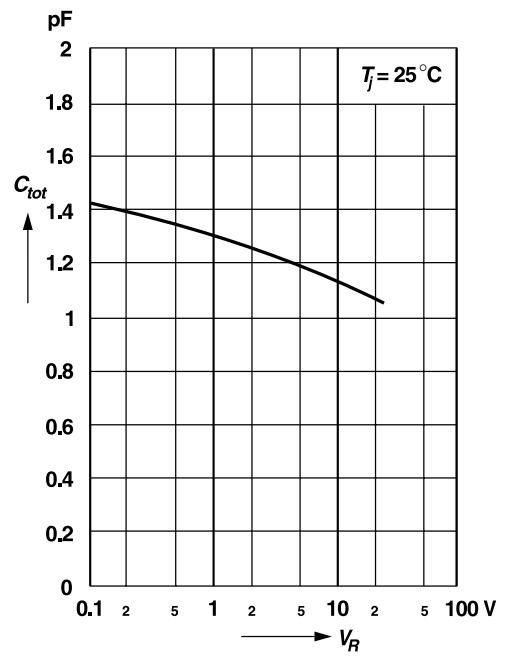


# BAV19WS thru BAV21WS

**Dynamic forward resistance versus forward current**



**Capacitance versus reverse voltage**





Micro Commercial Components

### Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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