



## 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 100<br>BAV20WS 150<br>BAV21WS 200 | V          |
|            | Repetitive Peak Reverse Voltage                                             | BAV19WS 120<br>BAV20WS 200<br>BAV21WS 250 | V          |
|            | Non-Repetitive Peak Forward Surge Current @ $t=1\mu s$<br>@ $t=1s$          | 2.5<br>0.5                                | A          |
| $I_{FM}$   | Forward Continuous Current (Note1)                                          | 400                                       | mA         |
| $I_O$      | Average Rectified Out put Current (Note1)                                   | 200                                       | mA         |
| $I_{FRM}$  | Repetitive Peak Forward Current at $f>50Hz$ ,<br>$T_{amb}=25^\circ C^{(1)}$ | 625                                       | mA         |
| $P_{tot}$  | Power Dissipation at $T_{amb}=25^\circ C^{(1)}$                             | 250                                       | mW         |
| $R_{thJA}$ | Thermal Resistance Junction to Ambient Air                                  | 500                                       | KW         |
| $T_J$      | Operating Junction Temperature                                              | -65 to +150                               | $^\circ C$ |
| $T_{STG}$  | Storage Temperature                                                         | -65 to +150                               | $^\circ C$ |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

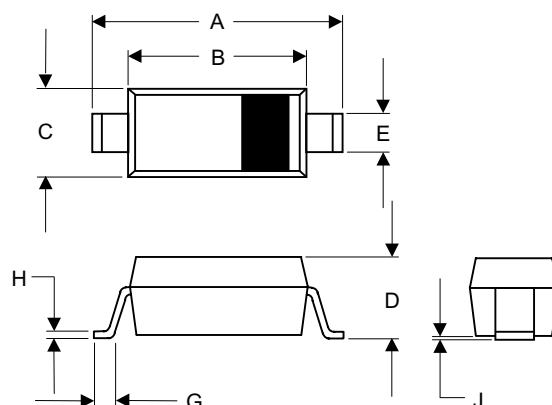
| Symbol    | Parameter                                                                                 | Min | Typ | Max          | Units |
|-----------|-------------------------------------------------------------------------------------------|-----|-----|--------------|-------|
| $V_F$     | Forward Voltage ( $I_F=100mA$ )<br>( $I_F=200mA$ )                                        | --- | --- | 1.00<br>1.25 | V     |
| $I_R$     | Leakage Current ( $V_R=100V$ )                                                            | --- | --- | 100          | nA    |
|           | ( $V_R=100V$ , $T_J=100^\circ C$ )                                                        | --- | --- | 15           | uA    |
|           | ( $V_R=150V$ )                                                                            | --- | --- | 100          | nA    |
|           | ( $V_R=150V$ , $T_J=100^\circ C$ )                                                        | --- | --- | 15           | uA    |
|           | ( $V_R=200V$ )                                                                            | --- | --- | 100          | nA    |
|           | ( $V_R=200V$ , $T_J=100^\circ C$ )                                                        | --- | --- | 15           | uA    |
| $C_{tot}$ | Capacitance ( $V_R=0$ , $f=1.0MHz$ )                                                      | --- | 1.5 | ---          | pF    |
| $t_{rr}$  | Reverse Recovery Time ( $I_F=30mA$ , $I_R=30mA$ )<br>( $I_{rr}=3.0mA$ , $R_L=100\Omega$ ) | --- | --- | 50           | ns    |

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

# BAV19WS THRU BAV21WS

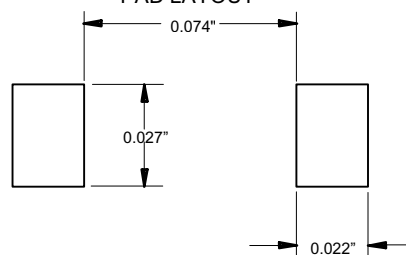
**250mW**  
**Small Signal**  
**Diodes**  
**120 to 250 Volts**

## SOD-323



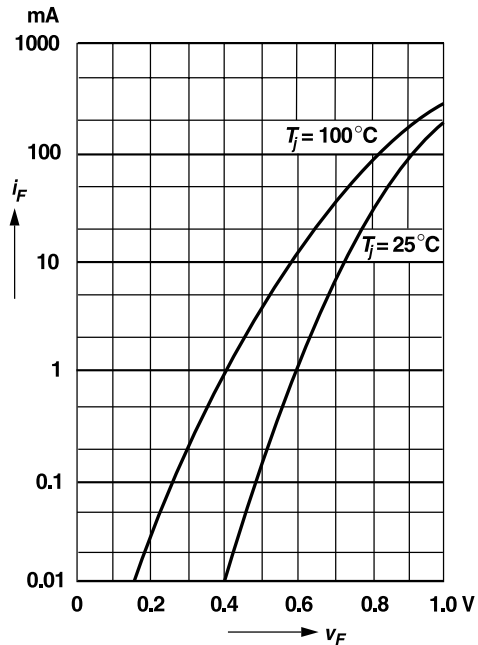
| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .090   | .107 | 2.30 | 2.70 |      |
| B   | .063   | .071 | 1.60 | 1.80 |      |
| C   | .045   | .053 | 1.15 | 1.35 |      |
| D   | .031   | .045 | 0.80 | 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



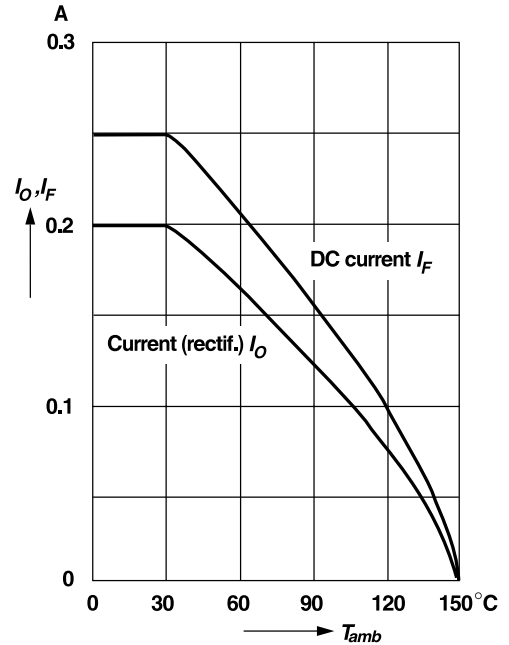
# BAV19WS thru BAV21WS

**Forward characteristics**



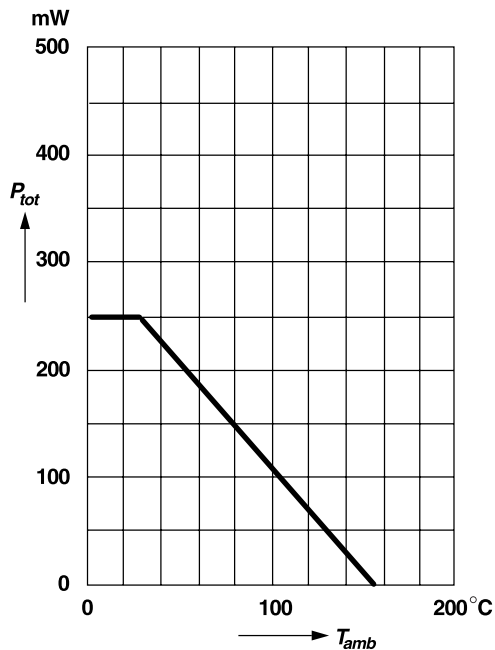
**Admissible forward current versus ambient temperature**

Valid provided that electrodes are kept at ambient temperature

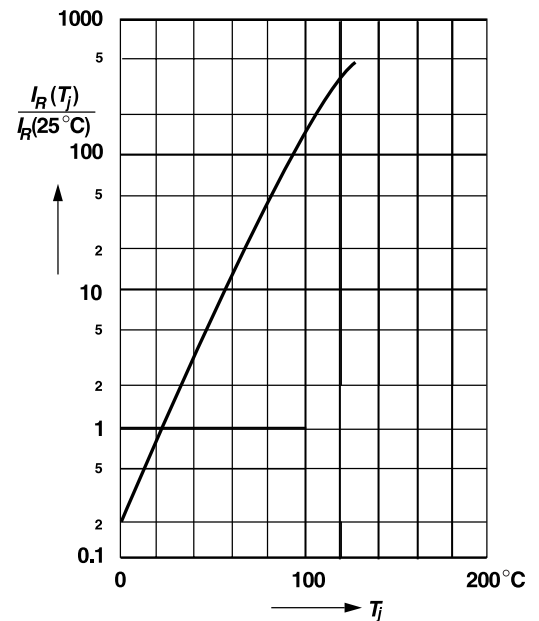


**Admissible power dissipation versus ambient temperature**

Valid provided that electrodes are kept at ambient temperature

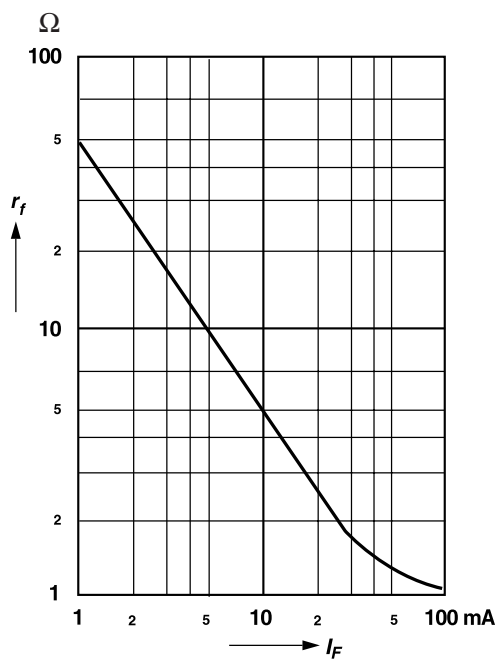


**Leakage current versus junction temperature**

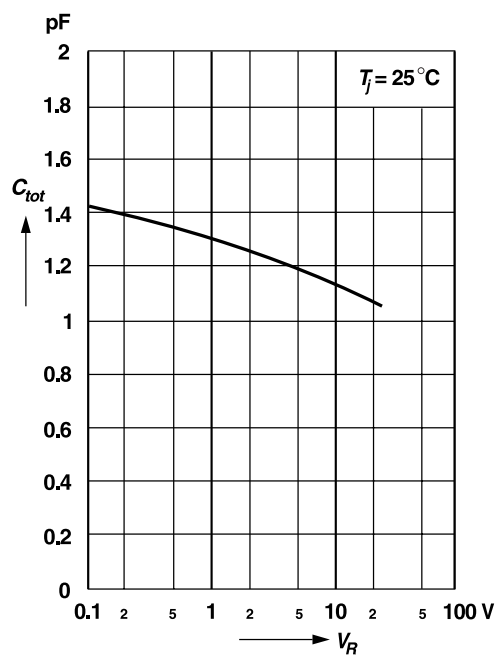


# BAV19WS thru BAV21WS

Dynamic forward resistance  
versus forward current



Capacitance  
versus reverse voltage





TM

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**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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