

BAV19WS THRU BAV21WS

Features

- 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

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Marking code: BAV19WS=A8
BAV20WS=T2
BAV21WS=T3

Maximum Ratings

| Symbol | Rating | Rating | Unit |
|-------------|--|-------------|-------------|
| V_R | Continuous Reverse Voltage | BAV19WS | 100 |
| | | BAV20WS | 150 |
| | | BAV21WS | 200 |
| V_{RRM} | Repetitive Peak Reverse Voltage | BAV19WS | 120 |
| | | BAV20WS | 200 |
| | | BAV21WS | 250 |
| I_F | Forward DC Current at $T_{amb}=25^{\circ}C^{(1)}$ | 250 | mA |
| $I_{F(AV)}$ | Rectified Current (Average) Half Wave Rectification with Resist. Load at $T_{amb}=25^{\circ}C^{(1)}$ | 200 | mA |
| | | | |
| I_{FRM} | Repetitive Peak Forward Current at $f>50Hz$, $T_{amb}=25^{\circ}C^{(1)}$ | 625 | mA |
| I_{FSM} | Surge Forward Current at $t<1s$, $T_j=25^{\circ}C$ | 1.0 | A |
| P_{tot} | Power Dissipation at $T_{amb}=25^{\circ}C^{(1)}$ | 410 | mW |
| R_{JA} | Thermal Resistance Junction to Ambient Air | 375 | mW |
| T_j | Junction Temperature | -55 to +150 | $^{\circ}C$ |
| T_{STG} | Storage Temperature | -55 to +150 | $^{\circ}C$ |

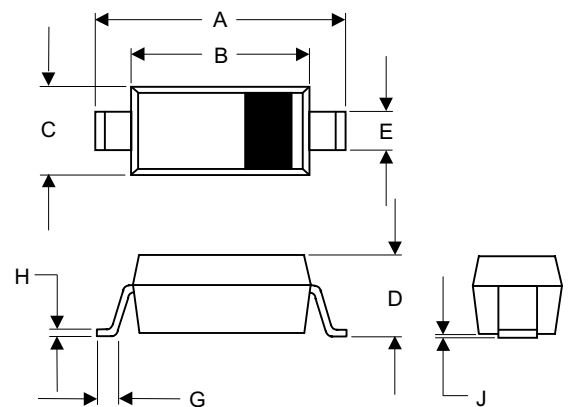
Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Typ | Max | Units |
|-----------|--|---------|-----|------|-------|
| V_F | Forward Voltage ($I_F=100mA$) ($I_F=200mA$) | --- | --- | 1.00 | V |
| | | --- | --- | 1.25 | |
| I_R | Leakage Current ($V_R=100V$) ($V_R=100V$, $T_j=100^{\circ}C$) ($V_R=150V$) ($V_R=150V$, $T_j=100^{\circ}C$) ($V_R=200V$) ($V_R=200V$, $T_j=100^{\circ}C$) | BAV19WS | --- | 100 | nA |
| | | BAV19WS | --- | 15 | uA |
| | | BAV20WS | --- | 100 | nA |
| | | BAV20WS | --- | 15 | uA |
| | | BAV21WS | --- | 100 | nA |
| | | BAV21WS | --- | 15 | uA |
| r_f | Dynamic Forward Resistance ($I_F=10mA$) | --- | 5.0 | --- | OHM |
| C_{tot} | Capacitance ($V_R=0$, $f=1.0MHz$) | --- | 1.5 | --- | pF |
| t_{rr} | Reverse Recovery Time ($I_F=30mA$, $I_R=30mA$) ($I_{rr}=3.0mA$, $R_L=100OHMS$) | --- | --- | 50 | ns |

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

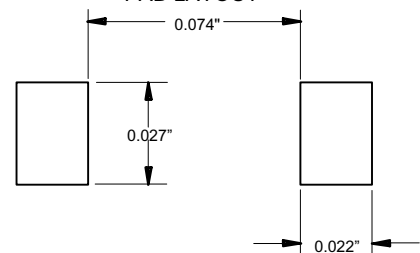
**410mW
Small Signal
Diodes
120 to 250 Volts**

SOD-323



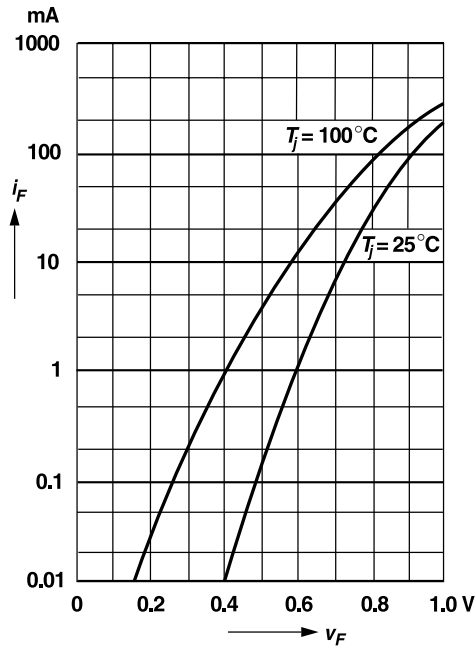
| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .090 | .107 | 2.30 | 2.70 | |
| B | .063 | .071 | 1.60 | 1.80 | |
| C | .045 | .053 | 1.15 | 1.35 | |
| D | .031 | .045 | 0.80 | 1.15 | |
| E | .010 | .016 | 0.25 | 0.40 | |
| G | .004 |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

SUGGESTED SOLDER PAD LAYOUT



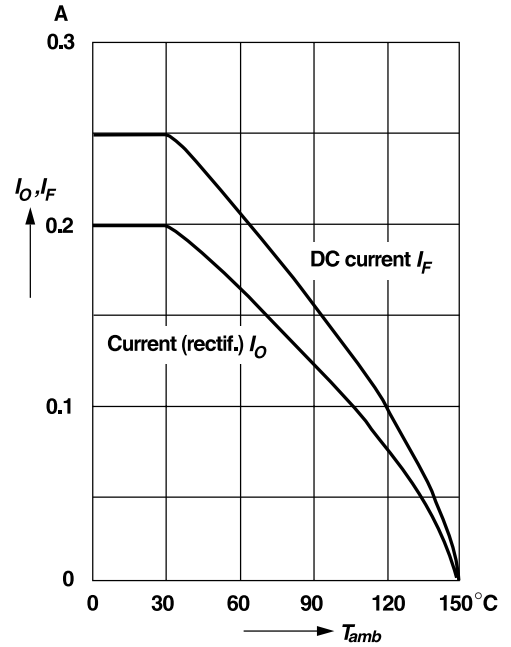
BAV19WS thru BAV21WS

Forward characteristics



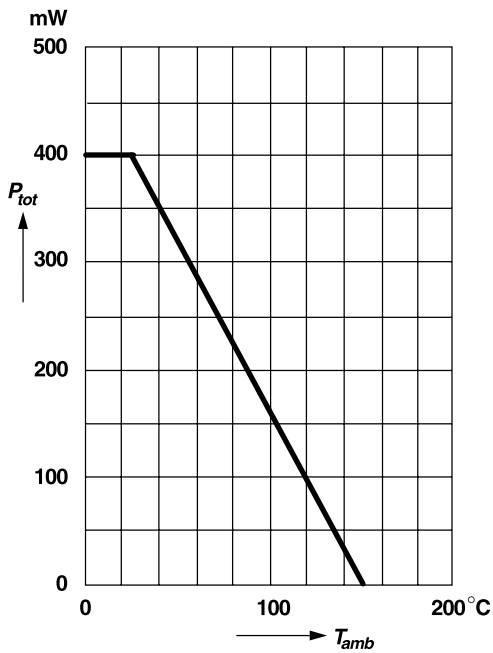
Admissible forward current versus ambient temperature

Valid provided that electrodes are kept at ambient temperature

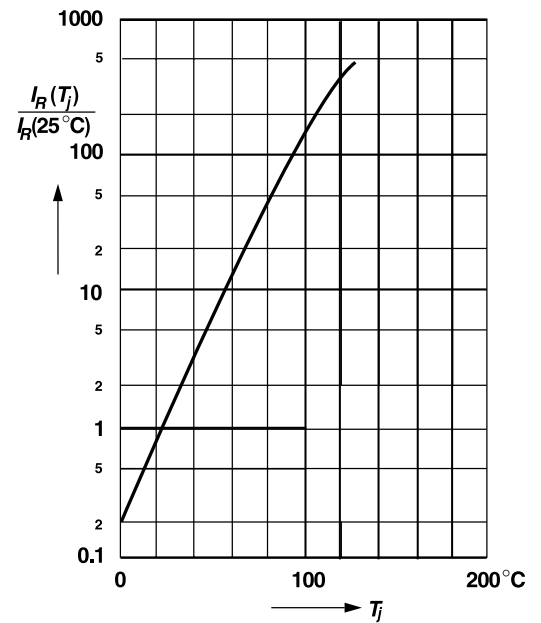


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature

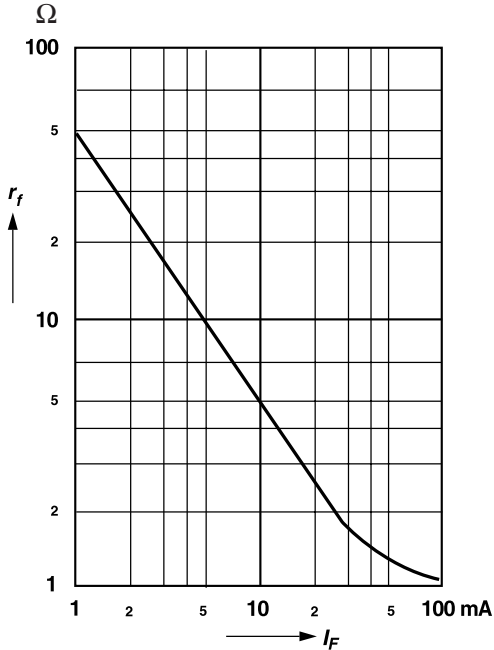


Leakage current versus junction temperature

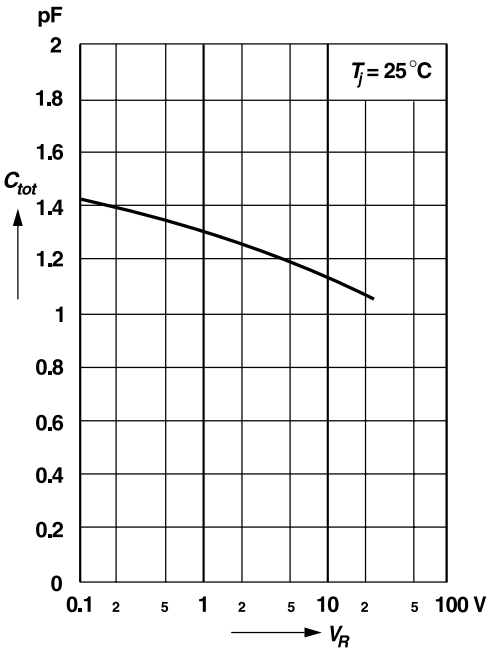


BAV19WS thru BAV21WS

Dynamic forward resistance versus forward current



Capacitance versus reverse voltage



Ordering Information

| Device | Packing |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |