

Features

- Silicon Epitaxial Planar Diodes
- For General Purpose
- This Diode is Also Available in Other Case
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 500°C/W Junction to Ambient

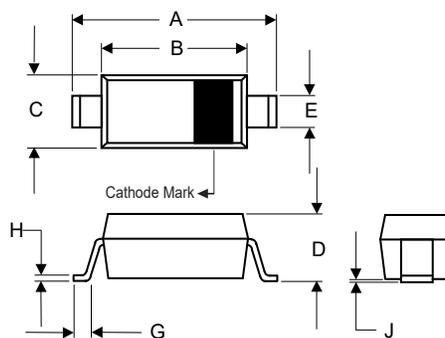
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Continuous Reverse Voltage |
|-----------------|----------------|--|---------------------|----------------------------|
| BAV19WS | A8 | 120V | 71V | 100V |
| BAV20WS | T2 | 200V | 106V | 150V |
| BAV21WS | T3 | 250V | 141V | 200V |

| | | | |
|----------------------------------|-----------|------------------------------|--|
| Peak Forward Current | I_{FM} | 400mA | Note2 |
| Average Rectified Output Current | I_o | 200mA | Note2 |
| Peak Forward Surge Current | I_{FSM} | 9.0A 3.0A 1.7A 0.5A | $t=1\mu s$ $t=100\mu s$ $t=10ms$ $t=1s$ |
| Repetitive Peak Forward Current | I_{FRM} | 625mA | $f>50Hz, T_a=25^\circ C^{(2)}$ |
| Power Dissipation | P_{tot} | 250mW | $T_a=25^\circ C^{(2)}$ |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Valid Provided that Terminals are Kept at Ambient Temperature

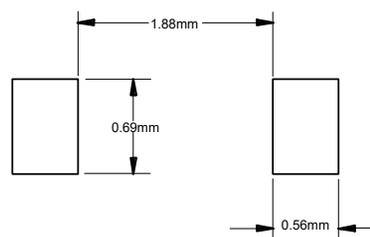
**250mW
Small Signal
Diodes
120 to 250 Volts**

SOD-323



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|-------|------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | 0.090 | 0.107 | 2.30 | 2.70 | |
| B | 0.063 | 0.071 | 1.60 | 1.80 | |
| C | 0.045 | 0.053 | 1.15 | 1.35 | |
| D | 0.031 | 0.045 | 0.80 | 1.15 | |
| E | 0.010 | 0.016 | 0.25 | 0.40 | |
| G | 0.004 | 0.018 | 0.10 | 0.45 | |
| H | 0.004 | 0.010 | 0.10 | 0.25 | |
| J | ----- | 0.006 | ----- | 0.15 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|----------------------------|----------|---|------|------|------|---------------|
| Forward Voltage | V_F | $I_F=100\text{mA}$ | | | 1 | V |
| | | $I_F=200\text{mA}$ | | | 1.25 | V |
| Dynamic Forward Resistance | r_f | $I_F=10\text{mA}$ | | 5 | | Ω |
| Reverse Current | I_R | BAV19WS $V_R=100\text{V}$ | | | 100 | nA |
| | | BAV20WS $V_R=150\text{V}$ | | | 100 | nA |
| | | BAV21WS $V_R=200\text{V}$ | | | 100 | nA |
| | | BAV19WS $V_R=100\text{V}, T_J=100^\circ\text{C}$ | | | 15 | μA |
| | | BAV20WS $V_R=150\text{V}, T_J=100^\circ\text{C}$ | | | 15 | μA |
| | | BAV21WS $V_R=200\text{V}, T_J=100^\circ\text{C}$ | | | 15 | μA |
| Junction Capacitance | C_J | $V_R = 0\text{V}, f = 1\text{MHz}$ | | 1.5 | | pF |
| Reverse Recovery Time | t_{rr} | $I_F=I_R=30\text{mA},$ $I_{rr}=0.1*I_R, R_L=100\Omega$ | | | 50 | ns |

 * Pulse Test: Pulse Width 300 μsec , Duty Cycle 2%

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

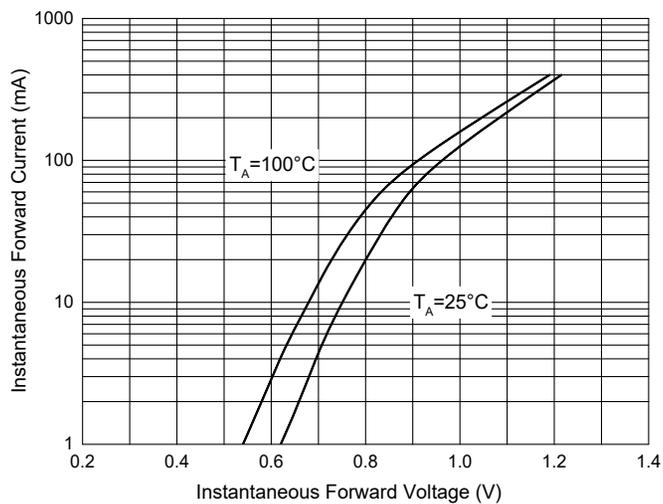


Fig. 2 - Typical Reverse Leakage Characteristics

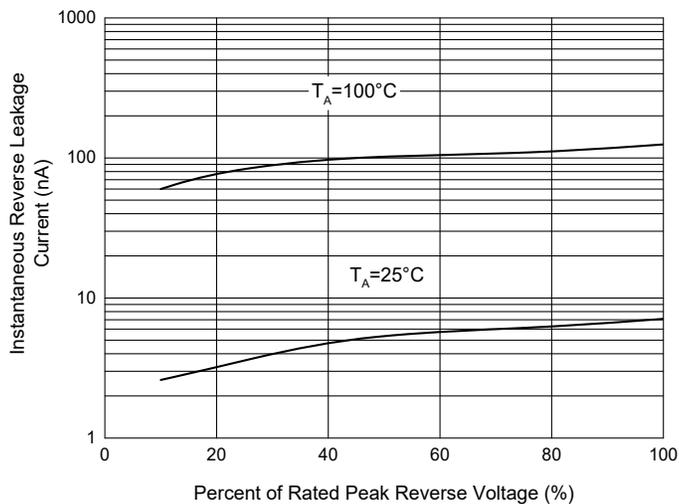


Fig. 3 - Power Derating Curve

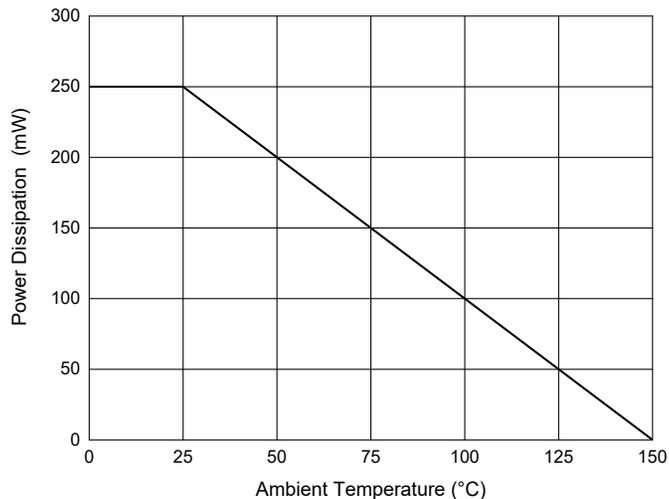


Fig. 4 - Current Derating Curve

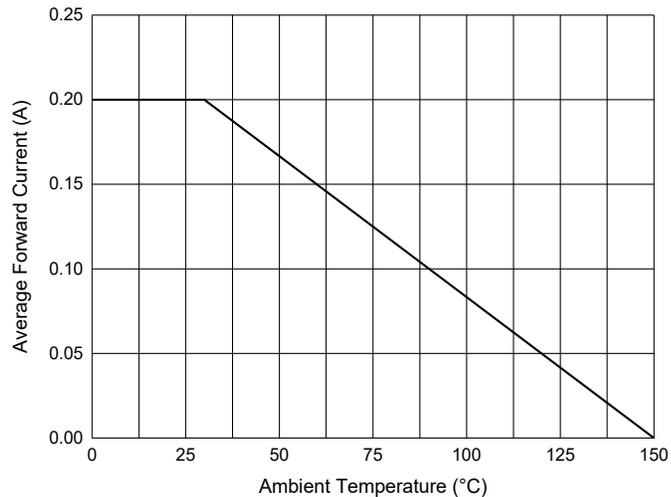
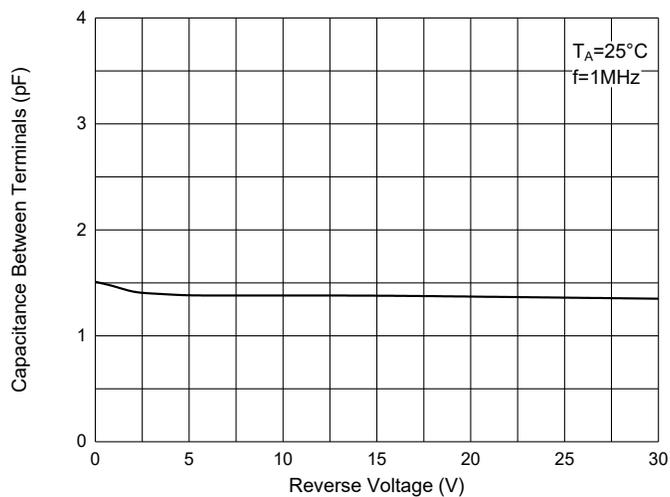


Fig. 5 - Capacitance Characteristics



Ordering Information

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

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