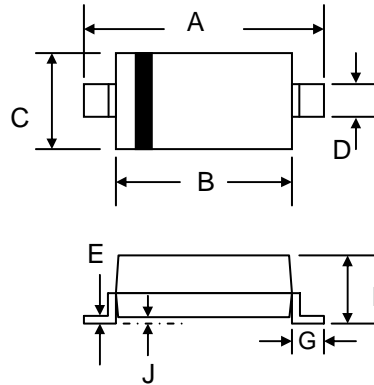


SURFACE MOUNT FAST SWITCHING DIODE

Features

- High Conductance
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Application
- Plastic Material – UL Recognition Flammability Classification 94V-0



| SOD-323 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 2.30 | 2.75 |
| B | 1.60 | 1.80 |
| C | 1.15 | 1.35 |
| D | 0.25 | 0.40 |
| E | 0.09 | 0.18 |
| G | 0.08 | — |
| H | 0.80 | 1.00 |
| J | — | 0.12 |
| All Dimensions in mm | | |

Mechanical Data

- Case: SOD-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)
- Marking: Device Code, See Page 3
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**

Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | BAV19WS | BAV20WS | BAV21WS | Unit |
|---|-----------------|-------------|---------|---------|------------------|
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 120 | 200 | 250 | V |
| Peak Repetitive Reverse Voltage | V_{RRM} | 100 | 150 | 200 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | | |
| DC Blocking Voltage | V_R | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 70 | 105 | 140 | V |
| Forward Continuous Current (Note 1) | I_F | 400 | | | mA |
| Average Rectified Output Current (Note 1) | I_O | 200 | | | mA |
| Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{s}$ | I_{FSM} | 2.5 0.5 | | | A |
| Power Dissipation | P_d | 200 | | | mW |
| Typical Thermal Resistance, Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 625 | | | K/W |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | | | $^\circ\text{C}$ |

Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | BAV19WS | BAV20WS | BAV21WS | Unit |
|---|----------|---------|---------|---------|------|
| Forward Voltage Drop @ $I_F = 100\text{mA}$ | V_{FM} | 1.0 | | | V |
| Peak Reverse Leakage Current @ Rated DC Blocking Voltage | I_{RM} | 100 | | | nA |
| Typical Junction Capacitance ($V_R = 0\text{V DC}$, $f = 1.0\text{MHz}$) | C_j | 5.0 | | | pF |
| Reverse Recovery Time (Note 2) | t_{rr} | 50 | | | nS |

Note: 1. Valid provided that terminals are kept at ambient temperature.
 2. Measured with $I_F = I_R = 30\text{mA}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100\Omega$.

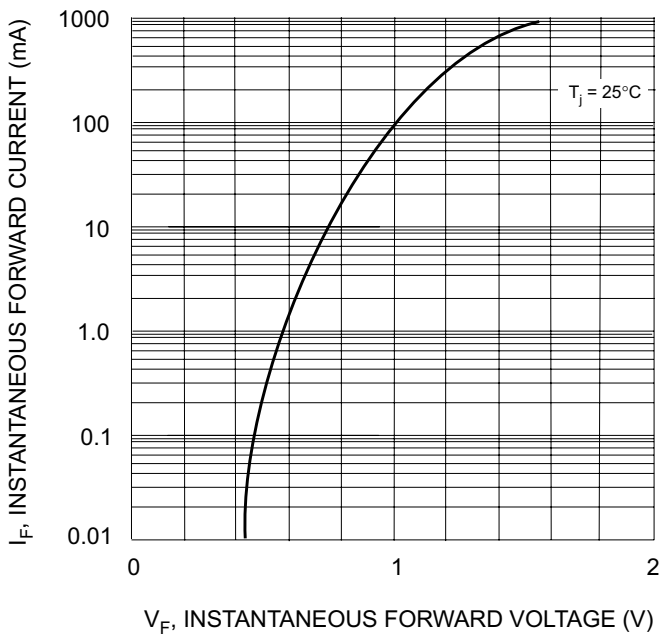


Fig. 1 Forward Characteristics

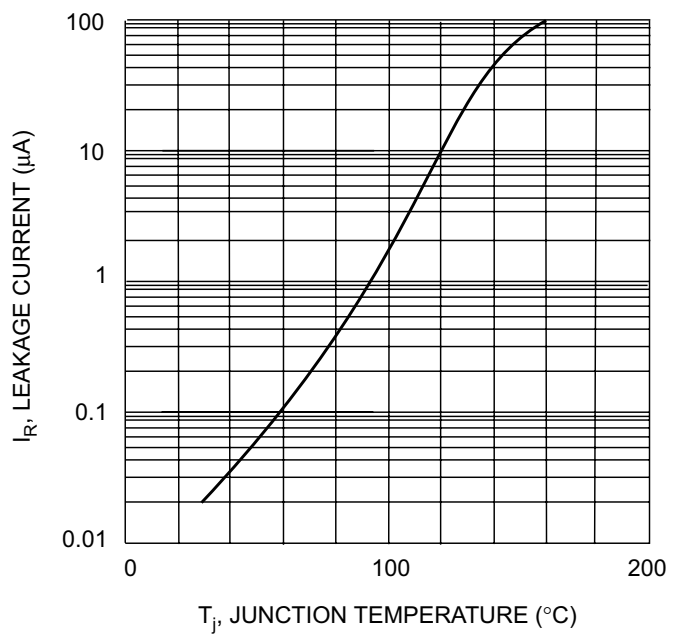


Fig. 2 Leakage Current vs Junction Temperature

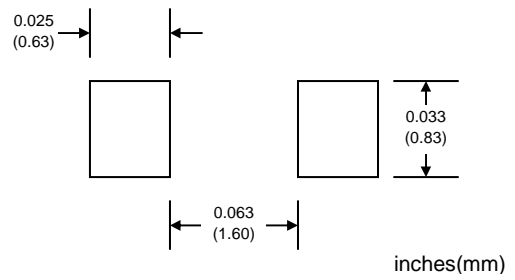
MARKING INFORMATION



xx = Device Code, See Table Below

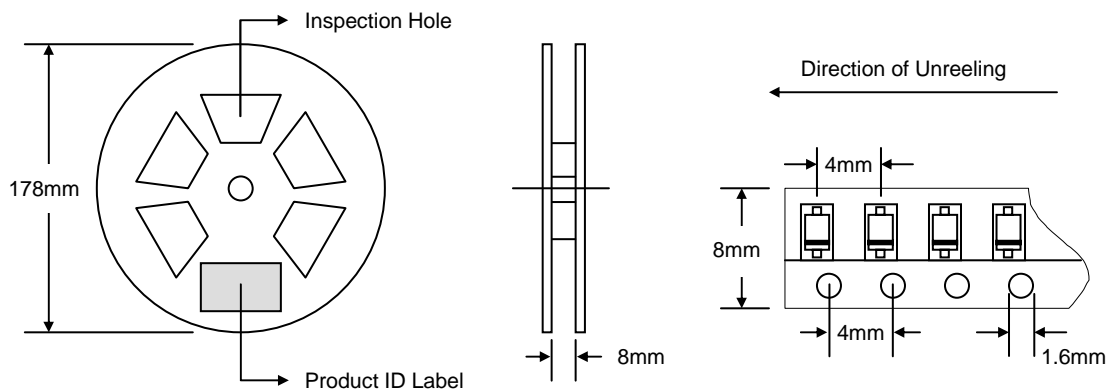
| Mfg Site | BAV19WS | BAV20WS | BAV21WS |
|----------|---------|---------|---------|
| TW Plant | A8 | A80 | A82 |
| CN Plant | A8 | T2 | T3 |

RECOMMENDED FOOTPRINT



PACKAGING INFORMATION

TAPE & REEL



| Reel Diameter (mm) | Quantity (PCS) | Inner Box Size L x W x H (mm) | Quantity (PCS) | Carton Size L x W x H (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|--------------------|----------------|-------------------------------|----------------|----------------------------|----------------|---------------------------|
| 178 | 3,000 | 187 x 187 x 65 | 15,000 | 390 x 240 x 420 | 150,000 | 7.0 |

Note: 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|-------------|--------------|-------------------|
| BAV19WS-T1 | SOD-323 | 3000/Tape & Reel |
| BAV20WS-T1 | SOD-323 | 3000/Tape & Reel |
| BAV21WS-T1 | SOD-323 | 3000/Tape & Reel |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BAV19WS-T1-LF.**

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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