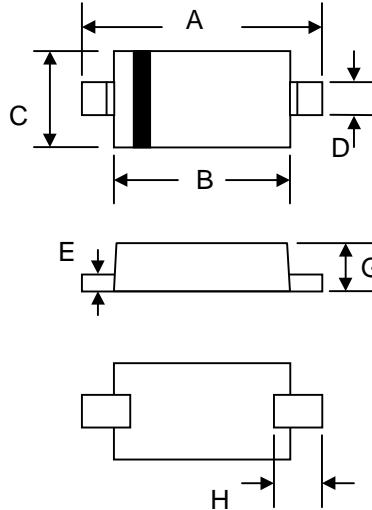


# BAS19WS – BAS21WS

## 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-O



| SOD-323              |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 2.30 | 2.70 |
| B                    | 1.75 | 1.95 |
| C                    | 1.15 | 1.35 |
| D                    | 0.25 | 0.35 |
| E                    | 0.05 | 0.15 |
| G                    | 0.70 | 0.95 |
| H                    | 0.30 | —    |
| 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: BAS19WS A8  
           BAS20WS A80  
           BAS21WS A82

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

| Characteristic  | Symbol          | BAS19WS     | BAS20WS | BAS21WS | 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 @ $t = 1.0\mu\text{s}$<br>@ $t = 1.0\text{s}$ | $I_{FSM}$       | 2.5<br>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   | BAS19WS | BAS20WS | BAS21WS | 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  $I_F = I_R = 30\text{mA}$ ,  $I_{RR} = 0.1 \times I_R$ ,  $R_L = 100\Omega$ .

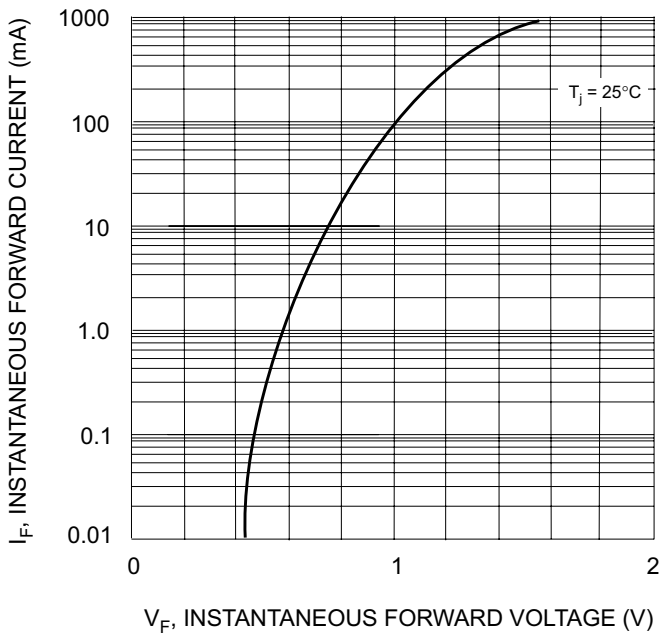


Fig. 1 Forward Characteristics

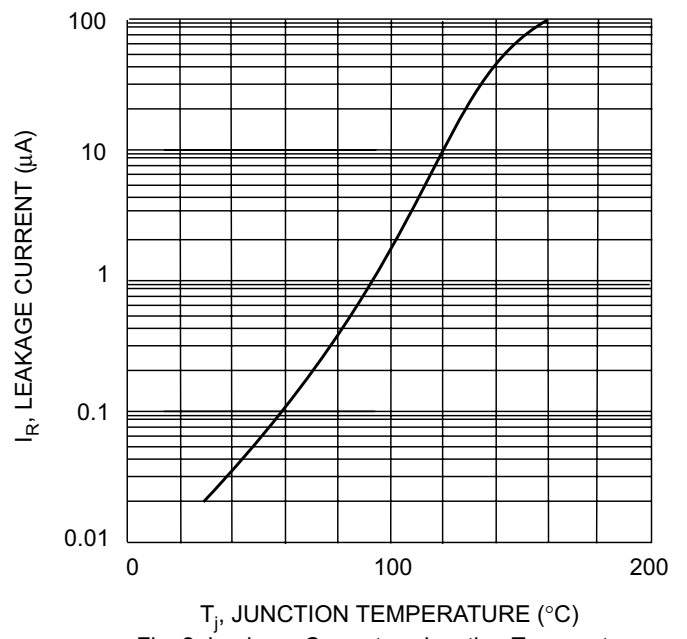


Fig. 2 Leakage Current vs Junction Temperature

## ORDERING INFORMATION

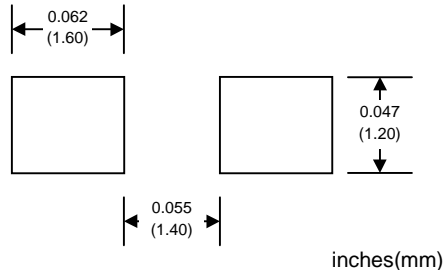
| Product No. ♦     | Package Type | Shipping Quantity |
|-------------------|--------------|-------------------|
| <b>BAS19WS-T1</b> | SOD-323      | 3000/Tape & Reel  |
| BAS19WS-T3        | SOD-323      | 10000/Tape & Reel |
| <b>BAS20WS-T1</b> | SOD-323      | 3000/Tape & Reel  |
| BAS20WS-T3        | SOD-323      | 10000/Tape & Reel |
| <b>BAS21WS-T1</b> | SOD-323      | 3000/Tape & Reel  |
| BAS21WS-T3        | SOD-323      | 10000/Tape & Reel |

Products listed in **bold** are WTE **Preferred** devices.

♦T1 suffix refers to a 7" reel. T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

## RECOMMENDED FOOTPRINT



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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.

**Won-Top Electronics Co., Ltd.**

No. 44 Yu Kang North 3rd Road, Chine Chen Dist., Kaohsiung, Taiwan

**Phone:** 886-7-822-5408 or 886-7-822-5410

**Fax:** 886-7-822-5417

**Email:** sales@wontop.com

**Internet:** <http://www.wontop.com>

*We power your everyday.*