

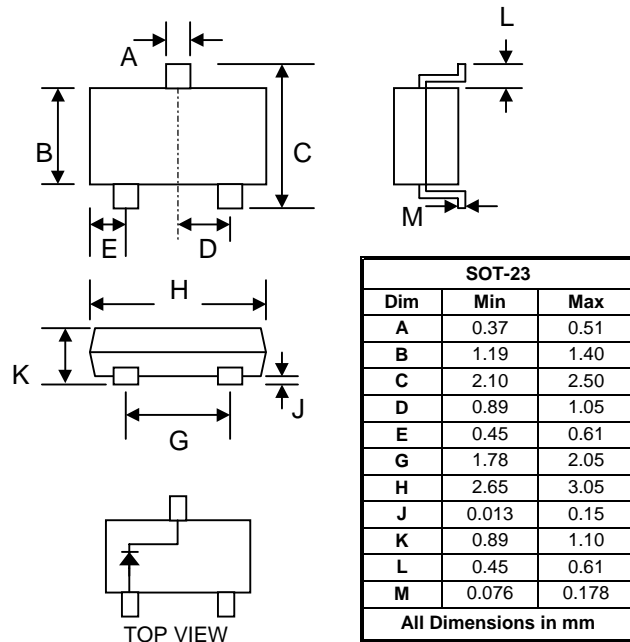
SURFACE MOUNT FAST SWITCHING DIODE

Features

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

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approx.)
- Mounting Position: Any
- Marking:
 - BAS19 A8
 - BAS20 A80
 - BAS21 A82
- **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

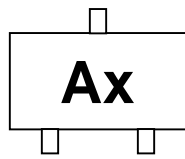
| Characteristic | Symbol | BAS19 | BAS20 | BAS21 | Unit |
|--|-----------------|-------------|-------|-------|------------------|
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 120 | 200 | 250 | V |
| Peak Repetitive Reverse Voltage | V_{RRM} | 100 | 150 | 200 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | | |
| DC Blocking Voltage | V_R | | | | |
| Forward Continuous Current (Note 1) | I_F | 400 | | | mA |
| Average Rectified Output Current (Note 1) | I_O | 200 | | | mA |
| Peak Forward Surge Current (Note 1) @ $t = 1.0\mu\text{s}$ | I_{FSM} | 2.5 | | | A |
| Power Dissipation (Note 1) | P_d | 350 | | | mW |
| Typical Thermal Resistance, Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 500 | | | 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 | Min | Max | Unit | Test Condition |
|-------------------------|----------|--------|-------------|------|--|
| Forward Voltage | V_F | — — | 1.0 1.25 | V | @ $I_F = 100\text{mA}$ @ $I_F = 200\text{mA}$ |
| Reverse Leakage Current | I_R | — | 100 | nA | @ Rated DC Blocking Voltage |
| Junction Capacitance | C_j | — | 5.0 | pF | $V_R = 0\text{V}$, $f = 1.0\text{MHz}$ |
| Reverse Recovery Time | t_{rr} | — | 50 | nS | $I_F = I_R = 30\text{mA}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100\Omega$ |

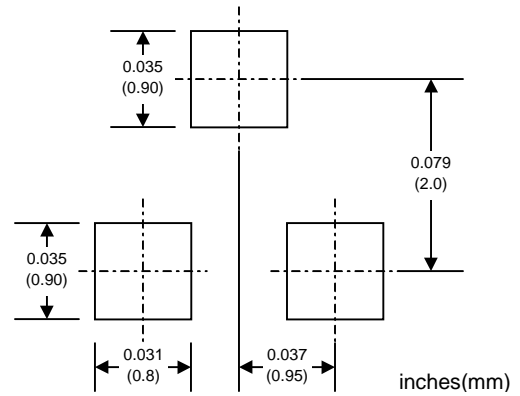
Note: 1. Device mounted on fiberglass substrate 40 x 40 x 1.5mm.

MARKING INFORMATION



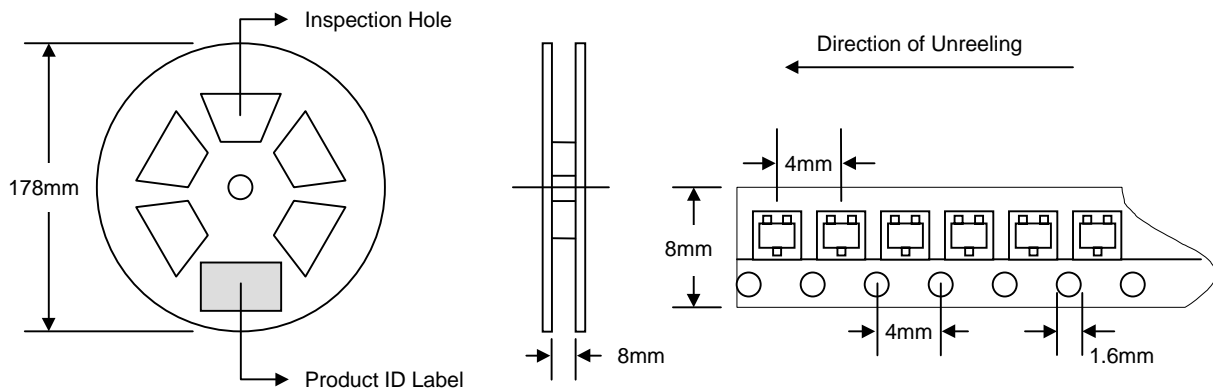
Ax = Device Code
 x = 8 (BAS19)
 80 (BAS20)
 82 (BAS21)

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 | 10.0 |

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 |
|-------------|--------------|-------------------|
| BAS19-T1 | SOT-23 | 3000/Tape & Reel |
| BAS20-T1 | SOT-23 | 3000/Tape & Reel |
| BAS21-T1 | SOT-23 | 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, BAS19-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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