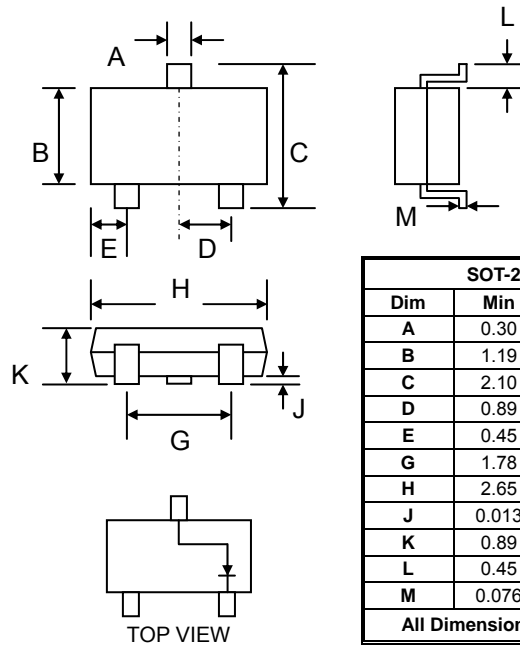


Features

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

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: JF
- **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 | Value | Unit |
|--|---------------------------------|---|--------------------|
| Non-Repetitive Peak Reverse Voltage | V_{RSM} | 100 | V |
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 75 | V |
| Forward Continuous Current | I_F | 200 | mA |
| Non-Repetitive Peak Forward Surge Current | I_{FSM} | 2.0 1.0 | A |
| | | @ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{s}$ | |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | $^{\circ}\text{C}$ |

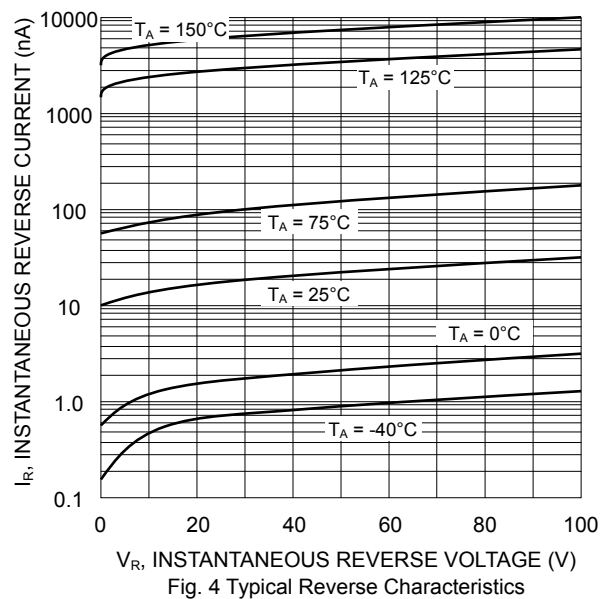
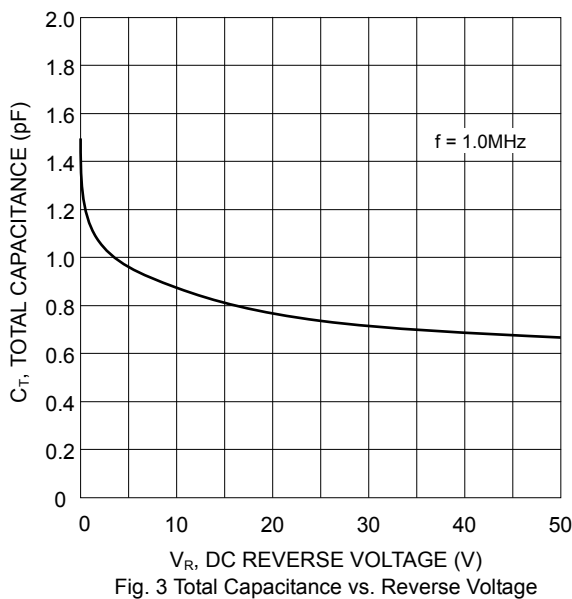
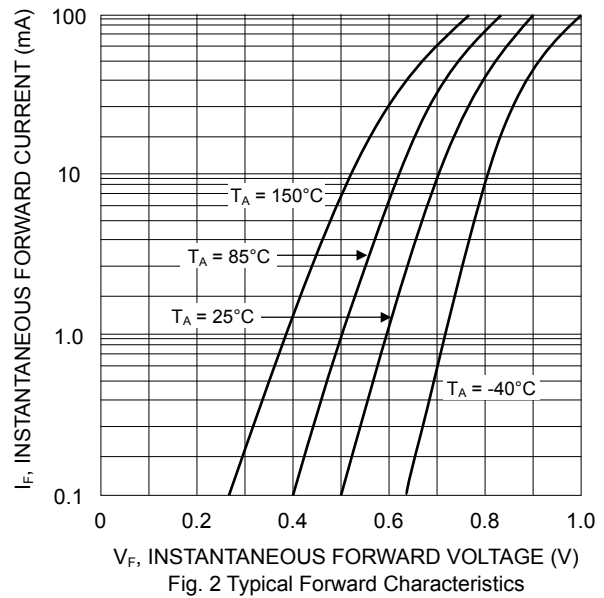
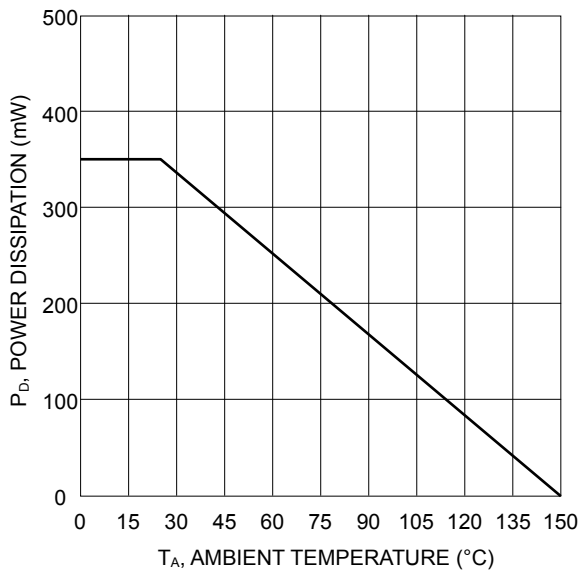
Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|--|----------|-------|----------------------|
| Power Dissipation (Note 1) | P_D | 350 | mW |
| Thermal Resistance, Junction to Ambient (Note 1) | R_{JA} | 357 | $^{\circ}\text{C/W}$ |

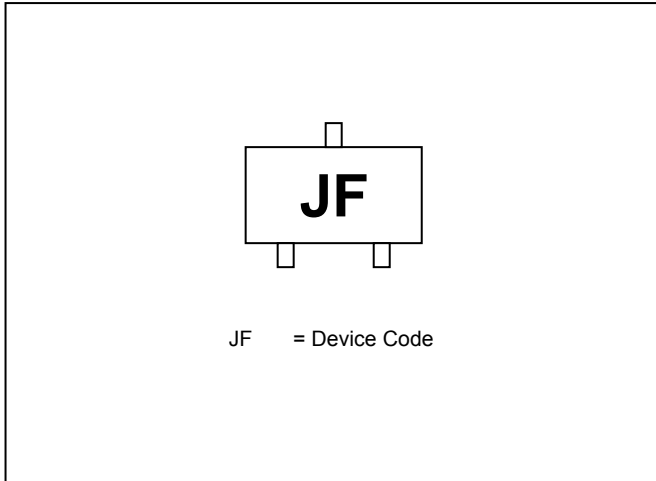
Note: 1. Mounted on FR-4 PC board with minimum recommended pad layout.

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

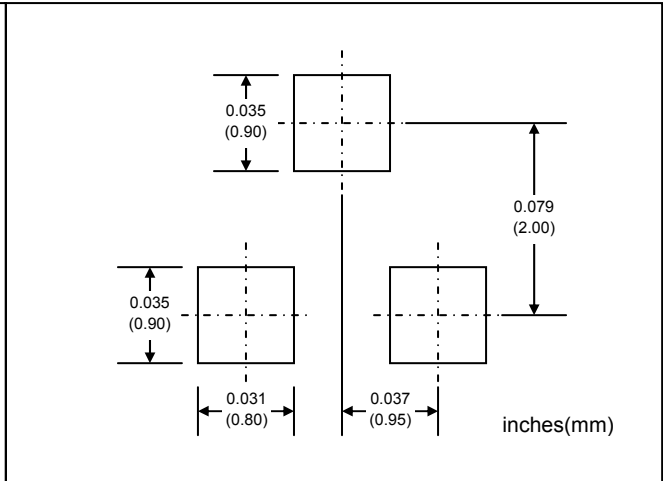
| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|---|------------|------|------|-------------------------------|---------------|
| Reverse Breakdown Voltage @ $I_R = 100\mu\text{A}$ | $V_{(BR)}$ | 75 | | | V |
| Forward Voltage Drop @ $I_F = 1.0\text{mA}$ @ $I_F = 10\text{mA}$ @ $I_F = 50\text{mA}$ @ $I_F = 150\text{mA}$ | V_{FM} | | | 0.715 0.855 1.0 1.25 | V |
| Peak Reverse Leakage Current @ $V_R = 75\text{V}, T_J = 25^\circ\text{C}$ @ $V_R = 25\text{V}, T_J = 150^\circ\text{C}$ @ $V_R = 75\text{V}, T_J = 150^\circ\text{C}$ | I_{RM} | | | 2.5 30 50 | μA |
| Diode Capacitance ($V_R = 0\text{V}, f = 1.0\text{MHz}$) | C_D | | | 1.5 | pF |
| Reverse Recovery Time ($I_F = I_R = 10\text{mA}, I_{RR} = 0.1 \times I_R, R_L = 100\Omega$) | t_{rr} | | | 6.0 | nS |



MARKING INFORMATION

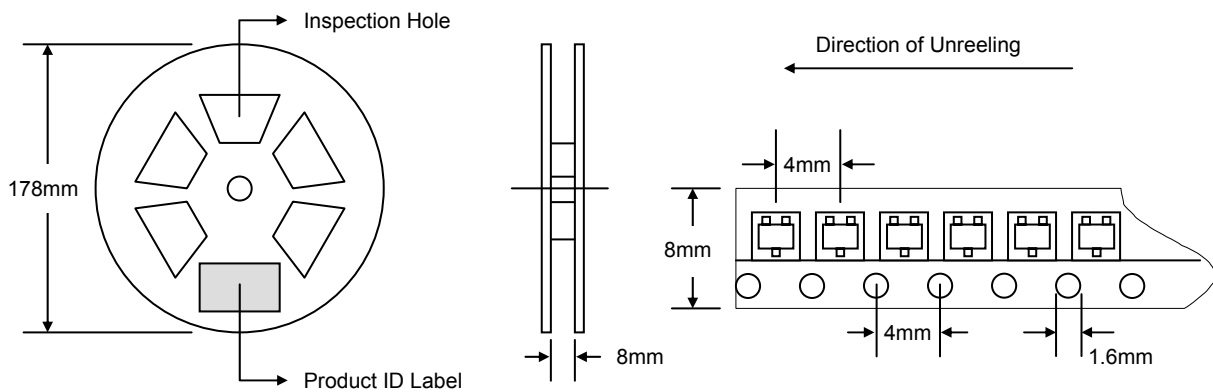


RECOMMENDED FOOTPRINT



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 |
|-------------|--------------|-------------------|
| BAL99-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, BAL99-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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