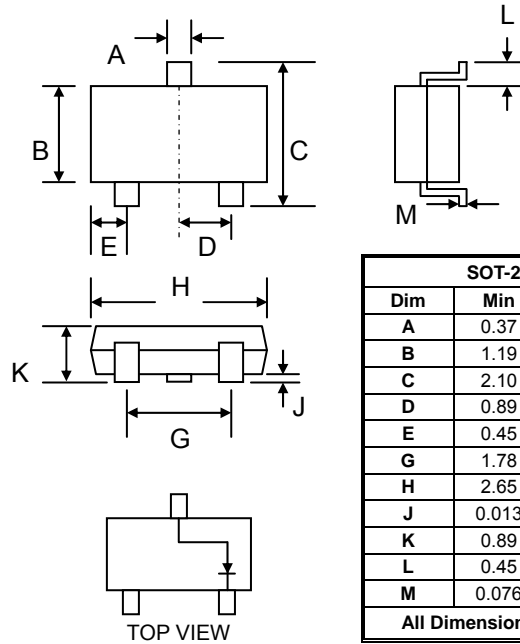


### Features

- 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	$^{\circ}\text{C}$

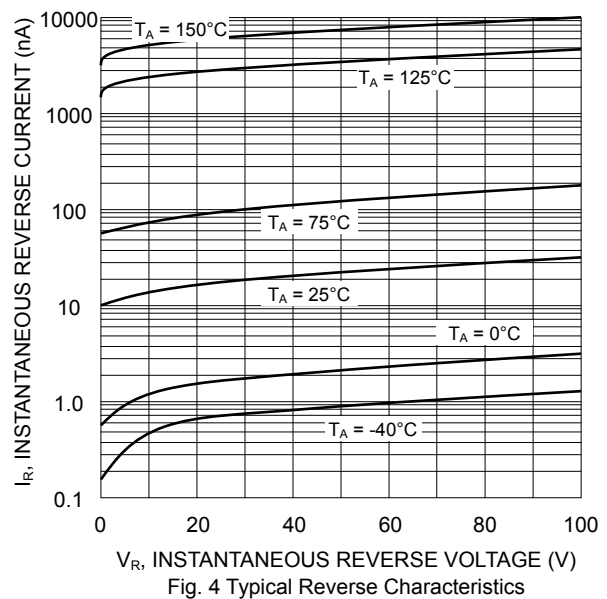
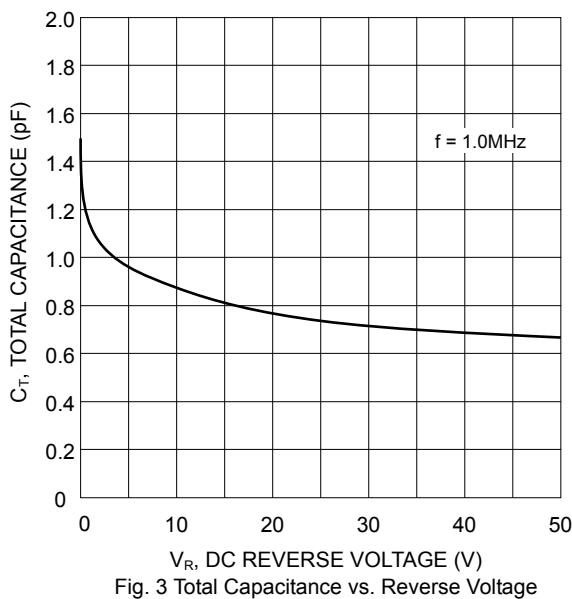
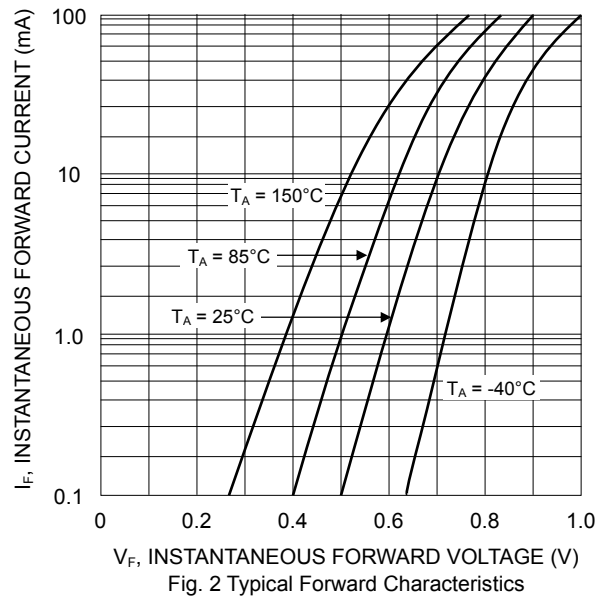
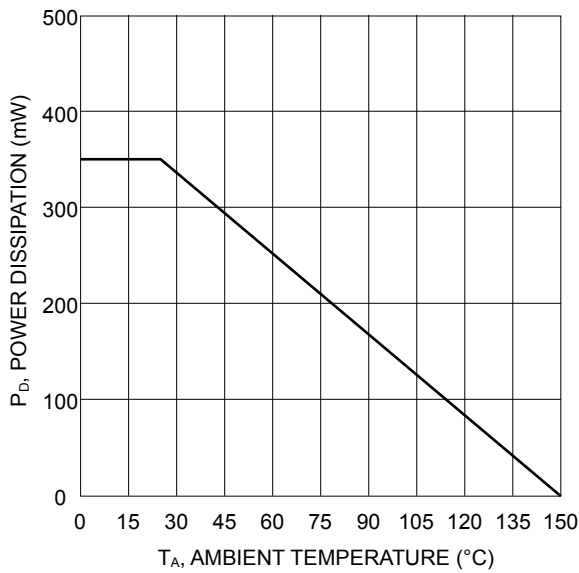
### Thermal Characteristics

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

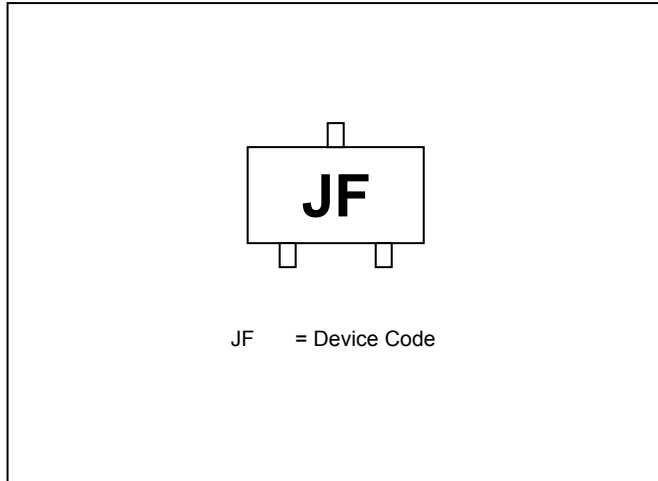
Note: 1. Mounted on FR-4 PC board with minimum recommended pad layout.

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

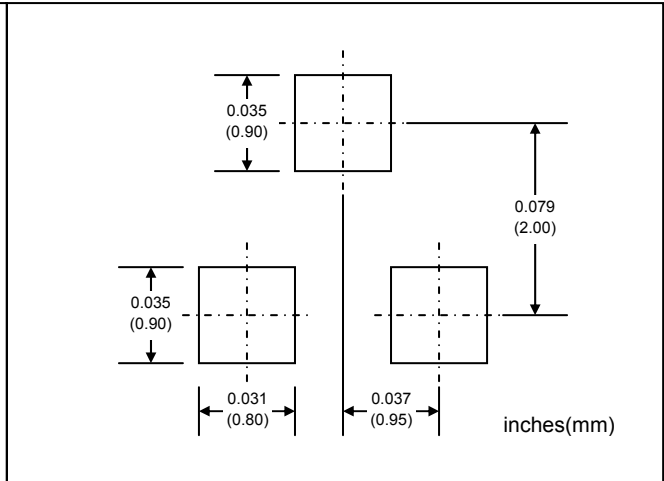
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage @ $I_R = 100\mu\text{A}$	$V_{(BR)}$	75			V
Forward Voltage Drop @ $I_F = 1.0\text{mA}$ @ $I_F = 10\text{mA}$ @ $I_F = 50\text{mA}$ @ $I_F = 150\text{mA}$	$V_{FM}$			0.715 0.855 1.0 1.25	V
Peak Reverse Leakage Current @ $V_R = 75\text{V}, T_J = 25^\circ\text{C}$ @ $V_R = 25\text{V}, T_J = 150^\circ\text{C}$ @ $V_R = 75\text{V}, T_J = 150^\circ\text{C}$	$I_{RM}$			2.5 30 50	$\mu\text{A}$
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**

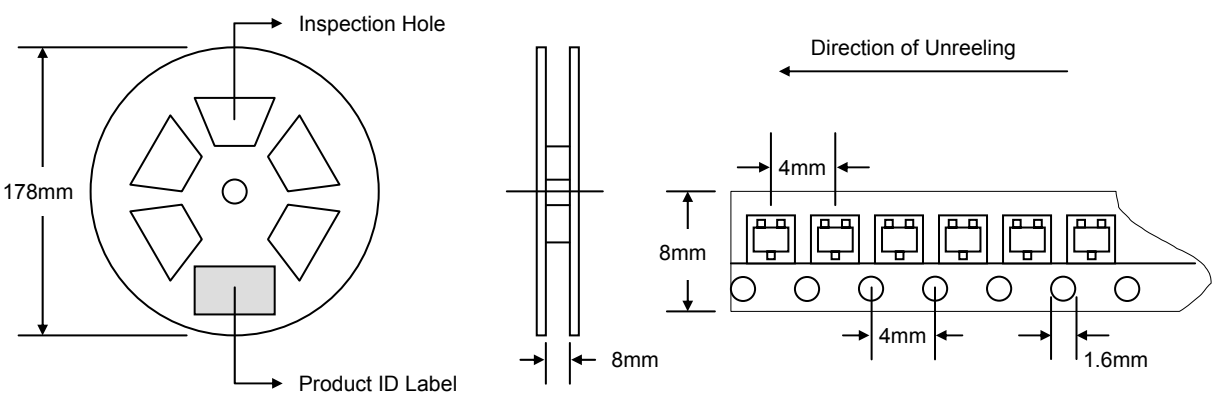


**RECOMMENDED FOOTPRINT**



**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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