



## Features

- SMD NTC thermistor for thermal sense
- Highly stable electrical characteristics
- Highly reliable structure
- Operating temperature: -40 °C to +125 °C
- Agency recognition:
- RoHS compliant\* and halogen free\*\*

## Applications

- Battery packs
- NBPC, smartphones
- LED display, lighting
- Communication equipment
- AC adapters
- OA equipment

## BTN04G Series – SMD NTC Thermistor for Thermal Sense

### Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Bourns Part No.	Resistance @ 25 °C (Ω)	Resistance Tolerance	B Value 25/50 °C	B Value 25/85 °C	B Value Tolerance	Dissipation Factor σ (mW/°C)	Thermal Time Constant (sec.)	Max. Power Rating @ 25 °C (mW)	Operating Temperature Range (°C)
BTN04G103F3HFT00	10k	±1 %	3380	(3435)	±1 %	Approx. 1.7	Approx. 3.0	170	-40 to +125
BTN04G103G3HFT00		±2 %							
BTN04G103H3HFT00		±3 %							
BTN04G103J3HFT00		±5 %							
BTN04G103F3TFT00	10k	±1 %	3900	(3970)					
BTN04G103G3TFT00		±2 %							
BTN04G103H3TFT00		±3 %							
BTN04G103J3TFT00		±5 %							
BTN04G333F4AFT00	33k	±1 %	4050	(4100)					
BTN04G333G4AFT00		±2 %							
BTN04G333H4AFT00		±3 %							
BTN04G333J4AFT00		±5 %							
BTN04G473F4AFT00	47k	±1 %	4050	(4100)					
BTN04G473G4AFT00		±2 %							
BTN04G473H4AFT00		±3 %							
BTN04G473J4AFT00		±5 %							
BTN04G104F4EFT00	100k	±1 %	4250	(4300)					
BTN04G104G4EFT00		±2 %							
BTN04G104H4EFT00		±3 %							
BTN04G104J4EFT00		±5 %							

### How to Order

**BTN 04 G 103 F 3H F TXX**

Series Code \_\_\_\_\_

Product Size (EIA) \_\_\_\_\_  
04 = 0402

Grade \_\_\_\_\_  
G = General

Resistance / R25 \_\_\_\_\_  
103 = 10k Ω      473 = 47k Ω  
333 = 33k Ω      104 = 100k Ω

Tolerance / R25 \_\_\_\_\_  
F = ±1 %      H = ±3 %  
G = ±2 %      J = ±5 %

B Value (K) \_\_\_\_\_  
3A = 3000-3050    4A = 4000-4050  
3B = 3051-3100    4B = 4051-4100  
3D = 3151-3200    4D = 4151-4200  
3E = 3201-3250    4E = 4201-4250  
3H = 3351-3400    4H = 4351-4400  
3J = 3401-3450    4J = 4401-4450  
3T = 3851-3900    4T = 4851-4900  
3U = 3901-3950    4U = 4901-4950

B Tolerance \_\_\_\_\_  
F = ±1 %      H = ±3 %      G = ±2 %      J = ±5 %

Internal Code \_\_\_\_\_

### Additional Information

Click these links for more information:



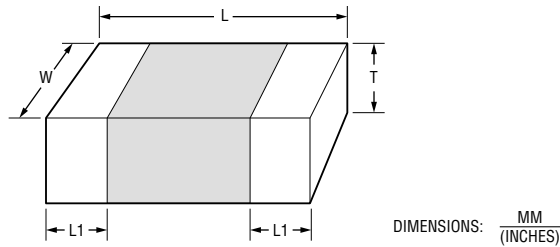
**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.  
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# BTN04G Series – SMD NTC Thermistor for Thermal Sense

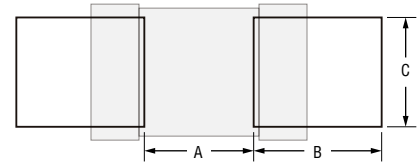


## Product Dimensions



Size (EIA)	L	W	T	L1
BTN04 (0402)	$1.00 \pm 0.15$ (.039 ± .006)	$0.50 \pm 0.15$ (.020 ± .006)	$0.50 \pm 0.10$ (.020 ± .004)	$0.25 \pm 0.10$ (.010 ± .004)

## Recommended Pad Layout



A	B	C
$0.50$ (.020)	$0.60$ (.024)	$0.51$ (.020)

## Environmental Characteristics

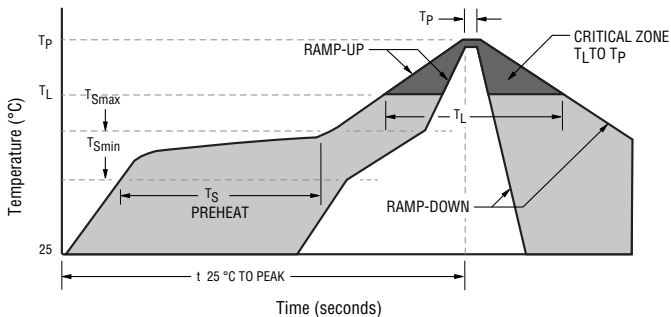
### Storage Conditions

Temperature.....+15 °C to +40 °C  
 Humidity..... 20 % to 70 %

## Agency Recognition

Description	
UL	<a href="#">E307915</a>
TÜV	<a href="#">R50648033</a> (EN60539-1,-2)

## Solder Reflow Recommendations



A	Stage 1 Preheat Ramp	Ambient to Preheating Temperature	3 °C/s max.
B	Stage 2 Preheat	Preheat Min./Max. Temperature Range	150 °C to 200 °C 60 s to 180 s
C	Stage 3 Preheat to Main Heating	Max. Time Above Stated Temperature	217 °C 60 s to 150 s
D	Main Heating	Max. Time Within 5 °C of Peak Temperature (260 °C)	255 °C 20 s to 40 s
E	Cool Down	Rate from Peak Temperature	6 °C/s max.

### CAUTION:

- This product can be damaged by rapid heating, cooling or localized heating.
- Heat shocks should be avoided. Preheating and gradual cooling recommended.
- Solder gun tip temperature should be kept below 280 °C and should not touch the device directly. Contact should be less than 3 seconds. A solder gun under 30 watts is recommended.
- Excess solder volume can damage the body of the product.

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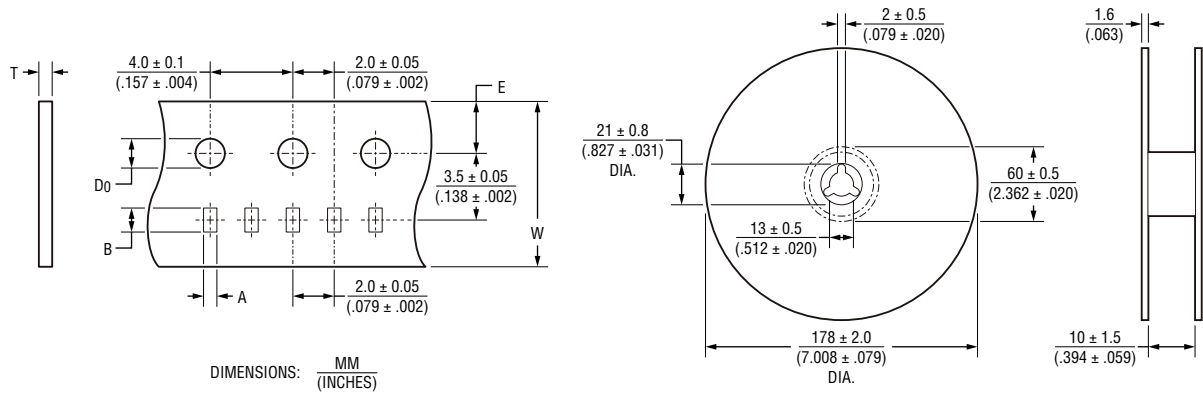
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# BTN04G Series – SMD NTC Thermistor for Thermal Sense



## Packaging Information



Size (EIA)	A	B	W	E	D <sub>0</sub>	T Max.
BTN04 (0402)	$\frac{0.38 \pm 0.1}{(.015 \pm .004)}$	$\frac{0.68 \pm 0.1}{(.027 \pm .004)}$	$\frac{8.0 \pm 0.03}{(.315 \pm .001)}$	$\frac{1.75 \pm 0.10}{(.069 \pm .004)}$	$\frac{1.55 \pm 0.05}{(.061 \pm .002)}$	$\frac{1.1}{(.043)}$

## Number of Packages

Pcs. / Reel	Reel / Box	Pcs. / Box
10,000	5	50,000



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