



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_A = 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:



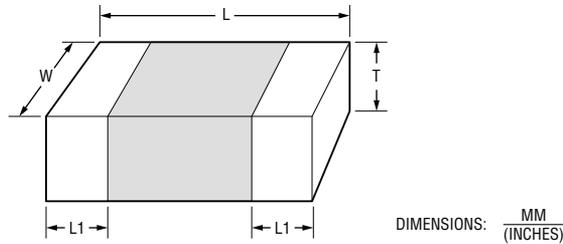
WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

* 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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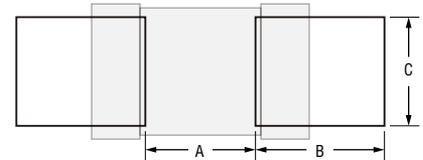


Product Dimensions



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

Recommended Pad Layout



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

Environmental Characteristics

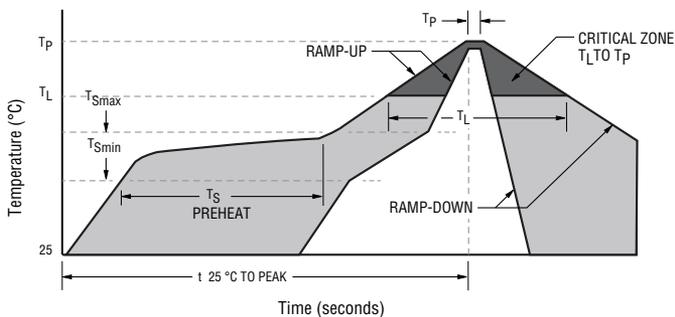
Storage Conditions

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

Agency Recognition

Description	
UL	E307915
TÜV	R50648033 (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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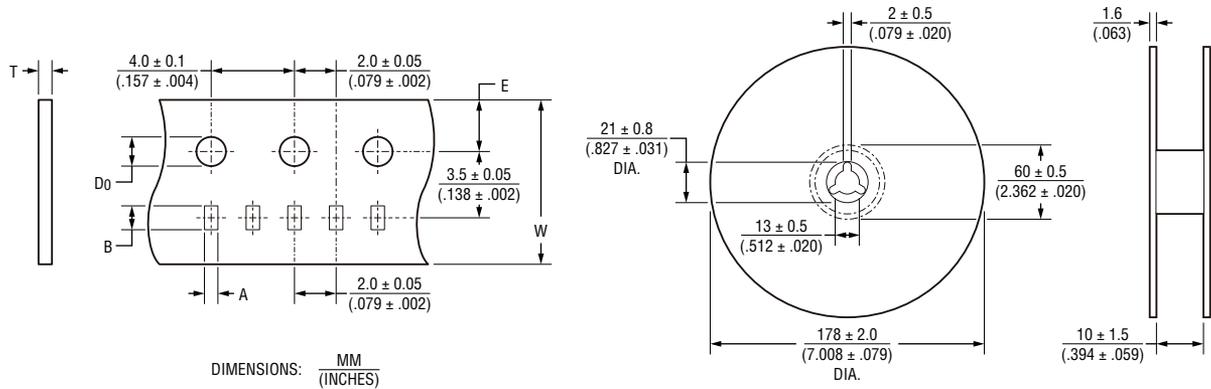
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BTN04G Series – SMD NTC Thermistor for Thermal Sense



Packaging Information



Size (EIA)	A	B	W	E	D ₀	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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