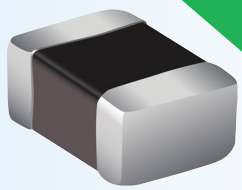
BOURNS®

BTN08G SERIES

SMD NTC Thermistor for Thermal Sensing



*RoHS COMPLIANT & **HALOGEN FREE

Features

- Highly stable electrical characteristics
- Highly reliable structure
- Operating temperature: -40 °C to +125 °C
- Agency recognition: c UL us
- RoHS compliant* and halogen free**

Applications

- Battery packs
- Power supplies
- LED displays, lighting
- Networking equipment
- Industrial systems
- Mobile and portable electronics

Sustainability

- Eco-logistics-friendly packing
- Energy-saving low-power design
- ISO 14001, low-impact energy

Product Overview

The BTN08G Series 0805-size NTC thermistor offers high mounting reliability, as its package dimensions ensure a sufficient bonding area. With a relatively high power rating of 240 mW, this series is suitable for use in general electronic devices, power supplies, and industrial equipment.

Contact Information

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Mexico	+52 614 478 0400	mexicus@bourns.com
The Americas	+1-951 781-5500	americus@bourns.com

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Bourns Part Number	Resistance @ 25 °C (Ohms)	B Value (K)		Dissipation Factor δ (mW/°C)	Thermal Time Constant τ (Seconds)	Max. Power Rating @ 25 °C (mW)	Operating Temperature Range (°C)
BTN08G103x3Hy1T00	10k	B 25/50	3380	Approx.2.4	Approx. 7.5	240	-40 to +125
BTN08G104x4Ey1T00	100k		4250				
BTN08G204x3Uy1T00	200k		3950				
BTN08G103x3Jy2T00	10k	B 25/85	3435				
BTN08G103x3Vy2T00	10k		3970				
BTN08G473x3Uy2T00	47k		3950				
BTN08G473x4Ay2T00	47k		4000				
BTN08G503x4Ay2T00	50k		4000				
BTN08G683x4Ay2T00	68k		4000				
BTN08G104x3Vy2T00	100k		3980				
BTN08G104x4Ay2T00	100k		4000				
BTN08G104x4By2T00	100k		4100				
BTN08G104x4Fy2T00	100k		4300				

Note: x = Tolerance of Resistance @ 25 °C
y = Tolerance of B Value

Environmental Characteristics

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

Moisture Sensitivity Level 1
ESD Classification (HBM) ..... N/A

Agency Recognition

UL	E307915

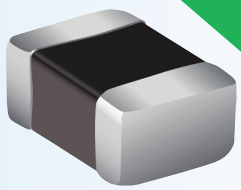
* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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How to Order

BTN 08 G 473 F 3H F 2 TX

Product Identifier

Product Size (EIA)
- 08 = 0805

Grade
- G = General

Resistance @ 25 °C (Ohms)
- 103 = 10K
- 333 = 33K
- 473 = 47K
- 104 = 100K

Resistance Tolerance (%)
- F = ±1
- G = ±2
- H = ±3
- J = ±5

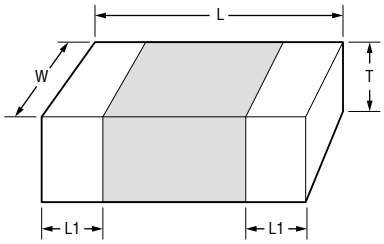
B Value (K)
- 3H = 3351 to 3400
- 3J = 3401 to 3450
- 3U = 3901 to 3950
- 3V = 3951 to 3999
- 4A = 4000 to 4050
- 4B = 4051 to 4100
- 4E = 4201 to 4250
- 4F = 4251 to 4300

B Tolerance (%)
- F = ±1
- G = ±2
- H = ±3
- J = ±5

B Value Defined
- 1 = B25/50
- 2 = B25/85

Internal Code

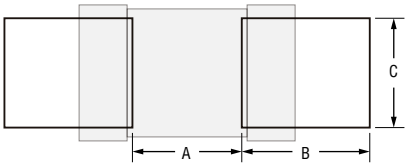
Product Dimensions



Type (EIA)	L	W	T	L1
BTN08G (0805)	2.00 ± 0.20 (.079 ± .008)	1.25 ± 0.20 (.049 ± .008)	0.85 ± 0.20 (.033 ± .008)	0.50 ± 0.30 (.020 ± .012)

DIMENSIONS: MM / (INCHES)

Recommended Layout



Type (EIA)	A	B	C
BTN08G (0805)	0.80 (.031)	1.00 (.039)	1.00 (.039)

DIMENSIONS: MM / (INCHES)

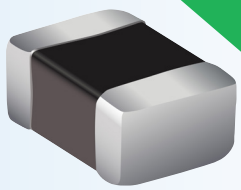
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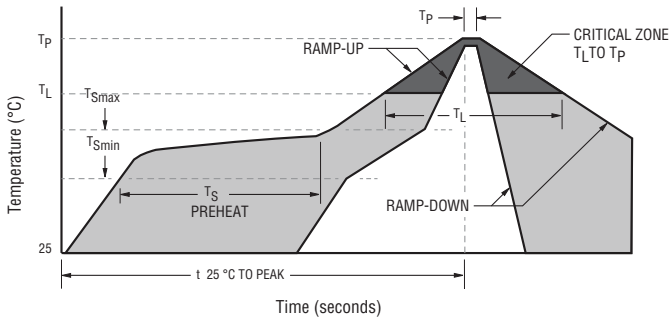
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Soldering Profile



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.

Reliability Data

Test Item	Standard	Test Conditions	Specifications
Bending Strength	IEC 60068-2-21	Speed < 0.5 mm/sec.	No visible damage ΔR25/R25≤±5 %
Solderability	IEC 60068-2-58	245 ± 5 °C, 3 ± 0.3 sec.	Above 95 % on the terminal surface shall be with new solder
Resistance to Soldering Heat	IEC 60068-2-58	260 ± 5 °C, 10 ± 1 sec.	No visible damage ΔR25/R25≤±3 %
High Temperature Storage	IEC 60068-2-2	125 ± 5 °C, 1000 ± 24 hrs.	No visible damage ΔR25/R25≤±5 %
Damp Heat, Steady State	IEC 60068-2-78	40 ± 2 °C, 90 ~ 95 %RH, 1000 ± 24 hrs.	No visible damage ΔR25/R25≤±3 %
Rapid Change of Temperature	IEC 60068-2-14	Temperature cycle shall be repeated 5 cycles on PCB Step / Temperature (°C) / Period (Minutes) 1 / -40 ± 3 / 30 ± 3 2 / Room Temperature / 5 ± 3 3 / +125 ± 5 / 30 ± 3 4 / Room Temperature / 5 ± 3	No visible damage ΔR25/R25≤±3 %
Max. Power Dissipation	IEC 60539-1 4.26.3	25 ± 5 °C, Pmax, 1000 ± 24 hrs.	No visible damage ΔR25/R25≤±5 %

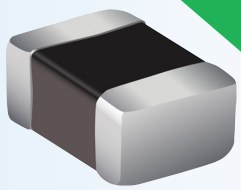
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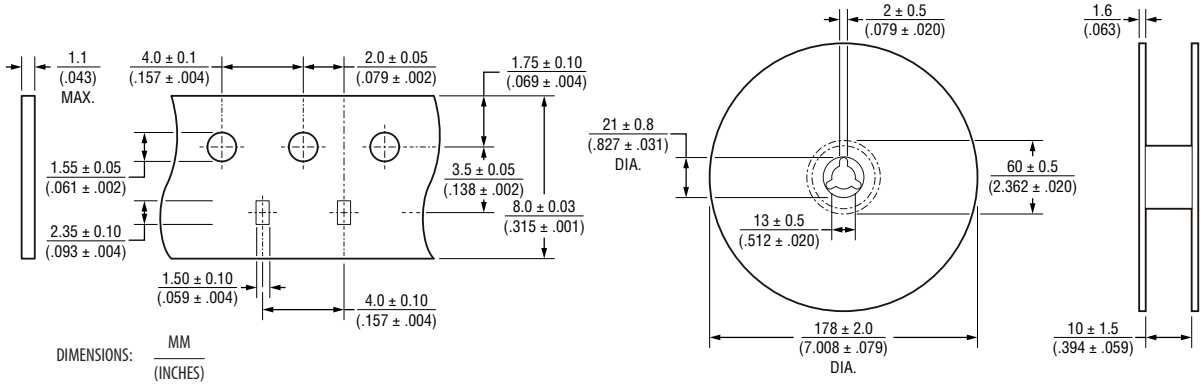
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Packaging Specifications



Packaging Quantities

Type (EIA)	Pieces per Reel	Reels per Box	Pieces per Box
BTN08G (0805)	4,000	5	20,000

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