



## Features

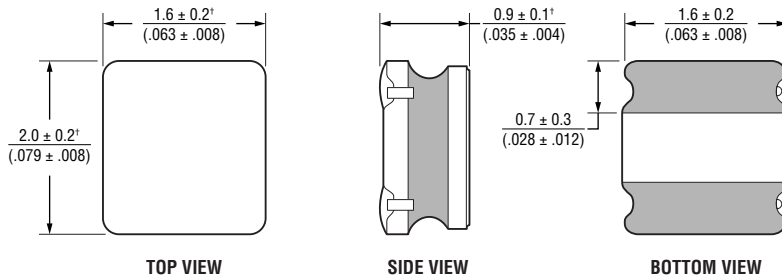
- Semi-shielded construction
- 1 mm max. profile
- Enhanced product reliability with soldered lead-wire
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRN2010BTA Series - Semi-shielded Power Inductors

### Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		Q @ 1 MHz Min.	SRF (MHz) Typ.	DCR (mΩ) Typ.	DCR (mΩ) Max.	I <sub>rms</sub> (A) Typ.	I <sub>sat</sub> (A) Typ.
	L (μH)	Tol. %						
SRN2010BTA-R24M	0.24	20	10	270	20	24	5.2	4.1
SRN2010BTA-R33M	0.33	20	10	250	29	34.8	4.6	3.3
SRN2010BTA-R47M	0.47	20	10	240	37	45	4.0	2.9
SRN2010BTA-R68M	0.68	20	10	180	50	60	3.6	2.5
SRN2010BTA-1R0M	1.0	20	10	130	67	80.4	3.1	2.0
SRN2010BTA-1R5M	1.5	20	10	95	98	118	2.5	1.6
SRN2010BTA-2R2M	2.2	20	10	76	140	168	2.1	1.3
SRN2010BTA-3R3M	3.3	20	10	64	210	252	1.7	1.1
SRN2010BTA-4R7M	4.7	20	10	42	395	474	1.3	0.9
SRN2010BTA-5R6M	5.6	20	10	40	415	498	1.1	0.85
SRN2010BTA-6R8M	6.8	20	10	37	480	576	0.9	0.8
SRN2010BTA-8R2M	8.2	20	10	33	630	756	0.8	0.7

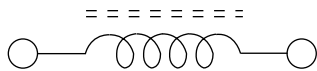
### Product Dimensions



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

† Dimension does not include termination. For maximum overall dimensions with termination, add 0.1 mm (.004 in.).

### Electrical Schematic



### How to Order

SRN2010BTA - R24M

Model \_\_\_\_\_  
Value Code (see table) \_\_\_\_\_

### Additional Information

Click these links for more information:



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### General Specifications

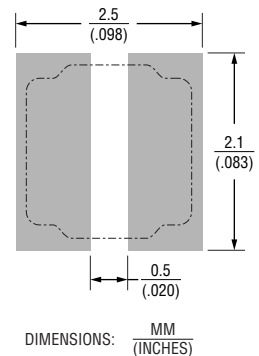
Operating Temperature ..... -55 °C to +125 °C  
(Temperature rise included)  
Storage Temperature (Component on board) ..... -55 °C to +125 °C  
(In tape and reel package) ..... -10 °C to +40 °C, 50-60 % RH  
Temperature Rise ..... 40 °C at rated I<sub>rms</sub> / Rated Current  
..... Inductance drops 30 % at I<sub>sat</sub>  
Moisture Sensitivity Level ..... 1  
ESD Classification (HBM) ..... N/A

Note 1: Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

### Materials

Core ..... Ferrite  
Wire ..... Enameled copper  
Terminal Finish ..... Ag/Ni/Sn  
Coating ..... Magnetic resin  
Packaging ..... 3000 pcs. per 7-inch reel

### Recommended Layout



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

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

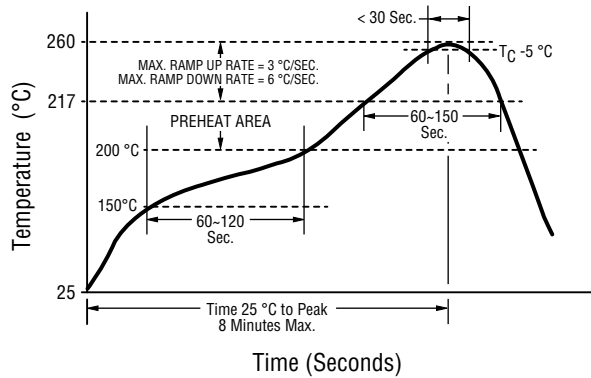
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SRN2010BTA Series – Semi-shielded Power Inductors

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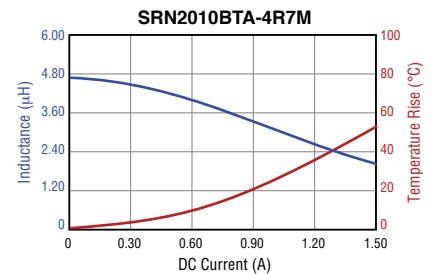
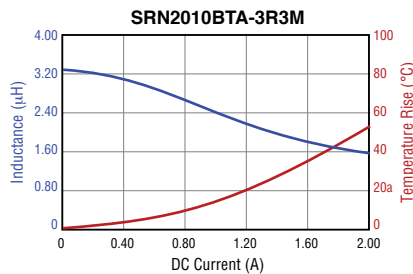
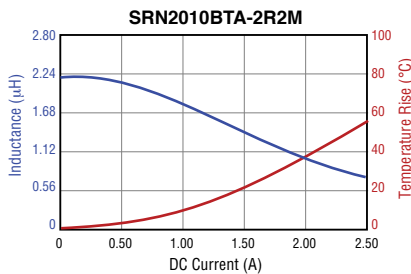
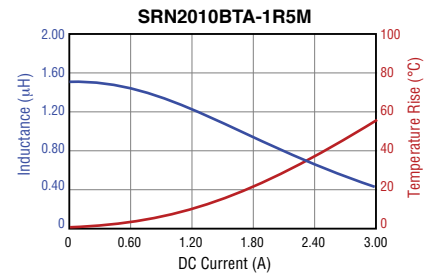
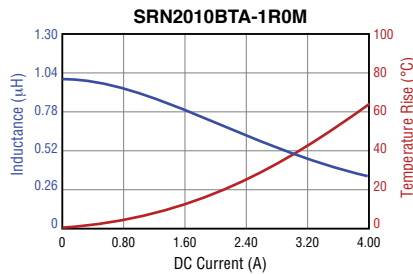
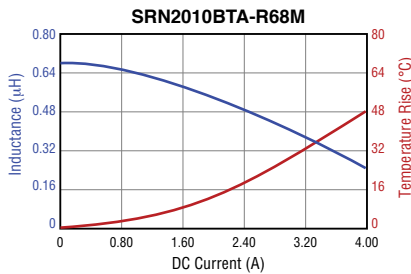
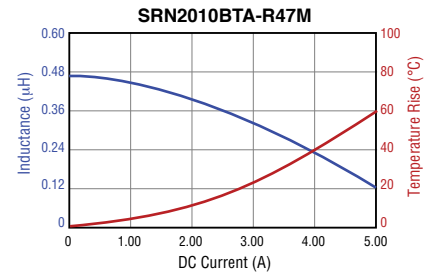
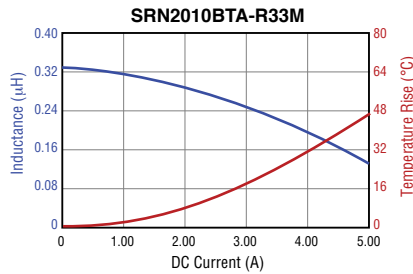
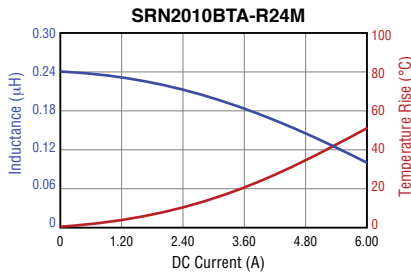
## Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

Profile Feature	Pb Free Assembly
Preheat - Temperature Min. ( $T_{smin}$ ) - Temperature Max. ( $T_{smax}$ ) - Time( $t_s$ ) from $T_{smin}$ to $T_{smax}$	150 °C 200 °C 60-120 seconds
Ramp-up Rate ( $T_L$ to $T_P$ )	3 °C/second max.
Liquidous temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60-150 seconds
Peak package body temperature ( $T_P$ )	260 °C
Time within 5 °C of Actual Peak Temperature ( $t_p$ )	< 30 seconds
Ramp-Down Rate ( $T_P$ to $T_L$ )	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

## L vs. I Charts



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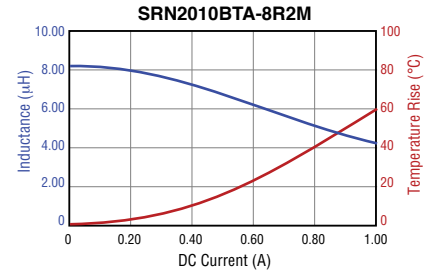
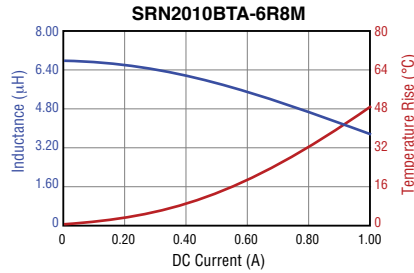
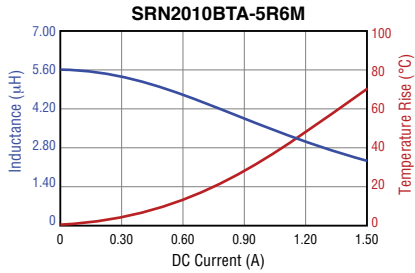
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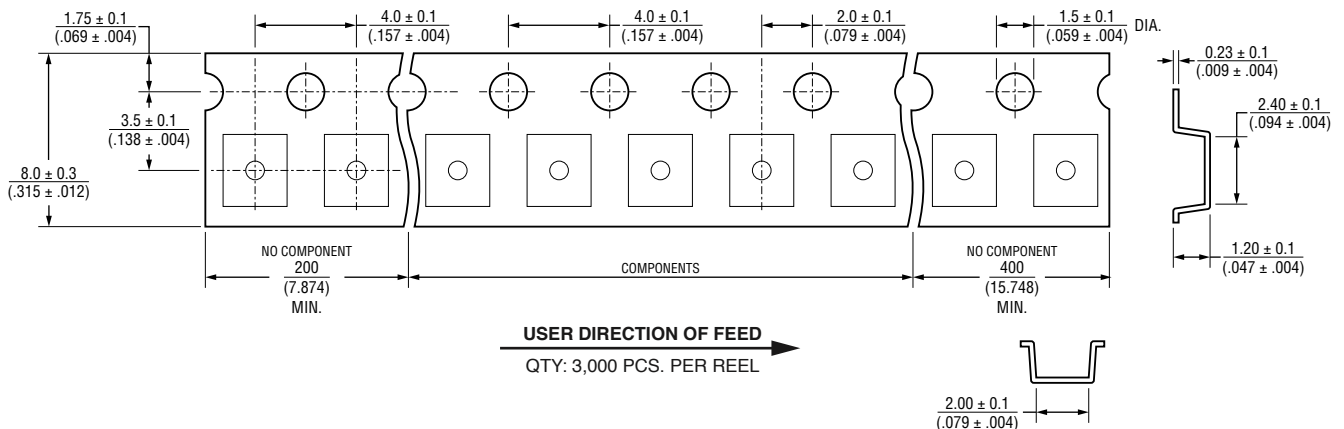
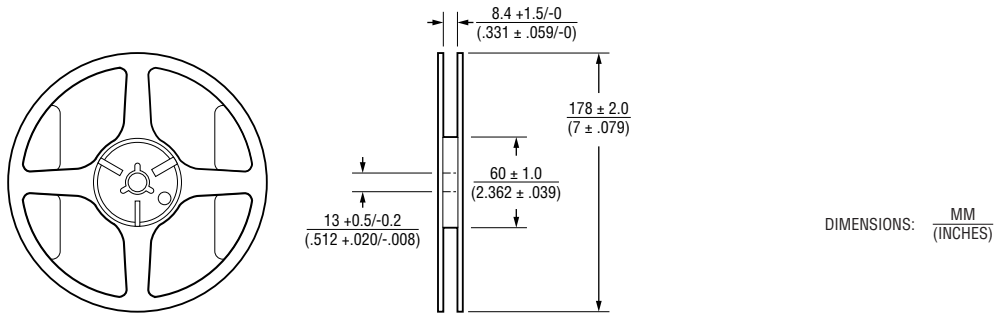
# SRN2010BTA Series – Semi-shielded Power Inductors



## L vs. I Charts (continued)



## Packaging Specifications



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