

## Features

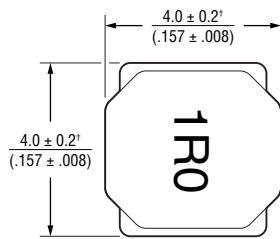
- Semi-shielded construction
- Bottom soldered lead-wire for enhanced product reliability
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRN4018BTA Series – Semi-shielded Power Inductors

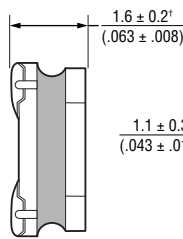
### Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		Q @ 1 MHz Min.	SRF (MHz) Typ.	DCR (mΩ) ±20 %	I <sub>rms</sub> (A) Typ.	I <sub>sat</sub> (A) Typ.
	L (μH)	Tol. %					
SRN4018BTA-R47M	0.47	±20	10	151	15	5.5	6.0
SRN4018BTA-R56M	0.56	±20	10	100	19	4.5	5.0
SRN4018BTA-1R0Y	1.0	±30	10	90	27	3.2	4.0
SRN4018BTA-1R2Y	1.2	±30	10	81	30	2.8	3.7
SRN4018BTA-1R5Y	1.5	±30	10	75	37	2.4	3.3
SRN4018BTA-2R2M	2.2	±20	10	60	42	2.2	3.0
SRN4018BTA-3R3M	3.3	±20	10	45	55	2.0	2.3
SRN4018BTA-4R7M	4.7	±20	10	35	70	1.7	2.0
SRN4018BTA-6R8M	6.8	±20	10	30	98	1.45	1.6
SRN4018BTA-100M	10	±20	10	25	150	1.2	1.3
SRN4018BTA-150M	15	±20	10	18	210	0.85	1.1
SRN4018BTA-220M	22	±20	10	15	290	0.72	0.9
SRN4018BTA-330M	33	±20	10	12	460	0.55	0.7
SRN4018BTA-470M	47	±20	10	10	650	0.44	0.6
SRN4018BTA-680M	68	±20	10	8.3	1000	0.32	0.52
SRN4018BTA-101M	100	±20	10	6.5	1450	0.28	0.42
SRN4018BTA-151M	150	±20	10	5.5	2300	0.22	0.24
SRN4018BTA-221M	220	±20	10	4.0	3800	0.17	0.275

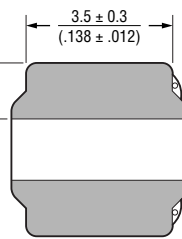
### Product Dimensions



TOP VIEW



SIDE VIEW

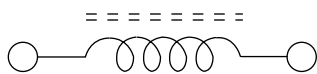


BOTTOM VIEW

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

**SRN4018BTA - R47M**

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

### Additional Information

Click these links for more information:



[PRODUCT SELECTOR](#) [TECHNICAL LIBRARY](#) [INVENTORY](#) [SAMPLES](#) [CONTACT](#)

### 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><sup>1</sup>  
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

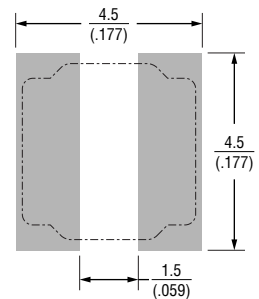
Wire..... Enameled copper

Terminal Finish..... Ag/Ni/Sn

Coating..... Magnetic resin

Packaging..... 3500 pcs. per 13-inch reel

### Recommended Layout



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



**WARNING Cancer and Reproductive Harm**

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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

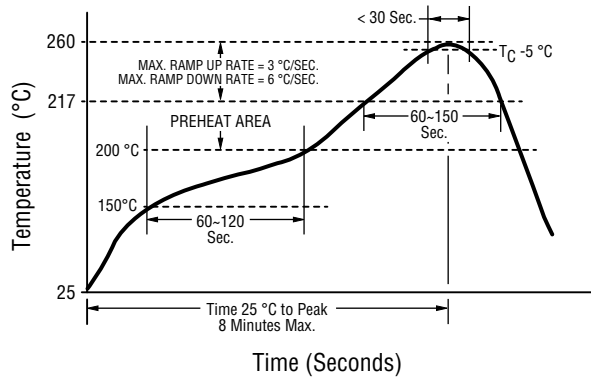
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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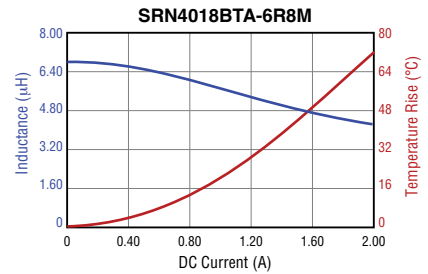
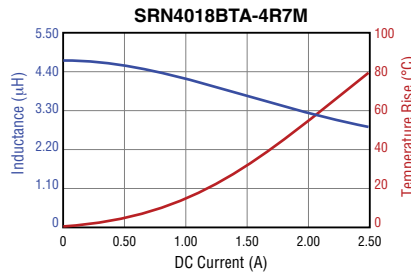
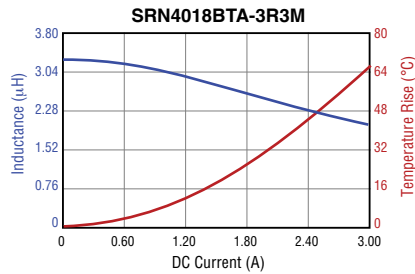
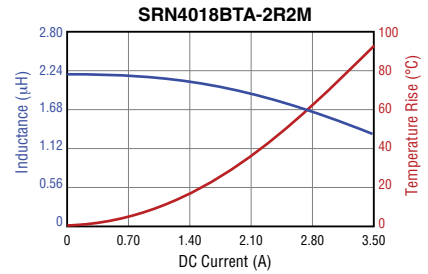
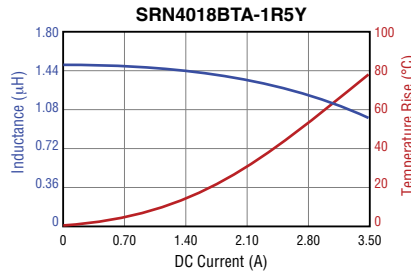
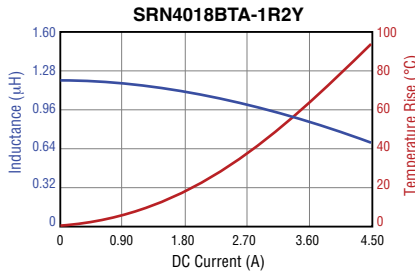
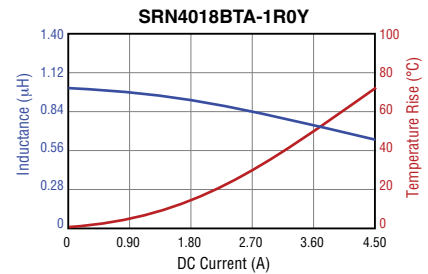
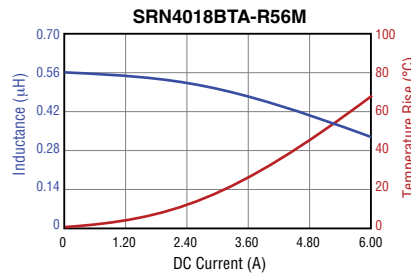
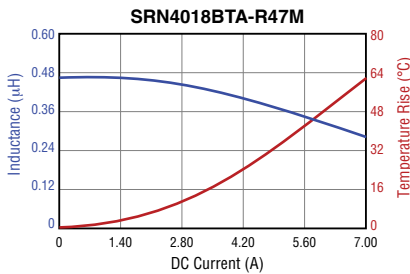
## Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

Profile Feature	Pb Free Assembly
Preheat	
- Temperature Min. ( $T_{smin}$ )	150 °C
- Temperature Max. ( $T_{smax}$ )	200 °C
- Time ( $t_s$ ) from $T_{smin}$ to $T_{smax}$	60-120 seconds
Ramp-up Rate ( $T_L$ to $T_P$ )	3 °C/second max.
Liquidous temperature ( $T_L$ )	217 °C
Time ( $t_L$ ) maintained above $T_L$	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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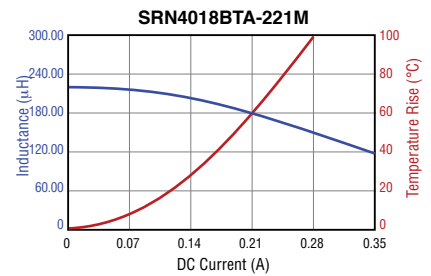
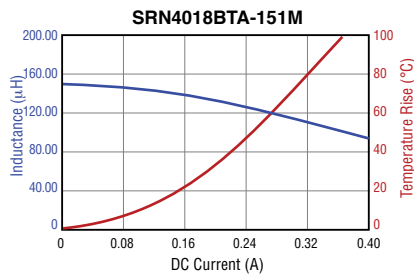
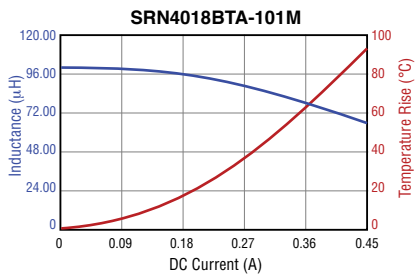
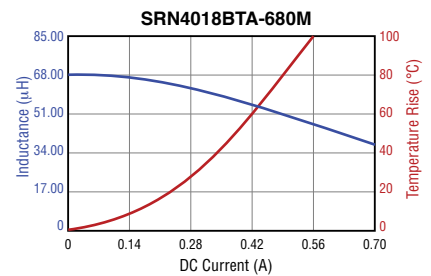
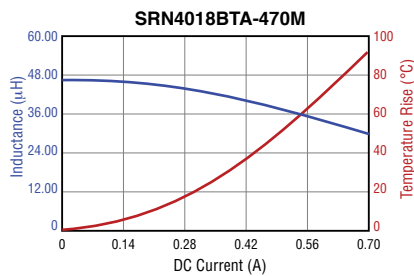
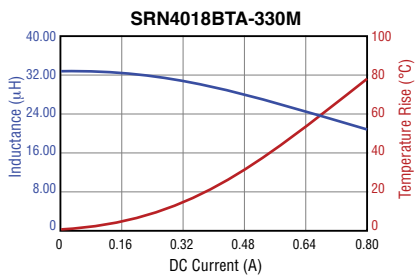
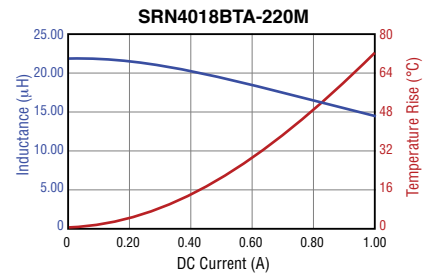
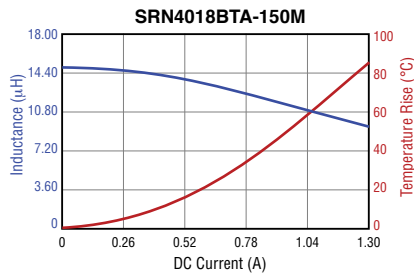
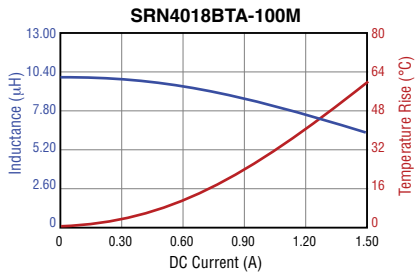
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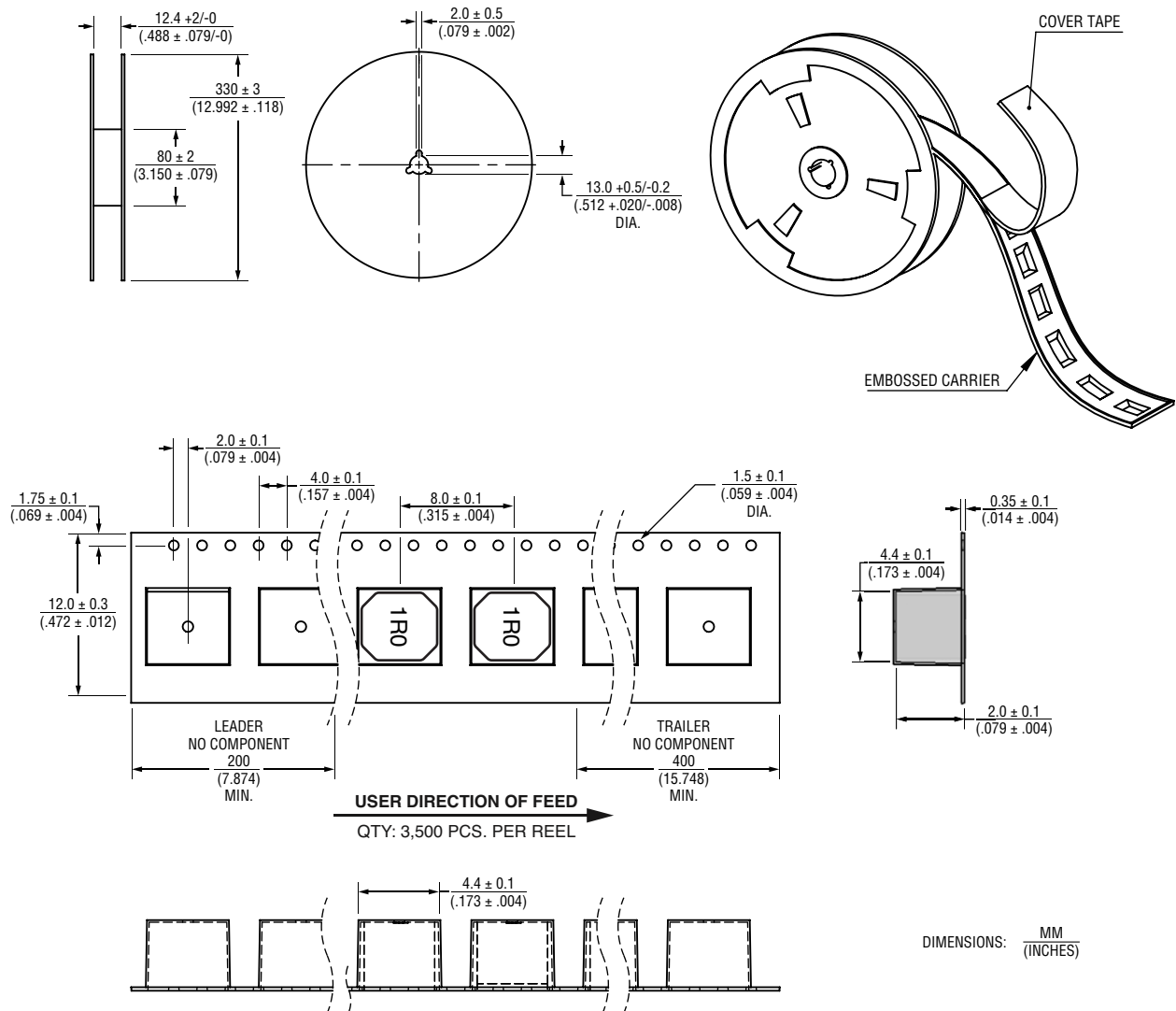
## L vs. I Charts (continued)



# SRN4018BTA Series – Semi-shielded Power Inductors

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## Packaging Specifications



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