



**BOURNS®**

## Features

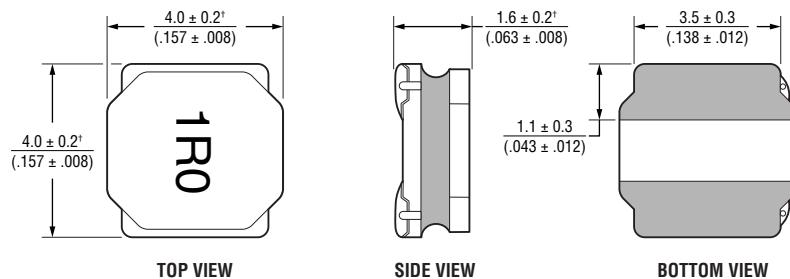
- Semi-shielded construction
- Bottom soldered lead-wire for enhanced product reliability
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRN4018BTA Series - Semi-shielded Power Inductors

### Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		Q @ 100 kHz Typ.	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

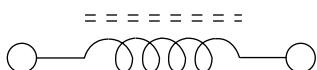
### Product Dimensions



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

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

### Electrical Schematic



### How to Order

SRN4018BTA - R47M

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



### 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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### Additional Information

Click these links for more information:



### General Specifications

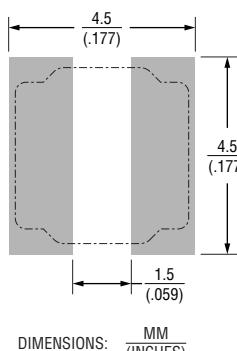
Operating Temperature ..... -55 °C to +125 °C  
(Temperature rise included)  
Storage Temperature  
(Component on board)  
..... -55 °C to +125 °C  
(In tape and reel package)  
..... -10 °C to +40 °C, 50-60 % RH  
Temperature Rise ..... 40 °C at rated I<sub>rms</sub>  
Rated Current ..... Inductance 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 ..... Enamelled copper  
Terminal Finish ..... Ag/Ni/Sn  
Coating ..... Magnetic resin  
Packaging ..... 3500 pcs. per 13-inch reel

### Recommended Layout

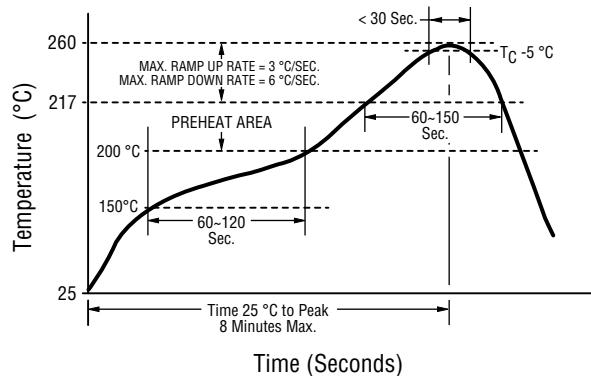


DIMENSIONS:  $\frac{\text{MM}}{\text{INCHES}}$

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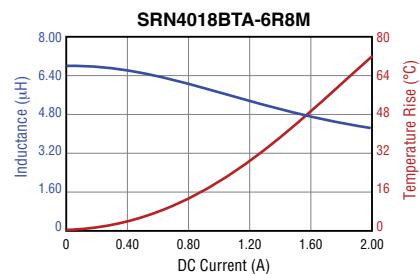
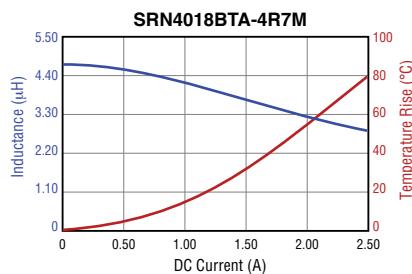
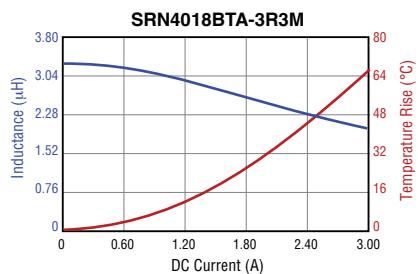
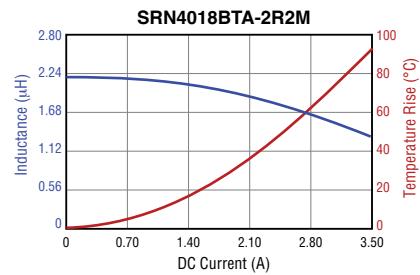
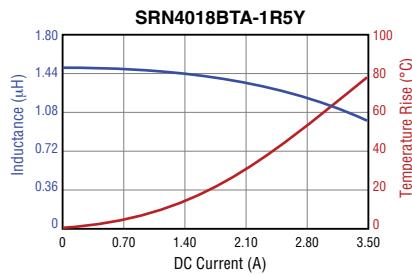
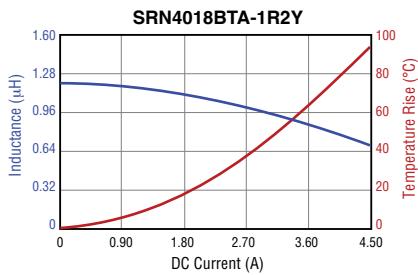
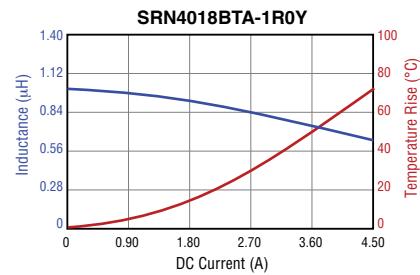
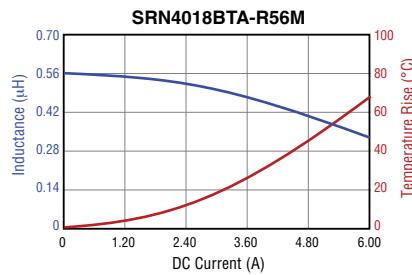
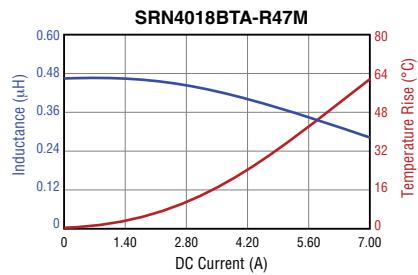
### Soldering Profile



Profile Feature	Pb Free Assembly
Preheat	<ul style="list-style-type: none"> <li>- Temperature Min. (<math>T_{smin}</math>)</li> <li>- Temperature Max. (<math>T_{smax}</math>)</li> <li>- Time (<math>t_s</math>) from <math>T_{smin}</math> to <math>T_{smax}</math></li> </ul>
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.

REFLOW TIMES: 3 TIMES MAX.

### L vs. I Charts



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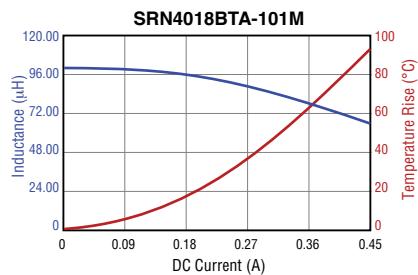
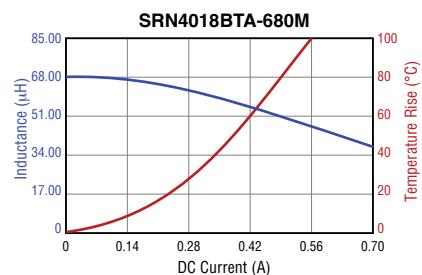
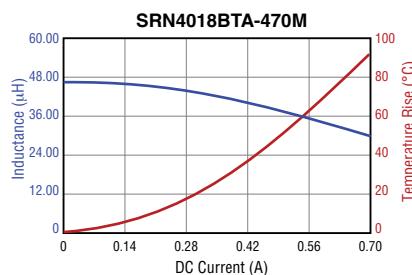
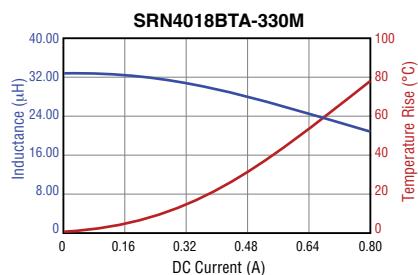
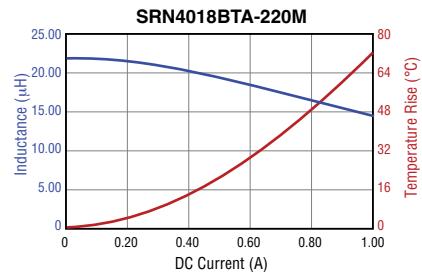
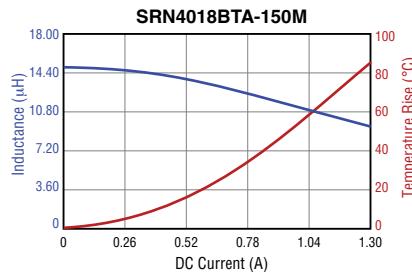
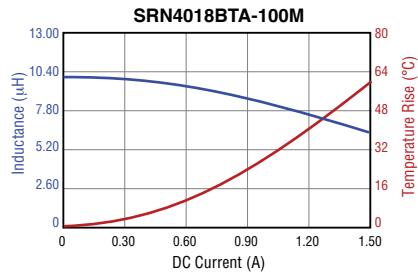
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### L vs. I Charts (continued)



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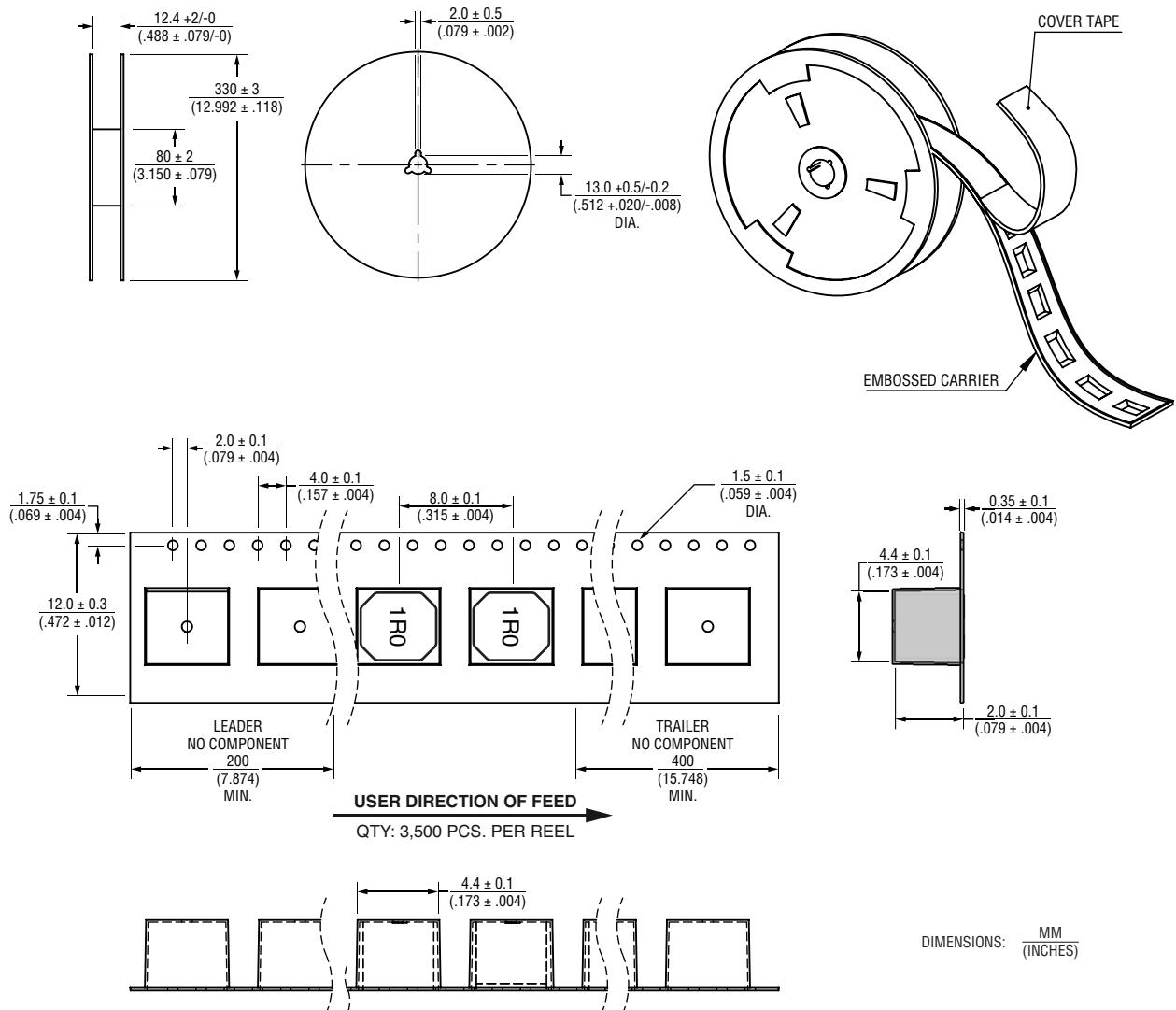
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### Packaging Specifications



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