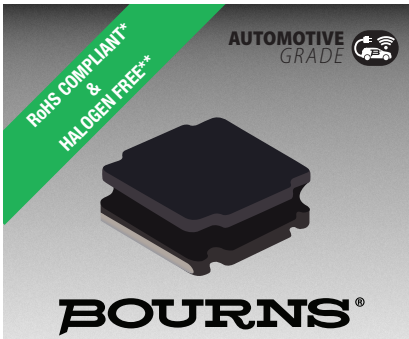




**THE DATASHEET OF  
SRN3012BTA-2R2M**





## Features

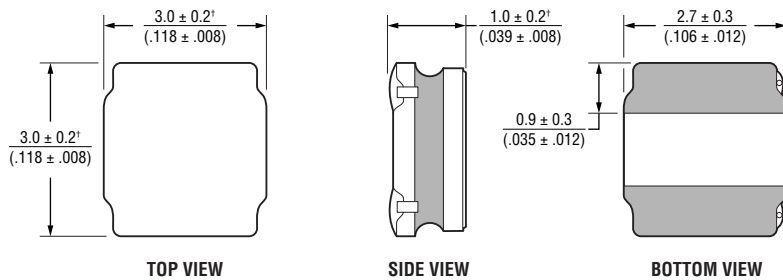
- Semi-shielded construction
- Enhanced product reliability with soldered lead-wire
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRN3012BTA 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. %						
SRN3012BTA-R22M	0.22	20	10	410	15	19	6.2	8.0
SRN3012BTA-R47M	0.47	20	10	190	24	29	5.2	4.8
SRN3012BTA-R68M	0.68	20	10	175	31	37	4.8	4.3
SRN3012BTA-1R0M	1.0	20	10	120	40	48	4.2	3.6
SRN3012BTA-1R2M	1.2	20	10	110	47	56	4.0	3.3
SRN3012BTA-1R5M	1.5	20	10	102	52	62	3.6	3.0
SRN3012BTA-2R2M	2.2	20	10	95	75	90	2.9	2.4
SRN3012BTA-3R3M	3.3	20	10	71	108	130	2.4	1.8
SRN3012BTA-4R7M	4.7	20	10	60	140	168	2.1	1.5
SRN3012BTA-5R6M	5.6	20	10	55	200	240	1.9	1.4
SRN3012BTA-6R8M	6.8	20	10	50	210	252	1.7	1.3
SRN3012BTA-100M	10	20	10	40	288	345	1.5	1.1
SRN3012BTA-150M	15	20	10	30	400	480	1.2	0.8
SRN3012BTA-220M	22	20	10	26	700	840	0.9	0.7
SRN3012BTA-330M	33	20	10	23	1100	1320	0.8	0.61
SRN3012BTA-470M	47	20	10	16	1500	1800	0.65	0.52

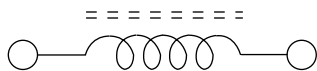
### Product Dimensions



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

**SRN3012BTA - R22M**

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> 1

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

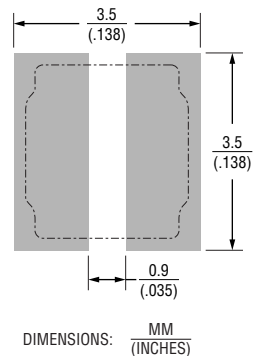
Wire ..... Enameled copper

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.

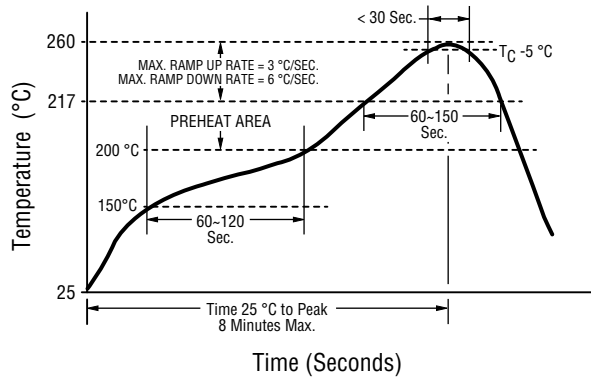
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SRN3012BTA Series – Semi-shielded Power Inductors



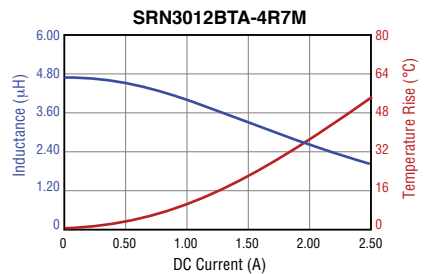
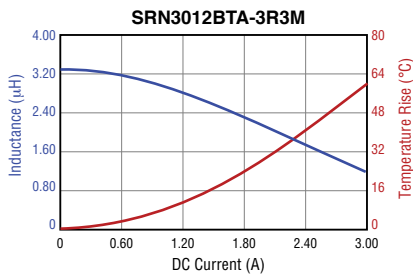
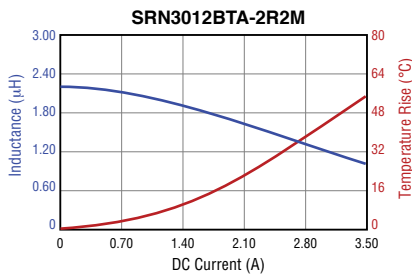
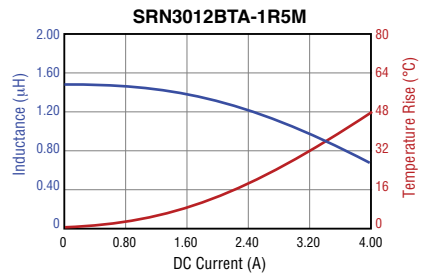
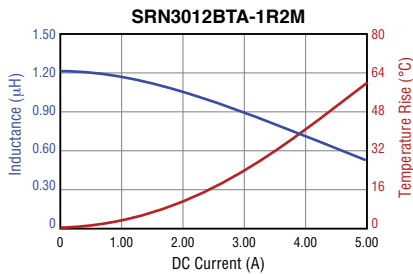
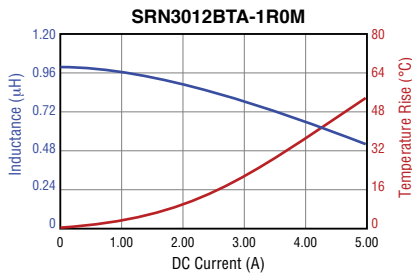
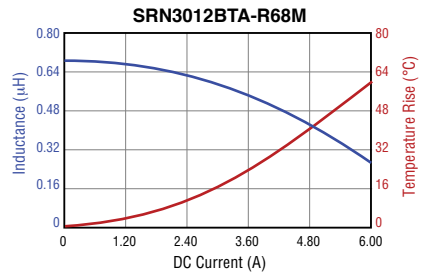
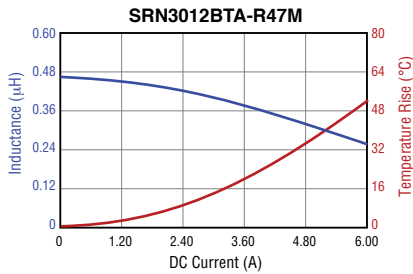
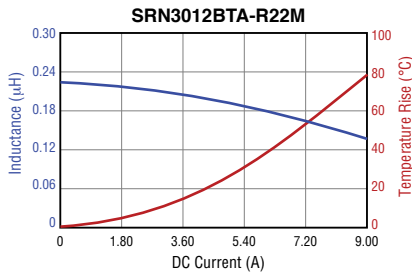
## Soldering Profile



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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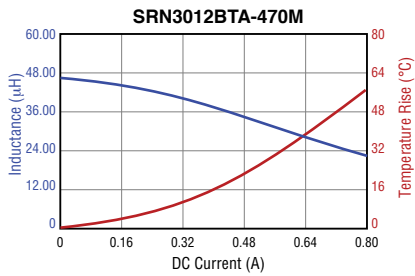
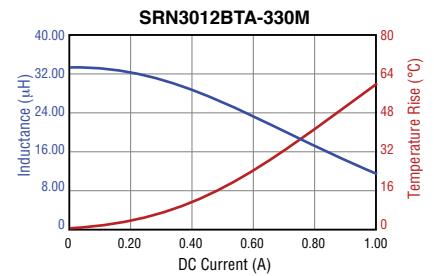
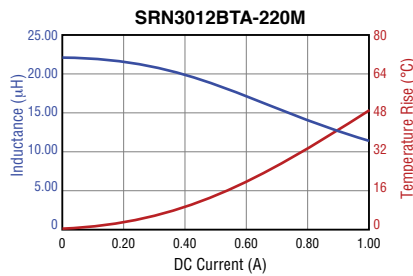
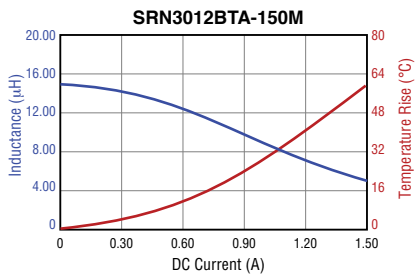
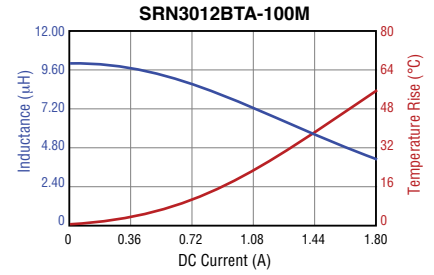
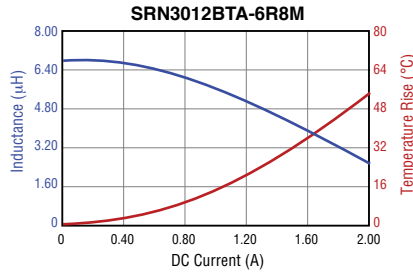
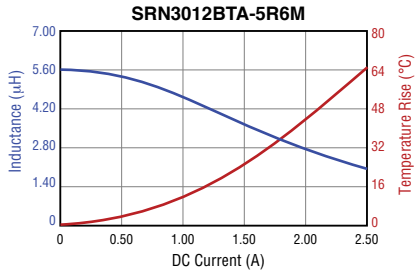
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# SRN3012BTA Series – Semi-shielded Power Inductors



## L vs. I Charts (continued)



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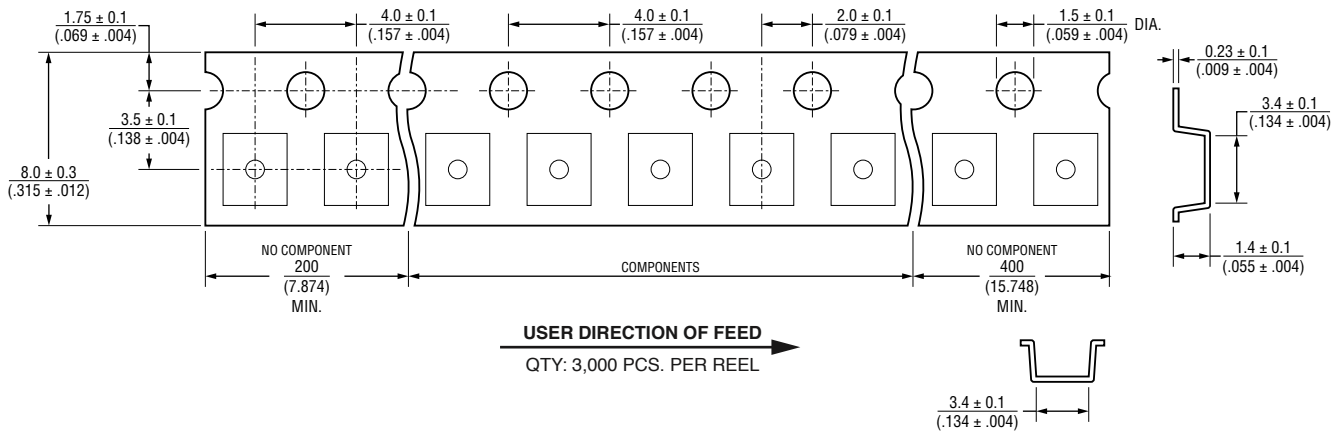
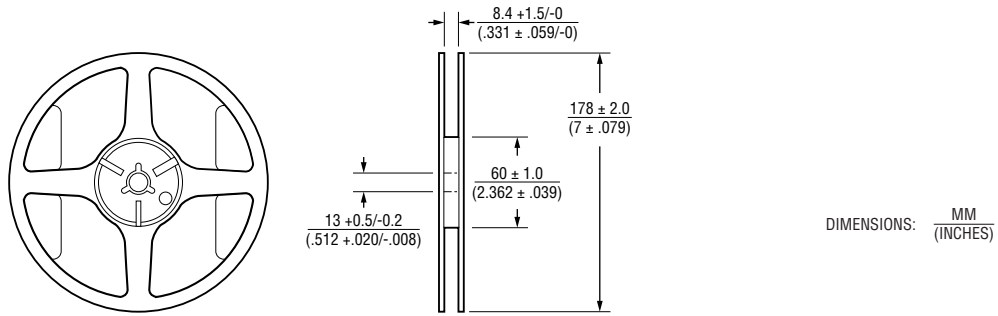
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# SRN3012BTA Series – Semi-shielded Power Inductors

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