



Features

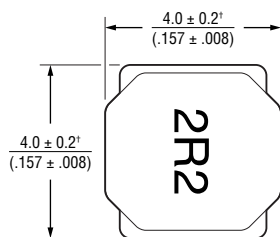
- Semi-shielded construction
- Bottom soldered lead-wire for enhanced product reliability
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

SRN4012BTA Series - Semi-shielded Power Inductors

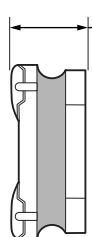
Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		Q @ 1 MHz Min.	SRF (MHz) Typ.	DCR (mΩ) Typ.	DCR (mΩ) Max.	I _{rms} (A) Typ.	I _{sat} (A) Typ.
	L (μH)	Tol. %						
SRN4012BTA-R47M	0.47	20	10	238	25	30	5.5	5.0
SRN4012BTA-R68M	0.68	20	10	188	36	43	5.0	4.6
SRN4012BTA-1R0M	1.0	20	10	140	43	52	4.4	4.0
SRN4012BTA-1R2M	1.2	20	10	138	44	53	4.2	3.8
SRN4012BTA-1R5M	1.5	20	10	110	52	62.4	3.9	3.3
SRN4012BTA-2R2M	2.2	20	10	92	66	79.2	3.3	2.5
SRN4012BTA-3R3M	3.3	20	10	76	81.6	98	2.8	1.9
SRN4012BTA-4R7M	4.7	20	10	65	112	134	2.5	1.6
SRN4012BTA-5R6M	5.6	20	10	53	135	162	2.1	1.4
SRN4012BTA-6R8M	6.8	20	10	45	165	198	1.8	1.25
SRN4012BTA-100M	10	20	10	29	230	276	1.4	1.0
SRN4012BTA-150M	15	20	10	27	320	384	1.2	0.9
SRN4012BTA-220M	22	20	10	23	470	564	1.0	0.7
SRN4012BTA-330M	33	20	10	19	850	1020	0.8	0.6
SRN4012BTA-470M	47	20	10	16	1100	1320	0.65	0.48

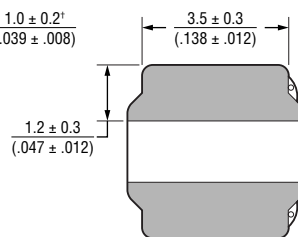
Product Dimensions



TOP VIEW



SIDE VIEW

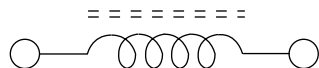


BOTTOM VIEW

† 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

SRN4012BTA - 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 Rise40 °C at rated I_{rms}¹
Rated Current

..... Inductance drops 30 % at I_{sat}

Moisture Sensitivity Level.....1

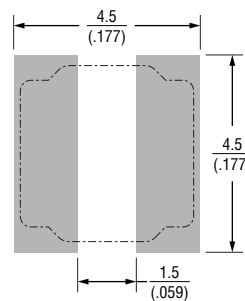
ESD Classification (HBM).....N/A

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..... 4000 pcs. per 13-inch reel

Recommended Layout



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



WARNING Cancer and Reproductive Harm

www.P65Warnings.ca.gov

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

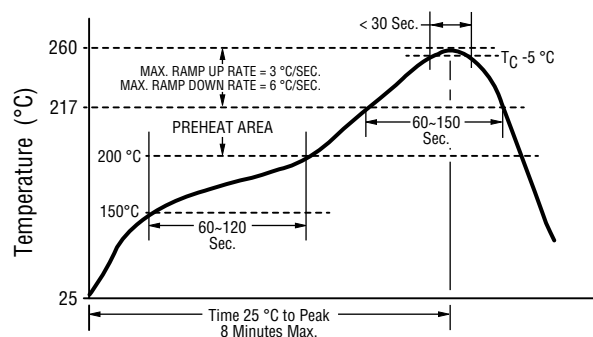
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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SRN4012BTA Series – Semi-shielded Power Inductors

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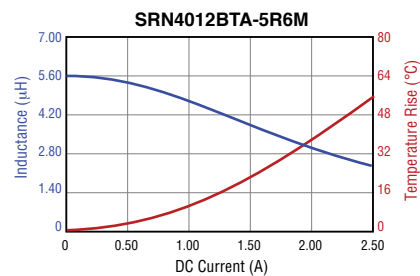
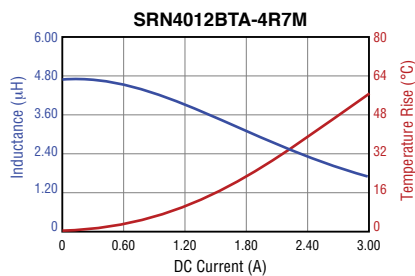
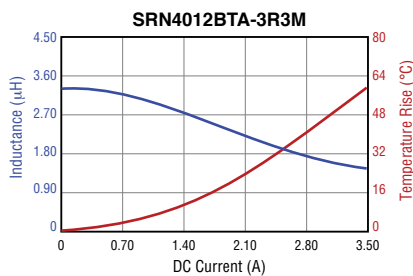
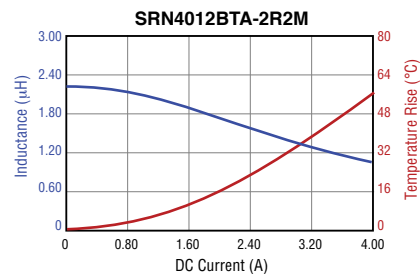
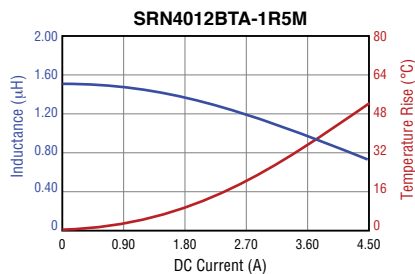
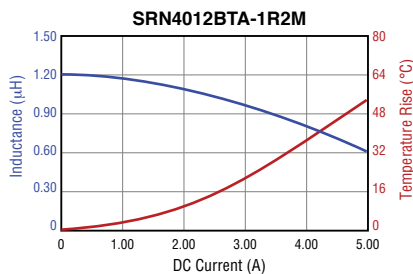
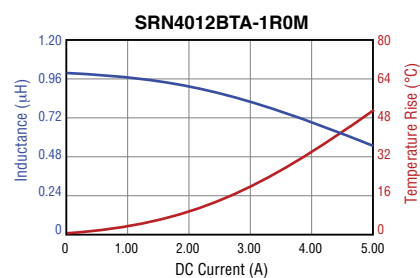
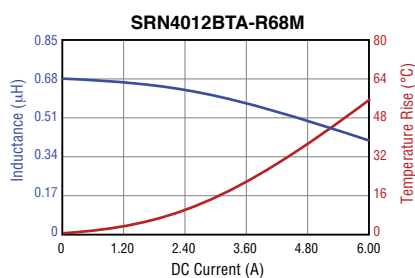
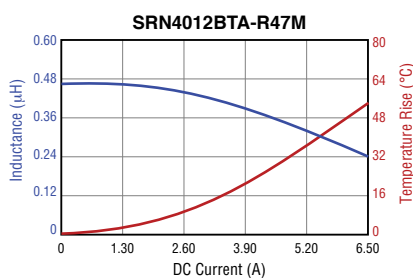
Soldering Profile



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.
Liquidus 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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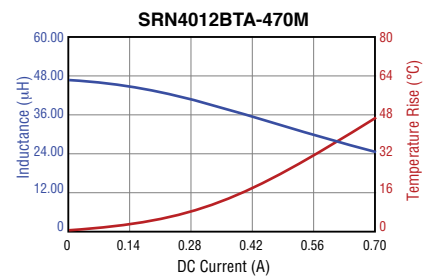
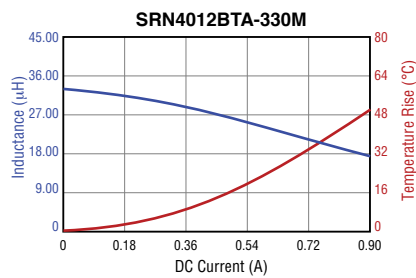
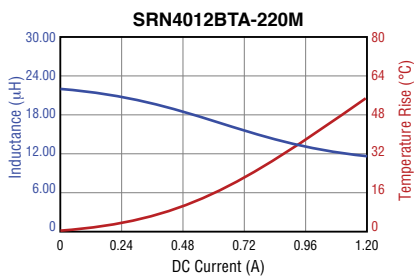
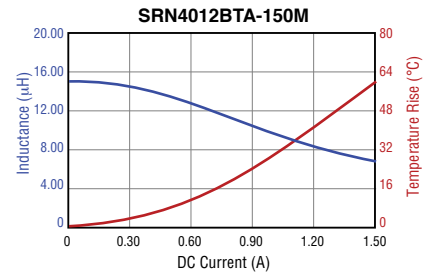
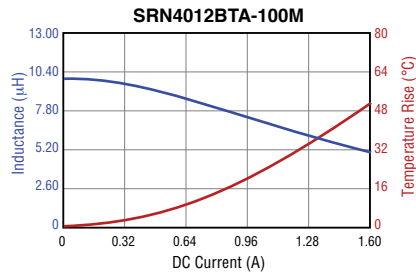
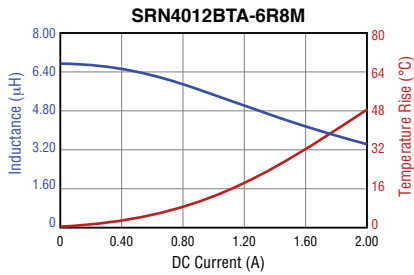
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L vs. I Charts (continued)



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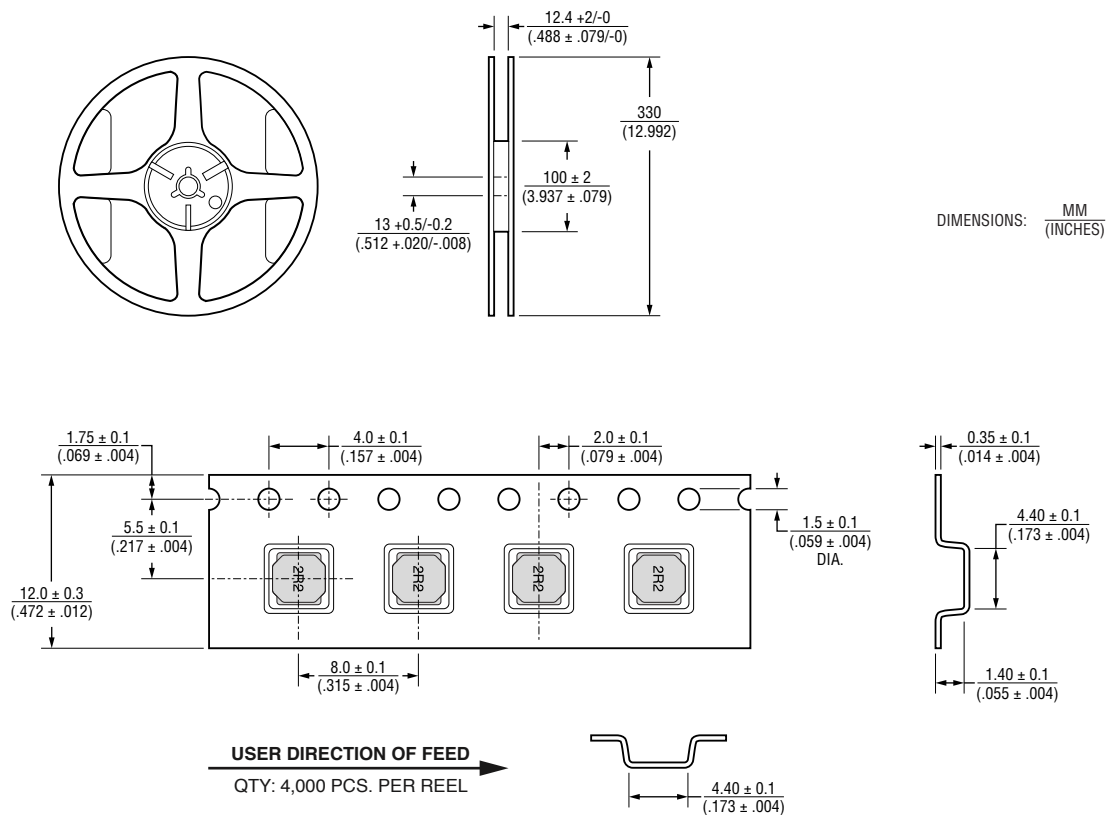
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Packaging Specifications



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