



## Features

- Shielded construction for low radiation
- Metal alloy powder core for high saturation current
- Wide side terminal for enhanced mechanical strength
- High vibration resistance (15 G typical, 30 G peak)
- High operating temperature
- Low buzz noise
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRP1050WA Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

Bourns Part No.	Inductance @ 100 kHz / 1 V		Q Typ. @ 100 kHz	SRF (MHz) Typ.	DCR (mΩ) Typ.	DCR (mΩ) Max.	I <sub>rms</sub> (A) Typ.	I <sub>sat</sub> (A) Typ.
	L (μH)	Tol. %						
SRP1050WA-1R0M	1.0	20	20	38	2.3	2.76	30	37
SRP1050WA-1R2M	1.2	20	20	33	3	3.6	27	29
SRP1050WA-1R5M	1.5	20	20	31	3.6	4.3	25	28
SRP1050WA-1R8M	1.8	20	20	28	3.9	4.6	24	26
SRP1050WA-2R2M	2.2	20	20	25	4.1	4.9	23	25
SRP1050WA-3R3M	3.3	20	20	20	6.2	7.2	18.7	20
SRP1050WA-4R7M	4.7	20	20	15	9	10	14.5	17
SRP1050WA-5R6M	5.6	20	20	14	10.2	11.7	13.2	16.2
SRP1050WA-6R8M	6.8	20	20	12	12.4	14	12.3	15.3
SRP1050WA-8R2M	8.2	20	20	11	17.8	20.5	10.3	14
SRP1050WA-100M	10	20	20	10	20	23	9	13
SRP1050WA-120M	12	20	20	9	23	26.4	8.3	9.8
SRP1050WA-150M	15	20	20	8	26.3	30.3	7.6	9.2
SRP1050WA-180M	18	20	20	8	33	38	7	9
SRP1050WA-220M	22	20	20	7	43	50	6	8.8
SRP1050WA-330M	33	20	20	5	66	75.3	5	7.6
SRP1050WA-470M	47	20	20	5	89	103	4.2	5.5
SRP1050WA-680M	68	20	20	4	130	150	3.5	4.8
SRP1050WA-101M	100	20	20	3	233	268	2.7	4

### Additional Information

Click these links for more information:



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

### General Specifications

#### Operating Temperature

..... -55 °C to +165 °C  
(Temperature rise included)

#### Storage Temperature (Component)

..... -55 °C to +165 °C

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

<sup>1</sup> 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

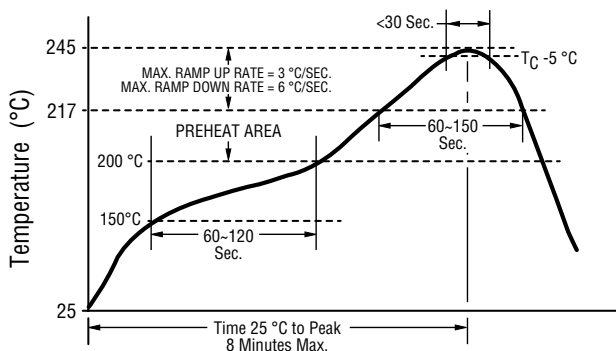
Core.....Metal alloy powder

Wire.....Enameled copper

Terminal Finish..... Sn

Packaging..... 500 pcs. per 13-inch reel

### Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

Profile Feature	Pb Free Assembly
Preheat - Temperature Min. (T <sub>smin</sub> ) - Temperature Max. (T <sub>smax</sub> ) - Time (t <sub>s</sub> ) from T <sub>smin</sub> to T <sub>smax</sub>	150 °C 200 °C 60-120 seconds
Ramp-up Rate (T <sub>L</sub> to T <sub>P</sub> )	3 °C/second max.
Liquidous temperature (T <sub>L</sub> ) Time (t <sub>L</sub> ) maintained above T <sub>L</sub>	217 °C 60-150 seconds
Peak package body temperature (T <sub>P</sub> )	245 °C
Time within 5 °C of Actual Peak Temperature (t <sub>p</sub> )	<30 seconds
Ramp-Down Rate (T <sub>P</sub> to T <sub>L</sub> )	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.



### WARNING Cancer and Reproductive Harm

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

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

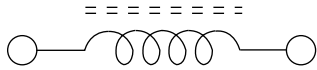
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SRP1050WA Series - Shielded Power Inductors

**BOURNS®**

## Electrical Schematic

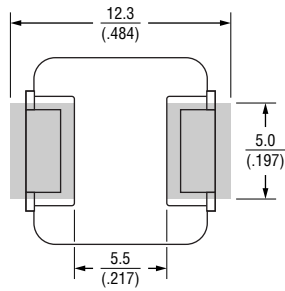


## How to Order

**SRP1050WA - 1R0**

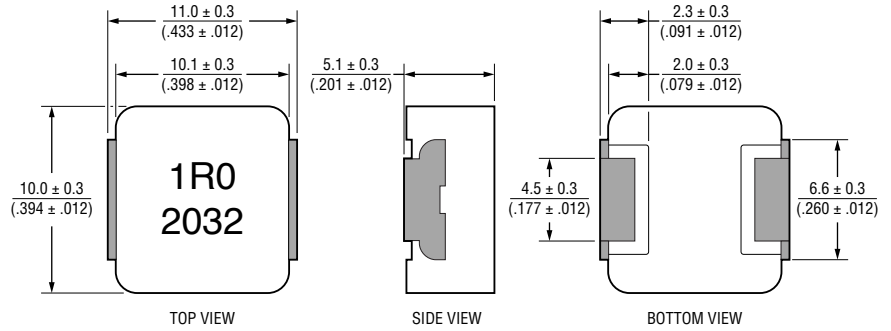
Model \_\_\_\_\_  
Value Code (see table) \_\_\_\_\_

## Recommended Layout



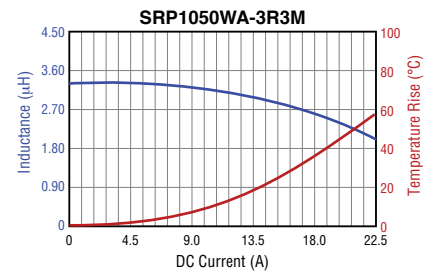
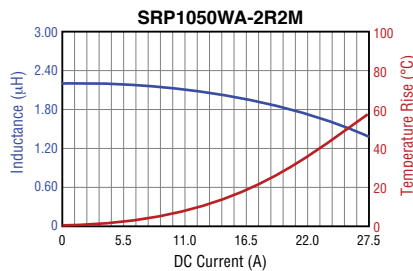
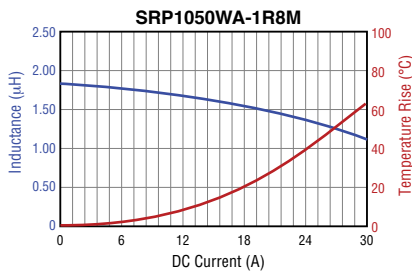
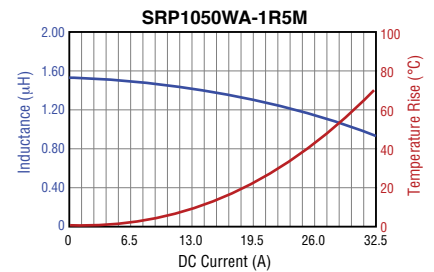
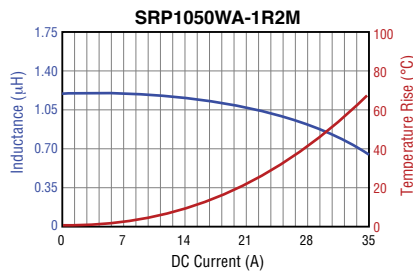
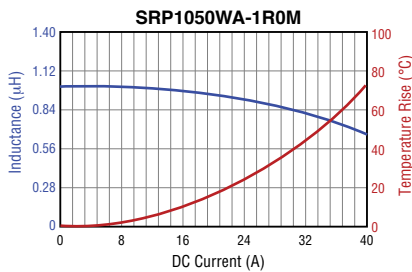
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Product Dimensions



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

## L vs. I Charts



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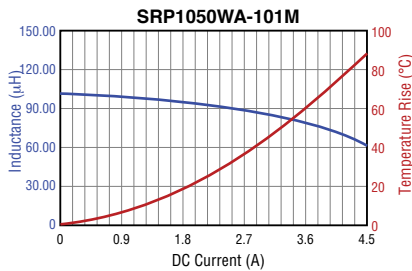
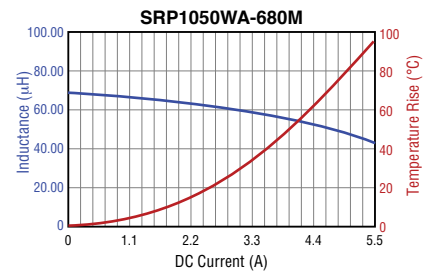
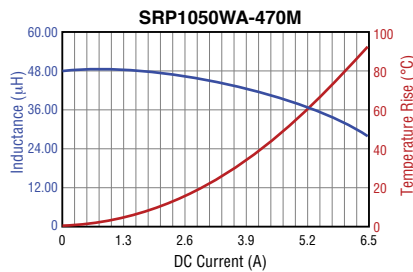
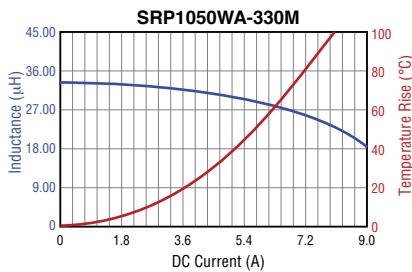
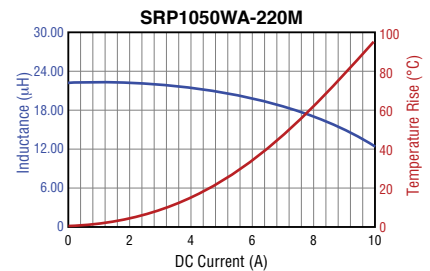
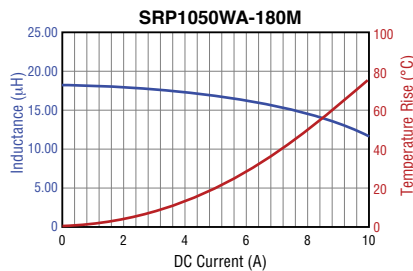
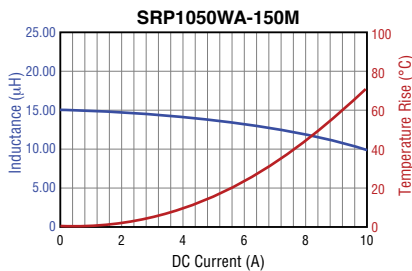
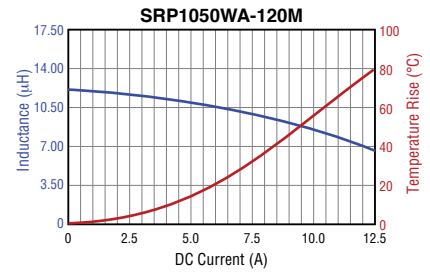
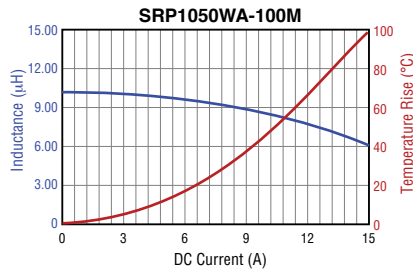
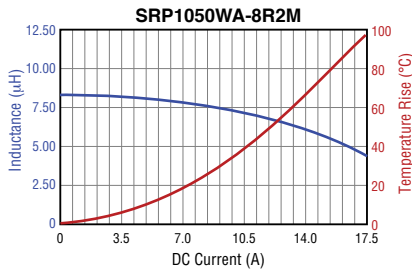
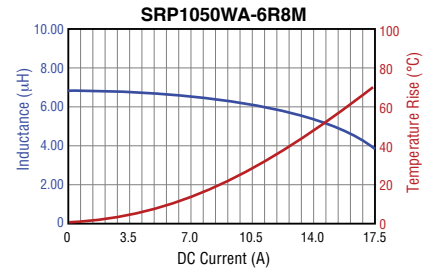
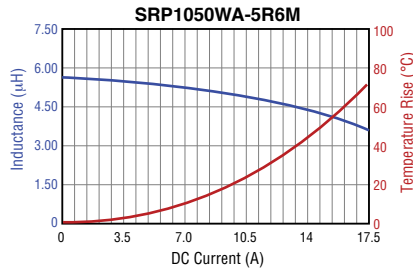
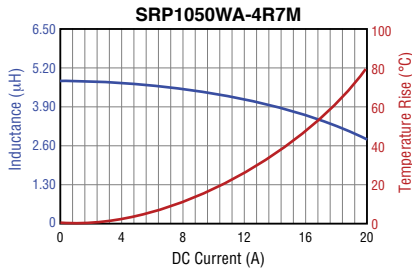
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# SRP1050WA Series - Shielded Power Inductors



## L vs. I Charts (Continued)



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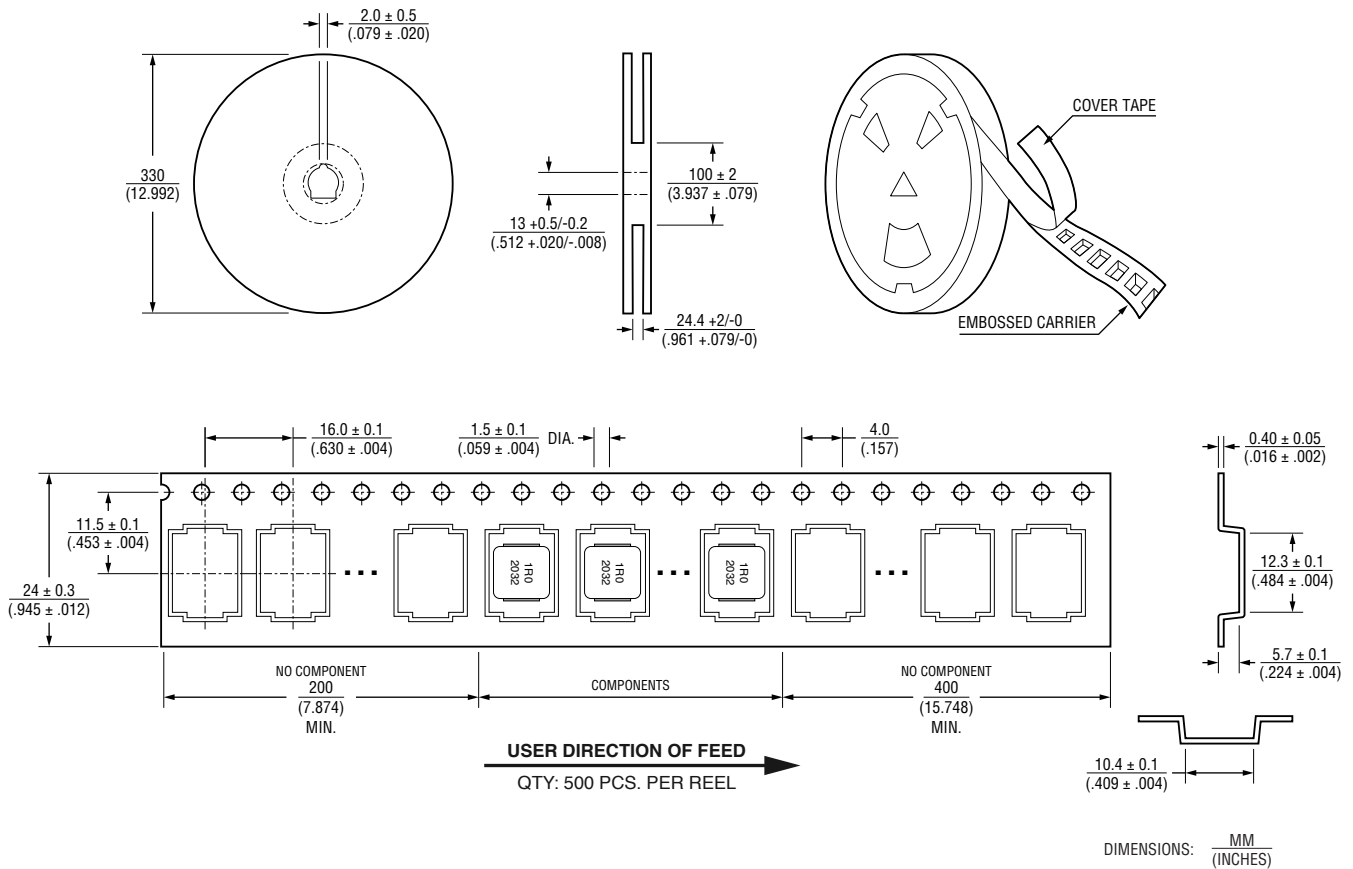
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# SRP1050WA Series - Shielded Power Inductors

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## Packaging Specifications



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03/23

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