



## 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\*\*

## SRP7050WA 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. %						
SRP7050WA-1R0M	1.0	20	20	45	5.0	6.0	20	23
SRP7050WA-1R5M	1.5	20	20	35	6.3	7.3	17	19
SRP7050WA-2R2M	2.2	20	20	28	9.7	11.2	14.5	16.5
SRP7050WA-3R3M	3.3	20	20	21	13	15	11.5	14
SRP7050WA-4R7M	4.7	20	20	18	17.8	20.5	10.5	13.3
SRP7050WA-5R6M	5.6	20	20	16	19.2	22.1	9.3	11
SRP7050WA-6R8M	6.8	20	20	14	23	26.5	8.7	10.2
SRP7050WA-8R2M	8.2	20	20	12	27.3	31.4	8.0	9.2
SRP7050WA-100M	10	20	20	10	33	38	7.2	8.0
SRP7050WA-150M	15	20	20	9	60	66	5.5	7.2
SRP7050WA-220M	22	20	20	7	85	93.5	5.0	6.3
SRP7050WA-330M	33	20	20	6	111	127.6	4.0	4.9
SRP7050WA-470M	47	20	20	5	156	171.6	3.2	4.1
SRP7050WA-680M	68	20	20	4	218	251	2.7	3.0
SRP7050WA-101M	100	20	20	4	310	357	2.2	2.0

### Additional Information

Click these links for more information:



### 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

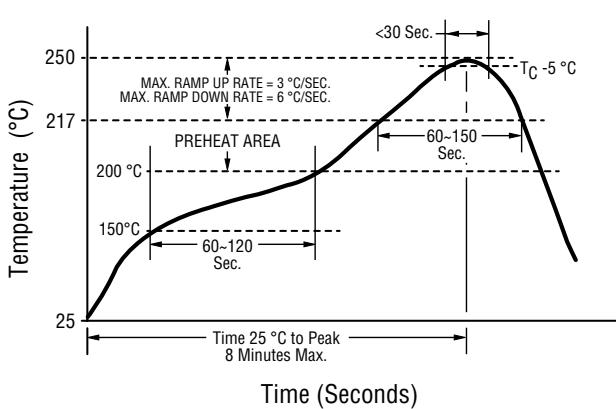
Core..... Metal alloy powder

Wire ..... Enamelled copper

Terminal Finish ..... Sn

Packaging..... 800 pcs. per 13-inch reel

### Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

Profile Feature	Pb Free Assembly
Preheat	<ul style="list-style-type: none"> <li>- Temperature Min. (T<sub>smin</sub>)</li> <li>- Temperature Max. (T<sub>smax</sub>)</li> <li>- Time(t<sub>s</sub>) from T<sub>smin</sub> to T<sub>smax</sub></li> </ul>
Ramp-up Rate (T <sub>L</sub> to T <sub>p</sub> )	3 °C/second max.
Liquidous temperature (T <sub>L</sub> )	217 °C
Time (t <sub>L</sub> ) maintained above T <sub>L</sub>	60-150 seconds
Peak package body temperature (T <sub>p</sub> )	250 °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.

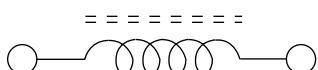
\*\* Bourns considers product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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## SRP7050WA Series - Shielded Power Inductors

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### Electrical Schematic



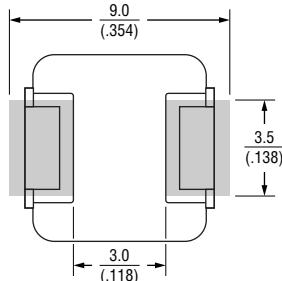
### How to Order

**SRP7050WA - 1R0M**

Model \_\_\_\_\_

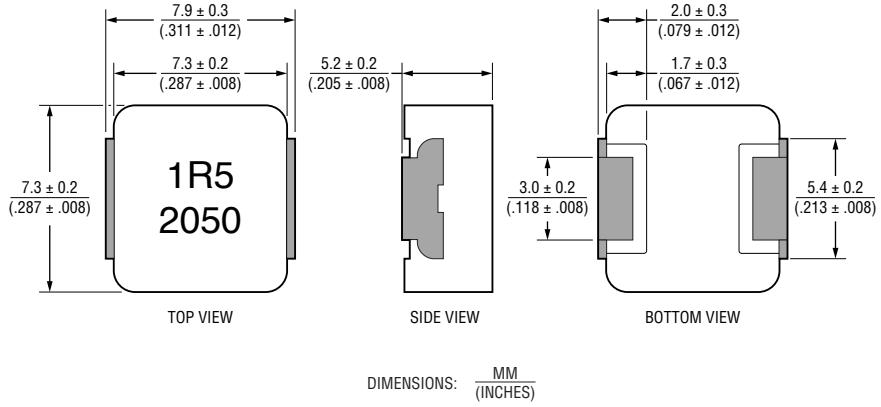
Value Code (see table) \_\_\_\_\_

### Recommended Layout



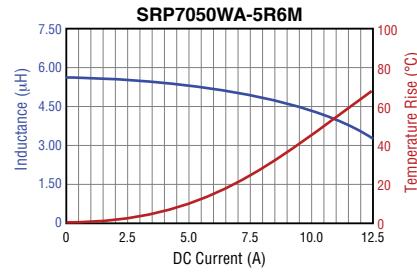
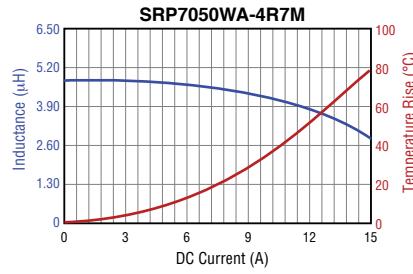
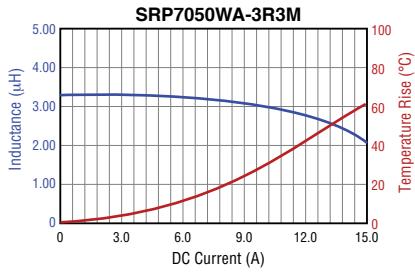
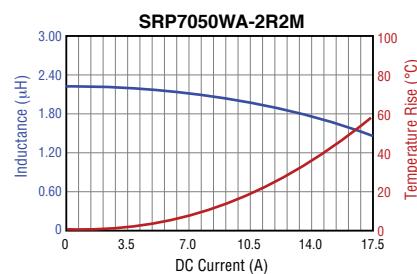
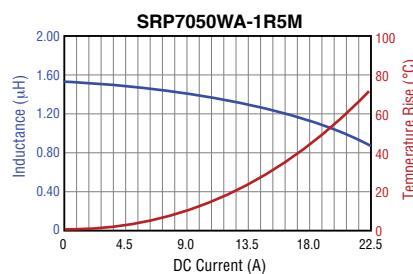
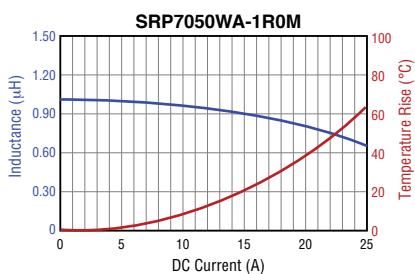
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

### Product Dimensions



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

### L vs. I Charts



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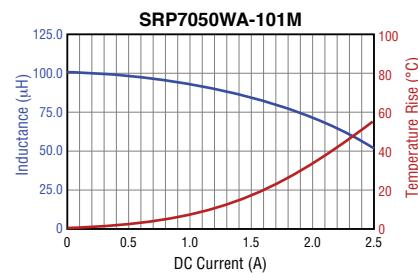
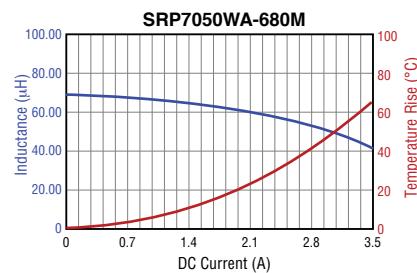
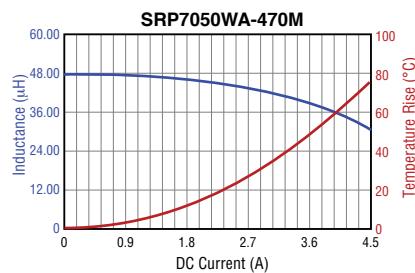
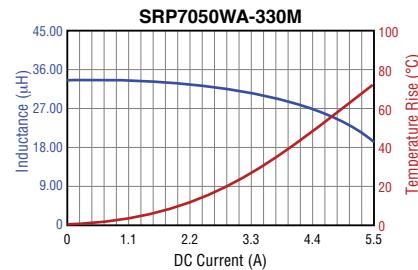
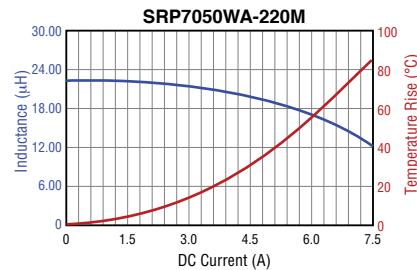
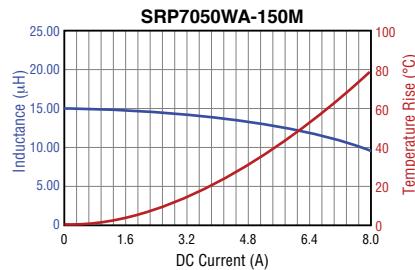
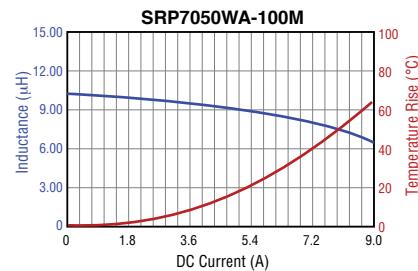
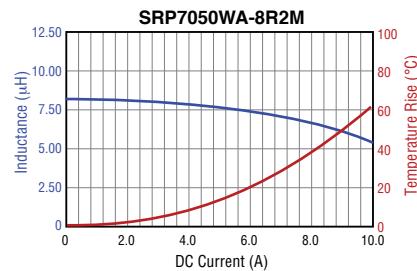
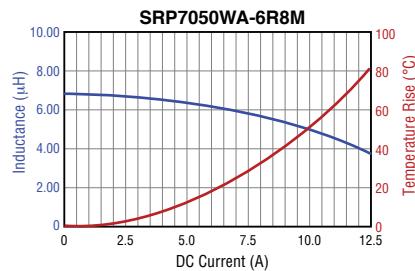
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### L vs. I Charts (Continued)



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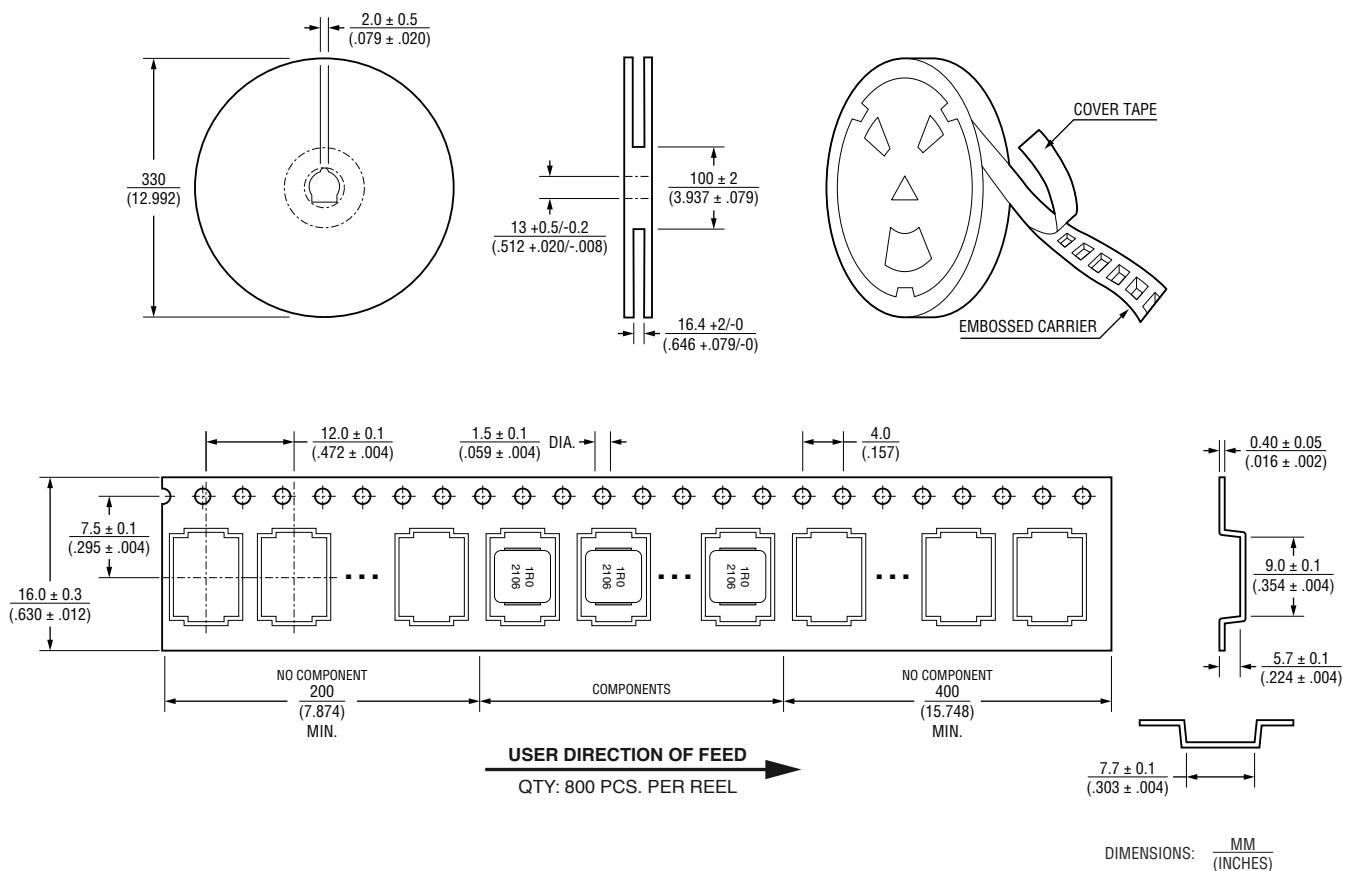
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## **SRP7050WA Series - Shielded Power Inductors**

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## Packaging Specifications



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