



## 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\*\*

## SRP1038WA 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.	Irms (A) Typ.	Isat (A) Typ.
	L (μH)	Tol. %						
SRP1038WA-R47M	0.47	20	15	60	1.42	1.63	34	31
SRP1038WA-R56M	0.56	20	15	55	1.7	2	32	29
SRP1038WA-R68M	0.68	20	15	51	2.0	2.3	31	28
SRP1038WA-R78M	0.78	20	15	48	2.3	2.5	30	27
SRP1038WA-R82M	0.82	20	15	44	2.4	2.7	27	26.5
SRP1038WA-1R0M	1.00	20	20	42	2.7	3.1	25	26
SRP1038WA-1R5M	1.50	20	20	32	3.9	4.5	22	24
SRP1038WA-1R8M	1.80	20	20	30	4.4	5.5	20	23
SRP1038WA-2R2M	2.20	20	20	26	5.3	6.1	18	19
SRP1038WA-3R3M	3.30	20	20	19	9.0	10.4	15	17
SRP1038WA-4R7M	4.70	20	20	16	13.4	15	11	13.5
SRP1038WA-5R6M	5.60	20	20	13	15.4	17	10.5	12
SRP1038WA-6R8M	6.80	20	20	12	17	19	10	11
SRP1038WA-8R2M	8.20	20	20	12	23	25.3	8.5	9.0
SRP1038WA-100M	10.00	20	20	11	27	30	8	8.2
SRP1038WA-120M	12.00	20	20	10	29	33.4	7.4	7.5
SRP1038WA-150M	15.00	20	20	8	40	45	6.4	7.0
SRP1038WA-220M	22.00	20	20	7	59	68	5.5	6.0
SRP1038WA-330M	33.00	20	20	6	89	102	4.7	4.8
SRP1038WA-470M	47.00	20	20	5	143	165	3.6	4.0

### 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 Irms<sup>1</sup>

#### Rated Current

..... Inductance drops 30 % at Isat

#### 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

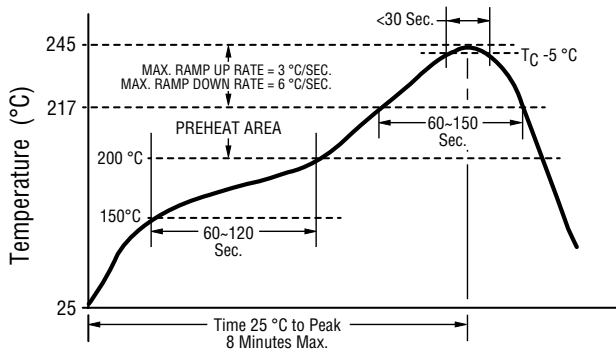
Core.....Metal alloy powder

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.

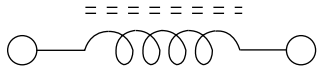
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SRP1038WA Series - Shielded Power Inductors



## Electrical Schematic

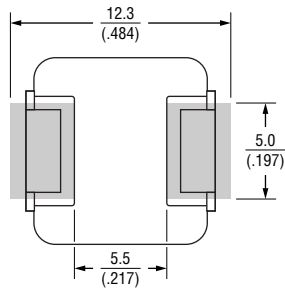


## How to Order

**SRP1038WA - 1R0M**

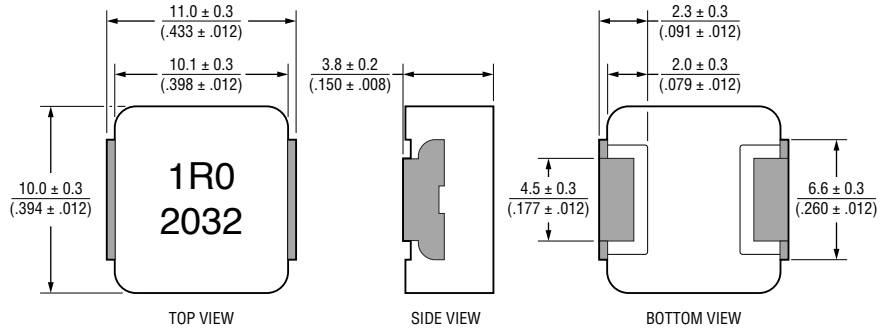
Model \_\_\_\_\_  
Value Code (see table) \_\_\_\_\_

## Recommended Layout



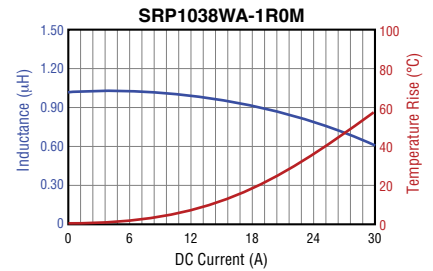
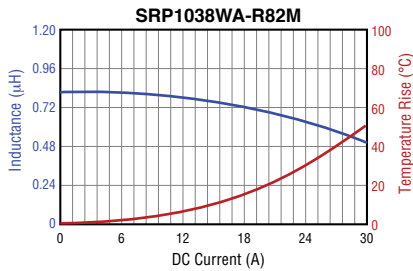
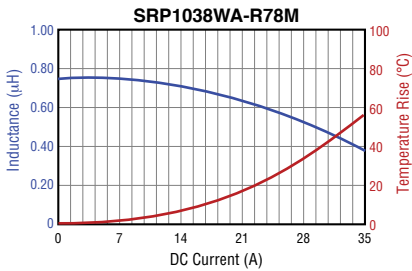
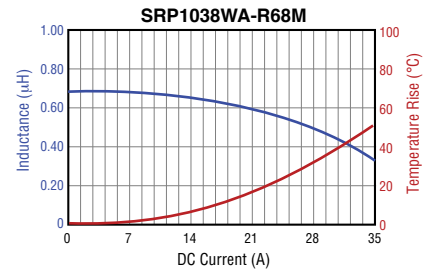
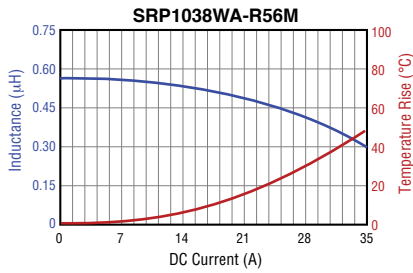
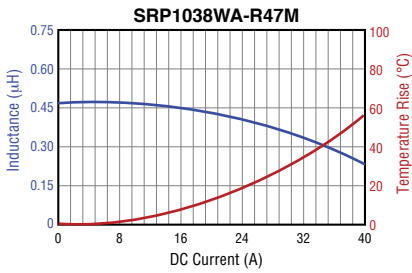
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Product Dimensions



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

## L vs. I Charts

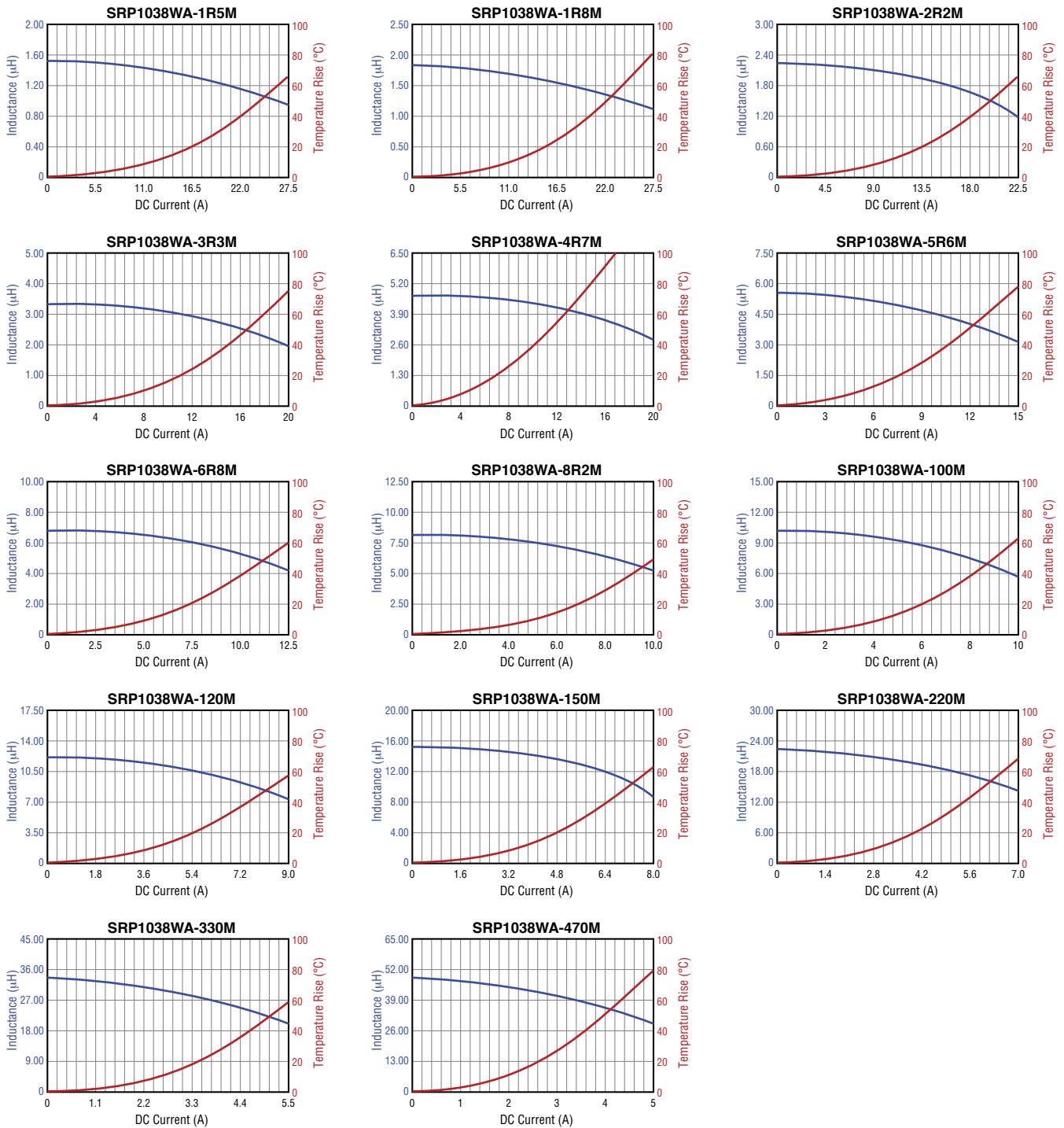


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# SRP1038WA Series - Shielded Power Inductors



## L vs. I Charts (continued)



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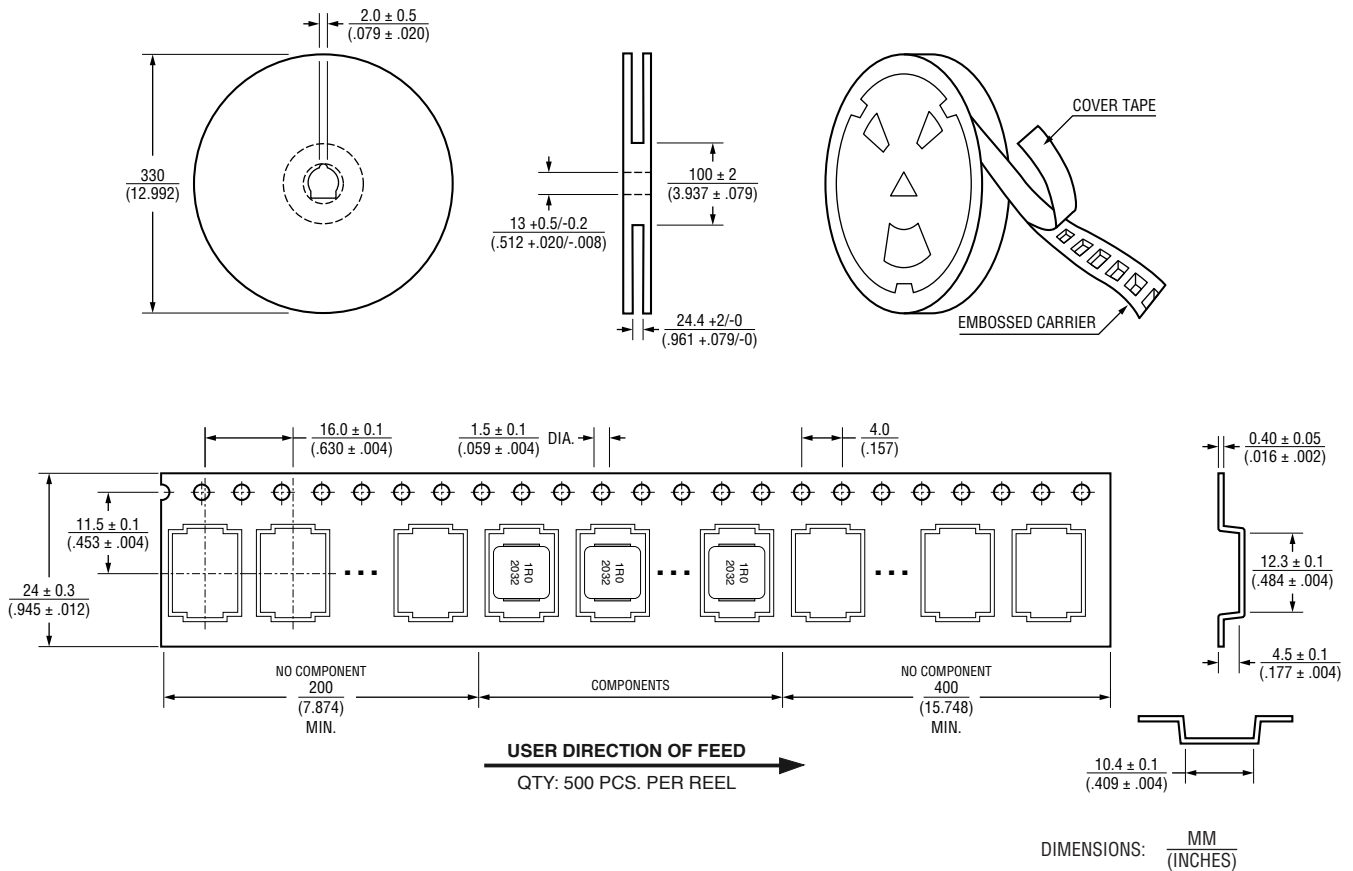
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# SRP1038WA Series - Shielded Power Inductors

**BOURNS®**

## Packaging Specifications



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