



## 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\*\*

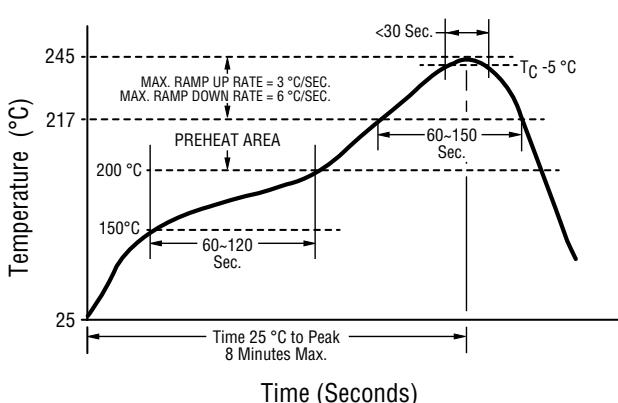
**BOURNES®**

## 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

### Soldering Profile



REFLOW TIMES: 3 TIMES 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.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

### 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 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..... Enamelled copper

Terminal Finish..... Sn

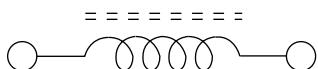
Packaging..... 500 pcs. per 13-inch reel

Profile Feature	Pb Free Assembly
Preheat <ul style="list-style-type: none"> <li>- Temperature Min. (<math>T_{smin}</math>)</li> <li>- Temperature Max. (<math>T_{smax}</math>)</li> <li>- Time (<math>t_s</math>) from <math>T_{smin}</math> to <math>T_{smax}</math></li> </ul>	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 ( $T_p$ )	245 °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.

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### Electrical Schematic



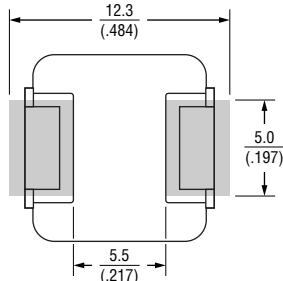
### How to Order

**SRP1038WA - 1R0M**

Model \_\_\_\_\_

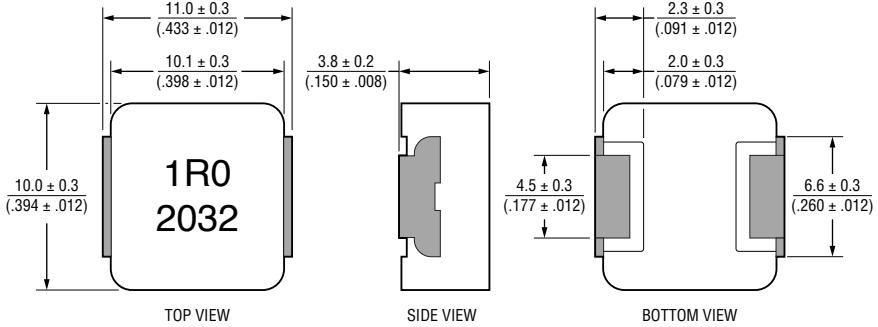
Value Code (see table) \_\_\_\_\_

### Recommended Layout



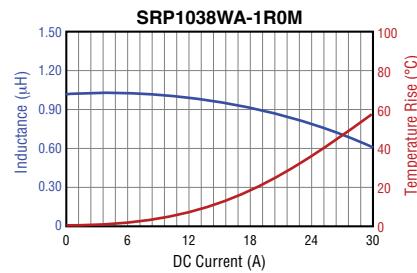
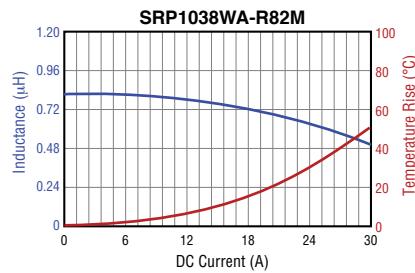
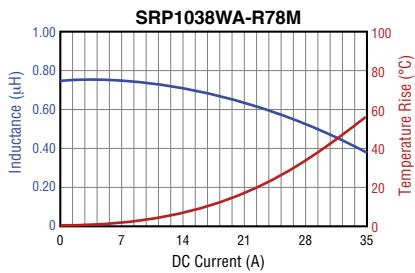
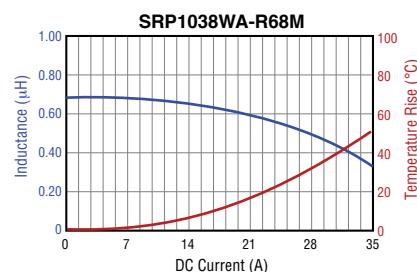
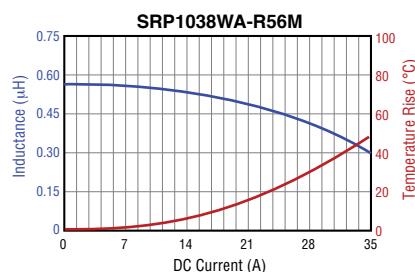
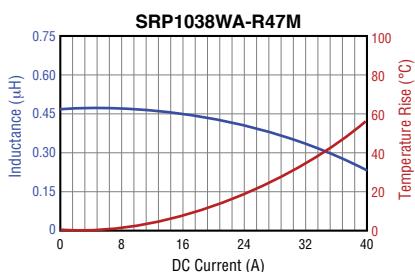
DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

### Product Dimensions



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

### L vs. I Charts



Specifications are subject to change without notice.

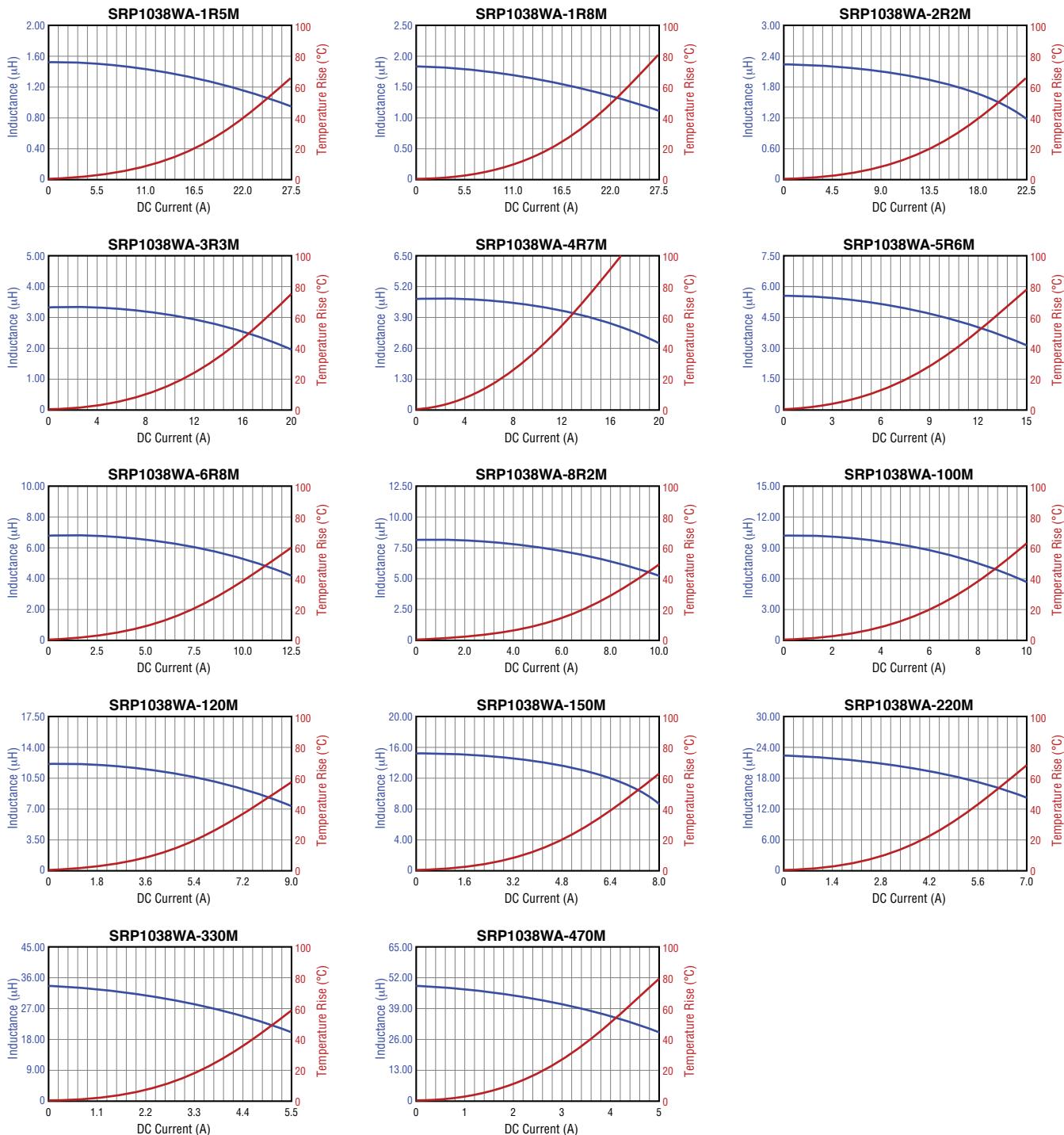
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### L vs. I Charts (continued)



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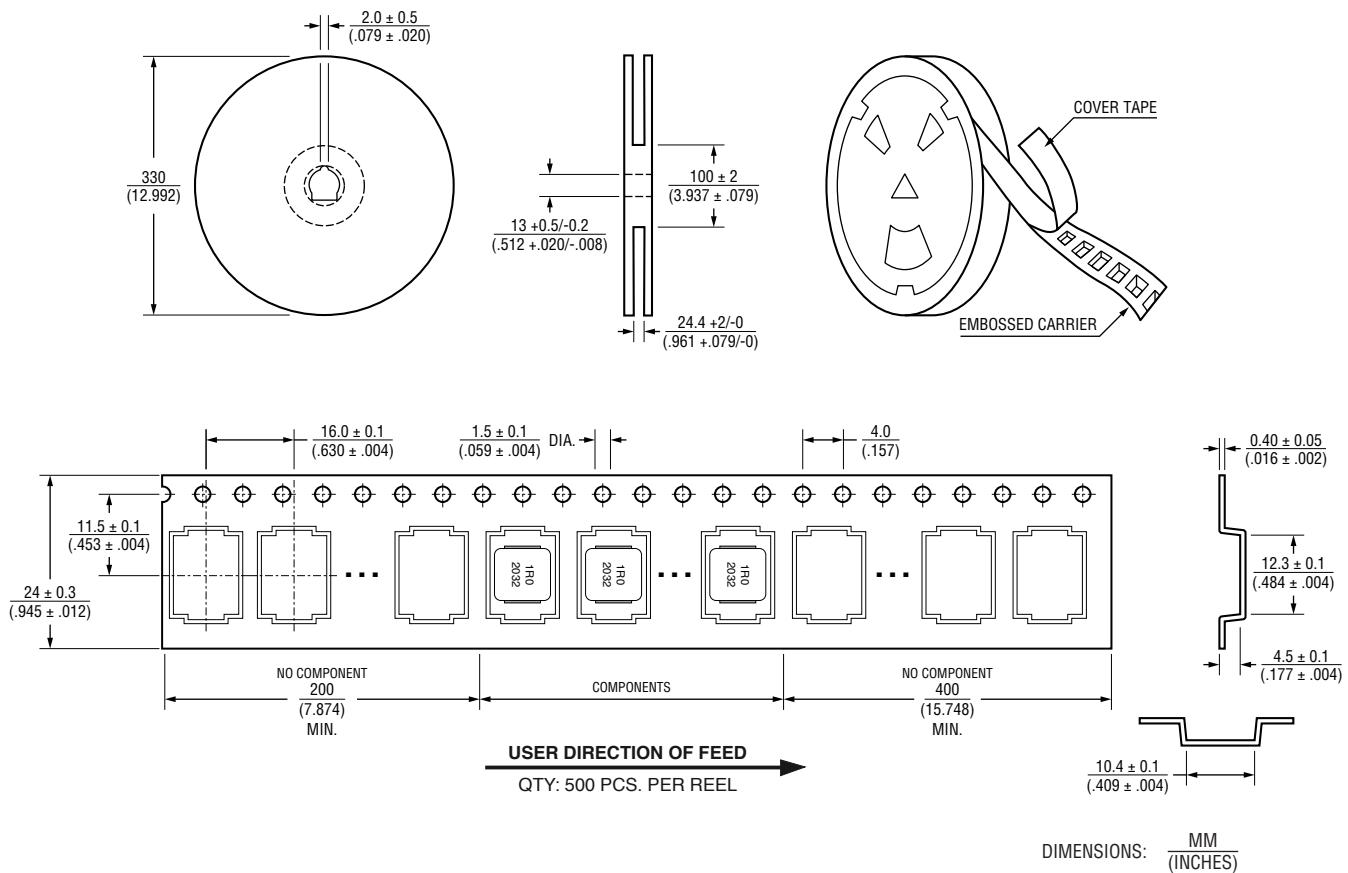
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### Packaging Specifications



**BOURNS®**

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