



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 Irms¹

Rated Current

..... Inductance drops 30 % at Isat

Moisture Sensitivity Level.....1

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

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

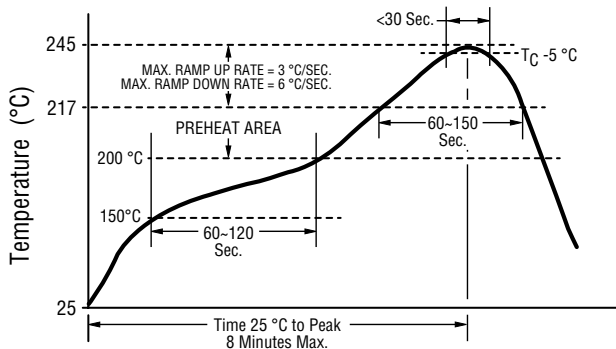
Core.....Metal alloy powder

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 _{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. |
| 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. |



WARNING Cancer and Reproductive Harm

www.P65Warnings.ca.gov

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

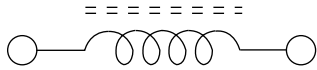
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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SRP1038WA Series - Shielded Power Inductors



Electrical Schematic

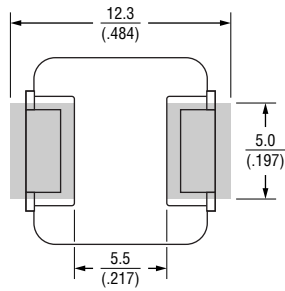


How to Order

SRP1038WA - 1R0M

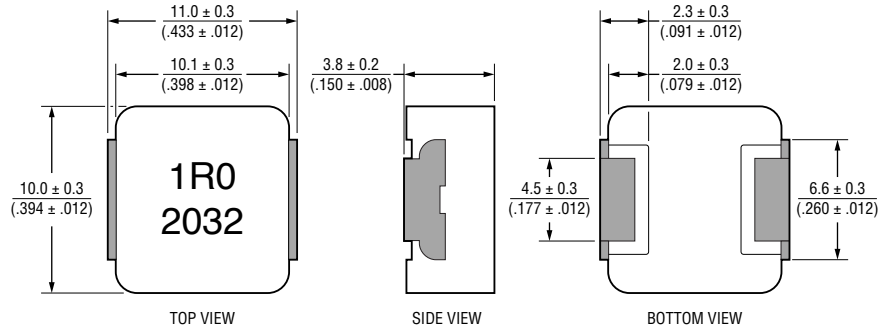
Model _____
Value Code (see table) _____

Recommended Layout



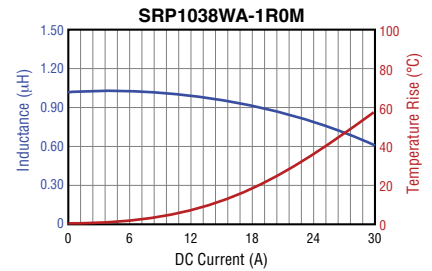
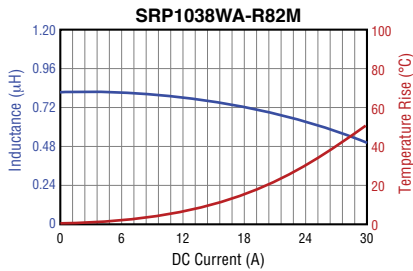
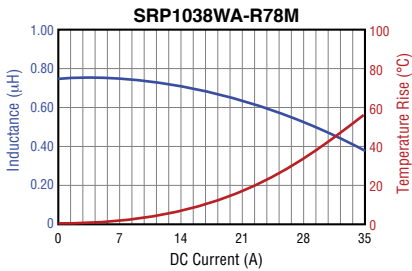
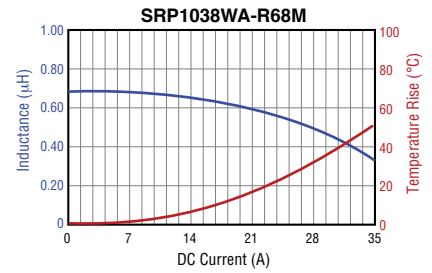
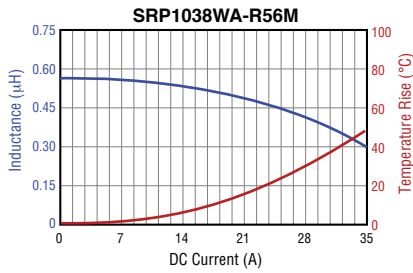
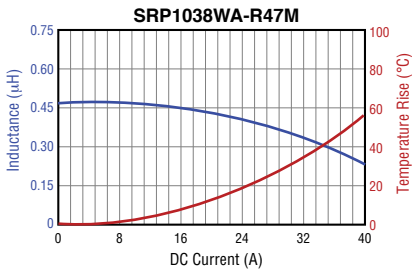
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Product Dimensions



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

L vs. I Charts

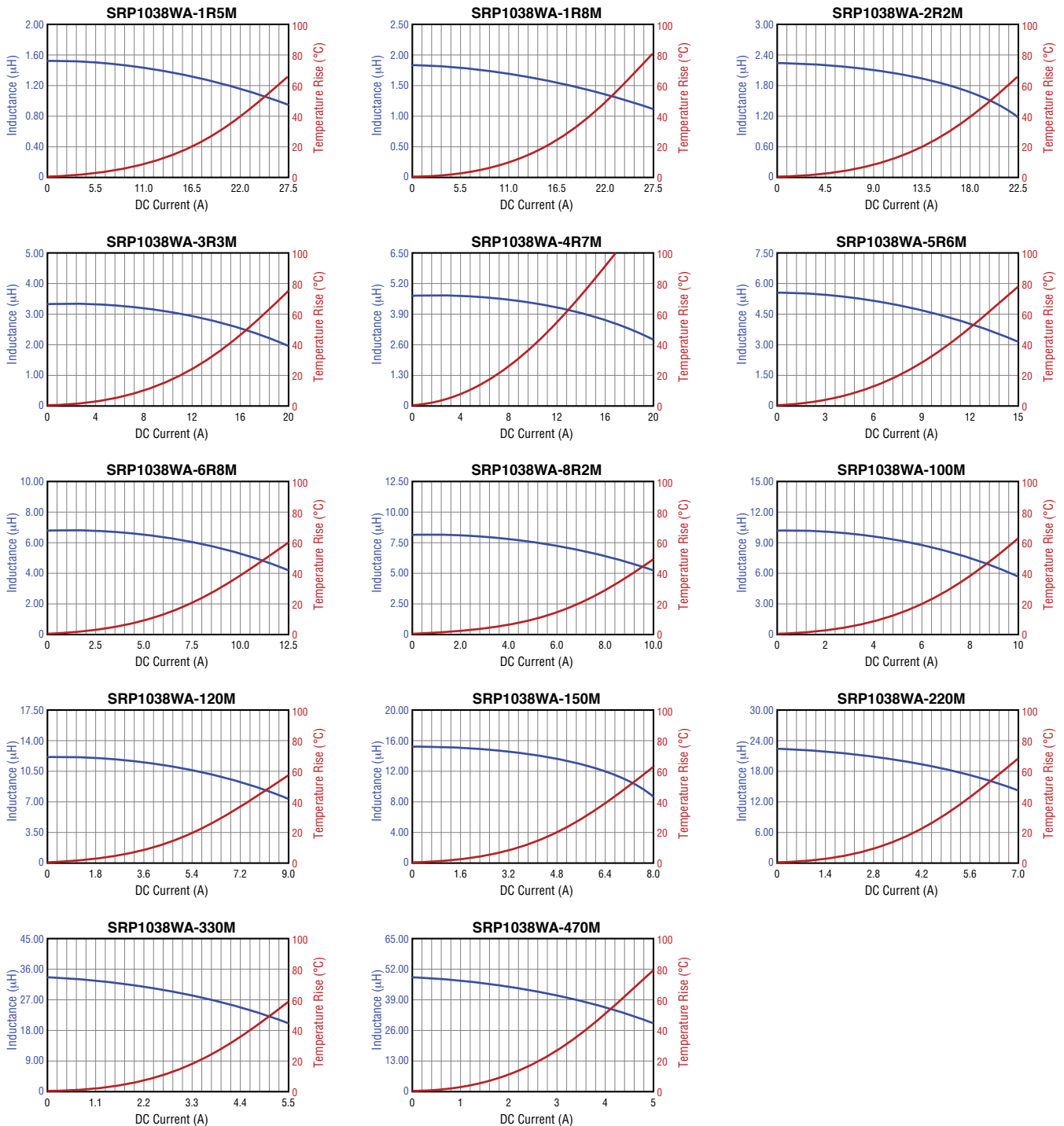


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L vs. I Charts (continued)



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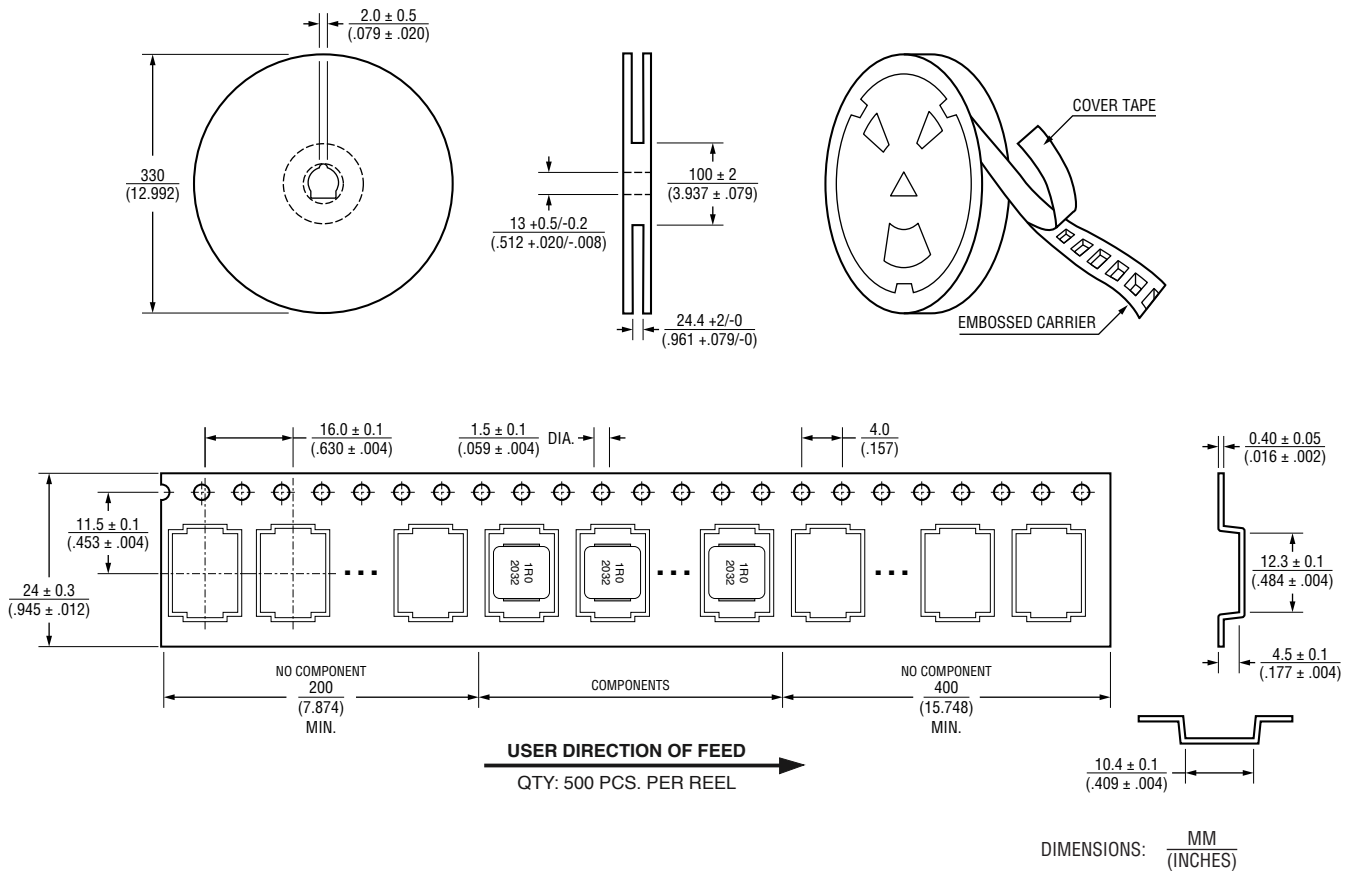
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Packaging Specifications



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