



Features

- Shielded construction
- Carbonyl powder core
- High saturation current
- Low radiation
- Low buzz noise
- RoHS compliant* and halogen free**

SRP1038CC Series - Shielded Power Inductors

Electrical Specifications @ 25 °C

| Bourns Part No. | Inductance @ 100 kHz / 1 V | | Q Min. | SRF (MHz) Typ. | DCR (mΩ) Typ. | DCR (mΩ) Max. | I _{rms} (A) Typ. | I _{sat} (A) Typ. | Terminal Type |
|-----------------|----------------------------|--------|--------|----------------|---------------|---------------|---------------------------|---------------------------|----------------|
| | L (μH) | Tol. % | | | | | | | |
| SRP1038CC-R10Y | 0.10 | 30 | 10 | 170 | 0.32 | 0.38 | 53 | 85 | Non-Lead Frame |
| SRP1038CC-R15M | 0.15 | 20 | 10 | 160 | 0.5 | 0.6 | 45 | 80 | |
| SRP1038CC-R20Y | 0.20 | 30 | 10 | 155 | 0.8 | 1.0 | 40 | 75 | |
| SRP1038CC-R22M | 0.22 | 20 | 10 | 155 | 0.8 | 1.0 | 40 | 75 | |
| SRP1038CC-R30M | 0.30 | 20 | 15 | 110 | 1.0 | 1.2 | 38 | 70 | |
| SRP1038CC-R33M | 0.33 | 20 | 15 | 108 | 1.0 | 1.2 | 38 | 70 | |
| SRP1038CC-R36M | 0.36 | 20 | 15 | 105 | 1.05 | 1.2 | 36 | 60 | |
| SRP1038CC-R47M | 0.47 | 20 | 15 | 72 | 1.3 | 1.5 | 31 | 48 | |
| SRP1038CC-R68M | 0.68 | 20 | 15 | 60 | 2.3 | 2.7 | 24 | 45 | |
| SRP1038CC-1R0M | 1.00 | 20 | 15 | 47 | 3.5 | 4 | 20 | 39 | Lead Frame |
| SRP1038CC-1R5M | 1.50 | 20 | 20 | 30 | 4.7 | 5.3 | 18 | 35 | |
| SRP1038CC-2R2M | 2.20 | 20 | 20 | 25 | 6.5 | 7.2 | 15 | 27 | |
| SRP1038CC-3R3M | 3.30 | 20 | 20 | 18 | 10.8 | 11.8 | 14 | 22 | |
| SRP1038CC-4R7M | 4.70 | 20 | 20 | 16 | 14.5 | 15.5 | 13 | 20 | |
| SRP1038CC-5R6M | 5.60 | 20 | 20 | 15 | 18 | 19.3 | 12 | 16 | |
| SRP1038CC-6R8M | 6.80 | 20 | 20 | 13 | 19 | 23.3 | 10 | 15 | |
| SRP1038CC-8R2M | 8.20 | 20 | 20 | 12 | 20 | 22.5 | 9 | 13.5 | |
| SRP1038CC-100M | 10.00 | 20 | 20 | 10 | 29 | 32 | 8.5 | 12.5 | |
| SRP1038CC-150M | 15.00 | 20 | 20 | 9 | 40 | 45 | 6.3 | 10 | |
| SRP1038CC-220M | 22.00 | 20 | 20 | 8 | 62 | 74 | 5.2 | 7.5 | |
| SRP1038CC-270M | 27.00 | 20 | 20 | 7 | 80 | 96 | 4.5 | 6.5 | |
| SRP1038CC-330M | 33.00 | 20 | 20 | 6 | 94 | 112 | 4 | 6 | |
| SRP1038CC-470M | 47.00 | 20 | 20 | 5 | 145 | 167 | 3.2 | 5 | |

Additional Information

Click these links for more information:



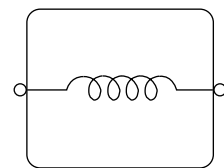
General Specifications

Operating Temperature -40 °C to +125 °C
(Temperature rise included)
Storage Temperature (Component) -40 °C to +125 °C
Temperature Rise 40 °C at rated I_{rms}¹
Rated Current Inductance drops 30 % at I_{sat}
Moisture Sensitivity Level 1
ESD Classification (HBM) N/A
¹Circuit 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 Carbonyl powder
Wire Enameled copper
Terminal Finish Sn
Packaging 500 pcs. per 13-inch reel

Electrical Schematic



How to Order

SRP1038CC - R10Y

Model _____
Value Code (see table) _____



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.

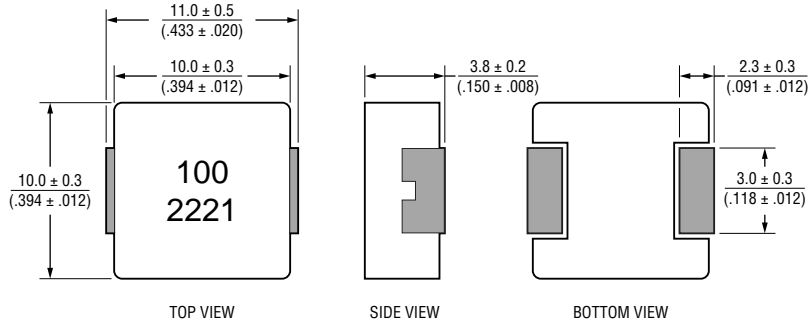
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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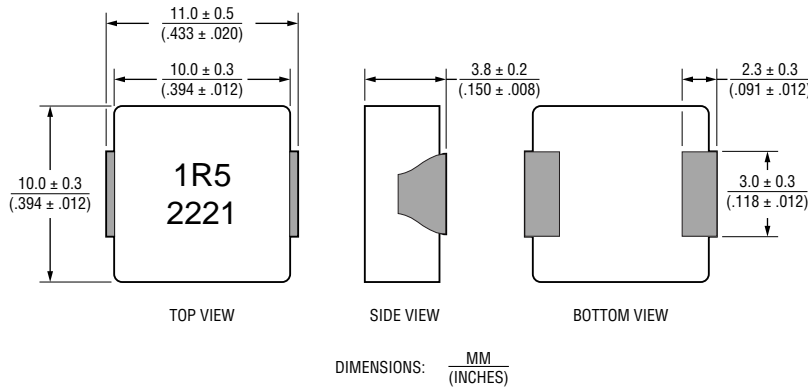
BOURNS®

Product Dimensions

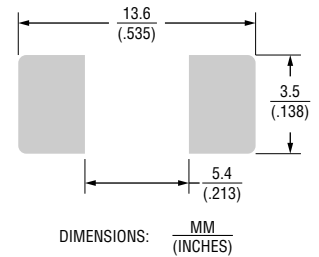
Lead Frame Terminal



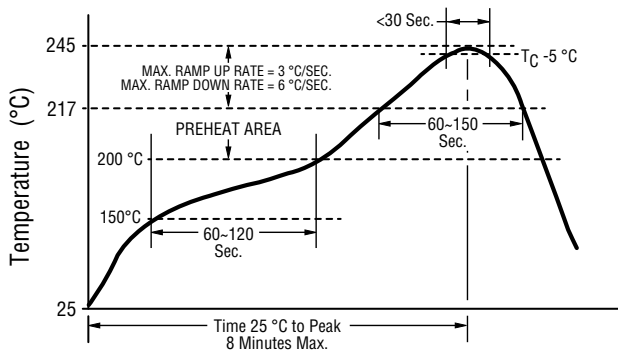
Non-Lead Frame Terminal



Recommended Layout



Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

| Profile Feature | Pb Free Assembly |
|---|------------------|
| Preheat | |
| - Temperature Min. (T_{smin}) | 150 °C |
| - Temperature Max. (T_{smax}) | 200 °C |
| - Time (t_s) from T_{smin} to T_{smax} | 60-120 seconds |
| Ramp-up Rate (T_L to T_P) | 3 °C/second max. |
| Liquidous temperature (T_L) | 217 °C |
| Time (t_L) maintained above T_L | 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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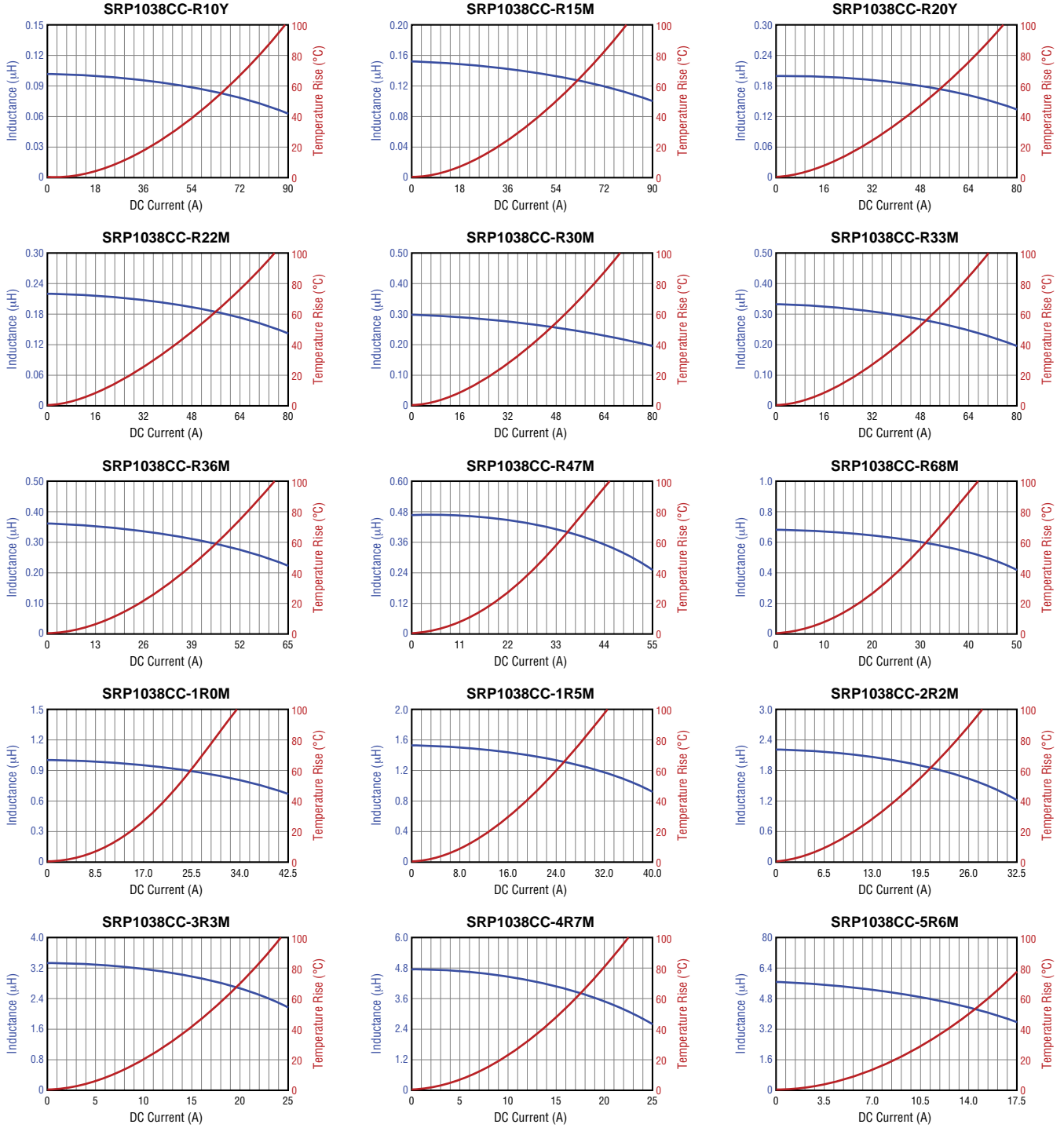
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L vs. IDC and Temperature vs. IDC Curves

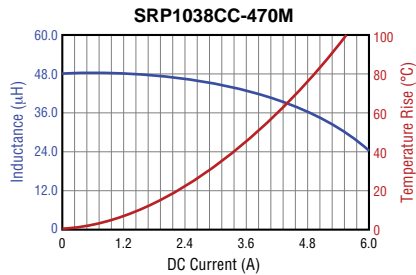
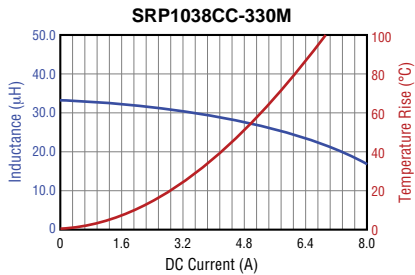
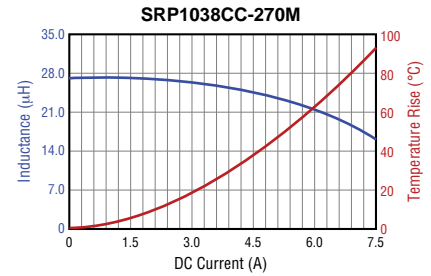
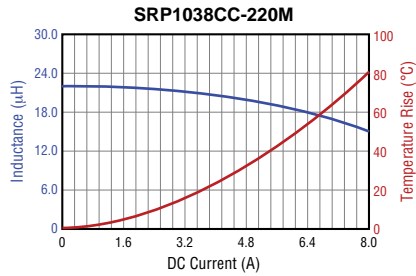
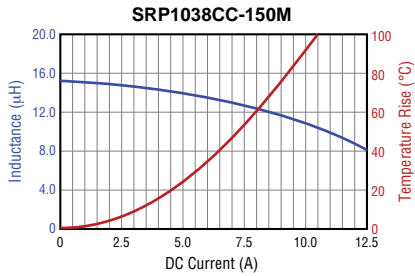
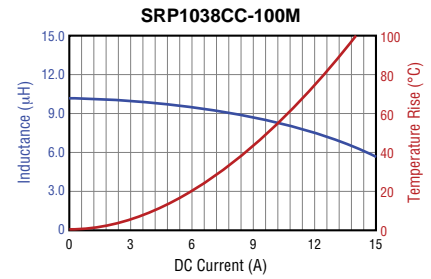
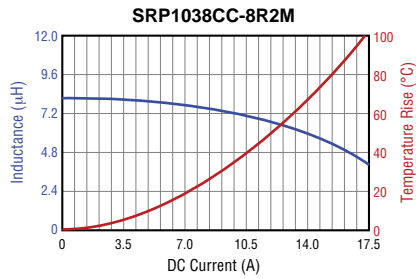
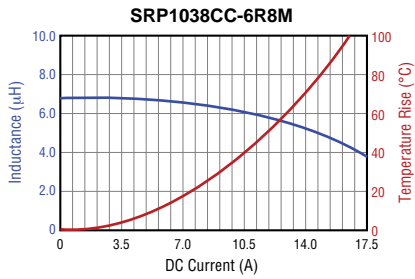


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L vs. IDC and Temperature vs. IDC Curves (continued)



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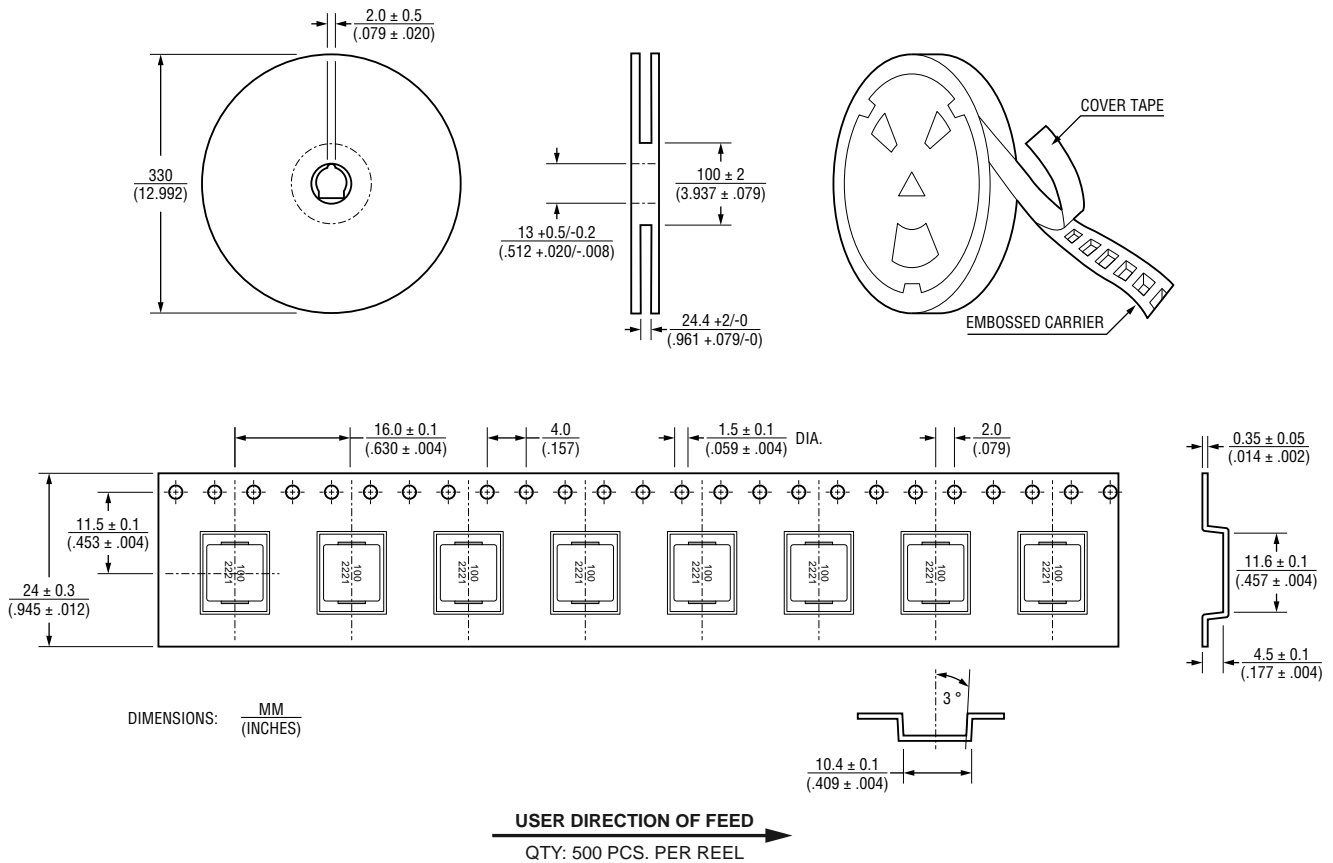
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Packaging Specifications



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