



**THE DATASHEET OF  
SRP7028A-220M**





### Features

- Shielded construction
- Carbonyl powder core
- High saturation current
- Inductance range: 0.10 to 33  $\mu$ H
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRP7028A Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance @ 100 KHz / 1 V |          | Q (Min.) @ 100 KHz / 1 V | SRF (MHz) Typ. | DCR (m $\Omega$ ) Typ. | DCR (m $\Omega$ ) Max. | I <sub>rms</sub> (A) | I <sub>sat</sub> (A) | Terminal Type |
|--------------------|----------------------------|----------|--------------------------|----------------|------------------------|------------------------|----------------------|----------------------|---------------|
|                    | L ( $\mu$ H)               | Tol. (%) |                          |                |                        |                        |                      |                      |               |
| SRP7028A-R10M      | 0.10                       | $\pm 20$ | 5                        | 300            | 1.2                    | 1.7                    | 32.5                 | 60                   | Lead Frame    |
| SRP7028A-R15Y      | 0.15                       | $\pm 30$ | 5                        | 220            | 1.5                    | 1.9                    | 27                   | 45                   |               |
| SRP7028A-R22Y      | 0.22                       | $\pm 30$ | 5                        | 150            | 2.1                    | 2.8                    | 23                   | 40                   |               |
| SRP7028A-R33M      | 0.33                       | $\pm 20$ | 10                       | 140            | 3.5                    | 3.9                    | 20                   | 32                   |               |
| SRP7028A-R47M      | 0.47                       | $\pm 20$ | 10                       | 80             | 4                      | 4.2                    | 17.5                 | 26                   |               |
| SRP7028A-R56M      | 0.56                       | $\pm 20$ | 15                       | 70             | 4.7                    | 5.0                    | 16.5                 | 25.5                 |               |
| SRP7028A-R68M      | 0.68                       | $\pm 20$ | 15                       | 67             | 4.8                    | 5.5                    | 15.5                 | 25                   |               |
| SRP7028A-R75M      | 0.75                       | $\pm 20$ | 15                       | 65             | 5.5                    | 6.6                    | 14.5                 | 24.5                 |               |
| SRP7028A-R82M      | 0.82                       | $\pm 20$ | 15                       | 61             | 6.7                    | 8.0                    | 13                   | 24                   |               |
| SRP7028A-1R0M      | 1.0                        | $\pm 20$ | 20                       | 58             | 8.3                    | 10.0                   | 11                   | 22                   |               |
| SRP7028A-1R5M      | 1.5                        | $\pm 20$ | 20                       | 38             | 13                     | 15.0                   | 9                    | 18                   |               |
| SRP7028A-1R8M      | 1.8                        | $\pm 20$ | 20                       | 36             | 14                     | 17.0                   | 8.5                  | 16                   |               |
| SRP7028A-2R2M      | 2.2                        | $\pm 20$ | 20                       | 32             | 18                     | 20.0                   | 8                    | 14                   |               |
| SRP7028A-2R5M      | 2.5                        | $\pm 20$ | 20                       | 30             | 20                     | 22.0                   | 7                    | 13                   |               |
| SRP7028A-3R3M      | 3.3                        | $\pm 20$ | 20                       | 25             | 28                     | 30.0                   | 6                    | 12                   |               |
| SRP7028A-4R7M      | 4.7                        | $\pm 20$ | 20                       | 21             | 37                     | 40.0                   | 5.5                  | 10                   |               |
| SRP7028A-5R6M      | 5.6                        | $\pm 20$ | 20                       | 19             | 43                     | 48.0                   | 5                    | 9                    |               |
| SRP7028A-6R8M      | 6.8                        | $\pm 20$ | 20                       | 18             | 54                     | 60.0                   | 4.5                  | 8                    |               |
| SRP7028A-8R2M      | 8.2                        | $\pm 20$ | 20                       | 17             | 64                     | 68.0                   | 4                    | 7.5                  |               |
| SRP7028A-100M      | 10                         | $\pm 20$ | 20                       | 14             | 75                     | 85.0                   | 3.5                  | 6                    |               |
| SRP7028A-150M      | 15                         | $\pm 20$ | 20                       | 12             | 107                    | 123.0                  | 3.0                  | 4                    |               |
| SRP7028A-220M      | 22                         | $\pm 20$ | 20                       | 10             | 165                    | 190.0                  | 2.0                  | 3.5                  |               |
| SRP7028A-330M      | 33                         | $\pm 20$ | 20                       | 8              | 200                    | 240.0                  | 2.0                  | 2.5                  |               |

### General Specifications

Test Voltage ..... 1.0 V  
 Test Frequency ..... 100 KHz  
 Operating Temperature ..... -55 °C to +150 °C  
 (Temperature rise included)  
 Storage Temperature .. -55 °C to +150 °C  
 Rated Current ..... Inductance drops 20 % at I<sub>sat</sub>  
 Temperature Rise ..... 40 °C at rated I<sub>rms</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.

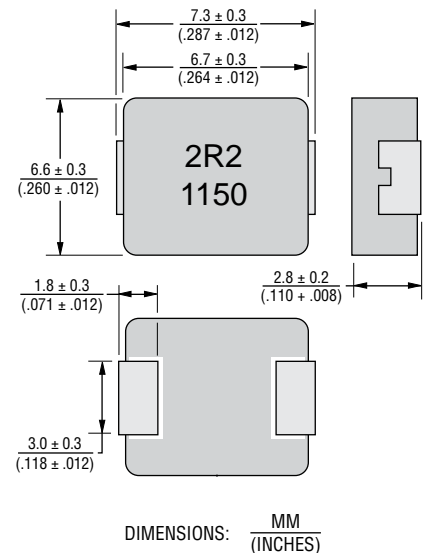
### Materials

Core ..... Carbonyl powder  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Packaging ..... 1000 pcs. per 13-inch reel

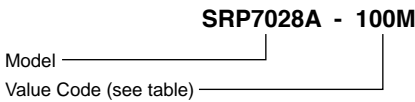
Please consult [Bourns® Model SRP-A Series Visual Inspection Guide](#) for detailed construction, processing and testing information.

### Product Dimensions

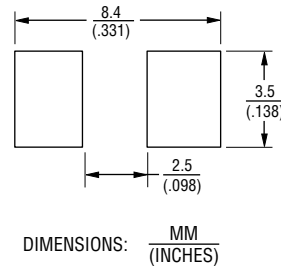
#### Lead Frame Terminal



### How to Order



### Recommended Layout



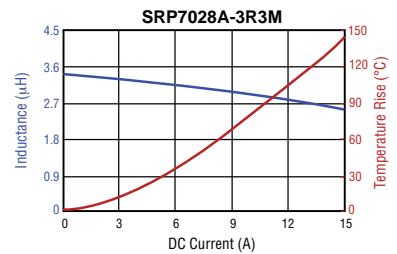
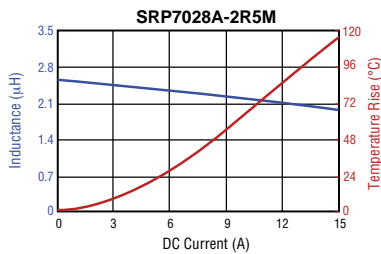
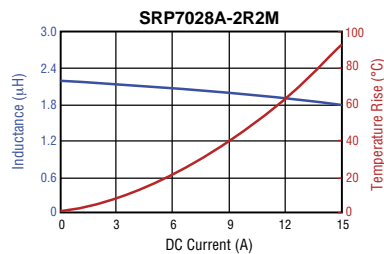
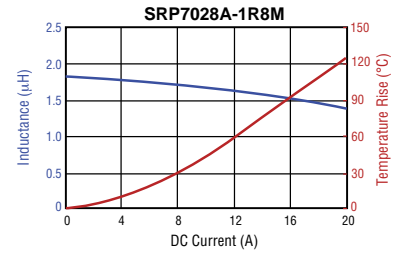
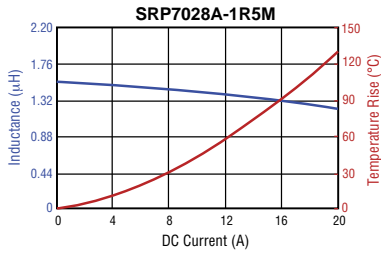
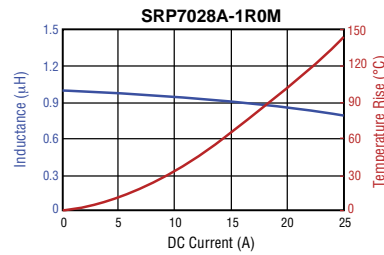
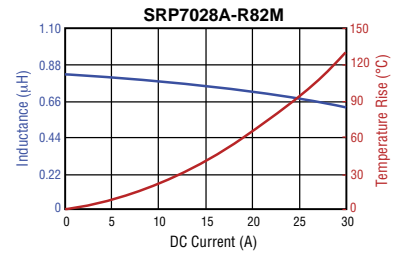
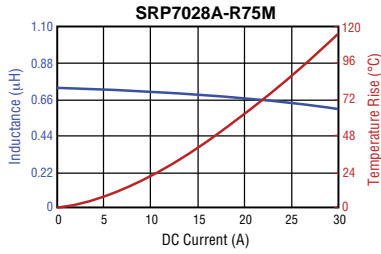
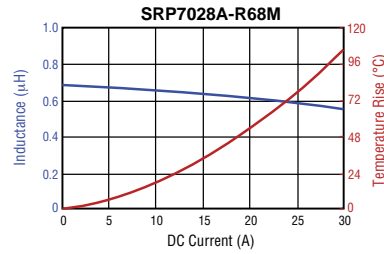
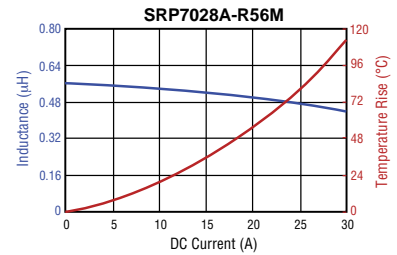
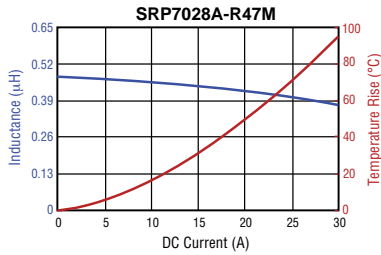
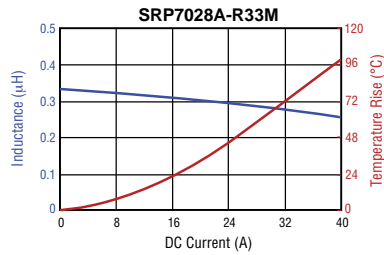
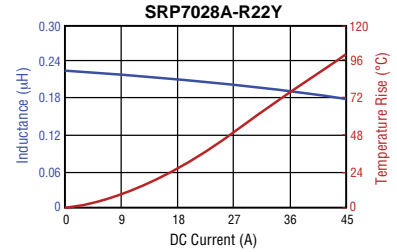
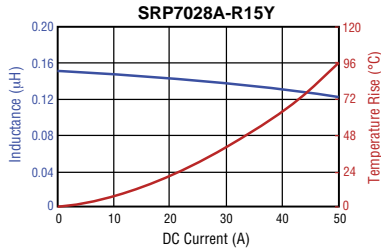
**WARNING Cancer and Reproductive Harm** [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* 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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# SRP7028A Series - Shielded Power Inductors



## L vs. I Charts

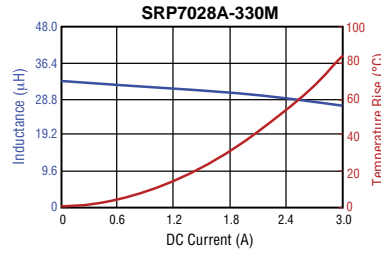
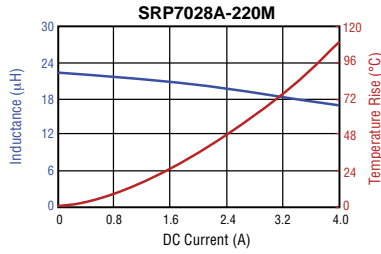
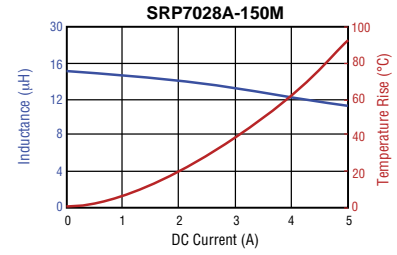
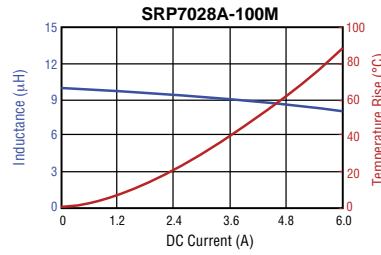
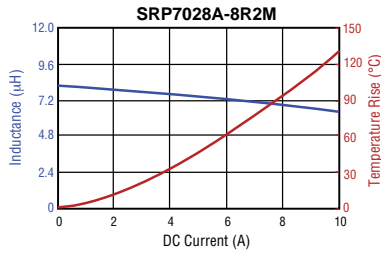
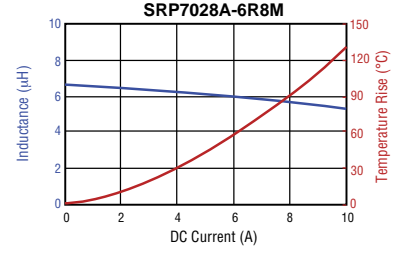
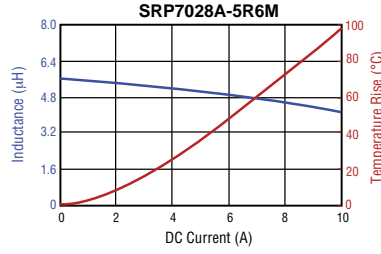
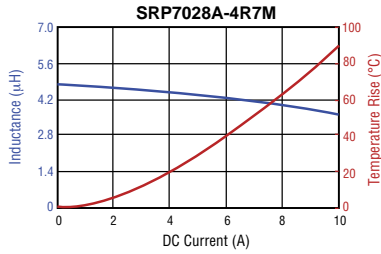


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# SRP7028A Series - Shielded Power Inductors



## L vs. I Charts (Continued)



## Soldering Profile



REFLOW TIMES: 3 MAX.

## Electrical Schematic



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