



### Features

- Shielded construction
- Carbonyl powder core
- High saturation current
- Inductance range: 1 to 100  $\mu$ H
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRP1770TA 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) | Isat1 (A) | Isat2 (A) | Terminal Type |
|--------------------|----------------------------|----------|--------------------------|----------------|------------------------|------------------------|----------------------|-----------|-----------|---------------|
|                    | L ( $\mu$ H)               | Tol. (%) |                          |                |                        |                        |                      |           |           |               |
| SRP1770TA-1R0M     | 1                          | $\pm 20$ | 20                       | 35             | 1.6                    | 2                      | 52                   | 60        | 70        | Lead Frame    |
| SRP1770TA-1R5M     | 1.5                        | $\pm 20$ | 20                       | 30             | 2                      | 2.5                    | 47                   | 52        | 65        |               |
| SRP1770TA-2R2M     | 2.2                        | $\pm 20$ | 20                       | 22             | 2.4                    | 2.7                    | 43.5                 | 47        | 62        |               |
| SRP1770TA-3R3M     | 3.3                        | $\pm 20$ | 20                       | 17             | 3.5                    | 3.9                    | 28                   | 45        | 54        |               |
| SRP1770TA-4R7M     | 4.7                        | $\pm 20$ | 20                       | 15             | 4.8                    | 5.5                    | 25                   | 41        | 50        |               |
| SRP1770TA-5R6M     | 5.6                        | $\pm 20$ | 20                       | 12             | 5.8                    | 7.05                   | 21                   | 40        | 45        |               |
| SRP1770TA-6R8M     | 6.8                        | $\pm 20$ | 20                       | 11             | 8.4                    | 9.2                    | 19                   | 32        | 39        |               |
| SRP1770TA-8R2M     | 8.2                        | $\pm 20$ | 20                       | 10             | 9.6                    | 10.8                   | 18                   | 25        | 31        |               |
| SRP1770TA-100M     | 10                         | $\pm 20$ | 20                       | 8              | 11.8                   | 13                     | 16.5                 | 24        | 29        |               |
| SRP1770TA-150M     | 15                         | $\pm 20$ | 20                       | 7              | 17.8                   | 20.5                   | 12.5                 | 23        | 27        |               |
| SRP1770TA-220M     | 22                         | $\pm 20$ | 20                       | 5              | 25.1                   | 26.5                   | 12                   | 18        | 23        |               |
| SRP1770TA-330M     | 33                         | $\pm 20$ | 20                       | 4              | 38                     | 44                     | 10.7                 | 15        | 20        |               |
| SRP1770TA-390M     | 39                         | $\pm 20$ | 20                       | 4              | 40                     | 48                     | 9.2                  | 11        | 18        |               |
| SRP1770TA-470M     | 47                         | $\pm 20$ | 20                       | 3              | 48                     | 55                     | 8.7                  | 9.5       | 16        |               |
| SRP1770TA-560M     | 56                         | $\pm 20$ | 20                       | 3              | 54                     | 62                     | 7.8                  | 9         | 15        |               |
| SRP1770TA-680M     | 68                         | $\pm 20$ | 20                       | 2              | 68                     | 80                     | 7                    | 8         | 13        |               |
| SRP1770TA-101M     | 100                        | $\pm 20$ | 20                       | 2              | 102                    | 118                    | 5.3                  | 6.5       | 12        |               |

### General Specifications

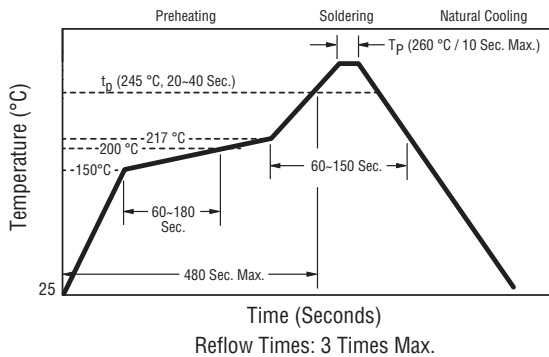
Operating Temperature .....-40 °C to +150 °C  
 (Temperature rise included)  
 Storage Temperature .....-40 °C to +125 °C  
 Rated Current ..... Inductance drops 20 % at Isat1, 30 % at Isat2  
 Temperature Rise .....40 °C at rated I<sub>rms</sub>  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (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

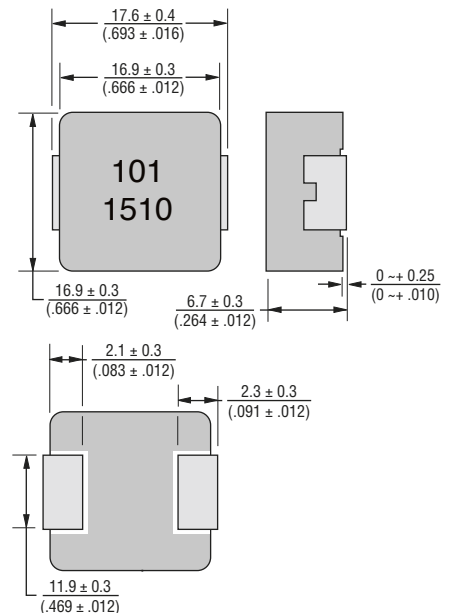
Core ..... Carbonyl powder  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Packaging ..... 200 pcs. per 13-inch reel

### Soldering Profile



### Product Dimensions

#### Lead Frame Terminal

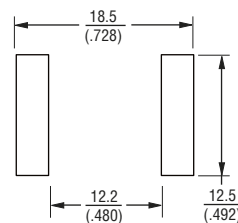


### How to Order

SRP1770TA - 220 M

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

### Recommended Layout



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

\* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

\*\*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.

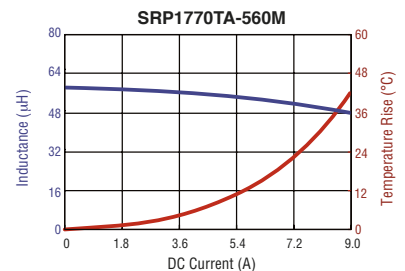
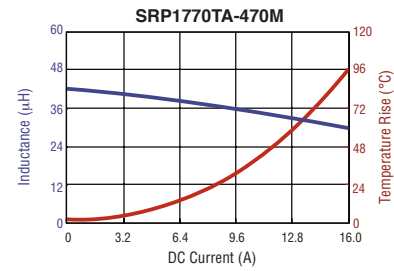
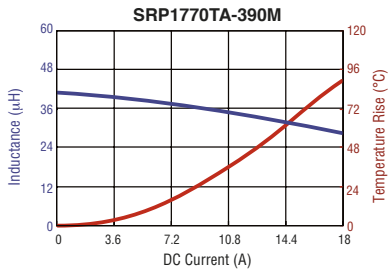
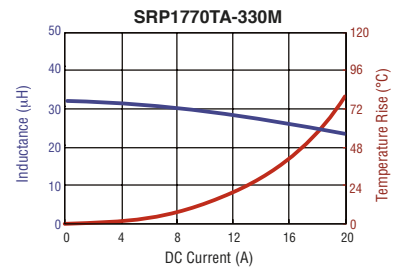
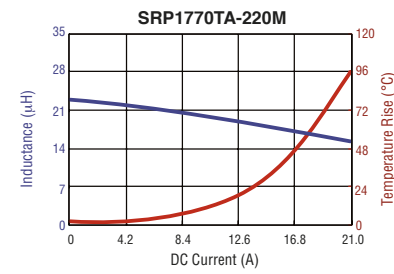
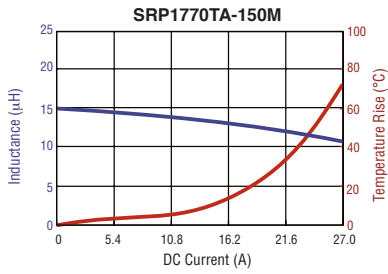
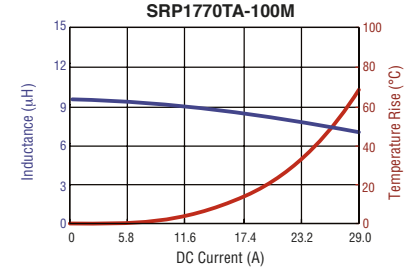
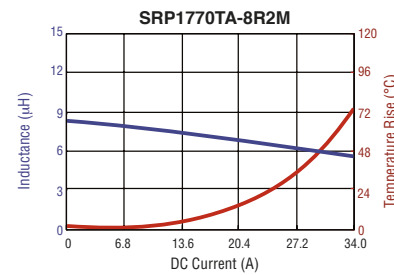
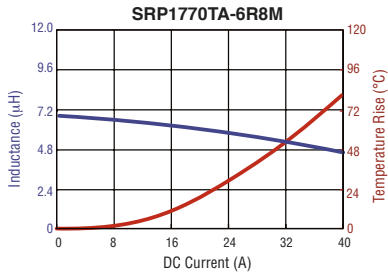
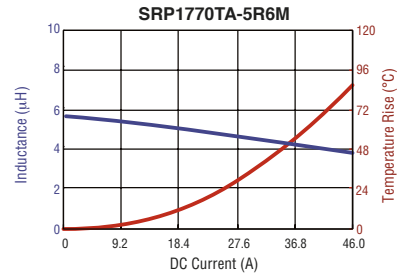
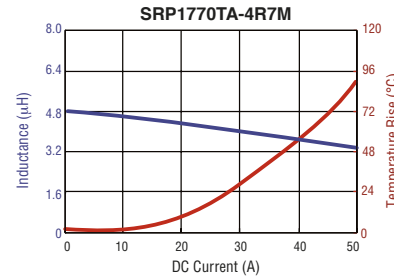
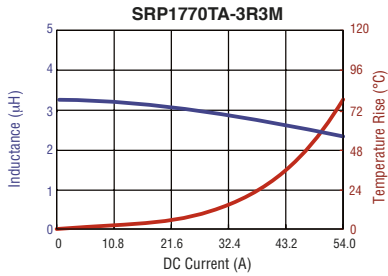
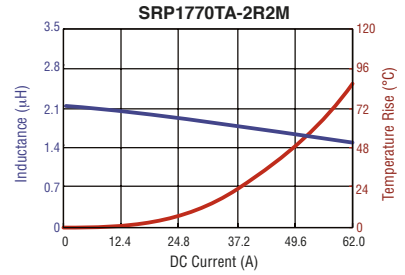
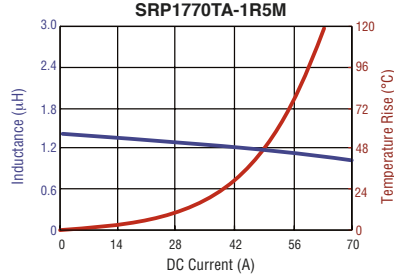
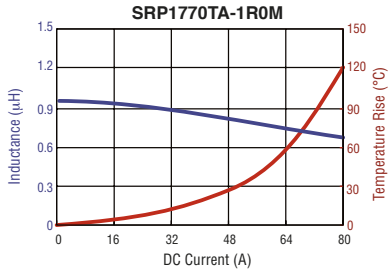
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DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

# SRP1770TA Series - Shielded Power Inductors

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## L vs. I Charts

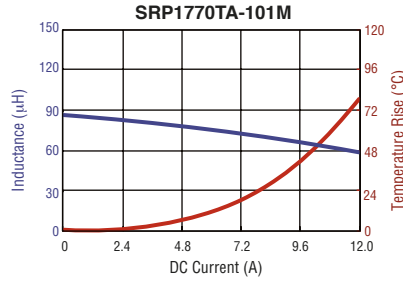
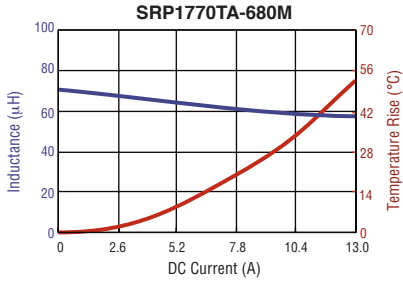


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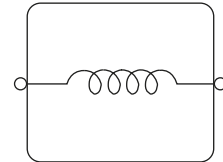
# SRP1770TA Series - Shielded Power Inductors

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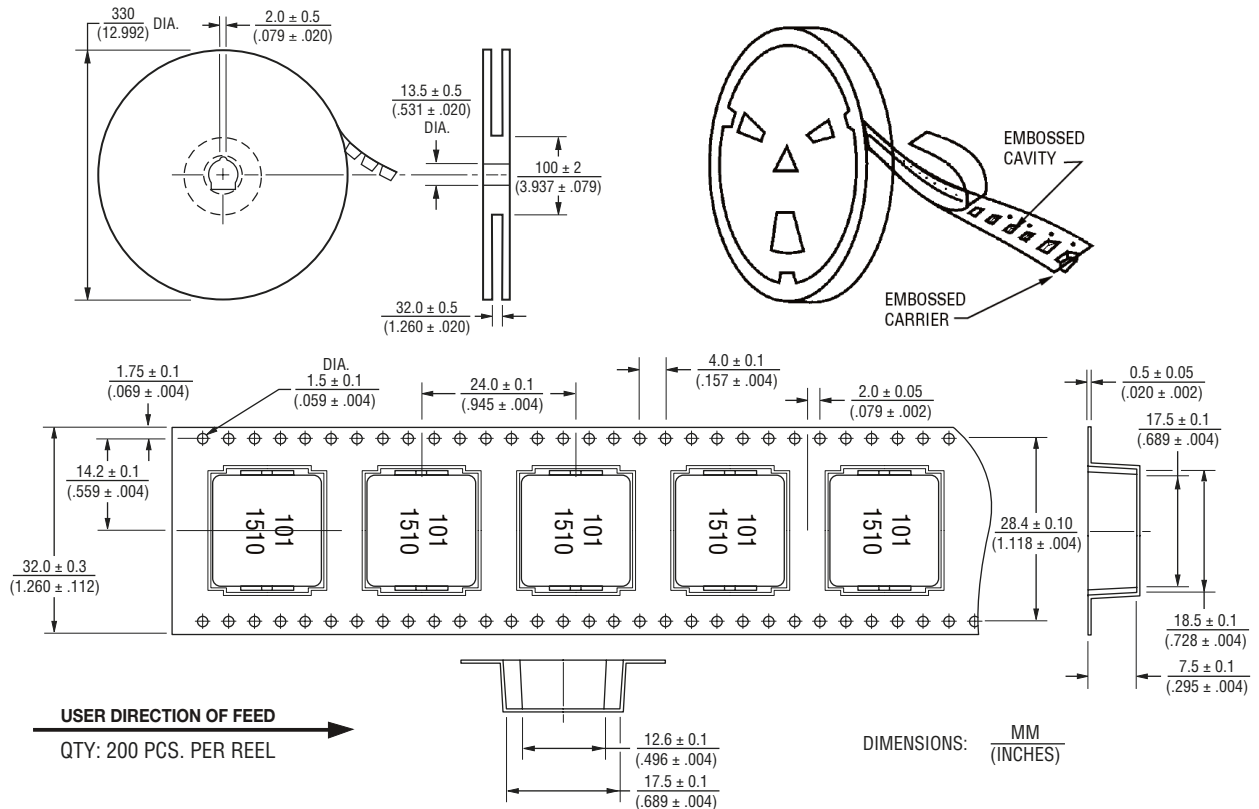
## L vs. I Charts (Continued)



## Schematic



## Packaging Specifications



**BOURNS®**

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

EMEA: Tel: +36 88 520 390 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

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