



### Features

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

### Applications

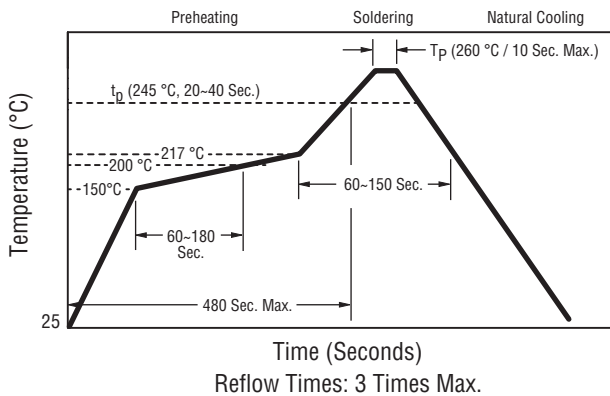
- Automotive systems:
  - Driver assistant
  - Information
  - Entertainment
  - Lighting
- DC/DC converters
- Power supplies

## 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        |               |

### Soldering Profile



### 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

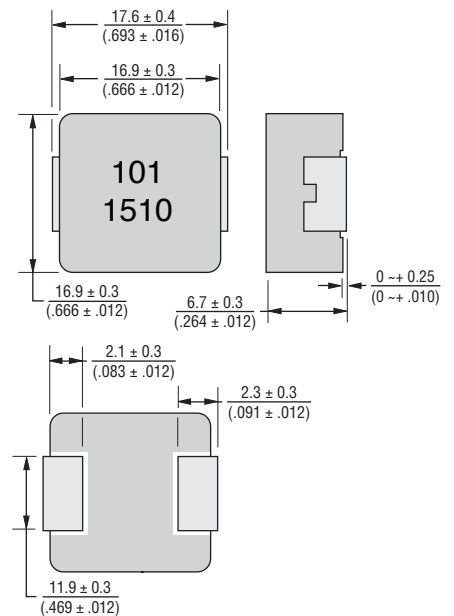
Temperature Rise ..... 40 °C at rated I<sub>rms</sub>

### Materials

Core ..... Carbonyl powder  
Wire ..... Enameled copper  
Terminal Finish ..... Sn  
Packaging ..... 300 pcs. per 13-inch reel

### Product Dimensions

#### Lead Frame Terminal



### How to Order

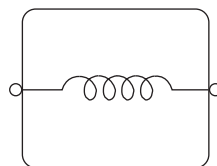
SRP1770TA - 220 M

Model \_\_\_\_\_

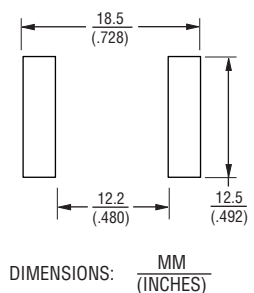
Value Code (see table) \_\_\_\_\_

Tolerance Code \_\_\_\_\_

### Schematic



### Recommended Layout



\* 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.

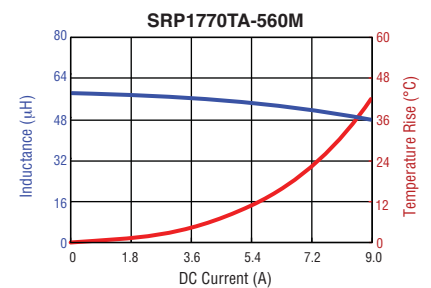
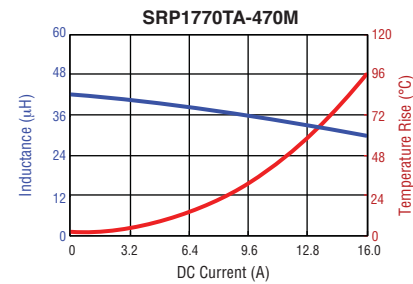
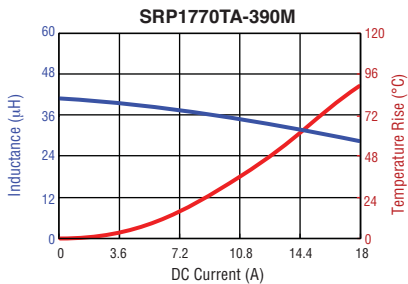
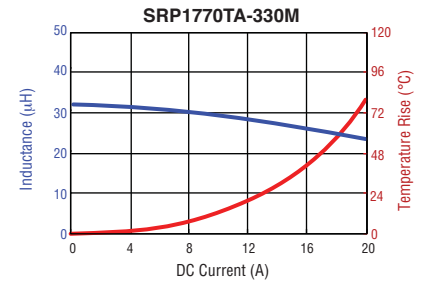
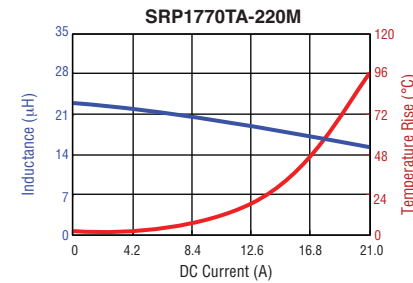
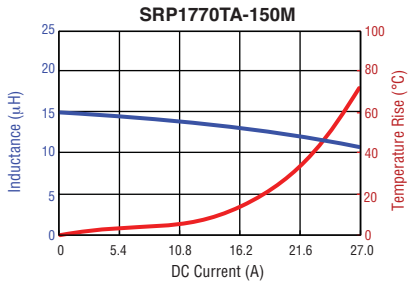
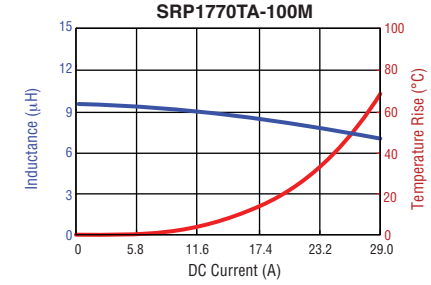
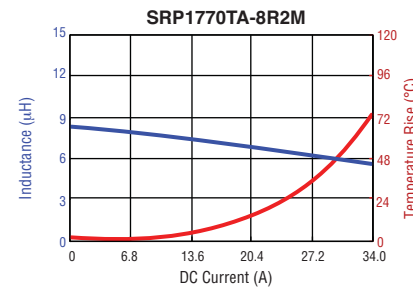
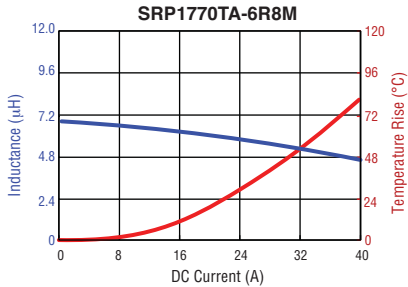
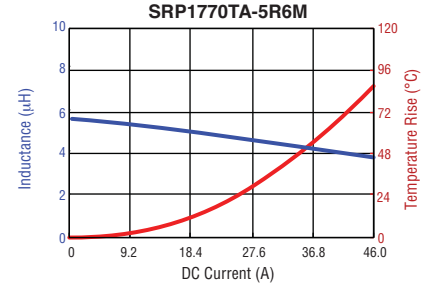
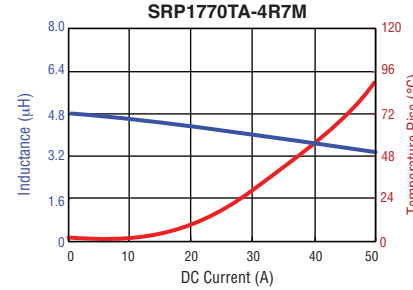
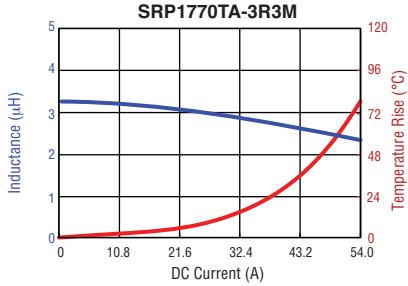
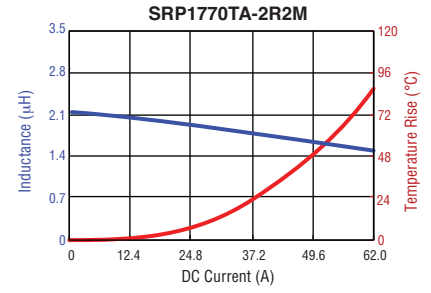
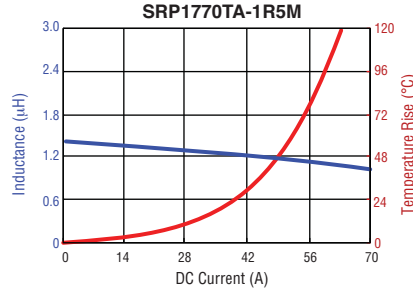
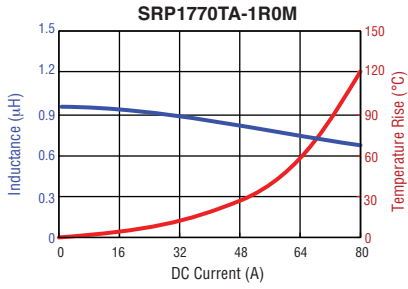
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

# SRP1770TA Series - Shielded Power Inductors

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## L vs. I Charts

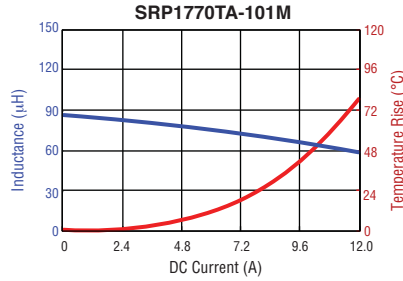
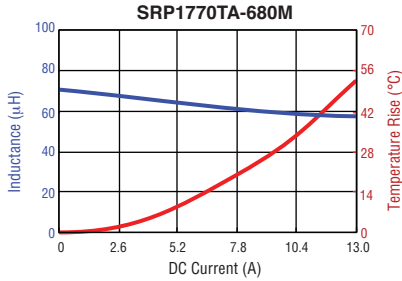


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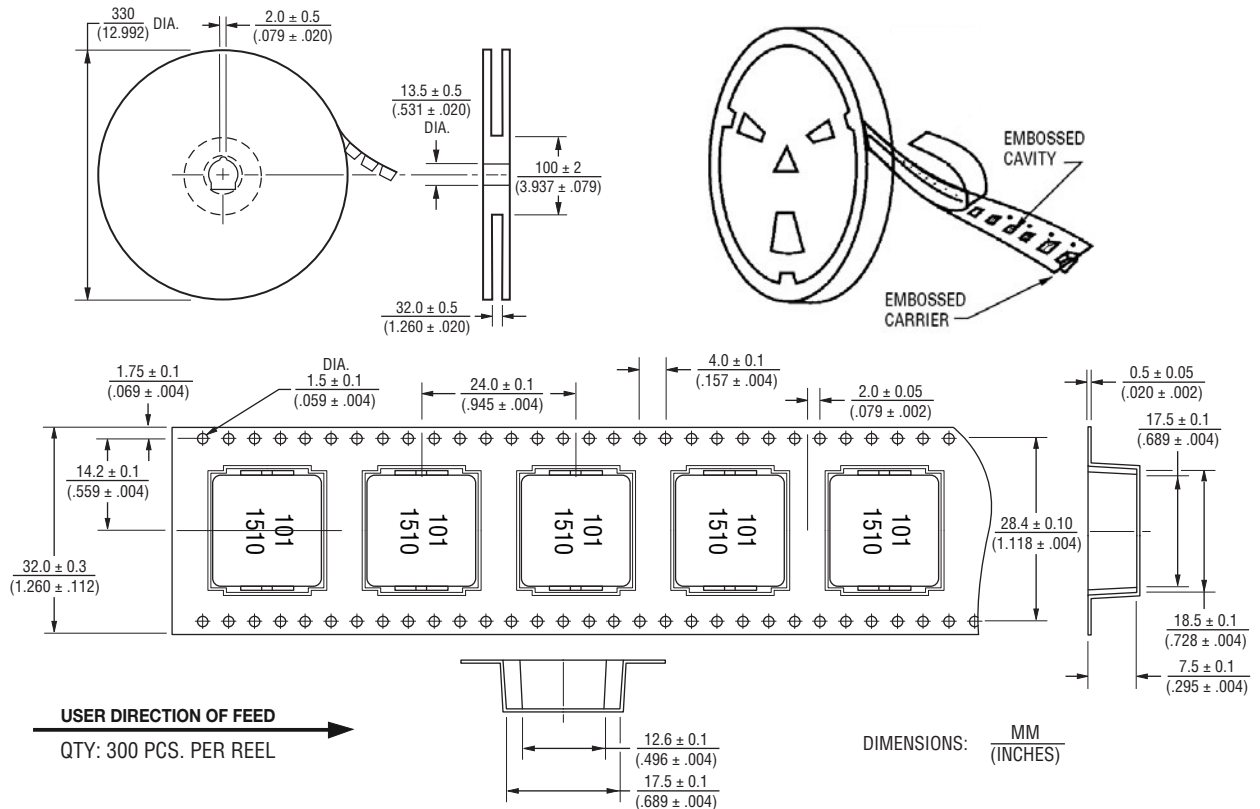
# SRP1770TA Series - Shielded Power Inductors

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## L vs. I Charts (Continued)



## Packaging Specifications



REV. 09/16

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