



## Features

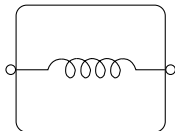
- Shielded construction for low radiation
- Metal powder core
- High saturation current
- Low buzz noise
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRP8540A Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance @ 100 kHz / 1 V |          | Q Typ. | SRF (MHz) Typ. | DCR (mΩ) Typ. | DCR (mΩ) Max. | Irms (A) Typ. | Isat (A) Typ. |
|--------------------|----------------------------|----------|--------|----------------|---------------|---------------|---------------|---------------|
|                    | L (μH)                     | Tol. (%) |        |                |               |               |               |               |
| SRP8540A-R22M      | 0.22                       | ± 20     | 10     | 132            | 1.6           | 1.76          | 31            | 60            |
| SRP8540A-R33M      | 0.33                       | ± 20     | 10     | 90             | 2             | 2.2           | 30            | 55            |
| SRP8540A-R47M      | 0.47                       | ± 20     | 10     | 69             | 2.6           | 2.86          | 28            | 40            |
| SRP8540A-R56M      | 0.56                       | ± 20     | 15     | 58             | 2.7           | 2.97          | 25            | 38            |
| SRP8540A-R68M      | 0.68                       | ± 20     | 15     | 56             | 3.1           | 3.41          | 23            | 36            |
| SRP8540A-R82M      | 0.82                       | ± 20     | 15     | 46             | 3.7           | 4.1           | 21            | 32            |
| SRP8540A-1R0M      | 1.0                        | ± 20     | 20     | 35             | 4.5           | 4.95          | 18            | 29            |
| SRP8540A-1R5M      | 1.5                        | ± 20     | 20     | 33             | 6.6           | 7.3           | 17            | 27            |
| SRP8540A-2R2M      | 2.2                        | ± 20     | 20     | 27             | 10.8          | 11.9          | 16            | 25            |
| SRP8540A-3R3M      | 3.3                        | ± 20     | 20     | 23             | 15            | 16.5          | 14            | 22            |
| SRP8540A-4R7M      | 4.7                        | ± 20     | 20     | 17             | 26.8          | 29.5          | 8.5           | 19            |
| SRP8540A-5R6M      | 5.6                        | ± 20     | 20     | 15             | 30            | 35            | 7.5           | 17            |
| SRP8540A-6R8M      | 6.8                        | ± 20     | 20     | 14             | 40            | 46            | 6.5           | 16.5          |
| SRP8540A-8R2M      | 8.2                        | ± 20     | 20     | 13             | 44            | 51            | 6             | 16            |
| SRP8540A-100M      | 10                         | ± 20     | 20     | 10             | 53            | 61            | 5.6           | 10            |
| SRP8540A-220M      | 22                         | ± 20     | 20     | 9              | 100           | 120           | 3.9           | 8             |

### Schematic

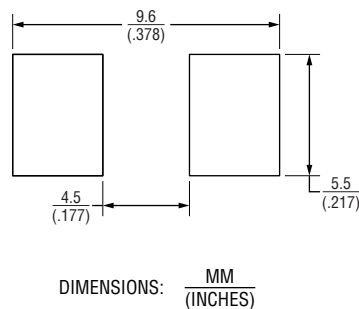


### How to Order

**SRP8540A - 100 M**

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

### Recommended Layout



### Additional Information

Click these links for more information:



### General Specifications

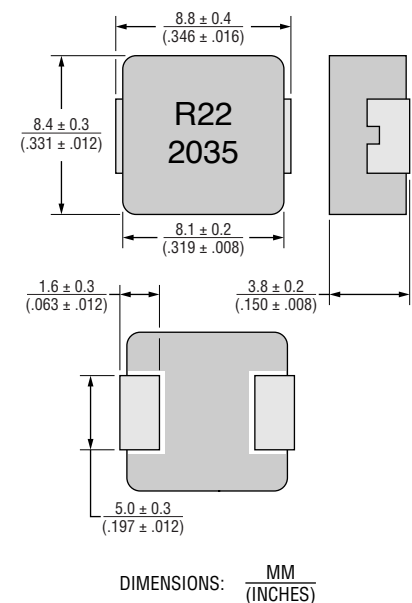
Operating Temperature  
 ..... -55 °C to +150 °C  
 (Temperature rise included)  
 Storage Temperature  
 ..... -55 °C to +150 °C  
 Rated Current  
 ..... Inductance drops 30 % at Isat  
 Temperature Rise .... 40 °C at rated Irms<sup>1</sup>  
 Moisture Sensitivity Level..... 1  
 ESD Classification (HBM)..... N/A

Note 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 ..... Ni/Sn  
 Packaging..... 800 pcs. per 13-inch reel

### Product Dimensions



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

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

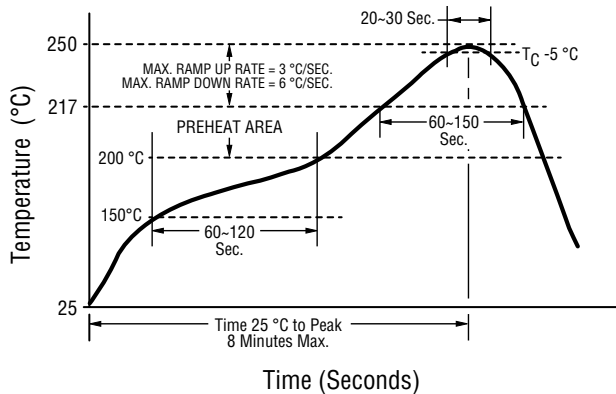
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SRP8540A Series - Shielded Power Inductors

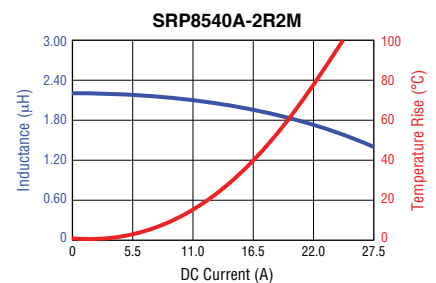
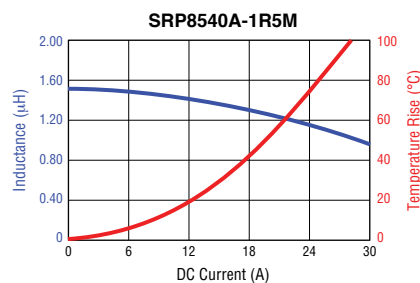
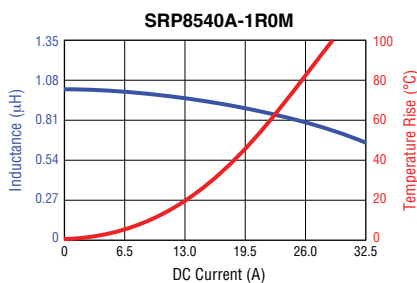
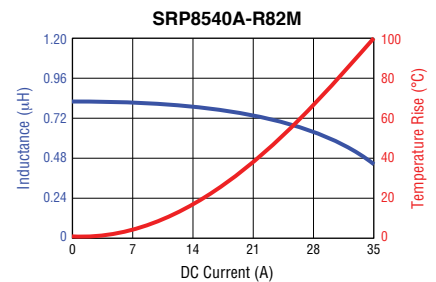
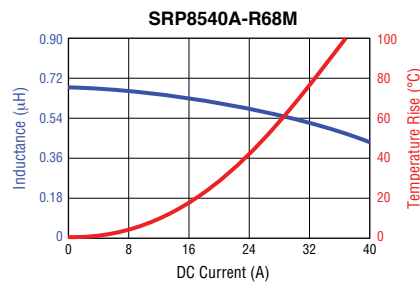
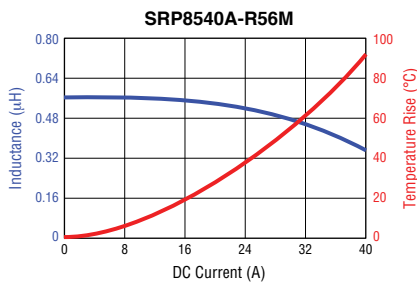
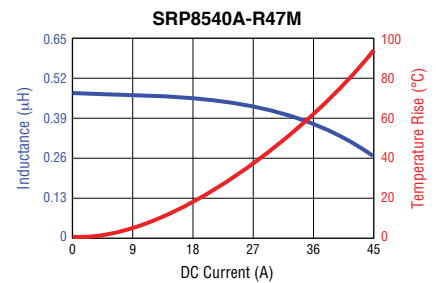
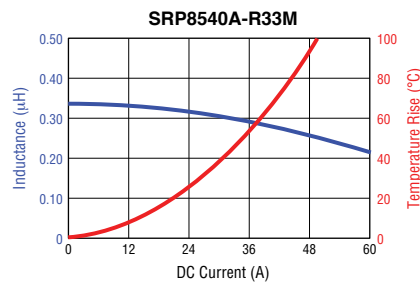
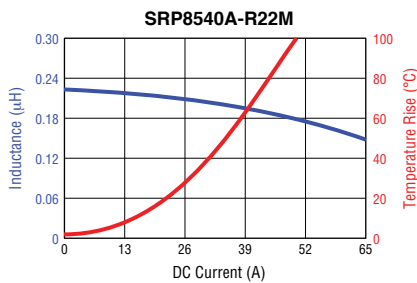
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## Soldering Profile



| 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 ( $T_P$ )               | 250 °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.   |

## L vs. I Charts



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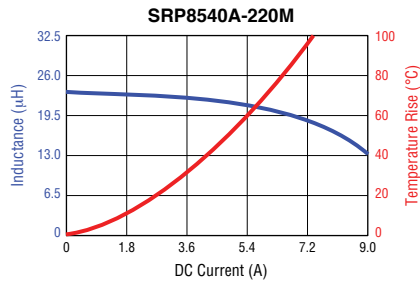
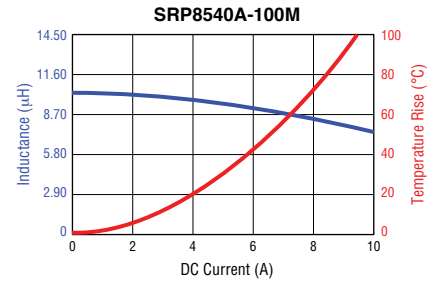
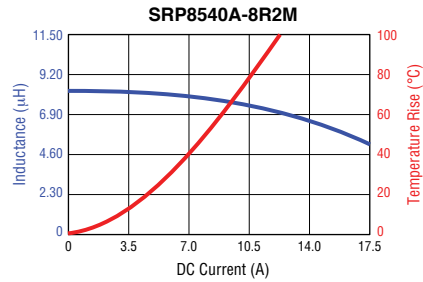
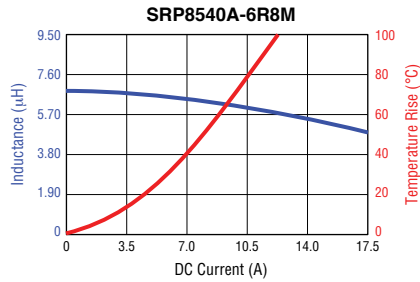
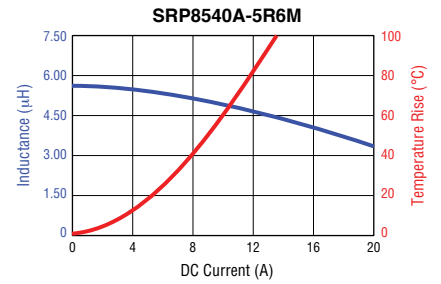
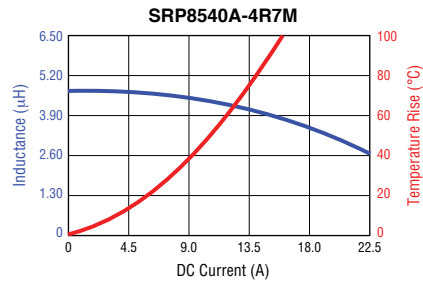
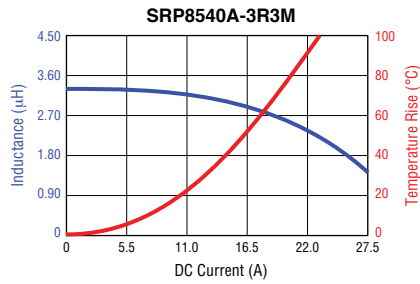
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## SRP8540A Series - Shielded Power Inductors

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### L vs. I Charts



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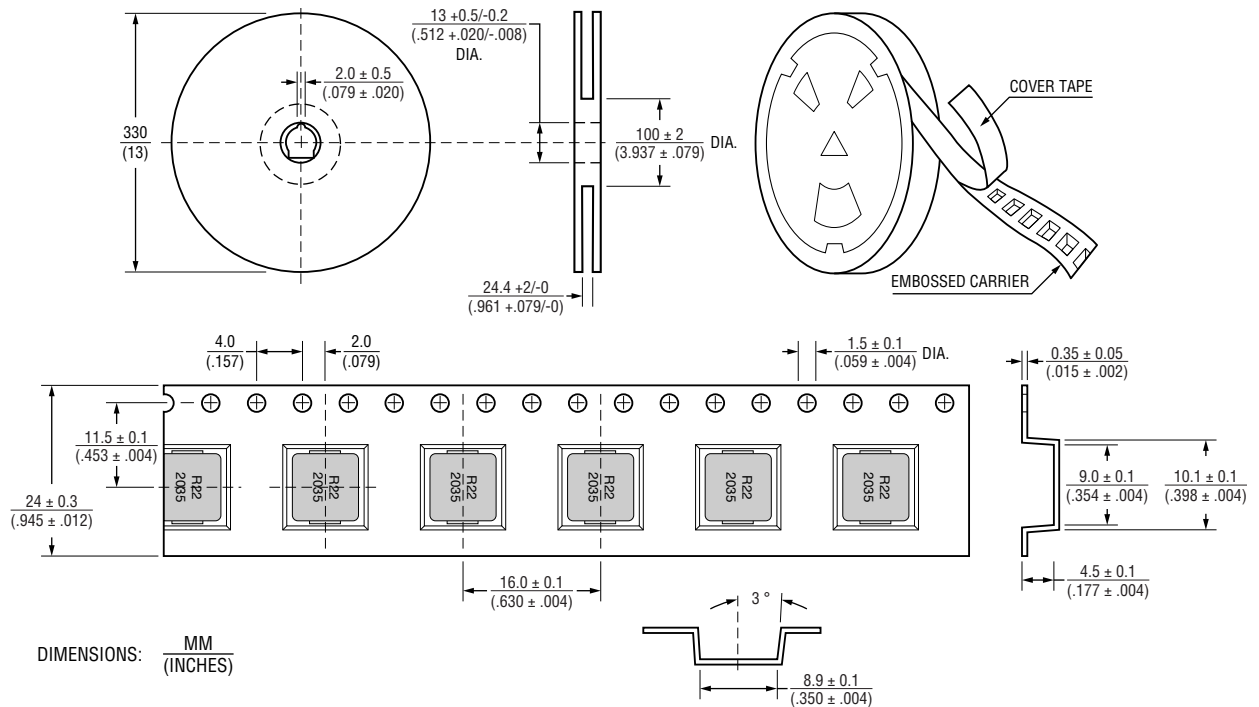
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## SRP8540A Series - Shielded Power Inductors

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### Packaging Specifications



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