



## Features

- Shielded construction
- Metal alloy powder core
- High saturation current
- Flat wire
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## Applications

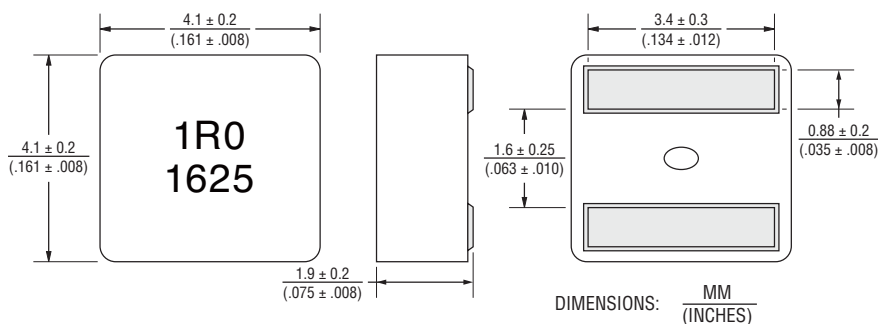
- Selected automotive applications:
  - Driver assistant
  - Infotainment
  - Lighting
- DC/DC converters
- Power supplies

# SRP4020FA Series – Shielded Power Inductors

## Electrical Specifications @ 25 °C

| Bourns<br>Part Number | Inductance<br>@ 100 kHz / 1 V |        | Q<br>Min. | SRF<br>(MHz)<br>Typ. | DCR<br>(mΩ)<br>Typ. | DCR<br>(mΩ)<br>Max. | I rms (A)<br>Typ.   |                     | I sat (A)<br>Typ. |                |                |
|-----------------------|-------------------------------|--------|-----------|----------------------|---------------------|---------------------|---------------------|---------------------|-------------------|----------------|----------------|
|                       | L (μH)                        | Tol. % |           |                      |                     |                     | 20 °C<br>Temp. Rise | 40 °C<br>Temp. Rise | 10 % L<br>Drop    | 20 % L<br>Drop | 30 % L<br>Drop |
| SRP4020FA-R47M        | 0.47                          | ± 20 % | 30        | 90                   | 6.0                 | 6.8                 | 9.8                 | 13.2                | 7.0               | 10.0           | 14.0           |
| SRP4020FA-R68M        | 0.68                          | ± 20 % | 20        | 73                   | 7.3                 | 8.2                 | 9.2                 | 12.0                | 5.2               | 8.0            | 11.6           |
| SRP4020FA-R82M        | 0.82                          | ± 20 % | 20        | 62                   | 8.6                 | 9.5                 | 8.5                 | 11.5                | 4.8               | 6.5            | 9.0            |
| SRP4020FA-1R0M        | 1.0                           | ± 20 % | 20        | 56                   | 10.6                | 11.7                | 8.0                 | 11.0                | 4.5               | 5.4            | 8.0            |
| SRP4020FA-1R2M        | 1.2                           | ± 20 % | 20        | 53                   | 12.2                | 13.4                | 7.2                 | 9.5                 | 4.3               | 5.0            | 7.5            |
| SRP4020FA-1R5M        | 1.5                           | ± 20 % | 20        | 45                   | 14.4                | 15.8                | 6.7                 | 9.1                 | 4.1               | 4.5            | 7.5            |
| SRP4020FA-2R0M        | 2.0                           | ± 20 % | 15        | 40                   | 21.15               | 23.3                | 6.2                 | 8.2                 | 3.2               | 4.0            | 5.0            |
| SRP4020FA-2R2M        | 2.2                           | ± 20 % | 15        | 38                   | 21.35               | 23.5                | 6.0                 | 8.0                 | 3.1               | 3.8            | 4.8            |
| SRP4020FA-3R3M        | 3.3                           | ± 20 % | 15        | 26                   | 34.2                | 38.3                | 4.4                 | 5.5                 | 2.7               | 3.4            | 5.3            |
| SRP4020FA-4R7M        | 4.7                           | ± 20 % | 15        | 25                   | 52.0                | 57.2                | 3.8                 | 5.1                 | 2.0               | 2.7            | 4.0            |

## Product Dimensions

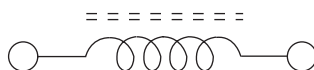


## How to Order

SRP4020FA - 1R0M

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

## Schematic



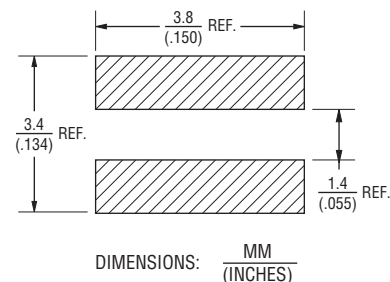
## General Specifications

Operating Temperature ..... -55 °C to +155 °C  
(Temperature rise included)  
Storage Temperature (Component) ..... -55 °C to +155 °C  
Rated Current ..... Inductance drops  
10, 20 or 30 % at Isat  
Temperature Rise ..... 20 or 40 °C  
at rated I rms<sup>1</sup>  
MSL ..... 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 ..... Sn  
Packaging ..... 3000 pcs. per 13-inch reel

## Recommended Layout



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\* 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.

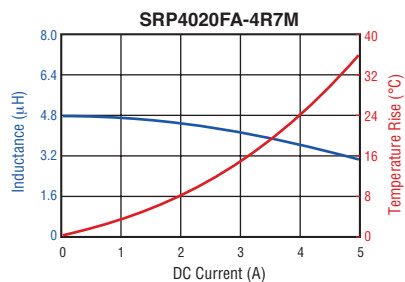
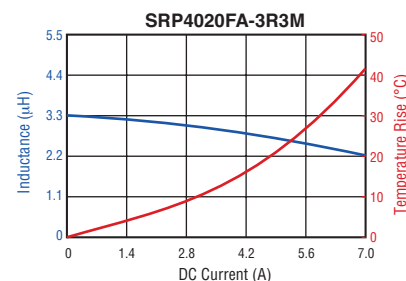
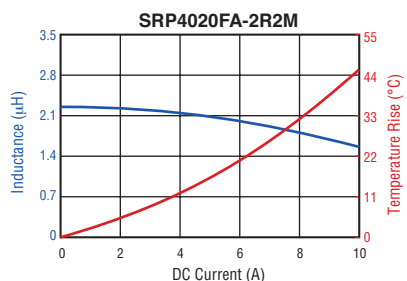
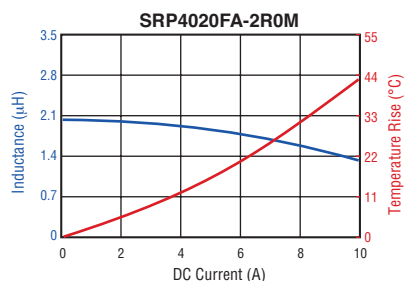
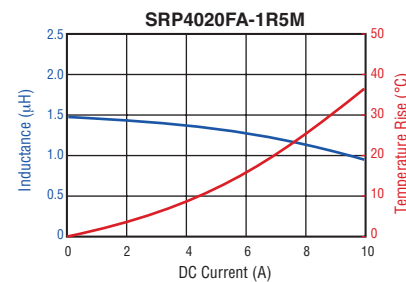
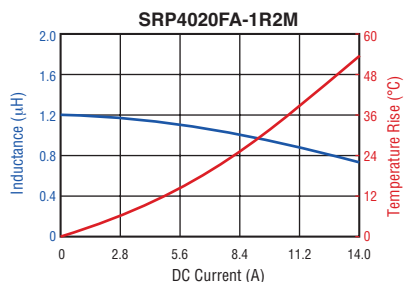
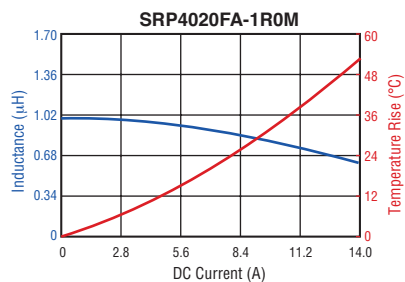
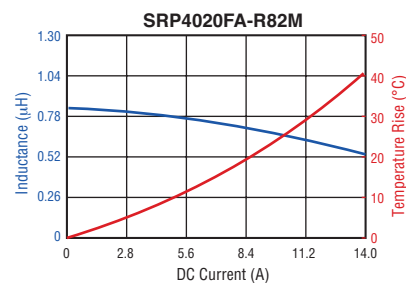
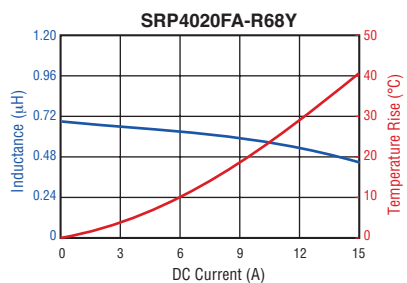
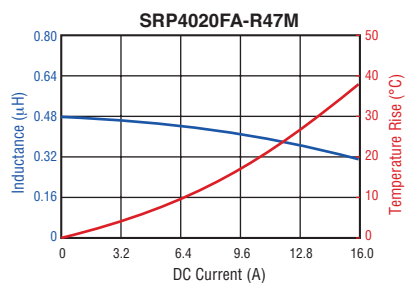
Specifications are subject to change without notice.

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.

# SRP4020FA Series – Shielded Power Inductors

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## L vs. I Charts

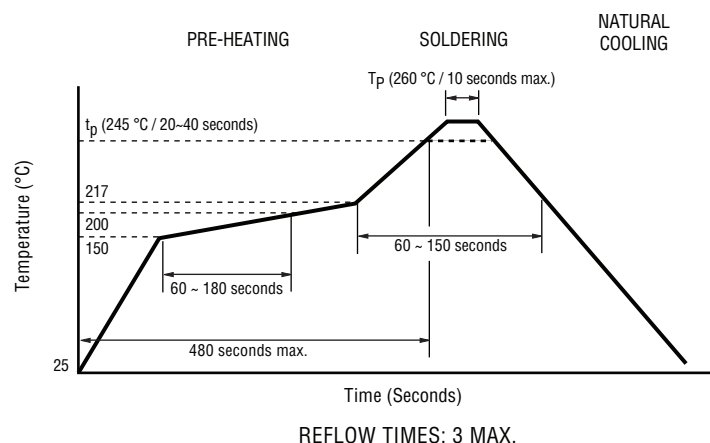


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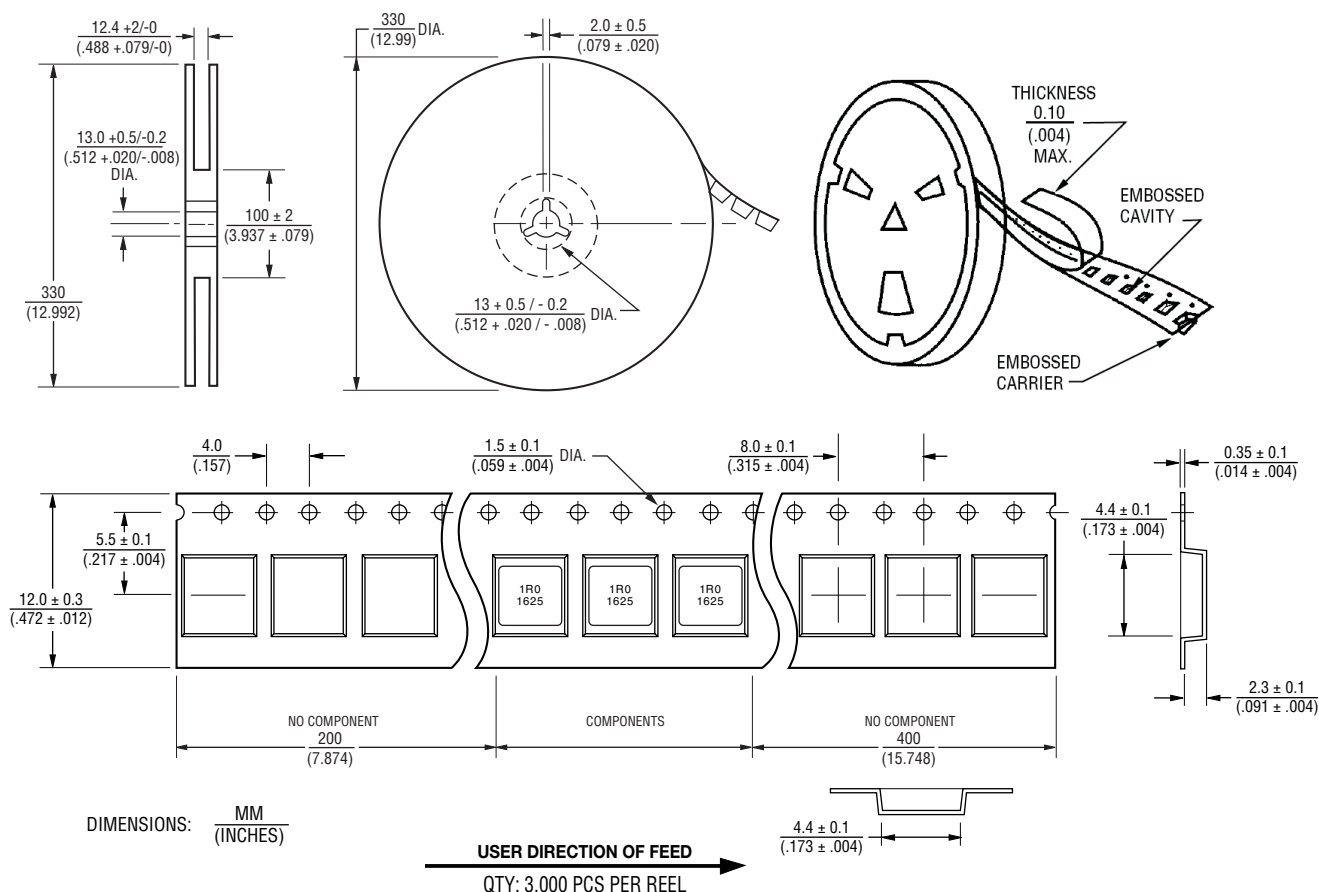
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## Soldering Profile



## Packaging Specifications



05/18

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