



## Features

- Semi-shielded construction
- Inductance range: 1 to 47  $\mu$ H
- Rated current up to 4.1 A
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## Applications

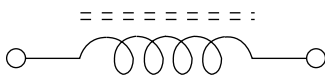
- DC/DC converters
- Power supplies

# SRN5020TA Series - Semi-shielded Power Inductors

## Electrical Specifications @ 25 °C

| Bourns Part No. | Inductance<br>@ 100 kHz / 1 V |          | Q<br>@ 100 kHz<br>Min. | SRF<br>(MHz)<br>Typ. | DCR<br>( $\Omega$ )<br>$\pm 20$ % | I <sub>rms</sub><br>(A)<br>Typ. | I <sub>sat</sub><br>(A)<br>Typ. |
|-----------------|-------------------------------|----------|------------------------|----------------------|-----------------------------------|---------------------------------|---------------------------------|
|                 | L ( $\mu$ H)                  | Tol. %   |                        |                      |                                   |                                 |                                 |
| SRN5020TA-1R0Y  | 1.0                           | $\pm 30$ | 15                     | 143                  | 0.02                              | 4.10                            | 5.00                            |
| SRN5020TA-1R2Y  | 1.2                           | $\pm 30$ | 15                     | 132                  | 0.02                              | 3.80                            | 4.80                            |
| SRN5020TA-1R5Y  | 1.5                           | $\pm 30$ | 15                     | 112                  | 0.025                             | 3.50                            | 4.50                            |
| SRN5020TA-2R2M  | 2.2                           | $\pm 20$ | 15                     | 86                   | 0.032                             | 3.30                            | 4.10                            |
| SRN5020TA-3R3M  | 3.3                           | $\pm 20$ | 15                     | 75                   | 0.043                             | 2.80                            | 3.50                            |
| SRN5020TA-4R7M  | 4.7                           | $\pm 20$ | 15                     | 58                   | 0.06                              | 2.40                            | 2.70                            |
| SRN5020TA-5R6M  | 5.6                           | $\pm 20$ | 15                     | 50                   | 0.069                             | 2.10                            | 2.40                            |
| SRN5020TA-6R8M  | 6.8                           | $\pm 20$ | 15                     | 46                   | 0.09                              | 1.90                            | 2.10                            |
| SRN5020TA-8R2M  | 8.2                           | $\pm 20$ | 15                     | 43                   | 0.098                             | 1.75                            | 1.90                            |
| SRN5020TA-100M  | 10                            | $\pm 20$ | 15                     | 41                   | 0.11                              | 1.60                            | 1.70                            |
| SRN5020TA-120M  | 12                            | $\pm 20$ | 15                     | 36                   | 0.135                             | 1.40                            | 1.40                            |
| SRN5020TA-150M  | 15                            | $\pm 20$ | 15                     | 32                   | 0.165                             | 1.25                            | 1.30                            |
| SRN5020TA-180M  | 18                            | $\pm 20$ | 15                     | 28                   | 0.19                              | 1.17                            | 1.20                            |
| SRN5020TA-220M  | 22                            | $\pm 20$ | 15                     | 25                   | 0.225                             | 1.10                            | 1.10                            |
| SRN5020TA-330M  | 33                            | $\pm 20$ | 15                     | 20                   | 0.335                             | 0.80                            | 0.80                            |
| SRN5020TA-470M  | 47                            | $\pm 20$ | 15                     | 16                   | 0.46                              | 0.70                            | 0.70                            |

## Electrical Schematic

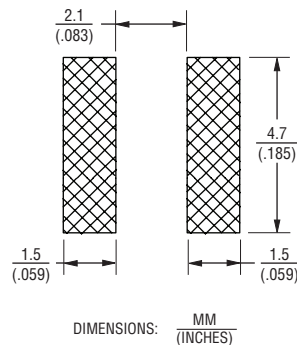


## How to Order

SRN5020TA - 2R2M

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

## Recommended Layout



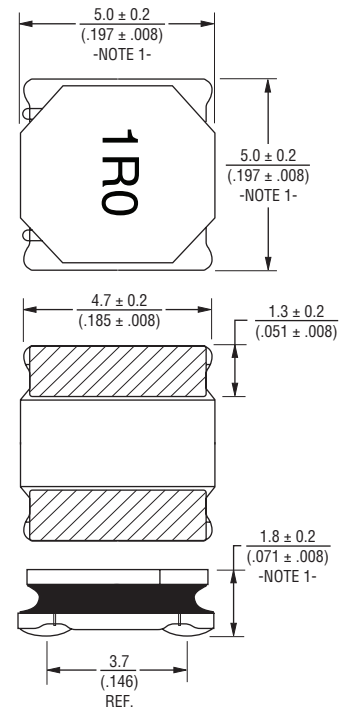
## General Specifications

Operating Temperature ..... -55 °C to +125 °C  
(Temperature rise included)  
Storage Temperature (Component) ..... -55 °C to +125 °C  
Temperature Rise ..... 40 °C at rated I<sub>rms</sub>  
Rated Current ..... Inductance drops 30 % at I<sub>sat</sub>  
Moisture Sensitivity Level ..... 1  
ESD Classification (HBM) ..... N/A

## Materials

Core ..... Ferrite  
Wire ..... Enameled copper  
Terminal Finish ..... Sn  
Coating ..... Magnetic epoxy resin  
Packaging ..... 2500 pcs. per 13-inch reel

## Product Dimensions



NOTE 1: DIMENSIONS DO NOT INCLUDE THE TERMINATION.  
FOR MAXIMUM OVERALL DIMENSIONS WITH TERMINATION,  
ADD 0.1 MM (.004 IN.).

DIMENSIONS: MM  
(INCHES)



**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.

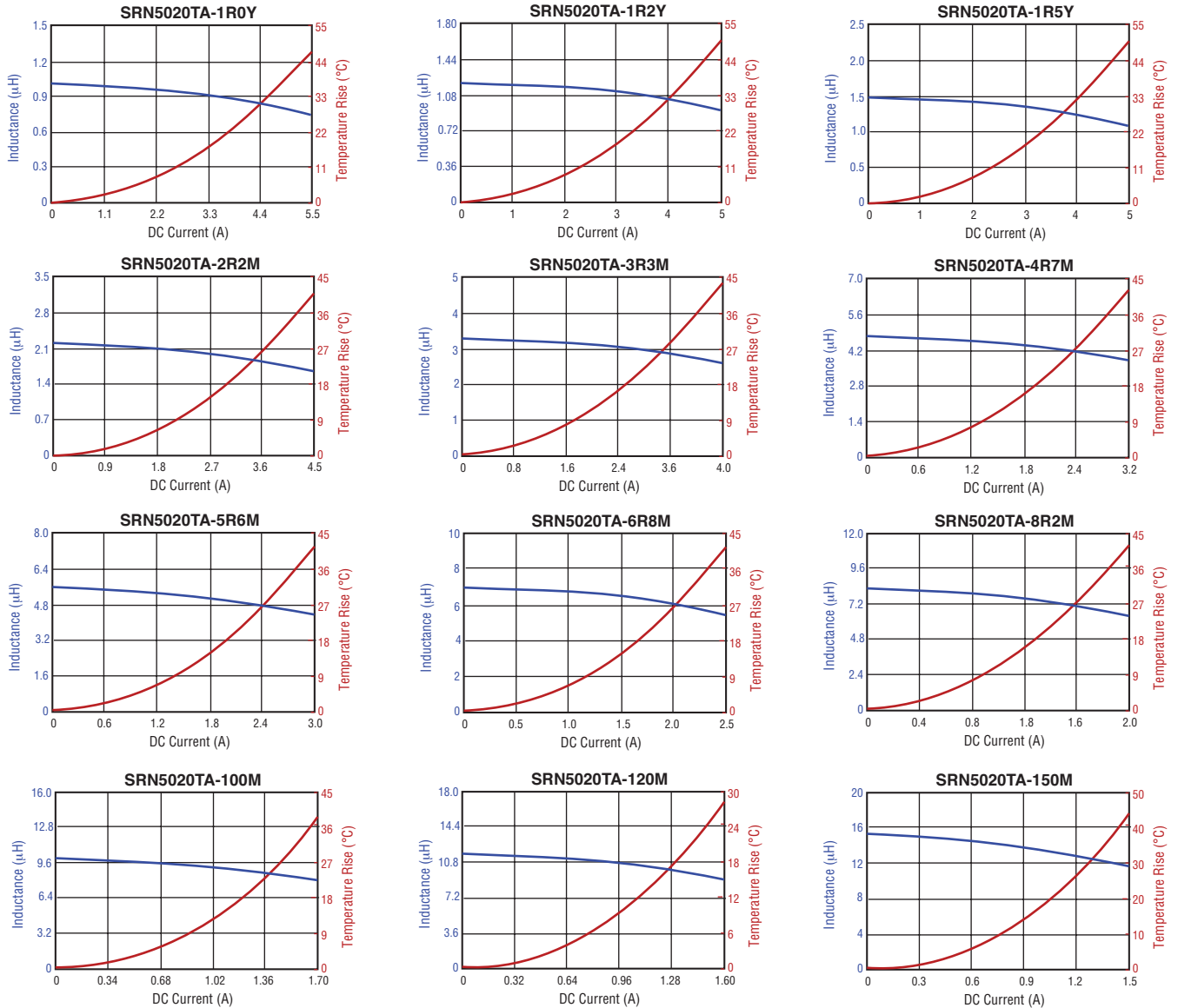
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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# SRN5020TA Series - Semi-shielded Power Inductors

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## Inductance vs. Current



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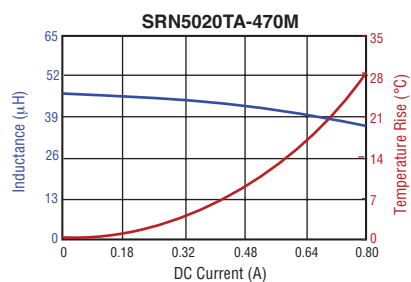
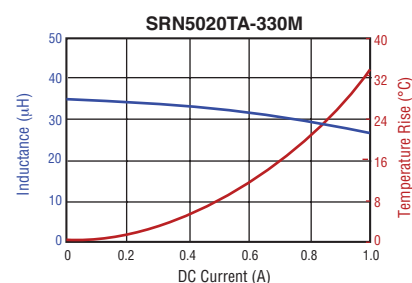
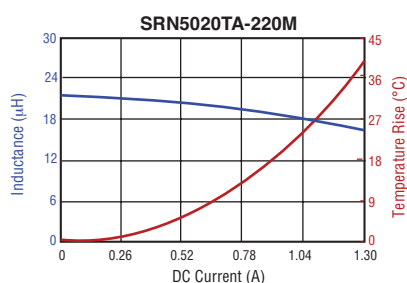
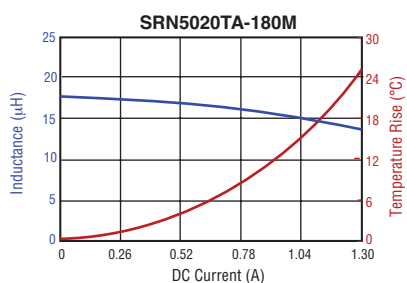
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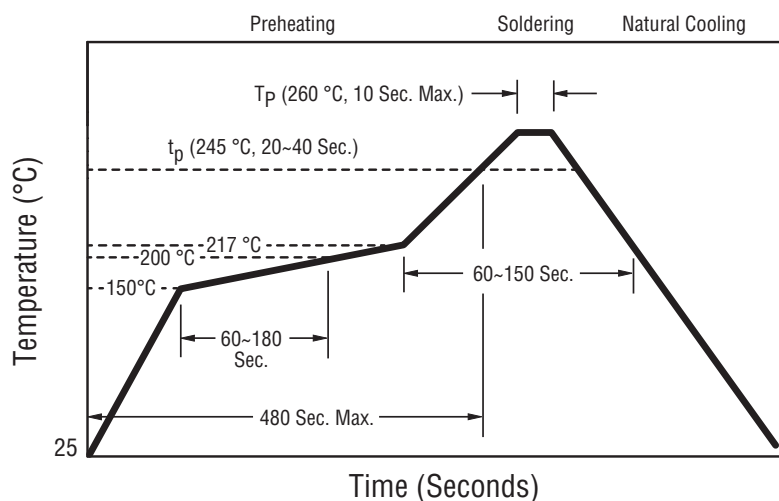
# SRN5020TA Series - Semi-shielded Power Inductors

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## Inductance vs. Current (Continued)



## Soldering Profile



Reflow 3 times max.

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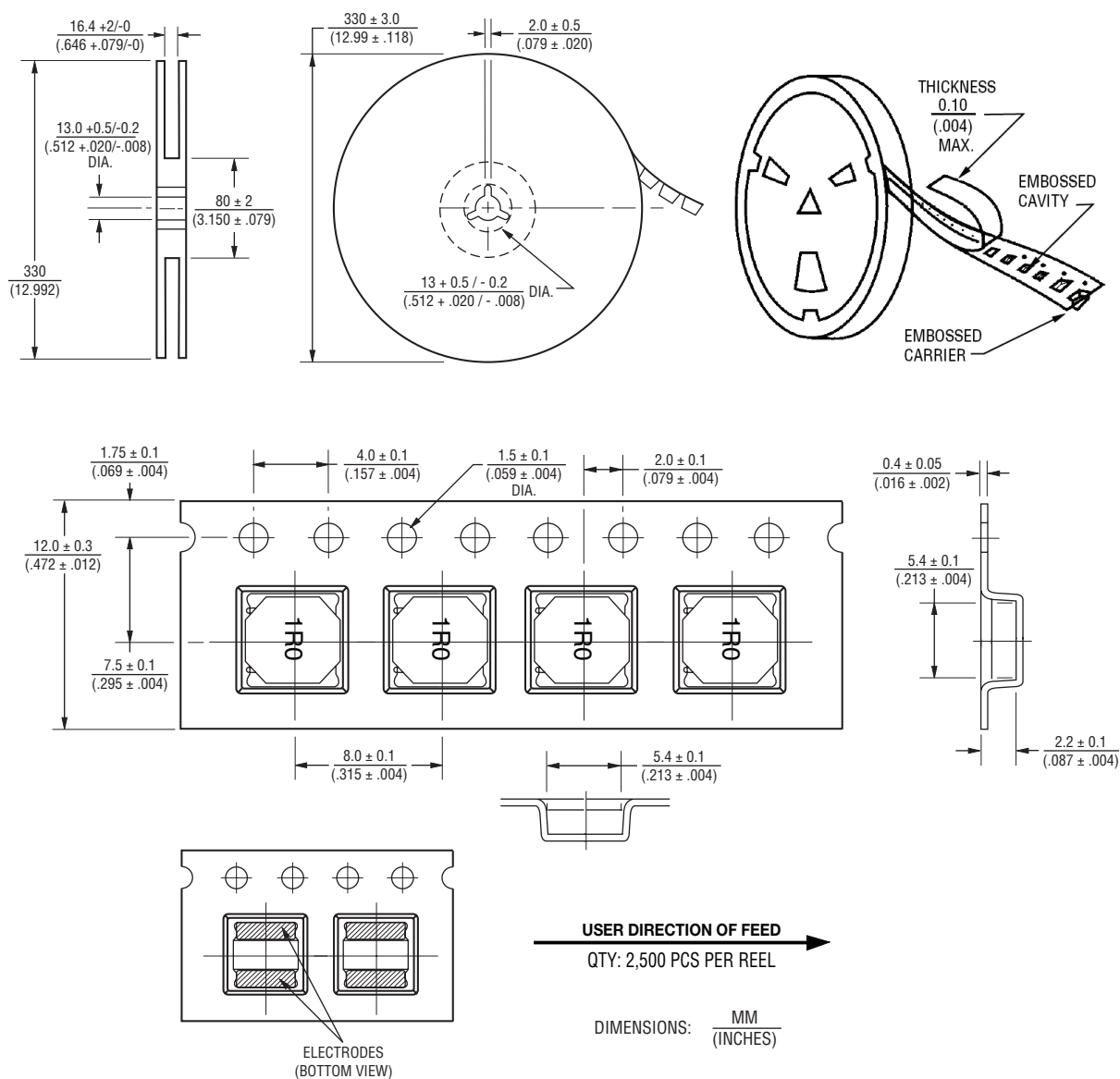
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# SRN5020TA Series - Semi-shielded Power Inductors

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## Packaging Specifications



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