



Features

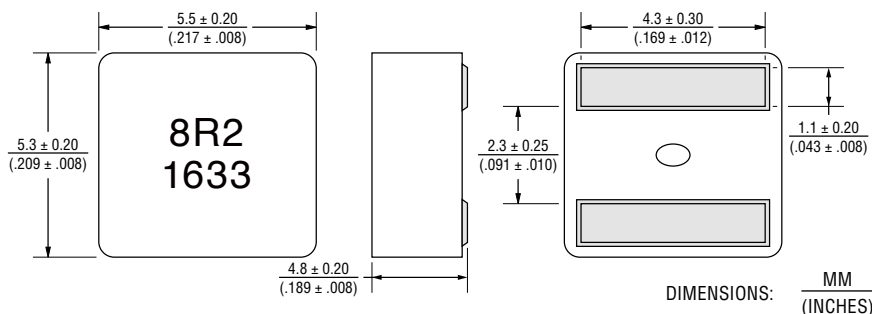
- Shielded construction
- Metal alloy powder core
- High saturation current
- Flat wire
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

SRP5050FA Series – Shielded Power Inductors

Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance @ 100 kHz / 0.1 V | | SRF (MHz) Typ. | DCR (mΩ) Typ. | DCR (mΩ) Max. | I rms (A) Typ. | | I sat (A) Typ. |
|-----------------------|---------------------------------|--------|----------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | L (μH) | Tol. % | | | | 20 °C Temp. Rise | 40 °C Temp. Rise | |
| SRP5050FA-5R6M | 5.60 | ± 20 % | 20 | 22.0 | 24.20 | 5.3 | 7.2 | 8.6 |
| SRP5050FA-6R8M | 6.80 | ± 20 % | 18 | 26.0 | 28.60 | 4.8 | 6.4 | 7.8 |
| SRP5050FA-8R2M | 8.20 | ± 20 % | 15 | 29.5 | 32.50 | 4.6 | 6.1 | 7.2 |

Product Dimensions

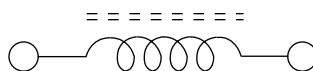


How to Order

SRP5050FA - 8R2M

Model _____
Value Code (see table) _____

Schematic



General Specifications

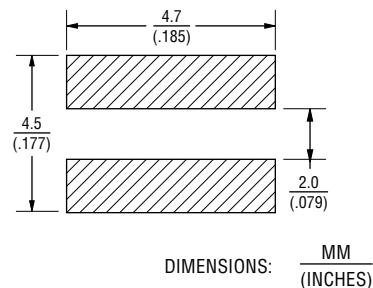
Operating Temperature -55 °C to +155 °C
(Temperature rise included)
Storage Temperature (Component) -55 °C to +155 °C
Rated Current Inductance drops
30 % at Isat
Temperature Rise 20 or 40 °C
at rated Irms!
MSL 1
ESD Classification (HBM) N/A

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 1500 pcs. per 13-inch reel

Recommended Layout



BOURNS®

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

EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com

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

www.bourns.com



WARNING Cancer and Reproductive Harm

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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BOURNS®

Temperature (°C)

25 150 200 217

PRE-HEATING SOLDERING NATURAL COOLING

t_p (245 °C / 20~40 seconds)

T_p (260 °C / 10 seconds max.)

60 ~ 180 seconds

60 ~ 150 seconds

480 seconds max.

Time (Seconds)

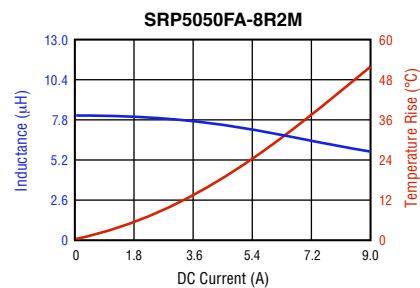
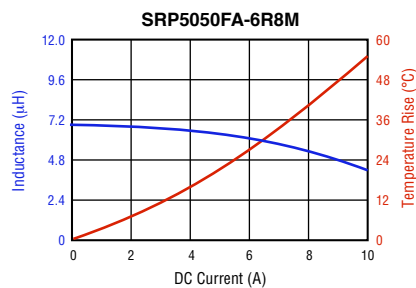
REFLOW TIMES: 3 MAX.

SRP5050FA-5R6M

This graph shows the relationship between DC Current (A) and two other variables: Inductance (μH) and Temperature Rise (°C). The X-axis represents DC Current (A) from 0 to 10. The left Y-axis represents Inductance (μH) from 0 to 10. The right Y-axis represents Temperature Rise (°C) from 0 to 60.

The Inductance (blue line) starts at approximately 5.8 μH at 0 A and decreases linearly to approximately 3.8 μH at 10 A. The Temperature Rise (red line) starts at 0 °C at 0 A and increases linearly to approximately 48 °C at 10 A.

| DC Current (A) | Inductance (μH) | Temperature Rise (°C) |
|----------------|-----------------|-----------------------|
| 0 | 5.8 | 0 |
| 2 | 5.4 | 9.6 |
| 4 | 5.0 | 19.2 |
| 6 | 4.6 | 28.8 |
| 8 | 4.2 | 38.4 |
| 10 | 3.8 | 48.0 |

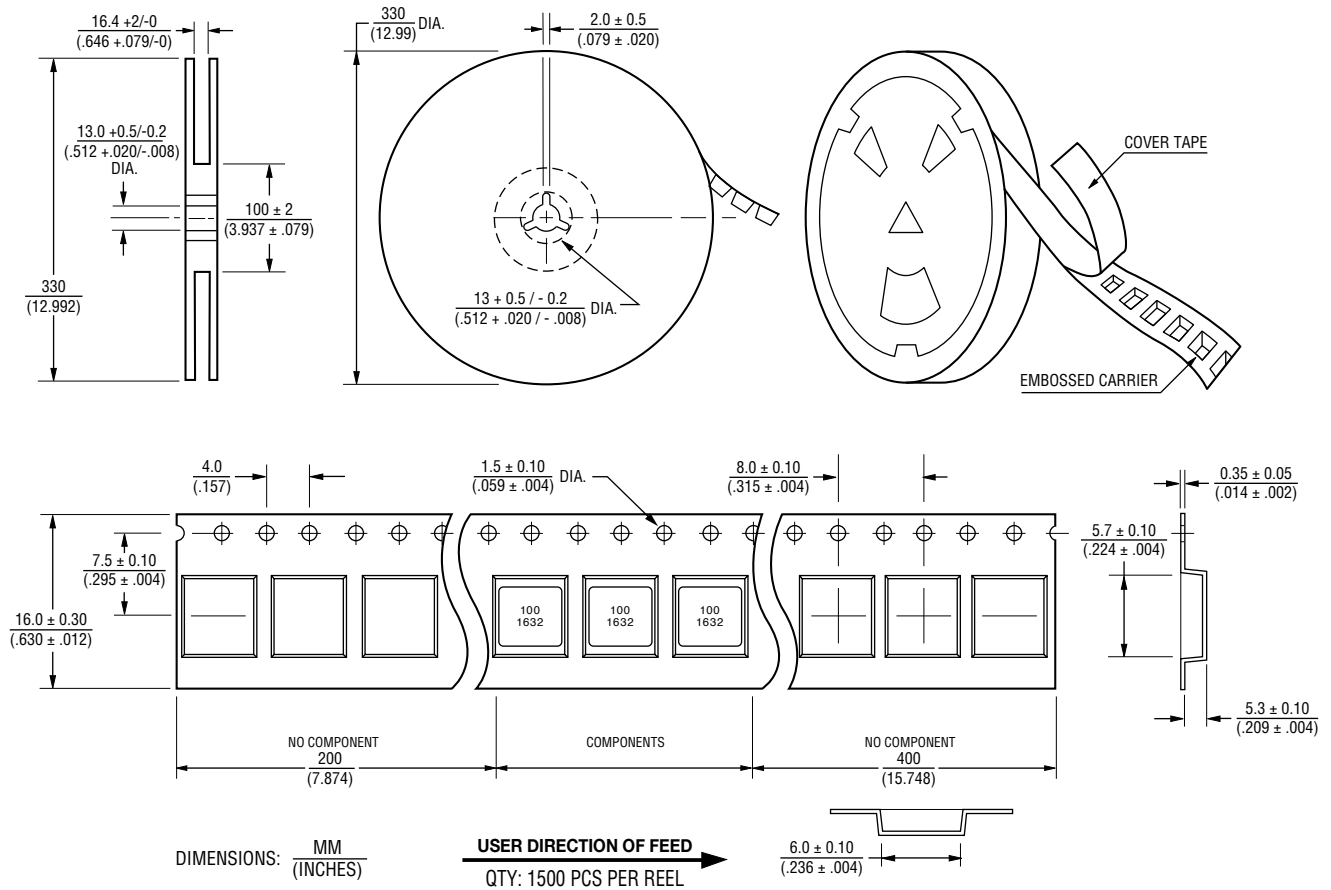


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SRP5050FA Series – Shielded Power Inductors

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Packaging Specifications



05/19

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