

BOURNS®

Features

- Shielded construction
- Low profile
- Metal alloy powder core
- High saturation current
- Low DCR
- Low buzz noise
- RoHS compliant* and halogen free**

Applications

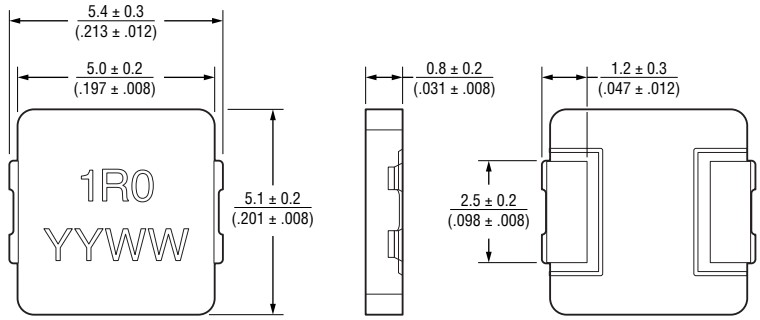
- DC-DC converters
- Power supplies in consumer, industrial and telecom electronics

SRP0510F Series - Shielded Power Inductors

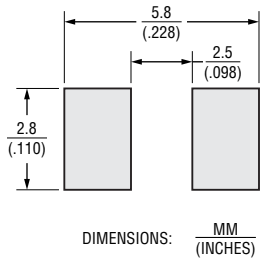
Electrical Specifications

Bourns Part No.	Inductance @ 100 kHz / 1.0 V		Q @ 100 kHz Min.	SRF (MHz) Typ.	DCR (mΩ)		Irms (A) Typ.	Isat (A) Typ.
	L (µH)	Tol. %			Typ.	Max.		
SRP0510F-R47M	0.47	±20	10	90	18	21.6	7.7	9.0
SRP0510F-R68M	0.68			70	22	26.4	6.5	8.5
SRP0510F-1R0M	1.0			50	28	33.6	6.0	7.0
SRP0510F-1R2M	1.2			42	33	39.6	5.7	6.5
SRP0510F-1R5M	1.5			38	37	44.4	5.5	6.2
SRP0510F-2R2M	2.2			30	48	57.6	4.5	5.5
SRP0510F-3R3M	3.3			26	75	90	4.0	4.8
SRP0510F-4R7M	4.7			20	100	120	3.2	3.9
SRP0510F-5R6M	5.6			19	135	162	2.7	3.3
SRP0510F-6R8M	6.8			18	168	201	2.5	3.1
SRP0510F-8R2M	8.2			17	200	240	2.2	2.8
SRP0510F-100M	10.0			16	260	312	2.0	2.5

Product Dimensions



Recommended Layout



DIMENSIONS: MM (INCHES)

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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

General Specifications

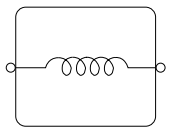
Operating Temperature
..... -40 °C to +125 °C
(Temperature rise included)
Storage Temperature (Component)
..... -40 °C to +125 °C
Temperature Rise
.....40 °C typ. at rated Irms[1] (25 °C)
Rated Current
..... Inductance drops 30 % at Isat
Moisture Sensitivity Level.....1
ESD Classification (HBM).....N/A

[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 Material.....Metal alloy powder
Wire .....Enameled copper
Terminal..... Cu/Ni/Sn
Packaging..... 4000 pcs. per 13-inch reel

Electrical Schematic



How to Order

SRP0510F - R47 M

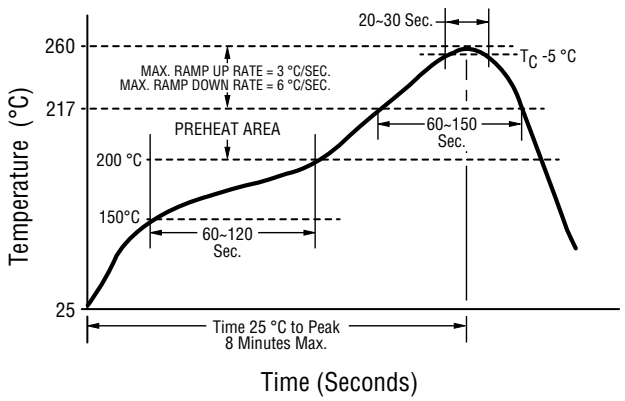
Model

Inductance Value Code
R47 = 0.47 µH
R68 = 0.68 µH
1R0 = 1.0 µH
1R2 = 1.2 µH
1R5 = 1.5 µH
2R2 = 2.2 µH
3R3 = 3.3 µH
4R7 = 4.7 µH
5R6 = 5.6 µH
6R8 = 6.8 µH
8R2 = 8.2 µH
100 = 10.0 µH

Tolerance Code
M = ±20 %

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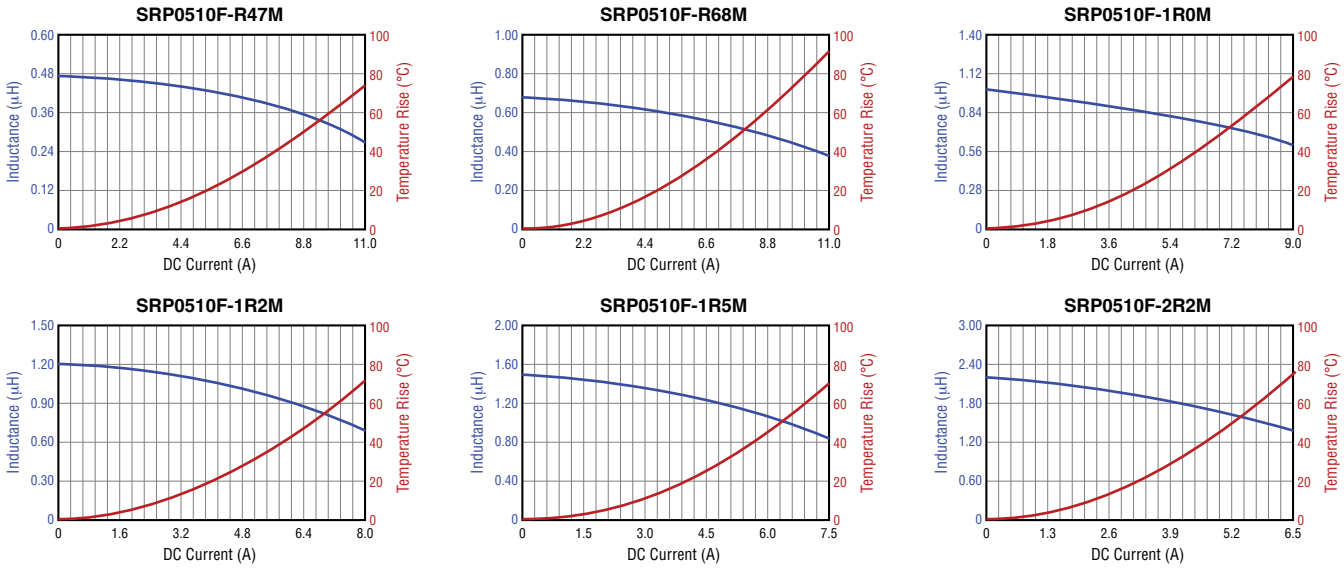
Soldering Profile



REFLOW TIMES: 3 TIMES MAX.

Profile Feature	Pb Free Assembly
Preheat - Temperature Min. (T_{smin}) - Temperature Max. (T_{smax}) - Time(t_s) from T_{smin} to T_{smax}	 150 °C 200 °C 60-120 seconds
Ramp-up Rate (T_L to T_p)	3 °C/second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L	217 °C 60-150 seconds
Peak package body temperature (T_p)	260 °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.

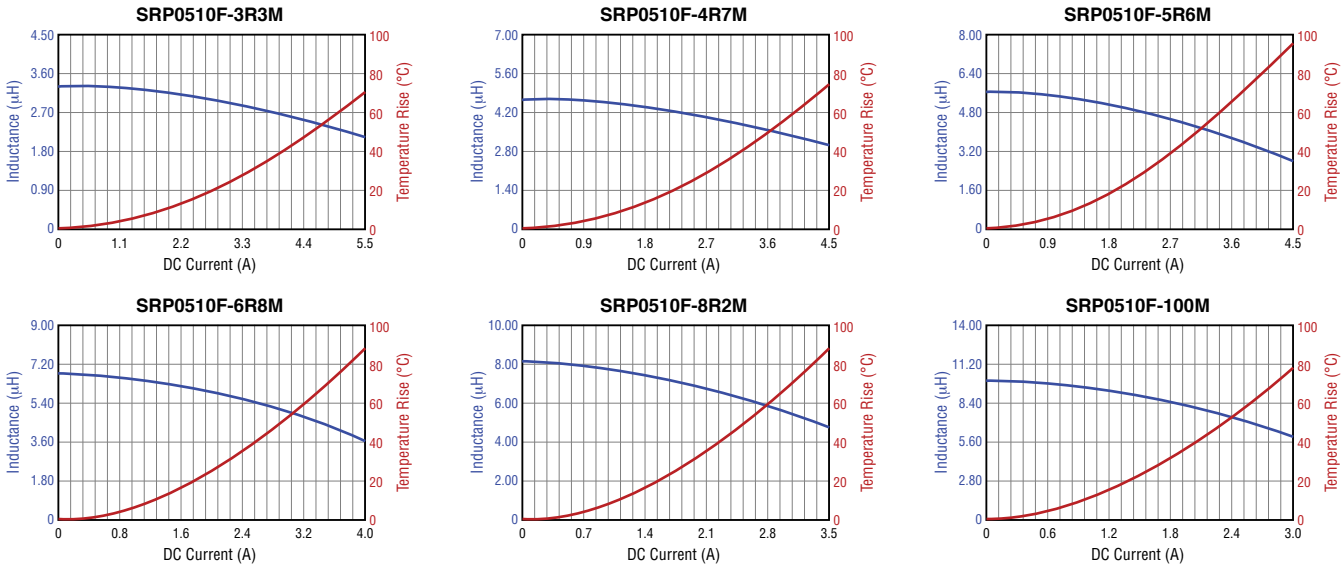
Inductance vs. IDC



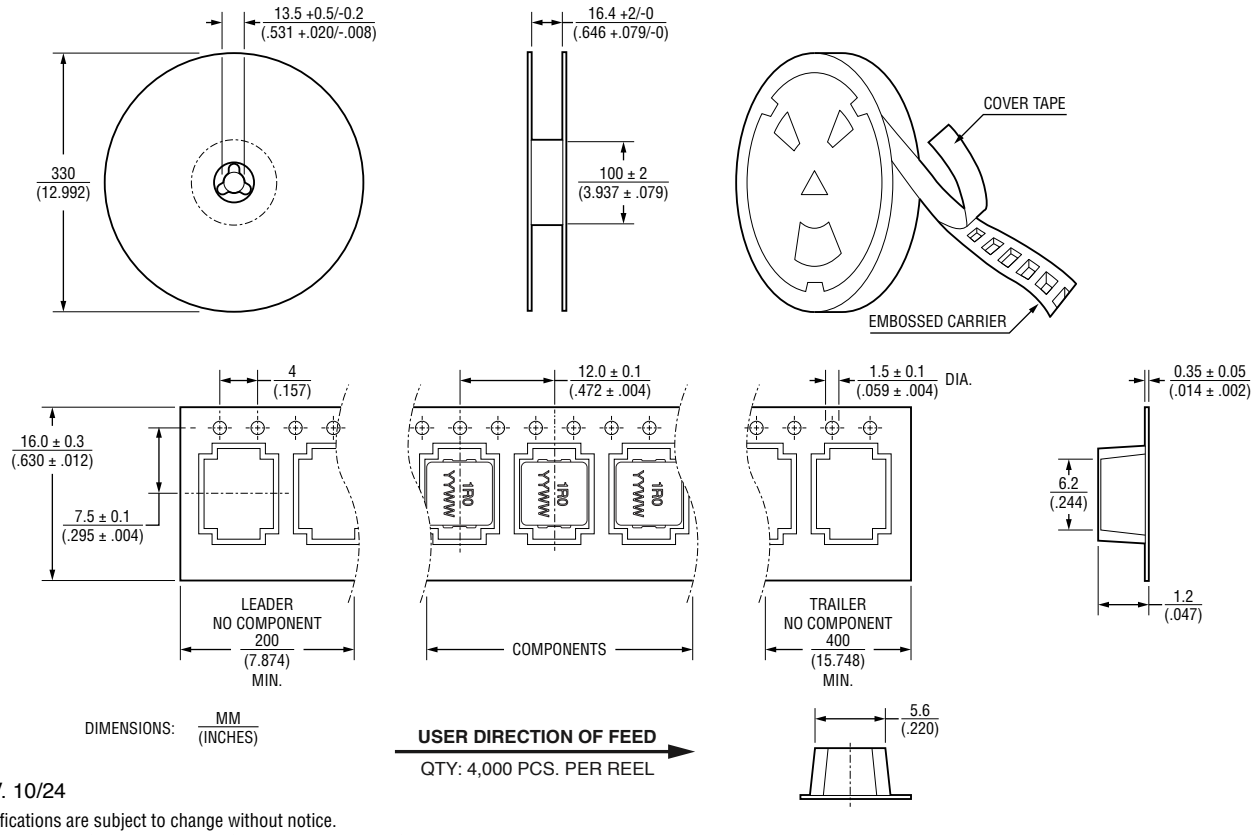
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Inductance vs. IDC (continued)



Packaging Specifications



REV. 10/24

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