



**THE DATASHEET OF  
SRP1038A-R33M**





## Features

- Shielded construction
- Carbonyl powder core
- High saturation current
- Inductance range: 0.20 to 47  $\mu$ H
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

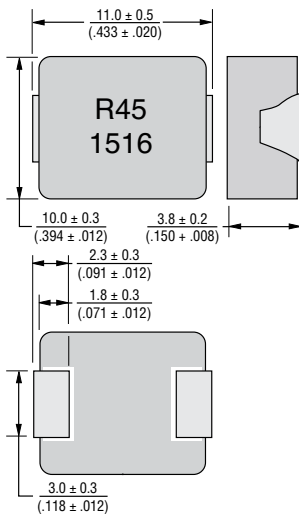
## SRP1038A Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

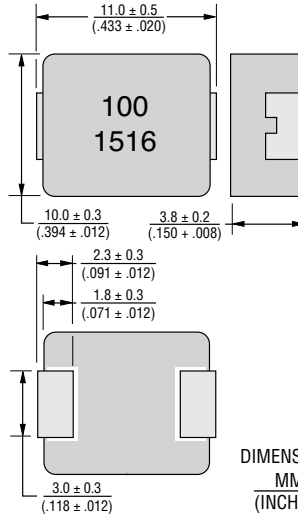
Bourns Part Number	Inductance @ 100 KHz / 1 V		Q (Min.) @ 100 KHz / 1 V	SRF (MHz) Typ.	DCR (m $\Omega$ ) Typ.	DCR (m $\Omega$ ) Max.	I <sub>rms</sub> (A)	Isat (A)	Terminal Type
	L ( $\mu$ H)	Tol. (%)							
SRP1038A-R20M	0.20	20	10	155	0.66	0.95	35	70	Non-Lead Frame
SRP1038A-R22M	0.22	20	10	155	0.8	1	35	60	
SRP1038A-R27M	0.27	20	10	120	0.82	1	33	60	
SRP1038A-R33M	0.33	20	15	108	1	1.2	31	60	
SRP1038A-R36M	0.36	20	15	105	1.05	1.2	31	60	
SRP1038A-R39M	0.39	20	15	100	1.1	1.3	30	60	
SRP1038A-R45M	0.45	20	15	75	1.3	1.5	29	45	
SRP1038A-R56M	0.56	20	15	70	1.6	1.8	25	40	
SRP1038A-1R0M	1.0	20	20	47	3	3.3	18	36	
SRP1038A-1R2M	1.2	20	20	33	3.3	3.8	17	33	
SRP1038A-1R5M	1.5	20	20	30	4	4.6	16	33	
SRP1038A-2R2M	2.2	20	20	25	6.5	7	12	27	
SRP1038A-3R3M	3.3	20	20	18	10.8	11.8	11	20	
SRP1038A-4R7M	4.7	20	20	16	15	15.5	10	17	
SRP1038A-5R6M	5.6	20	20	15	17	19.3	9	14	
SRP1038A-6R8M	6.8	20	20	13	17.5	23.3	8.5	13.5	
SRP1038A-8R2M	8.2	20	20	12	20	24	8	12.5	
SRP1038A-100M	10	20	20	10	27	30	7.5	12	
SRP1038A-150M	15	20	20	9	40	45	6.25	10	
SRP1038A-220M	22	20	20	8	64	74	5	7	
SRP1038A-330M	33	20	20	6	92	112	3.5	5	
SRP1038A-470M	47	20	20	5	145	167	3	4.5	

### Product Dimensions

#### Non-Lead Frame Terminal



#### Lead Frame Terminal



DIMENSIONS:  
MM  
(INCHES)

### Additional Information

Click these links for more information:



### General Specifications

Test Voltage ..... 1.0 V  
 Test Frequency ..... 100 KHz  
 Operating Temperature ..... -55 °C to +150 °C  
 (Temperature rise included)  
 Storage Temperature ..... -55 °C to +150 °C  
 Rated Current ..... Inductance drops 20 % at Isat  
 Temperature Rise ..... 40 °C at rated I<sub>rms</sub>  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

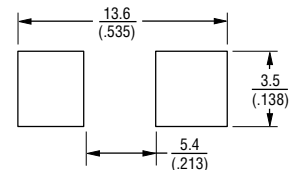
1 Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

### Materials

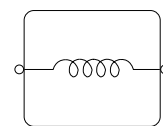
Core ..... Carbonyl powder  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Packaging ..... 500 pcs. per 13-inch reel

Please consult [Bourns® Model SRP-A Series Visual Inspection Guide](#) for detailed construction, processing and testing information.

### Recommended Layout



### Electrical Schematic



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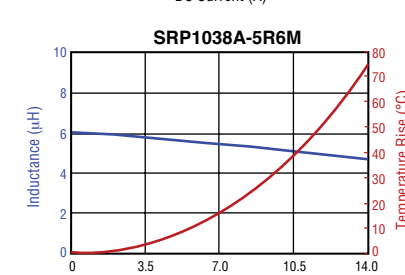
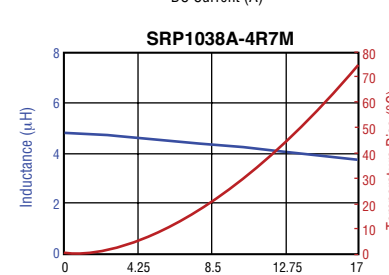
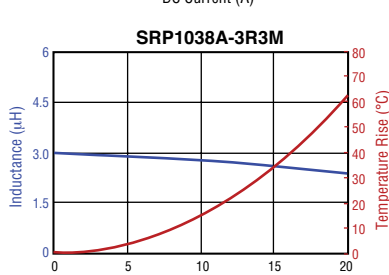
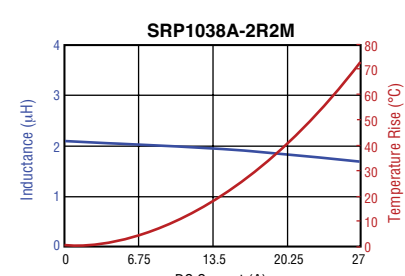
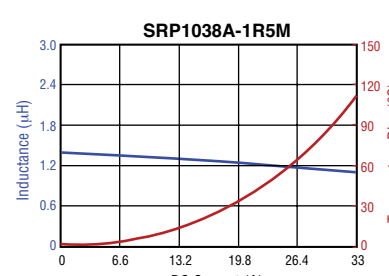
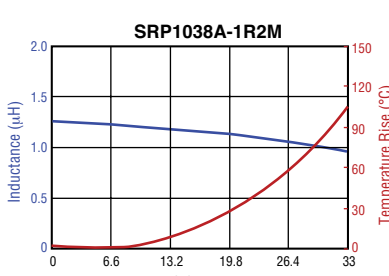
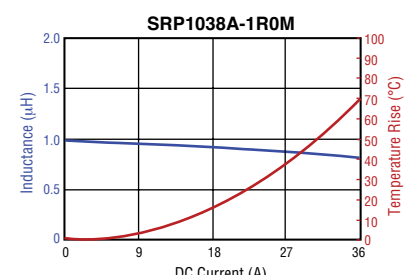
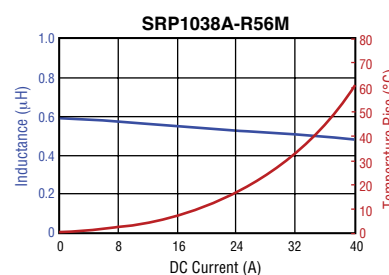
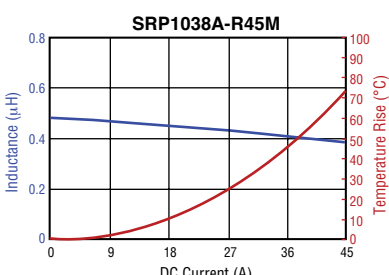
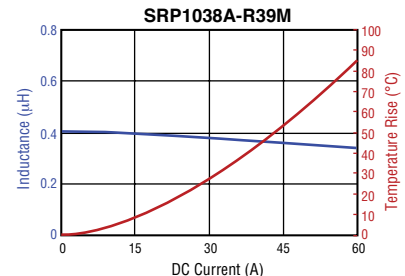
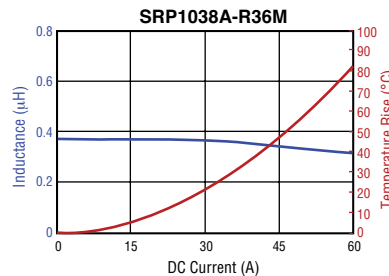
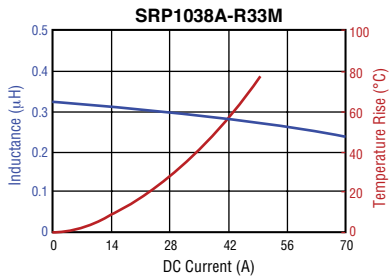
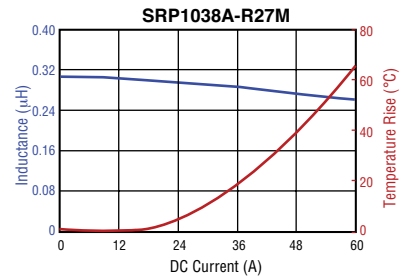
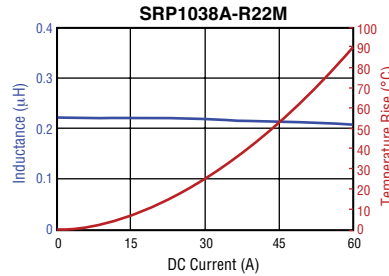
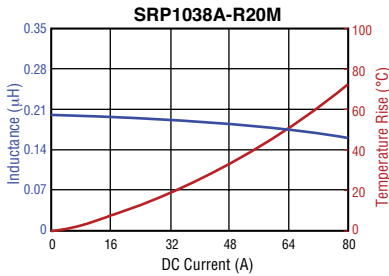
**WARNING**  
 Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* 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.

# SRP1038A Series - Shielded Power Inductors



## L vs. I Charts



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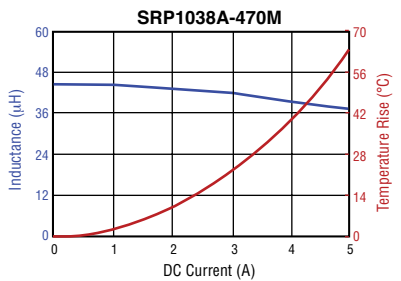
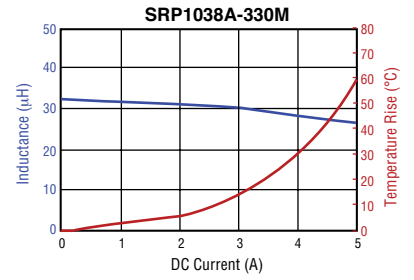
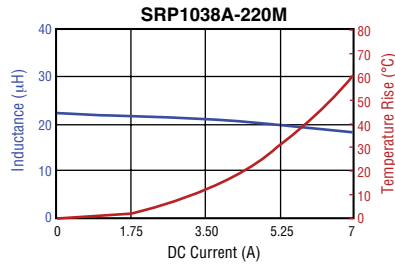
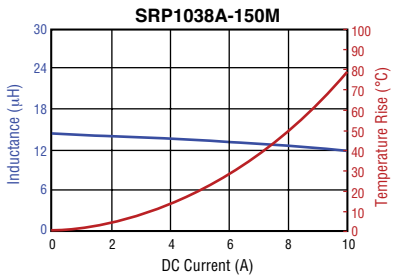
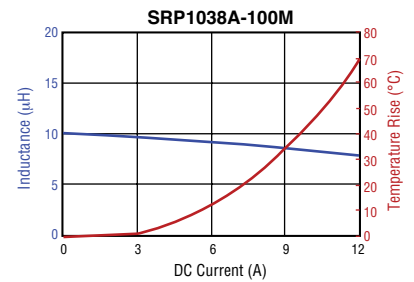
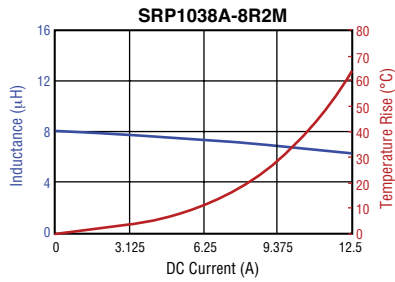
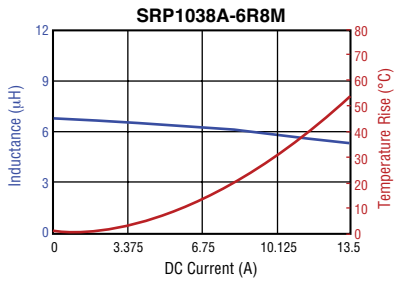
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# SRP1038A Series - Shielded Power Inductors



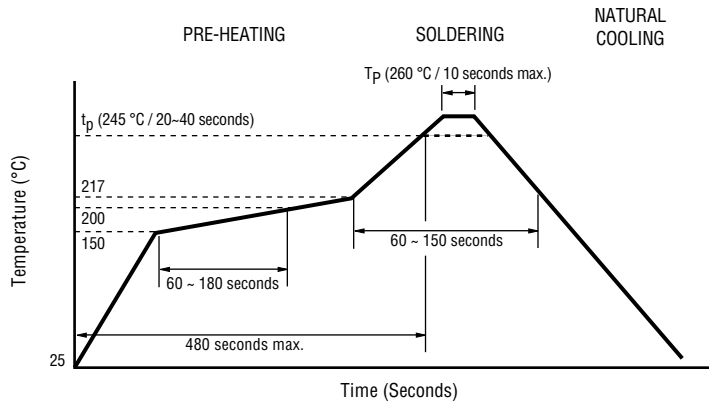
## L vs. I Charts (Continued)



# SRP1038A Series - Shielded Power Inductors

**BOURNS®**

## Soldering Profile



REFLOW TIMES: 3 MAX.

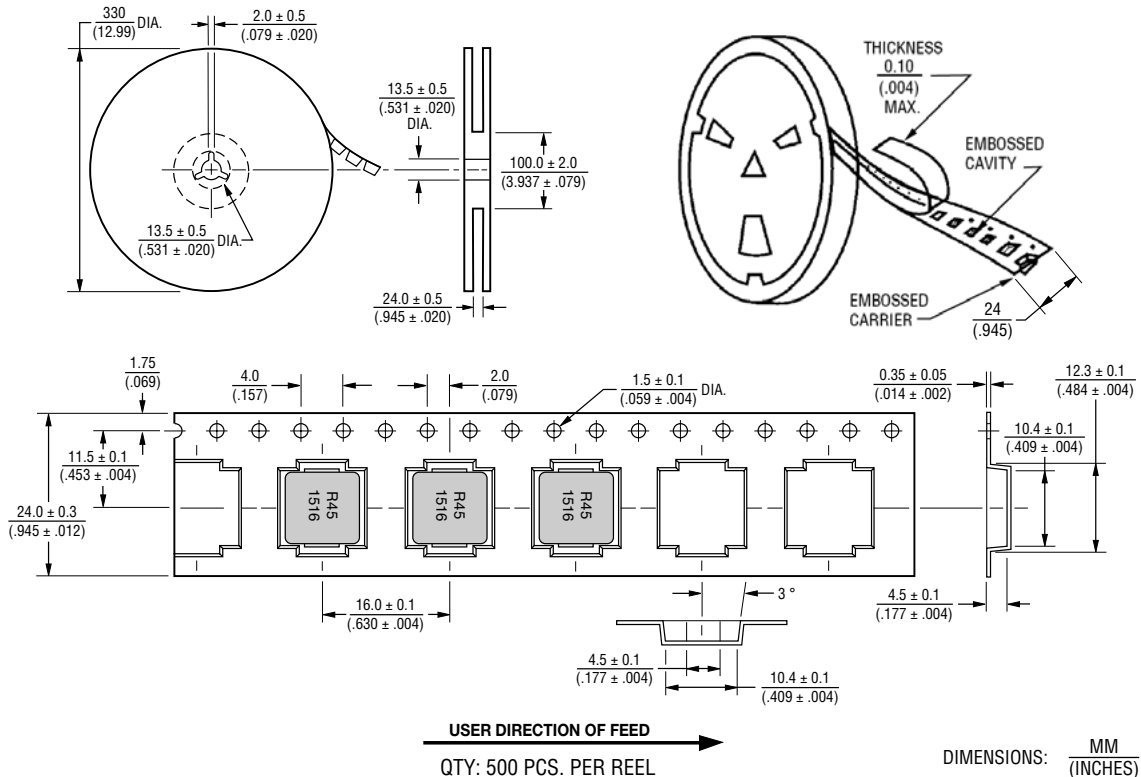
## How to Order

**SRP1038A - 100M**

Model \_\_\_\_\_

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

## Packaging Specifications



REV. 08/21

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