

### 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\*\*

### Applications

- Automotive systems:
  - Driver assistant
  - Information
  - Entertainment
  - Lighting
- DC/DC converters
- Power supplies

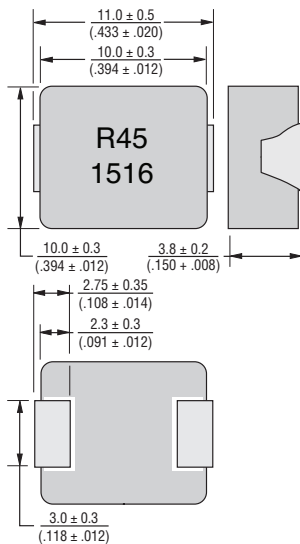
## SRP1038A Series - Shielded Power Inductors

### Electrical Specifications @ 25 °C

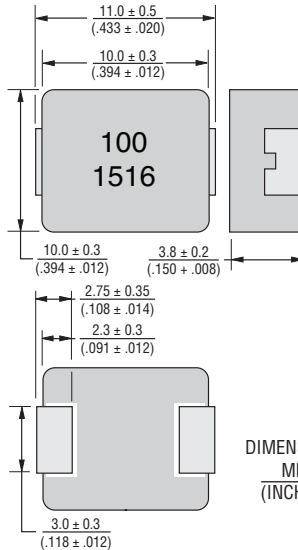
Bourns Part Number	Inductance @ 100 KHz / 1 V		Q (Min.) @ 100 KHz / 1 V	SRF (MHz) Typ.	DCR (m $\Omega$ ) Typ.	DCR (m $\Omega$ ) Max.	I <sub>rms</sub> (A)	I <sub>sat</sub> (A)	Terminal Type
	L ( $\mu$ H)	Tol. (%)							
SRP1038A-R20M	0.20	20	10	155	0.66	0.95	35	70	Non-Lead Frame
SRP1038A-R22M	0.22	20	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)

### General Specifications

Test Voltage ..... 1.0 V  
 Test Frequency ..... 100 KHz  
 Operating Temperature ..... -40 °C to +150 °C  
 (Temperature rise included)  
 Storage Temperature ..... -40 °C to +125 °C  
 Rated Current ..... Inductance drops 20 % at I<sub>sat</sub>  
 Temperature Rise ..... 40 °C at rated I<sub>rms</sub>  
 Resistance to Soldering Heat ..... +260 °C, 40 sec. max.  
 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

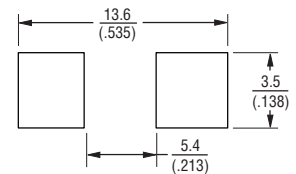
Core ..... Carbonyl powder  
 Wire ..... Enameled copper  
 Terminal Finish ..... Sn  
 Packaging ..... 500 pcs. per 13-inch reel

### How to Order

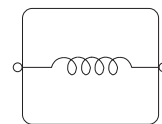
SRP1038A - 100M

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

### Recommended Layout



### Electrical Schematic



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

\* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

\*\*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.

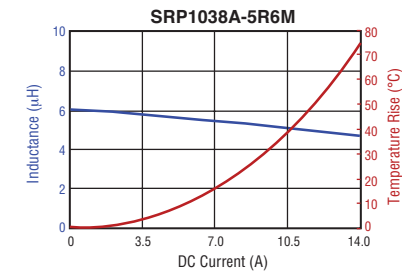
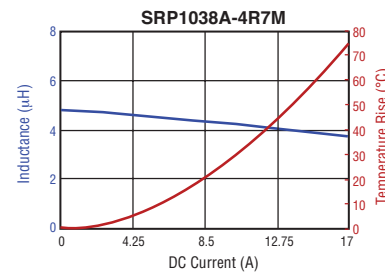
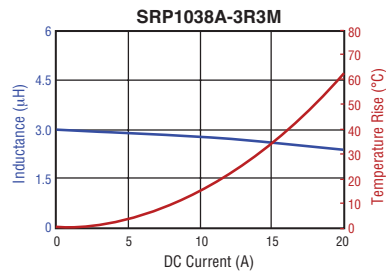
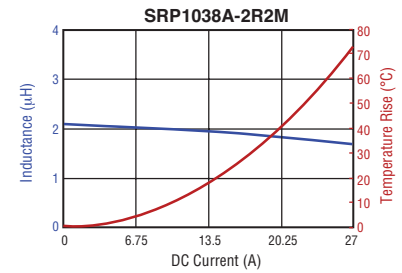
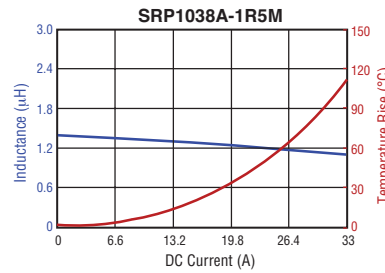
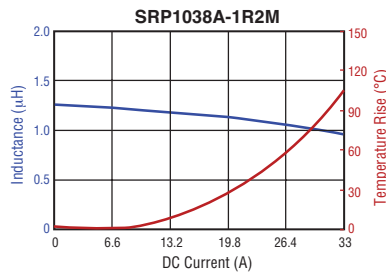
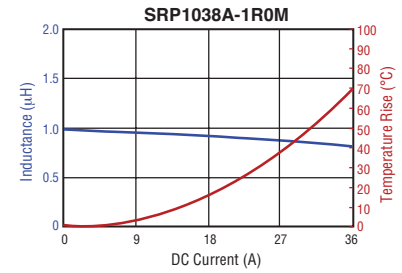
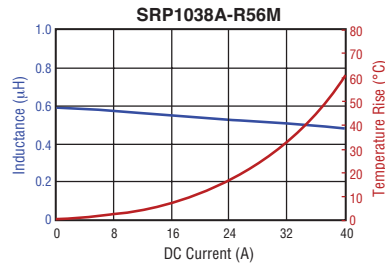
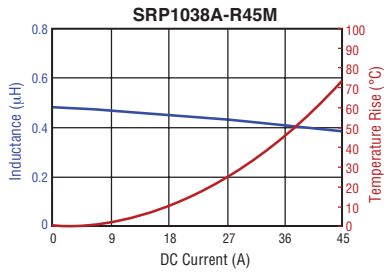
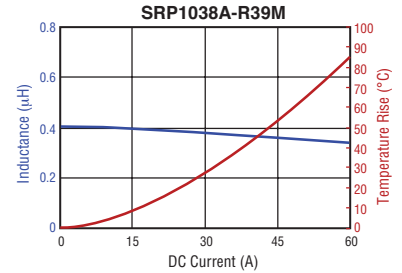
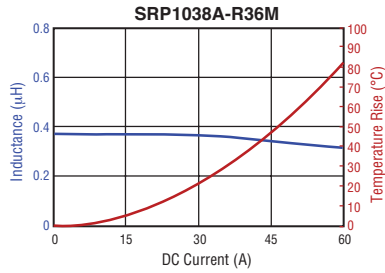
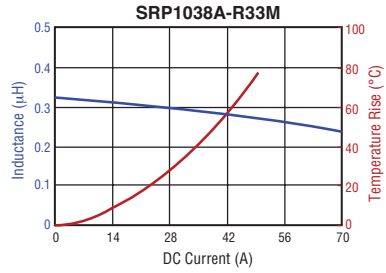
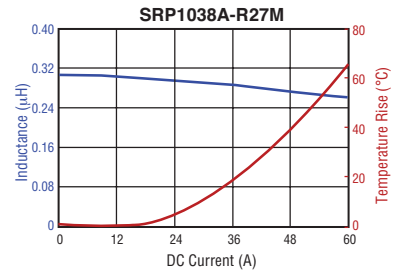
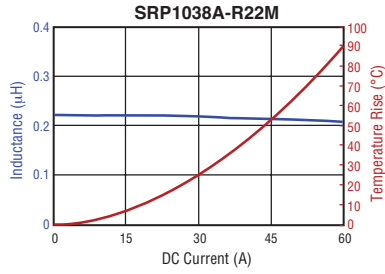
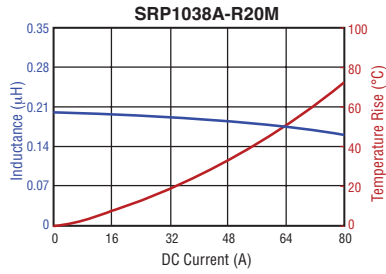
Specifications are subject to change without notice.

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.

# SRP1038A Series - Shielded Power Inductors



## L vs. I Charts

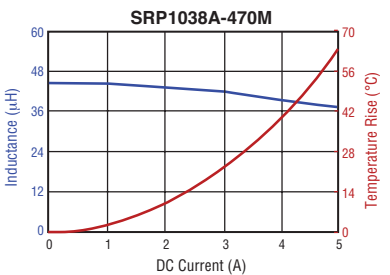
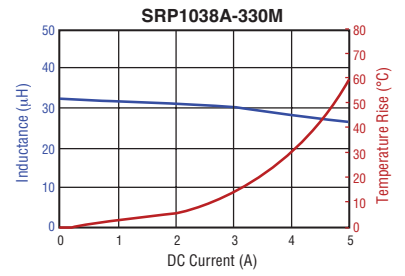
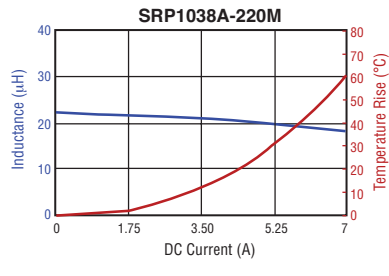
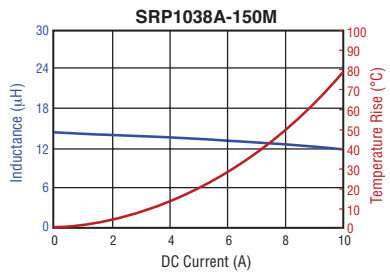
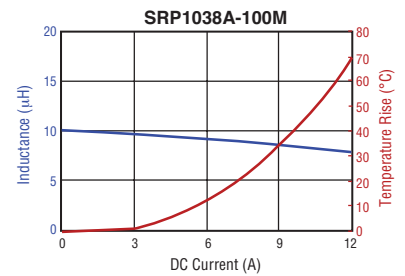
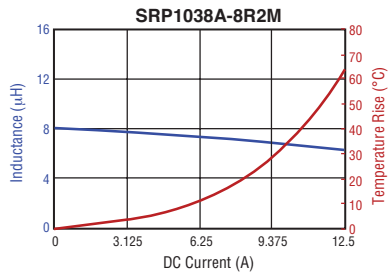
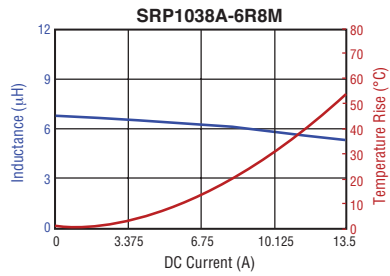


Specifications are subject to change without notice. The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

# SRP1038A Series - Shielded Power Inductors



## L vs. I Charts (Continued)

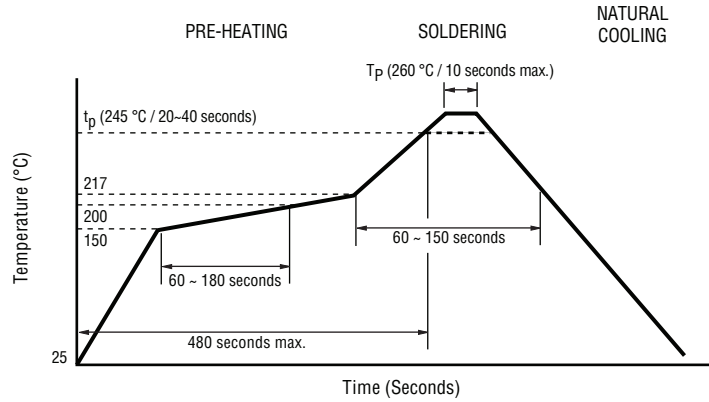


Specifications are subject to change without notice. The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

# SRP1038A Series - Shielded Power Inductors

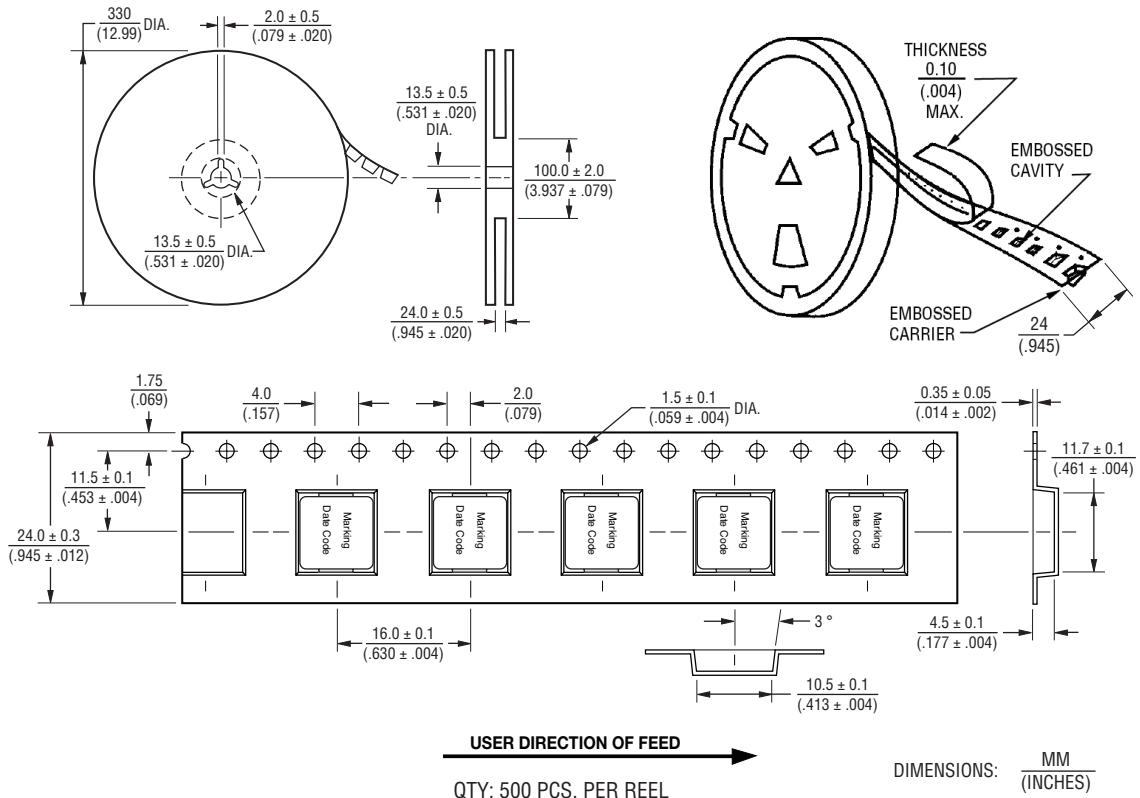
**BOURNS®**

## Soldering Profile



REFLOW TIMES: 3 MAX.

## Packaging Specifications



REV. 05/18

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.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Bourns:

[SRP1038A-4R7M](#) [SRP1038A-R22M](#) [SRP1038A-R39M](#) [SRP1038A-470M](#) [SRP1038A-8R2M](#) [SRP1038A-1R0M](#)  
[SRP1038A-100M](#) [SRP1038A-6R8M](#) [SRP1038A-1R5M](#) [SRP1038A-R45M](#) [SRP1038A-3R3M](#) [SRP1038A-220M](#)  
[SRP1038A-R27M](#) [SRP1038A-2R2M](#) [SRP1038A-150M](#) [SRP1038A-R56M](#) [SRP1038A-330M](#) [SRP1038A-R36M](#)  
[SRP1038A-R33M](#) [SRP1038A-1R2M](#) [SRP1038A-5R6M](#)