



**THE DATASHEET OF  
SRP1238A-1R8M**





### Features

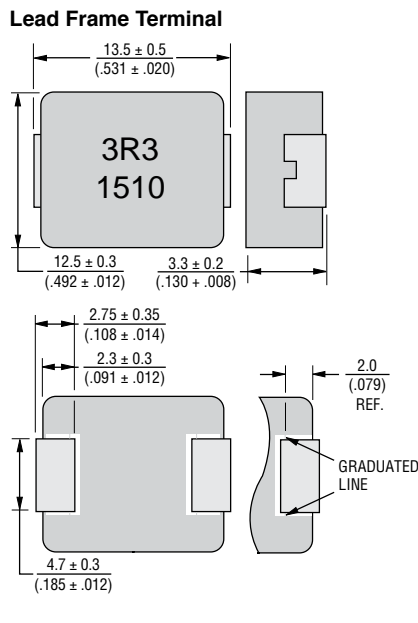
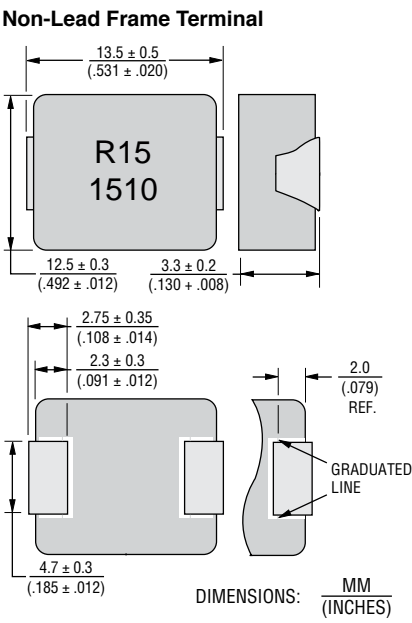
- Shielded construction
- Carbonyl powder core
- High saturation current
- Inductance range: 0.10 to 10  $\mu$ H
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SRP1238A 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. (%) |                          |                |                        |                        |                      |                      |                |
| SRP1238A-R10Y      | 0.10                       | $\pm 30$ | 10                       | 175            | 0.36                   | 0.43                   | 43                   | 84                   | Non-Lead Frame |
| SRP1238A-R15Y      | 0.15                       | $\pm 30$ | 10                       | 140            | 0.4                    | 0.48                   | 41                   | 75                   |                |
| SRP1238A-R22M      | 0.22                       | $\pm 20$ | 10                       | 125            | 0.7                    | 0.81                   | 38.5                 | 65                   |                |
| SRP1238A-R33M      | 0.33                       | $\pm 20$ | 10                       | 85             | 0.85                   | 1.0                    | 36.5                 | 62                   |                |
| SRP1238A-R47M      | 0.47                       | $\pm 20$ | 10                       | 80             | 1.2                    | 1.8                    | 32                   | 55                   |                |
| SRP1238A-R60M      | 0.60                       | $\pm 20$ | 15                       | 53             | 1.5                    | 2.2                    | 29                   | 51                   |                |
| SRP1238A-R68M      | 0.68                       | $\pm 20$ | 15                       | 50             | 1.9                    | 2.5                    | 28                   | 49                   |                |
| SRP1238A-R82M      | 0.82                       | $\pm 20$ | 15                       | 45             | 2.2                    | 3.0                    | 25                   | 44                   |                |
| SRP1238A-1R0M      | 1.0                        | $\pm 20$ | 15                       | 40             | 2.7                    | 3.5                    | 24                   | 40                   |                |
| SRP1238A-1R2M      | 1.2                        | $\pm 20$ | 20                       | 35             | 4                      | 4.0                    | 21                   | 37                   |                |
| SRP1238A-1R5M      | 1.5                        | $\pm 20$ | 20                       | 30             | 4.8                    | 5.5                    | 19                   | 35                   |                |
| SRP1238A-1R8M      | 1.8                        | $\pm 20$ | 20                       | 27             | 5.2                    | 7.0                    | 17                   | 30                   |                |
| SRP1238A-2R2M      | 2.2                        | $\pm 20$ | 20                       | 25             | 6.3                    | 8.0                    | 16                   | 29                   |                |
| SRP1238A-3R3M      | 3.3                        | $\pm 20$ | 20                       | 20             | 11                     | 13.5                   | 12                   | 27                   |                |
| SRP1238A-4R7M      | 4.7                        | $\pm 20$ | 20                       | 15             | 15.3                   | 18.5                   | 10                   | 24                   |                |
| SRP1238A-5R6M      | 5.6                        | $\pm 20$ | 20                       | 15             | 18                     | 22.0                   | 9.5                  | 19                   |                |
| SRP1238A-6R8M      | 6.8                        | $\pm 20$ | 20                       | 13             | 20                     | 24.0                   | 9                    | 18                   |                |
| SRP1238A-8R2M      | 8.2                        | $\pm 20$ | 20                       | 12             | 23                     | 28.0                   | 8.5                  | 16                   |                |
| SRP1238A-100M      | 10                         | $\pm 20$ | 20                       | 11             | 29                     | 34.0                   | 7                    | 14                   |                |

### Product Dimensions



### 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 I<sub>sat</sub>  
 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.

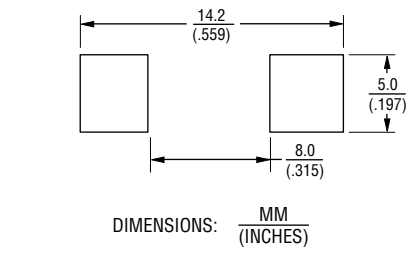
### Materials

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

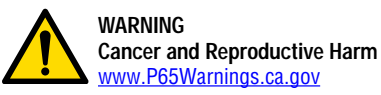
### How to Order



### Recommended Layout



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

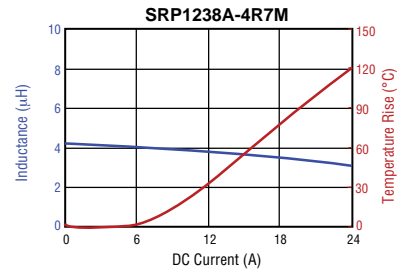
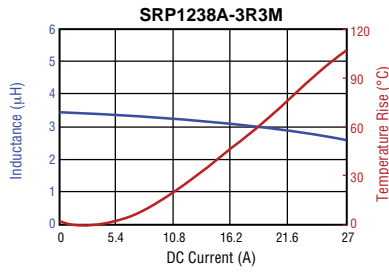
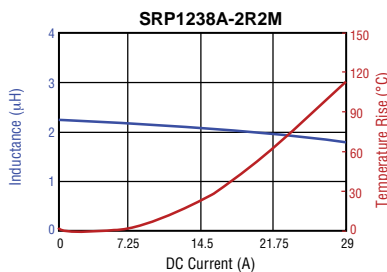
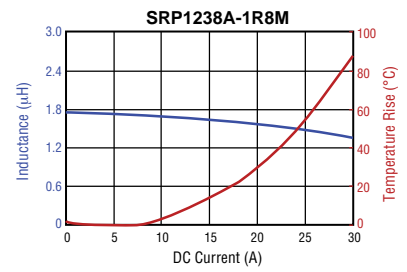
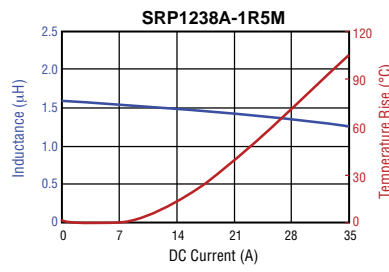
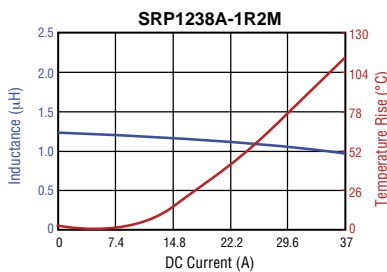
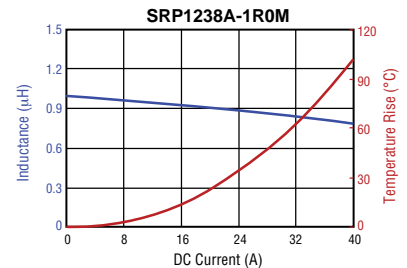
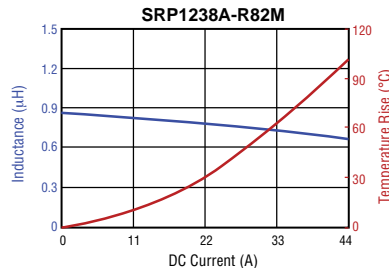
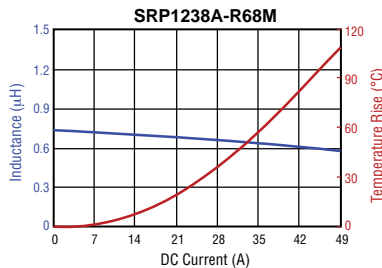
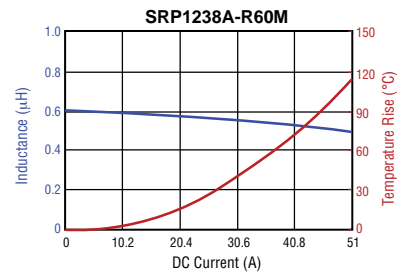
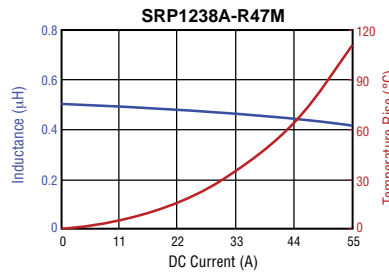
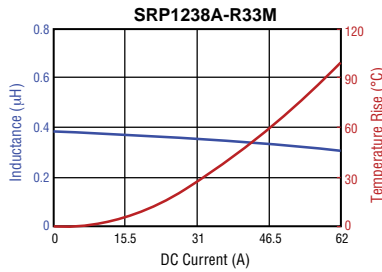
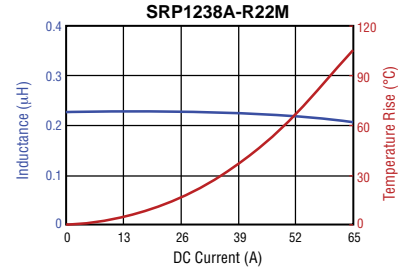
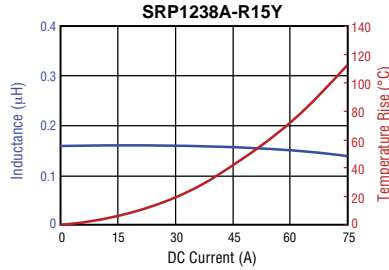
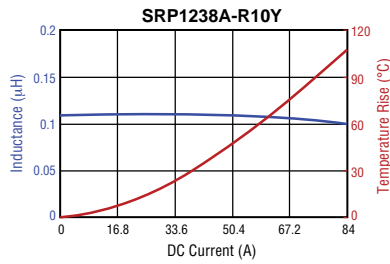


\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
 \*\*Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.  
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# SRP1238A Series - Shielded Power Inductors



## L vs. I Charts



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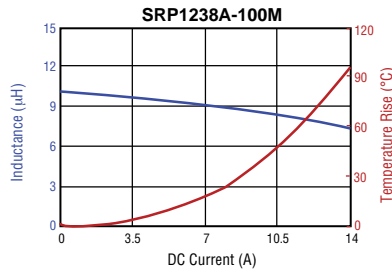
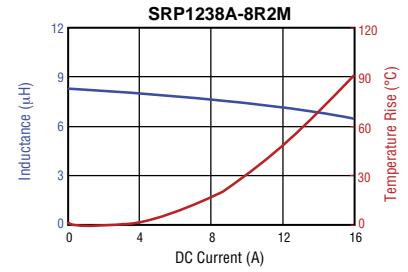
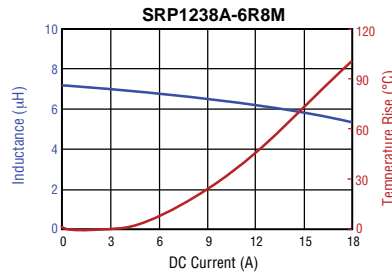
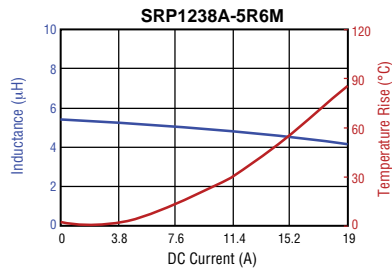
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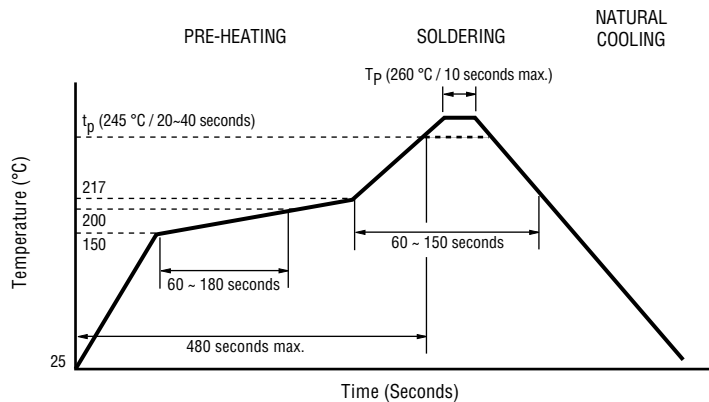
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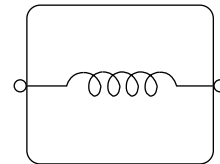
## L vs. I Charts (Continued)



## Soldering Profile



## Electrical Schematic



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