



**THE DATASHEET OF  
SDR1307A-150M**



RoHS COMPLIANT  
& RECC-Q200 QUALIFIED



**BOURNS®**

## Features

- High saturation current - up to 20 A
- Inductance range: 1.5 to 1000  $\mu$ H
- Heating current up to 9.5 A
- AEC-Q200 qualified
- RoHS compliant\* and halogen free\*\*

## Applications

- DC/DC converters
- Power supplies

# SDR1307A Series - SMD Power Inductors

### Electrical Specifications @ 25 °C

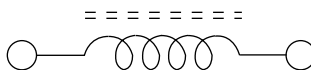
| Bourns Part Number | Inductance @ 100 KHz / 0.1 V |          | Q (Ref.) | Test Freq. (MHz) | SRF (MHz) Typ. | DCR ( $\Omega$ ) Max. | I rms (A) | I sat (A) |
|--------------------|------------------------------|----------|----------|------------------|----------------|-----------------------|-----------|-----------|
|                    | L ( $\mu$ H)                 | Tol. (%) |          |                  |                |                       |           |           |
| SDR1307A-1R5M      | 1.5                          | $\pm$ 20 | 20       | 7.96             | 65             | 0.005                 | 9.5       | 20        |
| SDR1307A-2R2M      | 2.2                          | $\pm$ 20 | 22       | 7.96             | 50             | 0.006                 | 9.0       | 18        |
| SDR1307A-2R7M      | 2.7                          | $\pm$ 20 | 24       | 7.96             | 40             | 0.008                 | 8.2       | 16        |
| SDR1307A-3R3M      | 3.3                          | $\pm$ 20 | 26       | 7.96             | 38             | 0.0087                | 7.5       | 15        |
| SDR1307A-4R7M      | 4.7                          | $\pm$ 20 | 25       | 7.96             | 36             | 0.01                  | 7.0       | 13        |
| SDR1307A-5R6M      | 5.6                          | $\pm$ 20 | 24       | 7.96             | 28             | 0.015                 | 6.5       | 11        |
| SDR1307A-6R8M      | 6.8                          | $\pm$ 20 | 24       | 7.96             | 26             | 0.017                 | 6.0       | 10.5      |
| SDR1307A-8R2M      | 8.2                          | $\pm$ 20 | 24       | 7.96             | 24             | 0.019                 | 5.8       | 9.8       |
| SDR1307A-100M      | 10                           | $\pm$ 20 | 22       | 2.52             | 22             | 0.021                 | 5.6       | 9.2       |
| SDR1307A-120M      | 12                           | $\pm$ 20 | 25       | 2.52             | 20             | 0.03                  | 4.8       | 8         |
| SDR1307A-150M      | 15                           | $\pm$ 20 | 28       | 2.52             | 17             | 0.034                 | 4.5       | 7.5       |
| SDR1307A-180M      | 18                           | $\pm$ 20 | 28       | 2.52             | 16             | 0.036                 | 4.2       | 7         |
| SDR1307A-220M      | 22                           | $\pm$ 20 | 40       | 2.52             | 15             | 0.047                 | 3.6       | 6.5       |
| SDR1307A-270M      | 27                           | $\pm$ 20 | 35       | 2.52             | 11             | 0.06                  | 3.3       | 5.5       |
| SDR1307A-330K      | 33                           | $\pm$ 10 | 35       | 2.52             | 10             | 0.065                 | 3.1       | 5         |
| SDR1307A-390K      | 39                           | $\pm$ 10 | 28       | 2.52             | 9              | 0.075                 | 2.9       | 4.6       |
| SDR1307A-470K      | 47                           | $\pm$ 10 | 24       | 2.52             | 7.5            | 0.082                 | 2.7       | 4.2       |
| SDR1307A-560K      | 56                           | $\pm$ 10 | 22       | 2.52             | 7.2            | 0.10                  | 2.5       | 3.8       |
| SDR1307A-680K      | 68                           | $\pm$ 10 | 24       | 2.52             | 7              | 0.12                  | 2.3       | 3.5       |
| SDR1307A-820K      | 82                           | $\pm$ 10 | 18       | 2.52             | 6              | 0.14                  | 2.1       | 3.2       |
| SDR1307A-101K      | 100                          | $\pm$ 10 | 25       | 0.796            | 5.8            | 0.18                  | 1.9       | 3         |
| SDR1307A-121K      | 120                          | $\pm$ 10 | 20       | 0.796            | 5.5            | 0.21                  | 1.8       | 2.8       |
| SDR1307A-151K      | 150                          | $\pm$ 10 | 20       | 0.796            | 4.5            | 0.25                  | 1.6       | 2.6       |
| SDR1307A-181K      | 180                          | $\pm$ 10 | 18       | 0.796            | 4              | 0.28                  | 1.5       | 2.3       |
| SDR1307A-221K      | 220                          | $\pm$ 10 | 15       | 0.796            | 3.8            | 0.36                  | 1.3       | 2.1       |
| SDR1307A-271K      | 270                          | $\pm$ 10 | 15       | 0.796            | 3.5            | 0.41                  | 1.2       | 1.8       |
| SDR1307A-331K      | 330                          | $\pm$ 10 | 15       | 0.796            | 3.2            | 0.52                  | 1.1       | 1.6       |
| SDR1307A-391K      | 390                          | $\pm$ 10 | 12       | 0.796            | 2.5            | 0.60                  | 1.0       | 1.5       |
| SDR1307A-471K      | 470                          | $\pm$ 10 | 12       | 0.796            | 2.2            | 0.72                  | 0.9       | 1.4       |
| SDR1307A-561K      | 560                          | $\pm$ 10 | 10       | 0.796            | 2              | 0.88                  | 0.85      | 1.3       |
| SDR1307A-681K      | 680                          | $\pm$ 10 | 10       | 0.796            | 1.6            | 1.0                   | 0.8       | 1.2       |
| SDR1307A-821K      | 820                          | $\pm$ 10 | 10       | 0.796            | 1.5            | 1.3                   | 0.75      | 1.1       |
| SDR1307A-102K      | 1000                         | $\pm$ 10 | 10       | 0.252            | 1.4            | 1.6                   | 0.65      | 1         |

### How to Order

**SDR1307A - 100M**

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

### Electrical Schematic



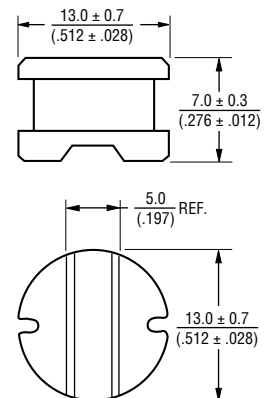
### General Specifications

Operating Temperature .....-40 °C to +125 °C  
(Temperature rise included)  
Storage Temperature .....-40 °C to +125 °C  
Temperature Rise .....40 °C typ. at rated I rms  
Inductance Drop ..... 10 % typ. at I sat

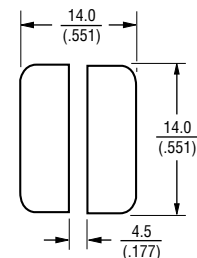
### Materials

Core ..... Ferrite  
Wire ..... Enameled copper  
Terminal Finish ..... Ag/Ni/Sn  
Packaging ..... 400 pcs. per reel

### Product Dimensions



### Recommended Layout



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

\* 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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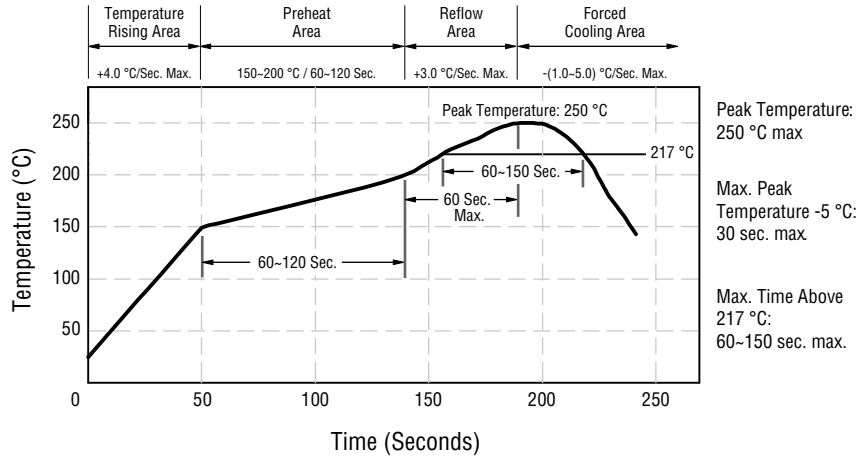


**WARNING**  
Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

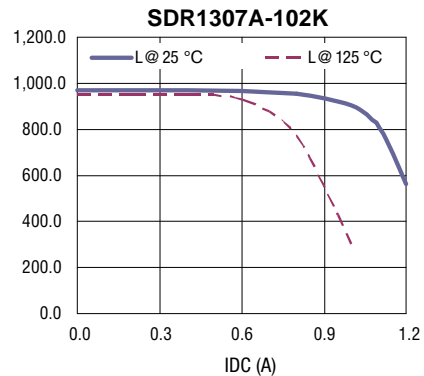
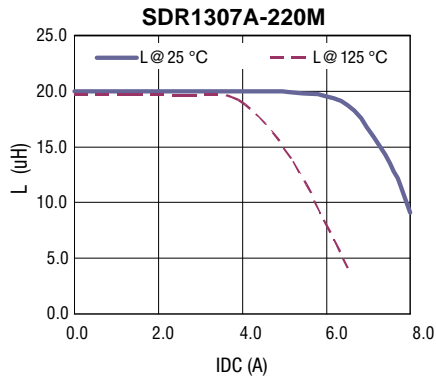
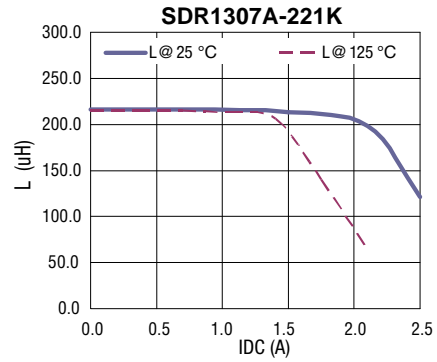
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## Soldering Profile



## L vs. IDC



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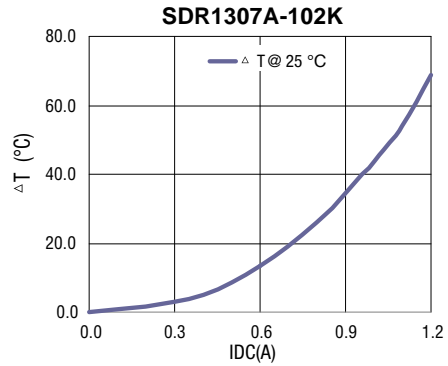
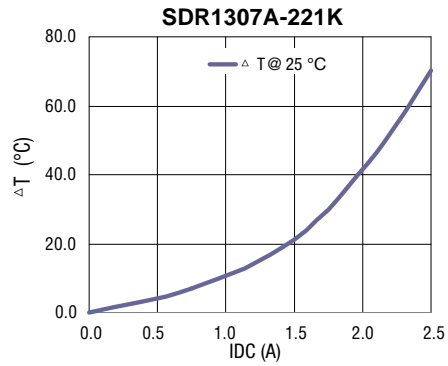
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## Temperature vs. IDC



## Packaging Specifications



REV. 11/19

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