



**THE DATASHEET OF  
SDE1006A-120M**



\*Pb-Free COMPLIANT  
& RECC-Q200 QUALIFIED



**BOURNS®**

### Features

- High saturation current - up to 8 A
- Inductance range: 1.5 to 820  $\mu$ H
- Heating current up to 7.2 A
- AEC-Q200 qualified
- RoHS compliant\* and halogen free\*\*

## SDE1006A Series - SMD Power Inductors

### Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance   |          | Test Freq./Voltage | SRF (MHz) Typ. | DCR ( $\Omega$ ) Max. | I rms (A) | I sat (A) |
|--------------------|--------------|----------|--------------------|----------------|-----------------------|-----------|-----------|
|                    | L ( $\mu$ H) | Tol. (%) |                    |                |                       |           |           |
| SDE1006A-1R5M      | 1.5          | 20       | 1 MHz / 1 V        | 69.6           | 0.018                 | 7.2       | 8.0       |
| SDE1006A-2R2M      | 2.2          | 20       | 1 MHz / 1 V        | 57.7           | 0.021                 | 6.0       | 6.6       |
| SDE1006A-3R3M      | 3.3          | 20       | 1 MHz / 1 V        | 48.8           | 0.024                 | 5.4       | 6.0       |
| SDE1006A-3R9M      | 3.9          | 20       | 1 MHz / 1 V        | 40.6           | 0.027                 | 5.2       | 5.7       |
| SDE1006A-4R7M      | 4.7          | 20       | 1 MHz / 1 V        | 37.4           | 0.036                 | 4.7       | 5.2       |
| SDE1006A-5R6M      | 5.6          | 20       | 1 MHz / 1 V        | 35.6           | 0.04                  | 4.5       | 5.0       |
| SDE1006A-6R8M      | 6.8          | 20       | 1 MHz / 1 V        | 32.1           | 0.044                 | 4.2       | 4.6       |
| SDE1006A-8R2M      | 8.2          | 20       | 1 MHz / 1 V        | 27.9           | 0.048                 | 4.1       | 4.3       |
| SDE1006A-100M      | 10           | 20       | 1 MHz / 1 V        | 25             | 0.06                  | 3.8       | 4.0       |
| SDE1006A-120M      | 12           | 20       | 1 MHz / 1 V        | 23             | 0.07                  | 3.6       | 3.8       |
| SDE1006A-150M      | 15           | 20       | 1 MHz / 1 V        | 19.8           | 0.08                  | 3.4       | 3.6       |
| SDE1006A-180M      | 18           | 20       | 1 MHz / 1 V        | 19.3           | 0.09                  | 2.8       | 3.0       |
| SDE1006A-220M      | 22           | 20       | 1 MHz / 1 V        | 16             | 0.1                   | 2.6       | 2.8       |
| SDE1006A-270M      | 27           | 20       | 1 MHz / 1 V        | 13.3           | 0.11                  | 2.3       | 2.5       |
| SDE1006A-330M      | 33           | 20       | 1 MHz / 1 V        | 12.1           | 0.12                  | 2.2       | 2.4       |
| SDE1006A-390M      | 39           | 20       | 1 MHz / 1 V        | 12             | 0.14                  | 1.9       | 2.1       |
| SDE1006A-470K      | 47           | 10       | 1 MHz / 1 V        | 11             | 0.17                  | 1.8       | 1.95      |
| SDE1006A-560K      | 56           | 10       | 1 MHz / 1 V        | 10.2           | 0.19                  | 1.7       | 1.8       |
| SDE1006A-680K      | 68           | 10       | 1 MHz / 1 V        | 9.4            | 0.22                  | 1.6       | 1.7       |
| SDE1006A-820K      | 82           | 10       | 1 MHz / 1 V        | 8.8            | 0.25                  | 1.5       | 1.6       |
| SDE1006A-101K      | 100          | 10       | 1 KHz / 1 V        | 7.3            | 0.35                  | 1.3       | 1.4       |
| SDE1006A-121K      | 120          | 10       | 1 KHz / 1 V        | 6.6            | 0.4                   | 1.2       | 1.3       |
| SDE1006A-151K      | 150          | 10       | 1 KHz / 1 V        | 6.6            | 0.47                  | 1.1       | 1.2       |
| SDE1006A-181K      | 180          | 10       | 1 KHz / 1 V        | 6.1            | 0.63                  | 1.0       | 1.1       |
| SDE1006A-221K      | 220          | 10       | 1 KHz / 1 V        | 5.3            | 0.73                  | 0.85      | 1.0       |
| SDE1006A-271K      | 270          | 10       | 1 KHz / 1 V        | 4.3            | 0.97                  | 0.75      | 0.85      |
| SDE1006A-331K      | 330          | 10       | 1 KHz / 1 V        | 4.3            | 1.15                  | 0.7       | 0.75      |
| SDE1006A-391K      | 390          | 10       | 1 KHz / 1 V        | 3.3            | 1.3                   | 0.65      | 0.7       |
| SDE1006A-471K      | 470          | 10       | 1 KHz / 1 V        | 3.3            | 1.48                  | 0.6       | 0.65      |
| SDE1006A-561K      | 560          | 10       | 1 KHz / 1 V        | 3.3            | 1.9                   | 0.55      | 0.6       |
| SDE1006A-681K      | 680          | 10       | 1 KHz / 1 V        | 2.8            | 2.25                  | 0.5       | 0.55      |
| SDE1006A-821K      | 820          | 10       | 1 KHz / 1 V        | 2.2            | 2.55                  | 0.45      | 0.5       |

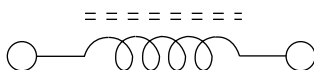
### How to Order

**SDE1006A - 100M**

Model \_\_\_\_\_

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

### Electrical Schematic



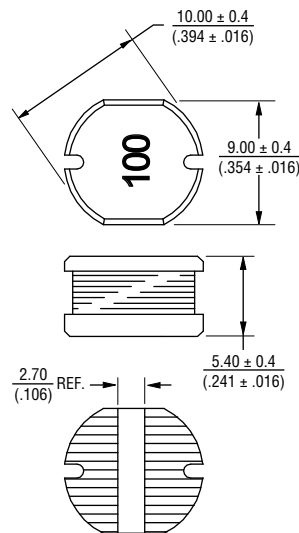
### General Specifications

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

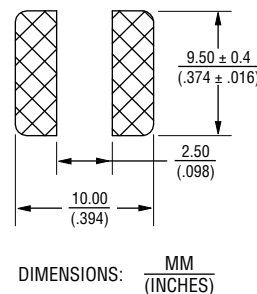
### Materials

Core.....Ferrite  
Wire.....Enameled copper  
Terminal Finish.....Ag/Ni/Sn  
Packaging.....800 pcs. per reel

### Product Dimensions



### Recommended Layout



**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.

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# SDE1006A Series - SMD Power Inductors

**BOURNS®**

## Soldering Profile

Peak Temperature: 245 °C max.  
 Max. Peak Temperature -5 °C: 30 sec. max.  
 Max. Time Above 217 °C: 60-150 sec. max.



## Packaging Specifications



**BOURNS®**

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**Europe:**  
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REV. 11/19

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Users should verify actual device performance in their specific applications.

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