



**THE DATASHEET OF
SDE0805A-271K**



RoHS COMPLIANT
& RECC-Q200 QUALIFIED



BOURNS®

Features

- High saturation current
- Inductance range: 1.5 to 470 μ H
- Heating current up to 5.8 A
- Dimensions: 7.8 x 7 x 5 mm
- AEC-Q200 qualified
- RoHS compliant* and halogen free**

SDE0805A Series - SMD Power Inductors

Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance | | | SRF (MHz) Typ. | DCR (Ω) Typ. | DCR (Ω) Max. | I rms (A) | I sat (A) | ***K-Factor |
|--------------------|--------------|----------|---------------------|----------------|-----------------------|-----------------------|-----------|-----------|-------------|
| | L (μ H) | Tol. (%) | Test Freq./ Voltage | | | | | | |
| SDE0805A-1R5M | 1.5 | ± 20 | 1 MHz / 1 V | 115 | 0.015 | 0.02 | 5.8 | 6.5 | 218 |
| SDE0805A-2R5M | 2.5 | ± 20 | 1 MHz / 1 V | 71.2 | 0.02 | 0.027 | 5.0 | 5.0 | 166 |
| SDE0805A-3R3M | 3.3 | ± 20 | 1 MHz / 1 V | 53.3 | 0.024 | 0.032 | 4.6 | 4.5 | 149 |
| SDE0805A-4R7M | 4.7 | ± 20 | 1 MHz / 1 V | 44.2 | 0.028 | 0.038 | 4.3 | 4.0 | 135 |
| SDE0805A-5R6M | 5.6 | ± 20 | 1 MHz / 1 V | 34.9 | 0.032 | 0.043 | 4.0 | 3.7 | 123 |
| SDE0805A-6R8M | 6.8 | ± 20 | 1 MHz / 1 V | 32 | 0.036 | 0.048 | 3.8 | 3.2 | 105 |
| SDE0805A-8R2M | 8.2 | ± 20 | 1 MHz / 1 V | 28.5 | 0.039 | 0.052 | 3.6 | 3.0 | 98 |
| SDE0805A-100M | 10 | ± 20 | 1 MHz / 1 V | 27.5 | 0.05 | 0.07 | 3.2 | 2.6 | 86 |
| SDE0805A-120M | 12 | ± 20 | 1 MHz / 1 V | 25.8 | 0.056 | 0.08 | 3.0 | 2.4 | 81 |
| SDE0805A-150M | 15 | ± 20 | 1 MHz / 1 V | 22.5 | 0.06 | 0.09 | 2.5 | 2.2 | 73 |
| SDE0805A-180M | 18 | ± 20 | 1 MHz / 1 V | 17.6 | 0.074 | 0.1 | 2.45 | 2.0 | 66 |
| SDE0805A-220M | 22 | ± 20 | 1 MHz / 1 V | 16.5 | 0.082 | 0.11 | 2.35 | 1.8 | 58 |
| SDE0805A-270M | 27 | ± 20 | 1 MHz / 1 V | 14.3 | 0.094 | 0.12 | 2.2 | 1.7 | 53 |
| SDE0805A-330M | 33 | ± 20 | 1 MHz / 1 V | 13.2 | 0.117 | 0.13 | 2.0 | 1.6 | 46 |
| SDE0805A-390M | 39 | ± 20 | 1 MHz / 1 V | 12.6 | 0.137 | 0.16 | 1.9 | 1.5 | 44 |
| SDE0805A-470K | 47 | ± 10 | 1 MHz / 1 V | 12.1 | 0.165 | 0.18 | 1.7 | 1.4 | 39 |
| SDE0805A-560K | 56 | ± 10 | 1 MHz / 1 V | 11.5 | 0.2 | 0.24 | 1.6 | 1.2 | 36 |
| SDE0805A-680K | 68 | ± 10 | 1 MHz / 1 V | 10.5 | 0.23 | 0.28 | 1.45 | 1.1 | 33 |
| SDE0805A-820K | 82 | ± 10 | 1 MHz / 1 V | 9.4 | 0.3 | 0.37 | 1.2 | 1.0 | 30 |
| SDE0805A-101K | 100 | ± 10 | 1 kHz / 1 V | 8.8 | 0.32 | 0.43 | 1.1 | 0.9 | 28 |
| SDE0805A-121K | 120 | ± 10 | 1 kHz / 1 V | 7.7 | 0.36 | 0.47 | 1.0 | 0.8 | 25 |
| SDE0805A-151K | 150 | ± 10 | 1 kHz / 1 V | 7.2 | 0.515 | 0.64 | 0.9 | 0.72 | 23 |
| SDE0805A-181K | 180 | ± 10 | 1 kHz / 1 V | 6.2 | 0.576 | 0.71 | 0.85 | 0.65 | 21 |
| SDE0805A-221K | 220 | ± 10 | 1 kHz / 1 V | 6 | 0.75 | 0.96 | 0.8 | 0.6 | 19 |
| SDE0805A-271K | 270 | ± 10 | 1 kHz / 1 V | 5 | 0.87 | 1.11 | 0.7 | 0.55 | 17 |
| SDE0805A-331K | 330 | ± 10 | 1 kHz / 1 V | 4.9 | 1.02 | 1.2 | 0.65 | 0.5 | 15 |
| SDE0805A-391K | 390 | ± 10 | 1 kHz / 1 V | 4.4 | 1.29 | 1.5 | 0.6 | 0.45 | 14 |
| SDE0805A-471K | 470 | ± 10 | 1 kHz / 1 V | 3.6 | 1.47 | 1.7 | 0.55 | 0.4 | 13 |

***K-Factor: To calculate core flux density, Bp-p (gauss) = $K \times L(\mu\text{H}) \times \Delta I$ (peak-to-peak ripple current, A), determine core loss from Core Loss vs. Flux Density plot.

Core Loss vs. Flux Density



Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

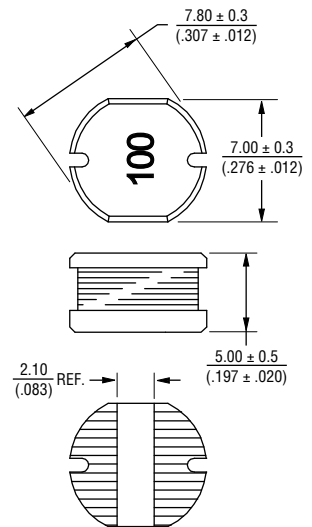
General Specifications

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 Sn
Packaging 1000 pcs. per reel

Product Dimensions



Recommended Layout



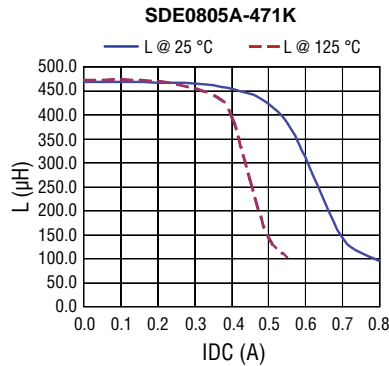
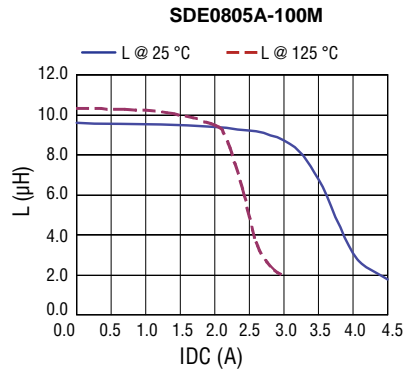
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

* 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.

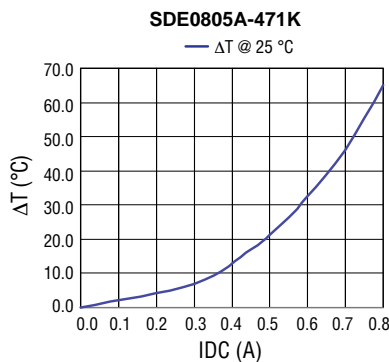
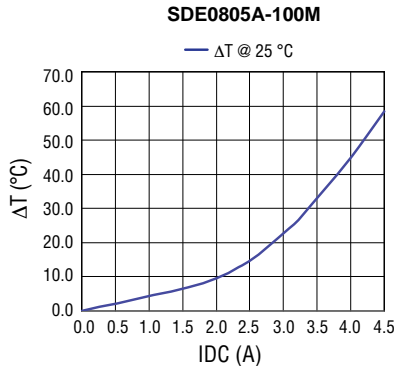
SDE0805A Series - SMD Power Inductors



Inductance vs. IDC



Temperature Rise vs. IDC



Electrical Schematic



How to Order

SDE0805A - 100M

Model _____
Value Code (see table) _____

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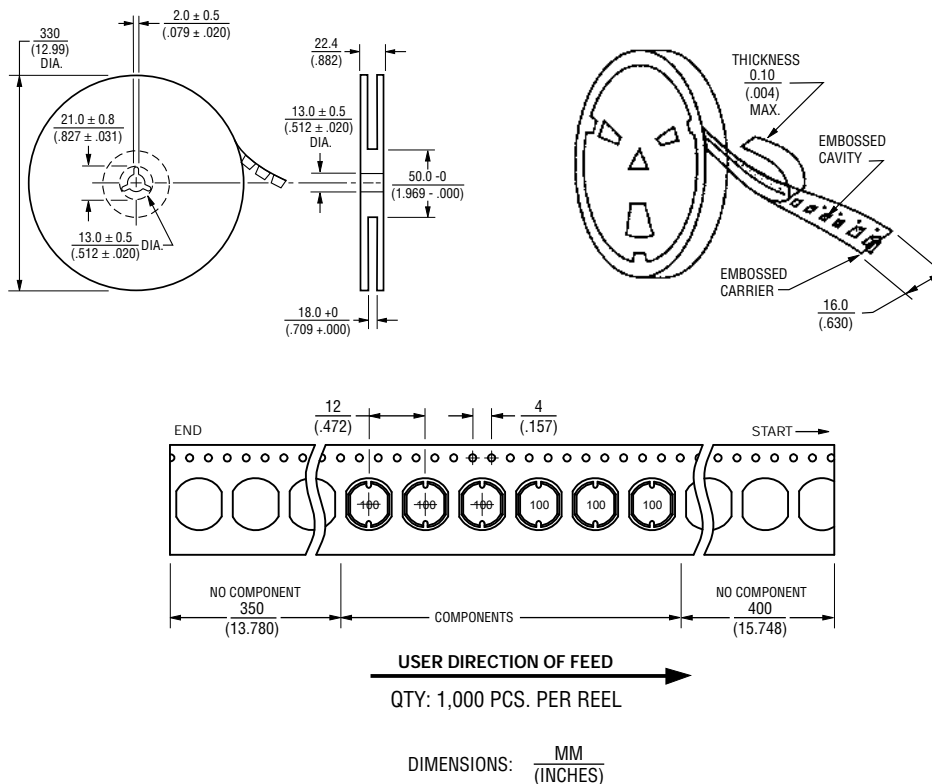
SDE0805A Series - SMD Power Inductors



Soldering Profile



Packaging Specifications



REV. 11/19

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