



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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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**

Applications

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

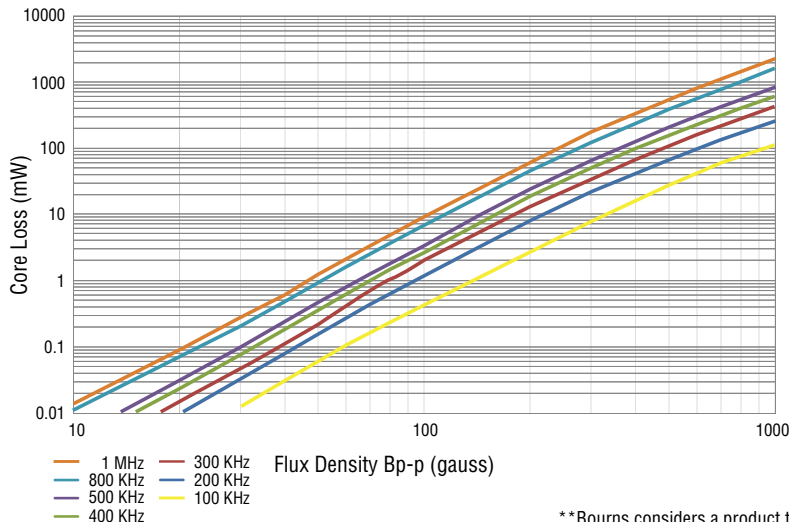
SDE0805A Series - SMD Power Inductors

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, B_p -p (gauss) = $K \times L(\mu H) \times \Delta I$ (peak-to-peak ripple current, A), determine core loss from *Core Loss vs. Flux Density* plot.

Core Loss vs. Flux Density



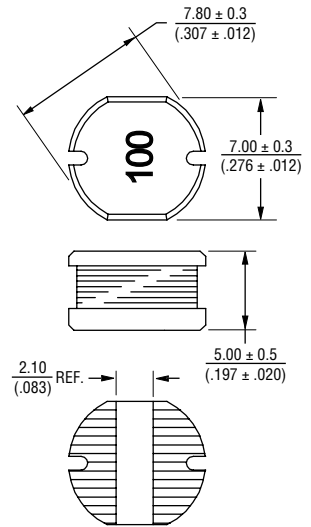
General Specifications

Operating Temperature -40 °C to +125 °C
 (Temperature rise included)
 Storage Temperature -40 °C to +125 °C
 Resistance to Solder Heat +250 °C for 10 sec.
 Temperature Rise 40 °C typ. at rated I rms
 Inductance Drop 10 % typ. at I sat

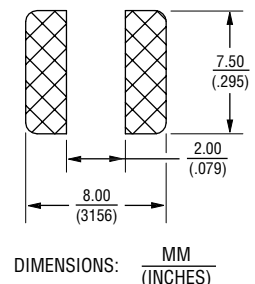
Materials

Core Ferrite
 Wire Enameled copper
 Terminal Finish Sn
 Packaging 1000 pcs. per reel

Product Dimensions



Recommended Layout



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

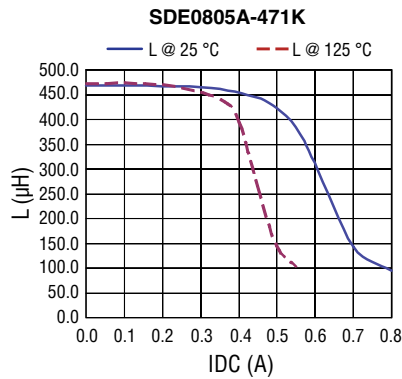
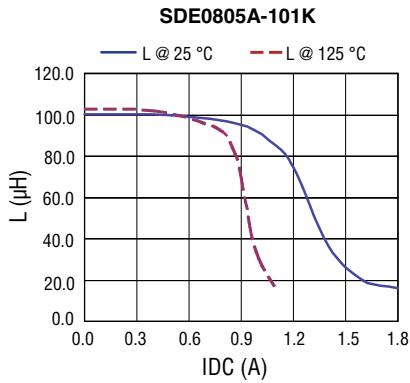
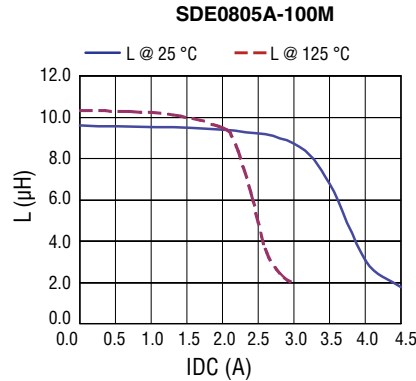
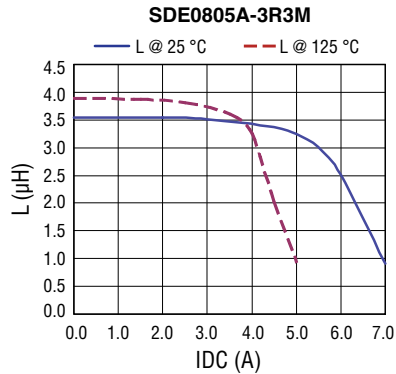
**Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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.

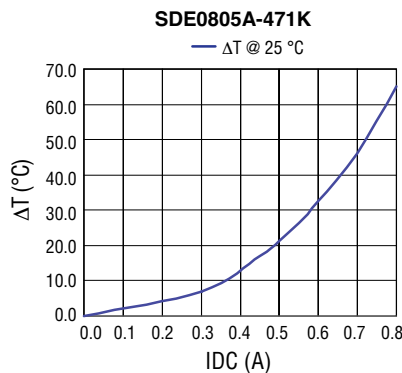
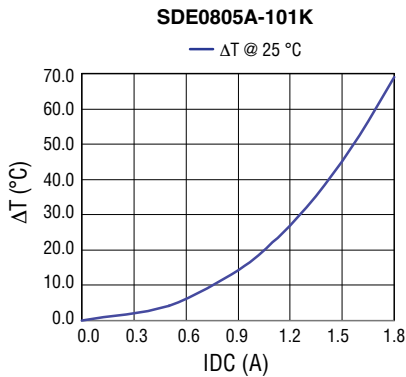
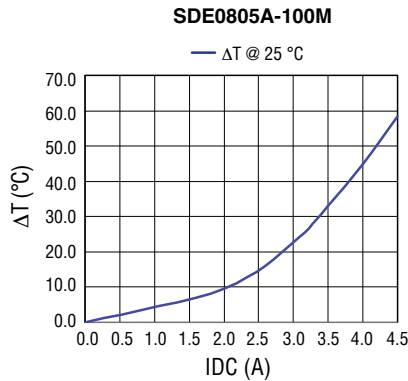
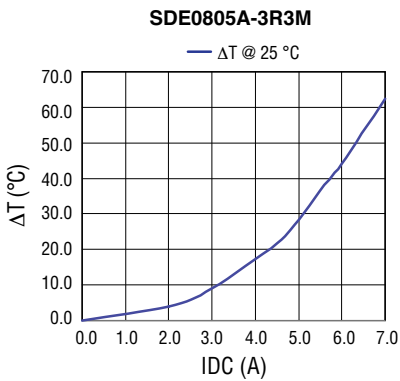
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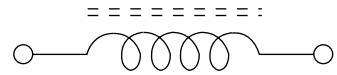
Inductance vs. IDC



Temperature Rise vs. IDC



Electrical Schematic



How to Order

SDE0805A - 100M

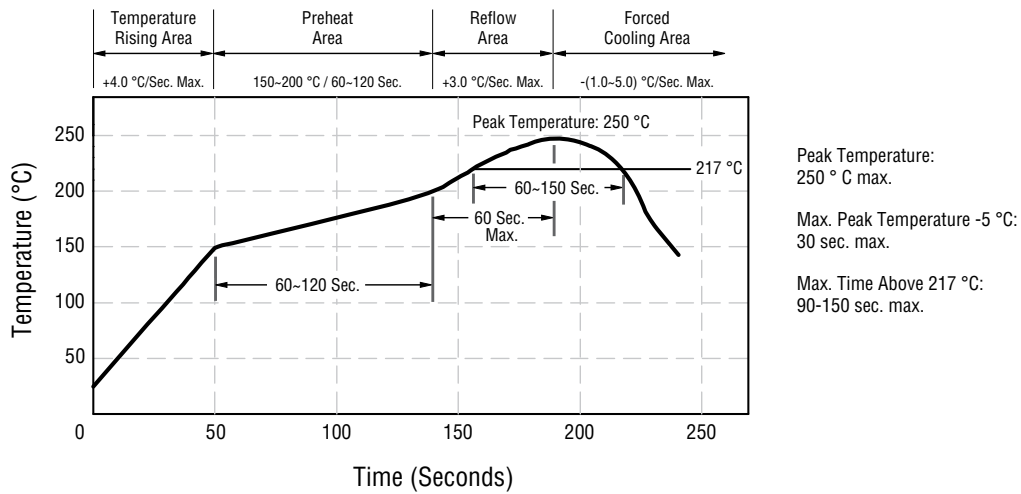
Model _____
 Value Code (see table) _____

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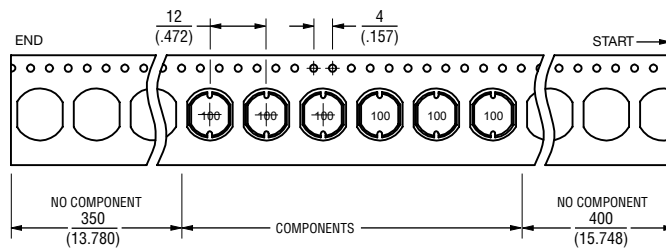
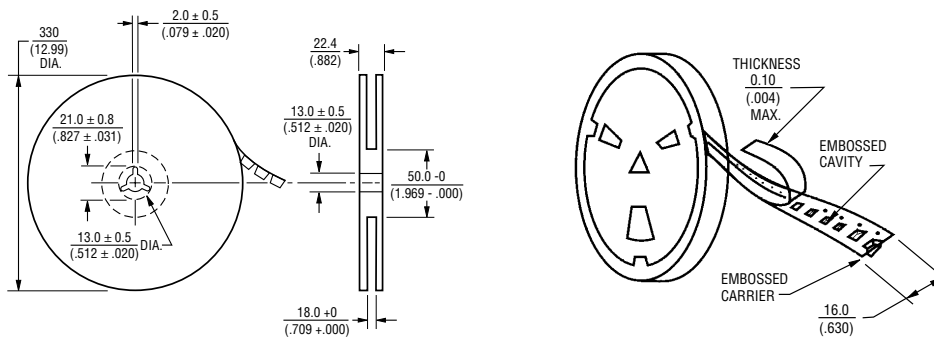
SDE0805A Series - SMD Power Inductors

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Soldering Profile



Packaging Specifications



USER DIRECTION OF FEED

QTY: 1,000 PCS. PER REEL

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

REV. 02/17

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