



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**

Additional Information

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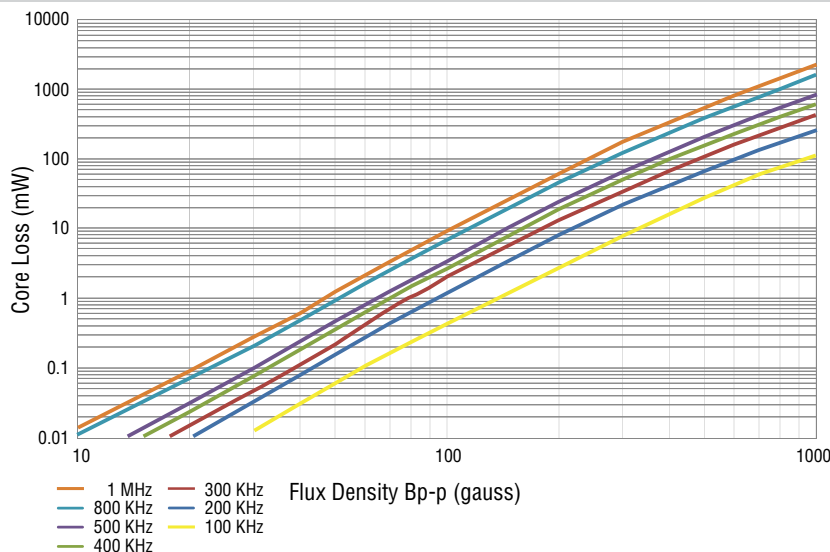
SDE0805A Series – SMD Power Inductors

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



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.

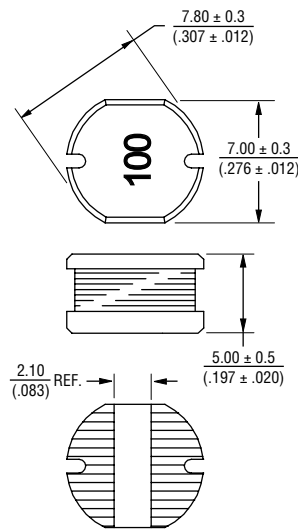
General Specifications

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

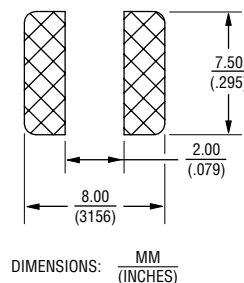
Materials

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

Product Dimensions



Recommended Layout



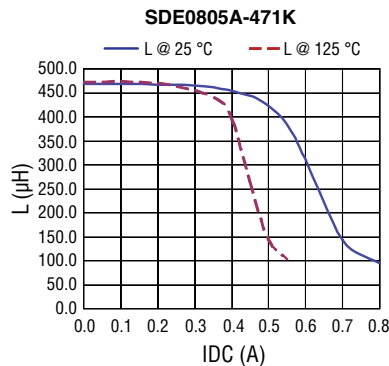
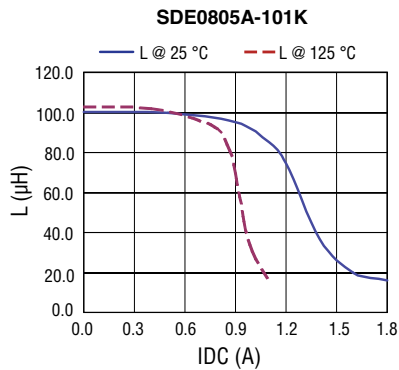
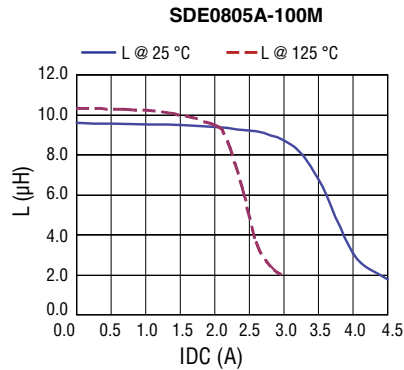
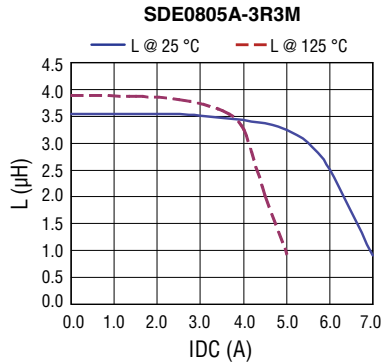
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

* 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.

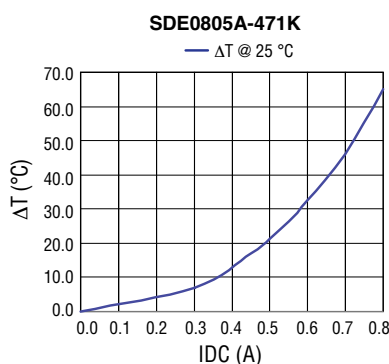
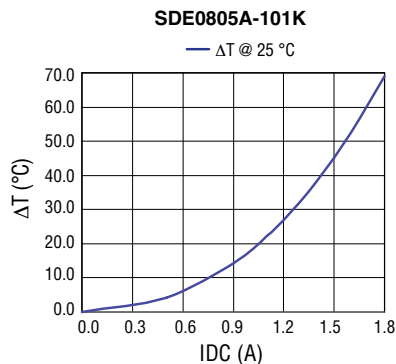
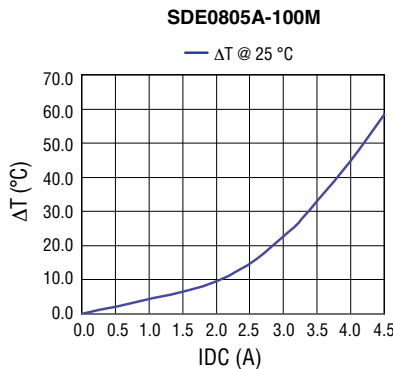
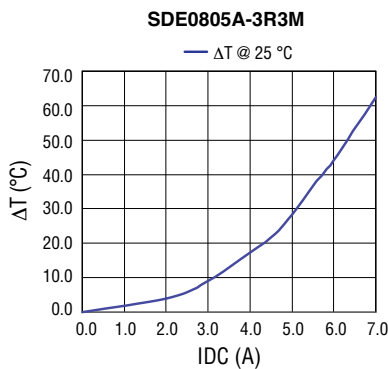
SDE0805A Series – SMD Power Inductors

BOURNS®

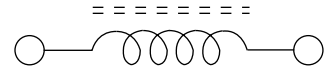
Inductance vs. IDC



Temperature Rise vs. IDC



Electrical Schematic



How to Order

SDE0805A - 100M

Model _____

Value Code (see table) _____

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Temperature (°C)

Time (Seconds)

Temperature Rising Area: +4.0 °C/Sec. Max.

Preheat Area: 150-200 °C / 60-120 Sec.

Reflow Area: +3.0 °C/Sec. Max.

Forced Cooling Area: -(1.0-5.0) °C/Sec. Max.

Peak Temperature: 250 °C

217 °C

60-150 Sec.

60 Sec. Max.

60-120 Sec.

Peak Temperature: 250 °C max.

Max. Peak Temperature -5 °C: 30 sec. max.

Max. Time Above 217 °C: 90-150 sec. max.

Technical drawing of a 16mm film carrier showing three views: front, side, and end view. Dimensions are in inches and millimeters.

Front View Dimensions:

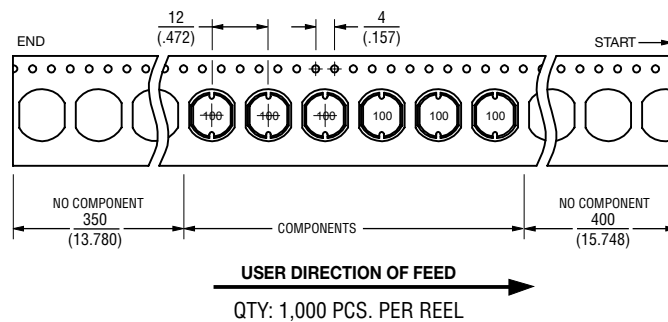
- Overall Diameter: 330 ± 0.5 (12.99) DIA.
- Inner Hole Diameter: 21.0 ± 0.8 (.827 $\pm$.031)
- Inner Hole Diameter: 13.0 ± 0.5 (.512 $\pm$.020) DIA.

Side View Dimensions:

- Overall Width: 22.4 (.882)
- Inner Hole Diameter: 13.0 ± 0.5 (.512 $\pm$.020) DIA.
- Inner Hole Diameter: $50.0 - 0$ (1.969 - .000)
- Overall Width: $18.0 + 0$ (.709 + .000)

End View Dimensions:

- Thickness: 0.10 (.004) MAX.
- Embossed Cavity
- Embossed Carrier
- Overall Width: 16.0 (.630)



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

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