



## Features

- High saturation current
- Inductance range: 1.0 to 68  $\mu$ H
- Heating current up to 2.7 A
- Dimensions: 4.5 x 4 x 3.2 mm
- AEC-Q200 qualified
- RoHS compliant\* and halogen free\*\*

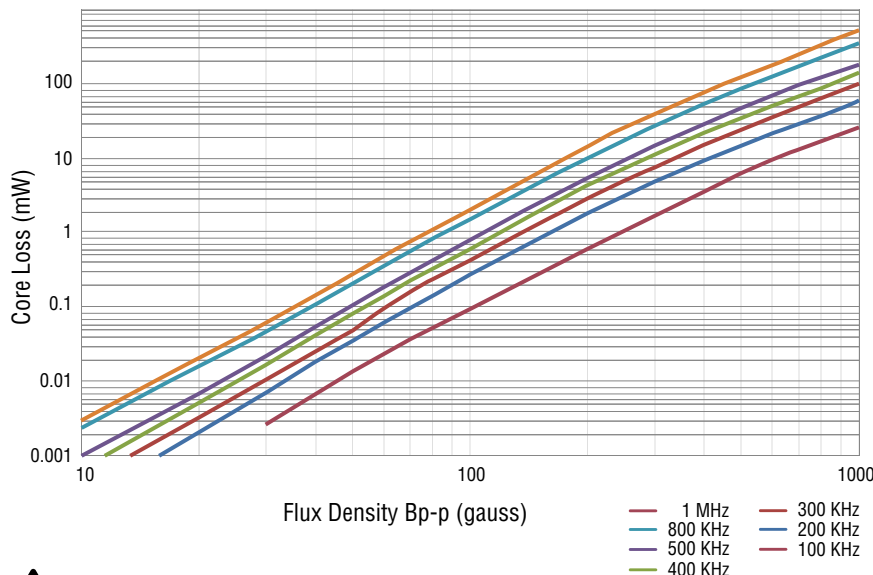
## SDE0403A Series - SMD Power Inductors

### Electrical Specifications @ 25 °C

Bourns Part Number	Inductance		SRF (MHz) Typ.	DCR ( $\Omega$ ) Typ.	DCR ( $\Omega$ ) Max.	I rms (A)	I sat (A)	***K-Factor
	L ( $\mu$ H)	Tol. (%)						
SDE0403A-1R0M	1.0	$\pm 20$	113	0.0193	0.048	2.7	4.8	490
SDE0403A-2R2M	2.2	$\pm 20$	76	0.0318	0.071	2.3	3.3	335
SDE0403A-3R3M	3.3	$\pm 20$	64	0.0469	0.086	2.0	2.5	255
SDE0403A-4R7M	4.7	$\pm 20$	50	0.0645	0.108	1.65	2.2	220
SDE0403A-6R8M	6.8	$\pm 20$	41	0.0936	0.126	1.45	1.7	182
SDE0403A-8R2M	8.2	$\pm 20$	38	0.106	0.142	1.4	1.6	163
SDE0403A-100M	10	$\pm 20$	36	0.127	0.172	1.05	1.4	148
SDE0403A-120M	12	$\pm 20$	32	0.146	0.197	1.0	1.3	135
SDE0403A-150M	15	$\pm 20$	29	0.192	0.259	0.85	1.2	120
SDE0403A-180M	18	$\pm 20$	28	0.237	0.309	0.75	1.1	112
SDE0403A-220M	22	$\pm 20$	25	0.27	0.351	0.7	0.95	98
SDE0403A-270M	27	$\pm 20$	22	0.322	0.419	0.65	0.85	90
SDE0403A-330K	33	$\pm 10$	20	0.373	0.485	0.6	0.8	83
SDE0403A-390K	39	$\pm 10$	18	0.449	0.561	0.55	0.7	75
SDE0403A-470K	47	$\pm 10$	16	0.505	0.631	0.5	0.65	68
SDE0403A-560K	56	$\pm 10$	15	0.736	0.92	0.45	0.6	62
SDE0403A-680K	68	$\pm 10$	13	0.822	1.028	0.4	0.55	56

\*\*\*K-Factor: To calculate core flux density, Bp-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



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

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

\*\* Bourns follows the prevailing definition of "halogen free" in the industry. 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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### General Specifications

Test Frequency / Voltage ..... 1 MHz / 1 V  
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

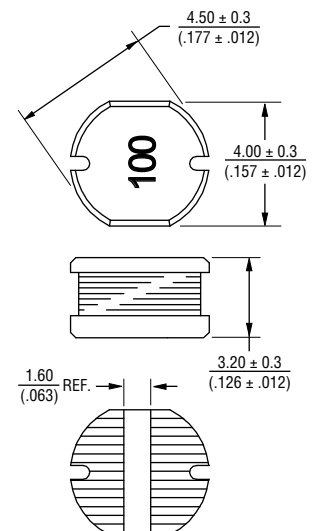
Core ..... Ferrite

Wire ..... Enameled copper

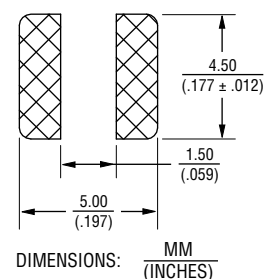
Terminal Finish ..... Sn

Packaging ..... 2000 pcs. per reel

### Product Dimensions



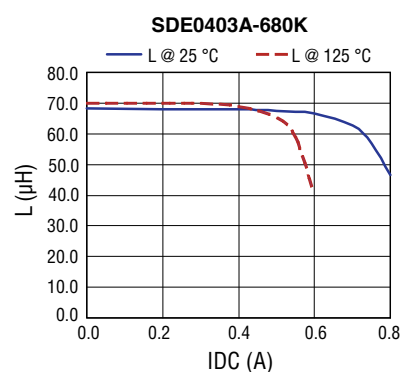
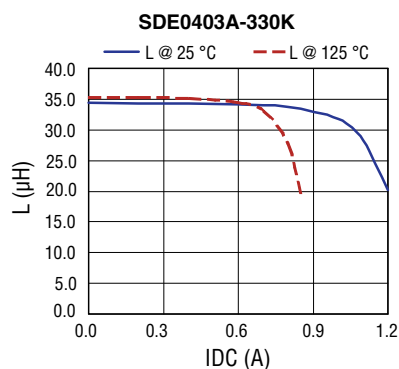
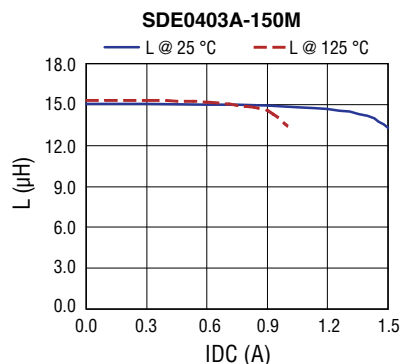
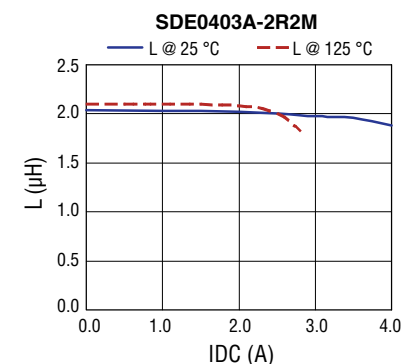
### Recommended Layout



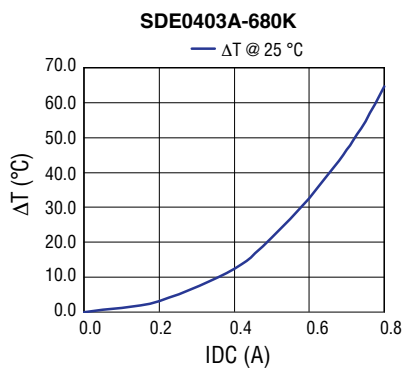
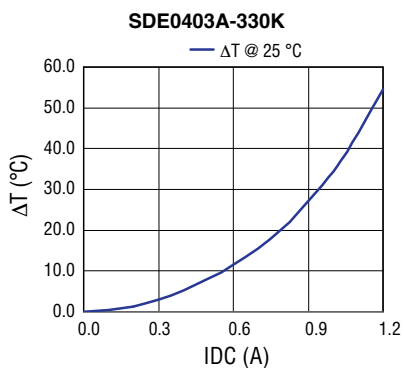
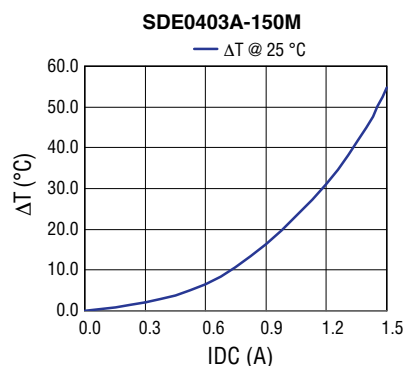
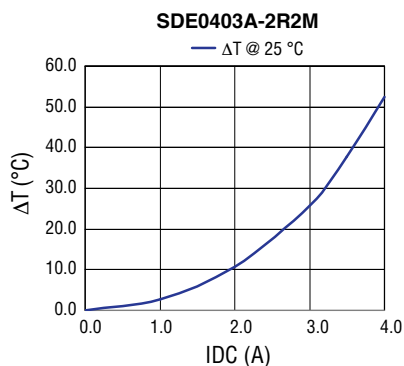
# SDE0403A Series - SMD Power Inductors

**BOURNS®**

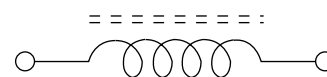
## Inductance vs. IDC



## Temperature Rise vs. IDC



## Electrical Schematic



## How to Order

**SDE0403A - 100M**

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

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### Asia-Pacific:

Tel: +886-2 2562-4117

Fax: +886-2 2562-4116

### Europe:

Tel: +41-41 768 5555

Fax: +41-41 768 5510

### The Americas:

Tel: +1-951 781-5500

Fax: +1-951 781-5700

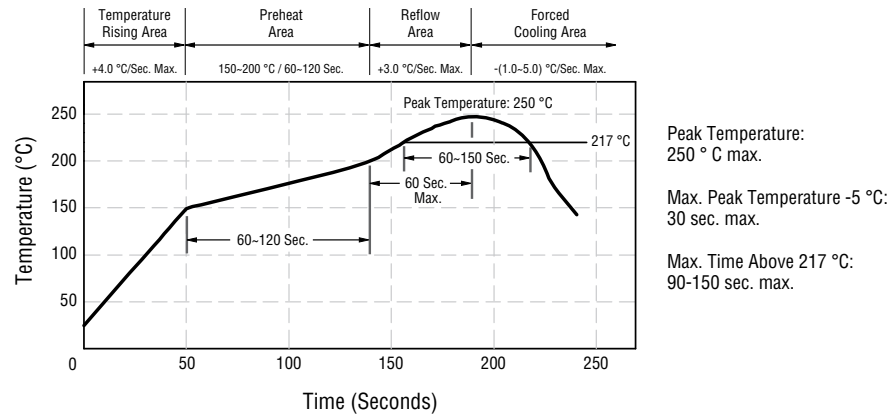
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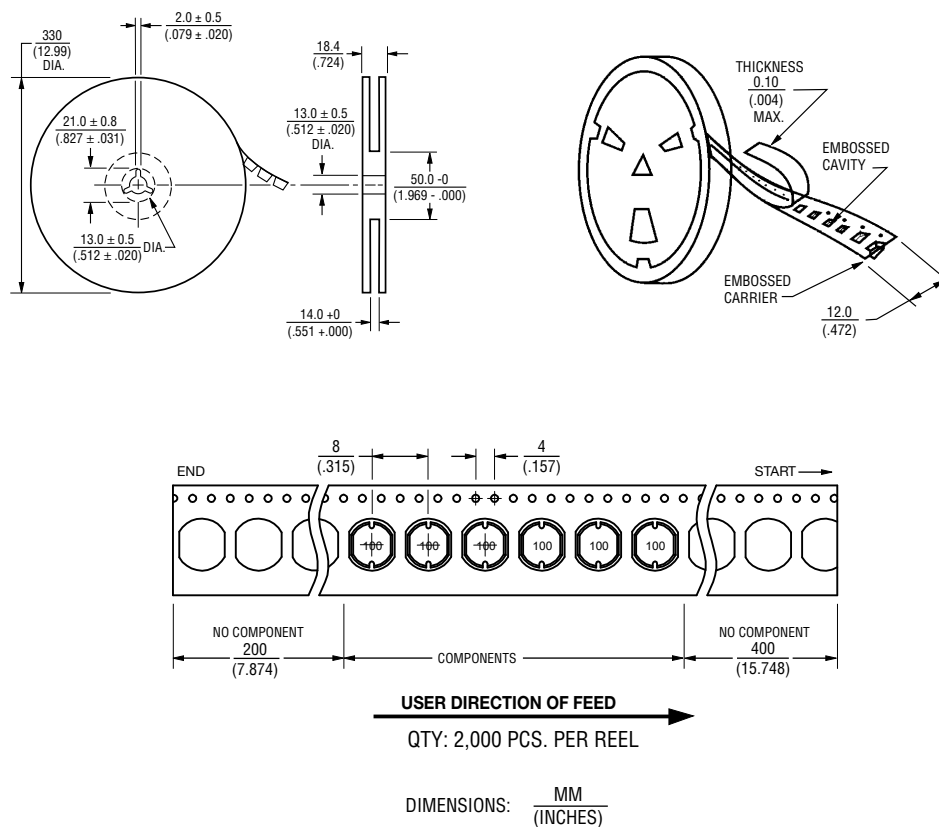
# SDE0403A Series - SMD Power Inductors

**BOURNS®**

## Soldering Profile



## Packaging Specifications



REV. 02/17

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