



## 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\*\*

## Applications

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

# SDE0403A Series - SMD Power Inductors

### Electrical Specifications @ 25 °C

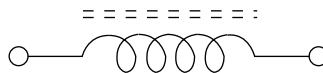
Bourns Part Number	Inductance		SRF (MHz) Typ.	DCR ( $\Omega$ ) Typ.	DCR ( $\Omega$ ) Max.	I rms (A)	I sat (A)
	L ( $\mu$ H)	Tol. (%)					
SDE0403A-1R0M	1.0	$\pm 20$	113	0.0193	0.048	2.7	4.8
SDE0403A-2R2M	2.2	$\pm 20$	76	0.0318	0.071	2.3	3.3
SDE0403A-3R3M	3.3	$\pm 20$	64	0.0469	0.086	2.0	2.5
SDE0403A-4R7M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

### How to Order

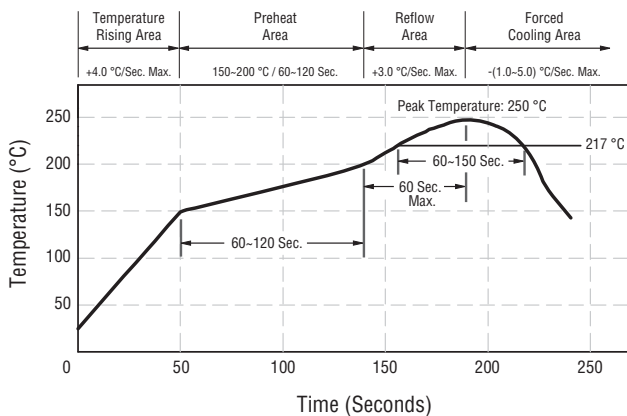
**SDE0403A - 100M**

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

### Electrical Schematic



### Soldering Profile



Peak Temperature: 250 °C max.  
Max. Peak Temperature -5 °C: 30 sec. max.  
Max. Time Above 217 °C: 90-150 sec. max.

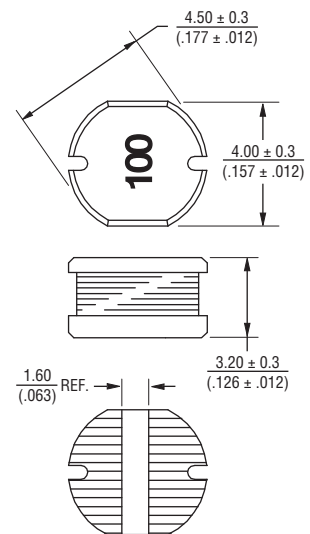
### General Specifications

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

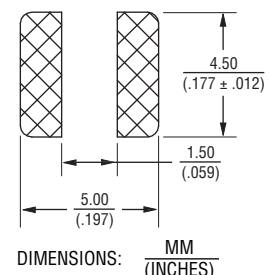
### Materials

Core ..... Ferrite  
Wire ..... Enameled copper  
Terminal Finish ..... Sn  
Packaging ..... 2000 pcs. per reel

### Product Dimensions



### Recommended Layout



\* 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.

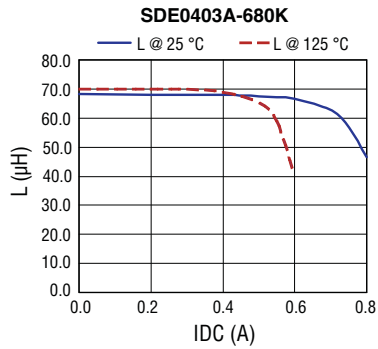
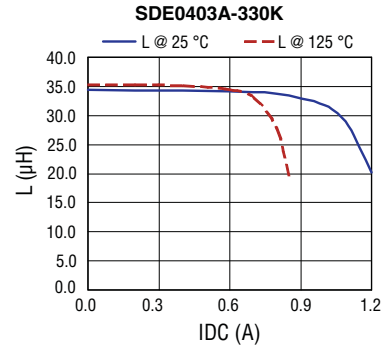
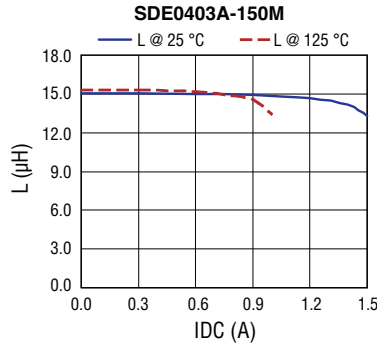
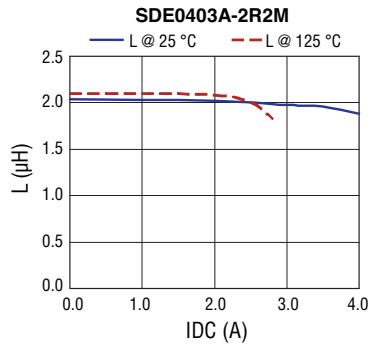
Specifications are subject to change without notice.

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.

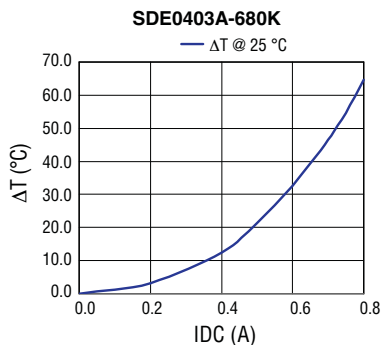
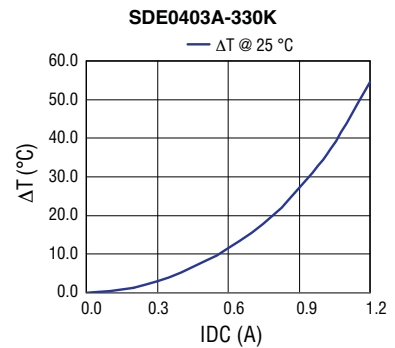
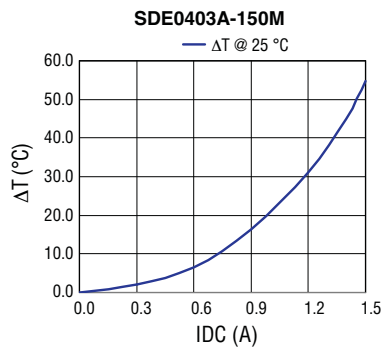
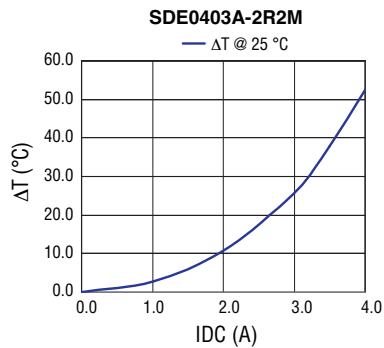
# SDE0403A Series - SMD Power Inductors

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## Inductance vs. IDC



## Temperature Rise vs. IDC

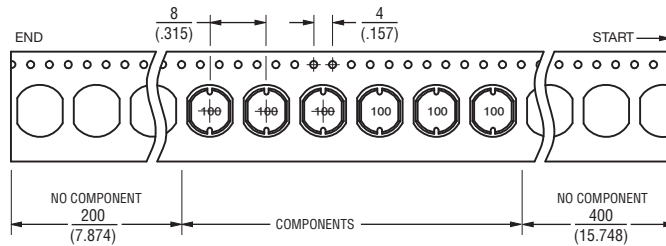
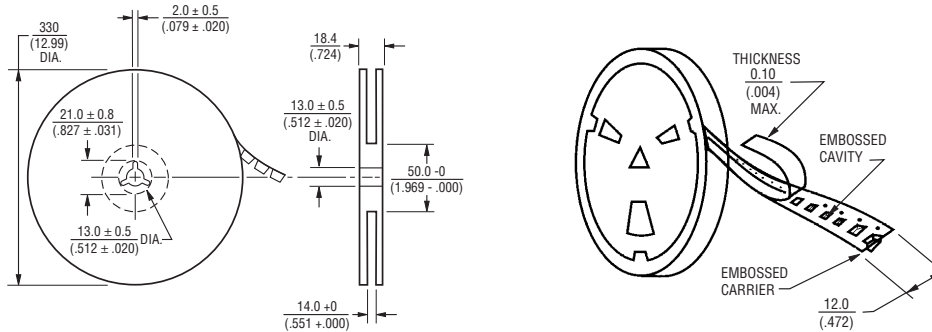


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## Packaging Specifications



USER DIRECTION OF FEED →

QTY: 2,000 PCS. PER REEL

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

**BOURNS®**

Asia-Pacific: Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

EMEA: Tel: +36 88 520 390 • Fax: +36 88 520 211

The Americas: Tel: +1-951 781-5500 • Fax: +1-951 781-5700

[www.bourns.com](http://www.bourns.com)