



## Features

- High saturation current
- Inductance range: 1.2 to 220  $\mu$ H
- Heating current up to 5.3 A
- Dimensions: 5.8 x 5.2 x 4.5 mm
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

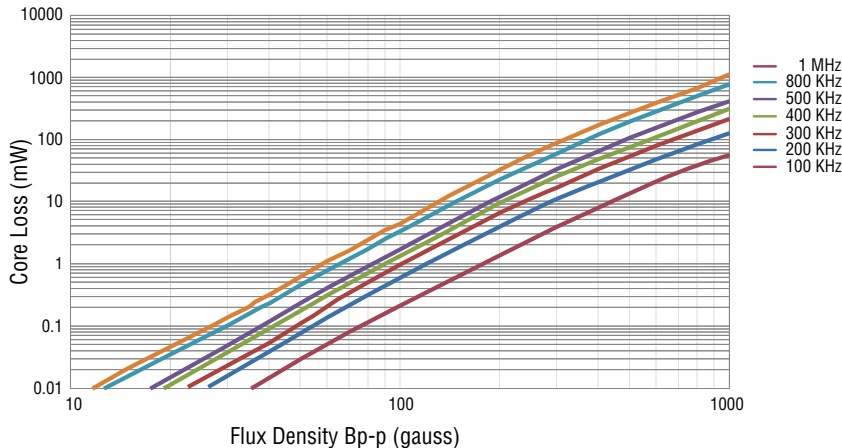
## SDE0604A Series - SMD Power Inductors

### 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. (%)	Test Freq./ Voltage						
SDE0604A-1R2M	1.2	$\pm 20$	1 MHz / 1 V	155	0.016	0.02	5.3	6.0	355
SDE0604A-1R5M	1.5	$\pm 20$	1 MHz / 1 V	123	0.0185	0.024	5.0	5.3	307
SDE0604A-2R2M	2.2	$\pm 20$	1 MHz / 1 V	80	0.0229	0.031	4.35	4.2	243
SDE0604A-2R7M	2.7	$\pm 20$	1 MHz / 1 V	60	0.0278	0.055	4.0	3.8	220
SDE0604A-3R3M	3.3	$\pm 20$	1 MHz / 1 V	50	0.0299	0.06	3.8	3.5	200
SDE0604A-3R9M	3.9	$\pm 20$	1 MHz / 1 V	44	0.034	0.065	3.6	3.2	184
SDE0604A-4R7M	4.7	$\pm 20$	1 MHz / 1 V	47	0.0382	0.07	3.4	3.0	171
SDE0604A-5R6M	5.6	$\pm 20$	1 MHz / 1 V	41	0.0419	0.075	3.2	2.75	159
SDE0604A-6R8M	6.8	$\pm 20$	1 MHz / 1 V	36	0.0467	0.08	3.0	2.4	140
SDE0604A-8R2M	8.2	$\pm 20$	1 MHz / 1 V	31	0.0537	0.09	2.8	2.2	125
SDE0604A-100M	10	$\pm 20$	1 MHz / 1 V	32	0.0621	0.10	2.6	2.0	118
SDE0604A-120M	12	$\pm 20$	1 MHz / 1 V	29	0.0675	0.12	2.5	1.85	107
SDE0604A-150M	15	$\pm 20$	1 MHz / 1 V	26	0.0947	0.14	2.3	1.65	94
SDE0604A-180M	18	$\pm 20$	1 MHz / 1 V	24	0.114	0.15	2.0	1.5	87
SDE0604A-220M	22	$\pm 20$	1 MHz / 1 V	19	0.128	0.18	1.8	1.35	78
SDE0604A-270M	27	$\pm 20$	1 MHz / 1 V	18	0.14	0.20	1.7	1.2	71
SDE0604A-330M	33	$\pm 20$	1 MHz / 1 V	17	0.184	0.23	1.55	1.1	63
SDE0604A-390M	39	$\pm 20$	1 MHz / 1 V	17	0.215	0.32	1.4	1.0	58
SDE0604A-470M	47	$\pm 20$	1 MHz / 1 V	14	0.258	0.37	1.25	0.9	53
SDE0604A-560K	56	$\pm 10$	1 MHz / 1 V	12	0.298	0.42	1.1	0.82	50
SDE0604A-680K	68	$\pm 10$	1 MHz / 1 V	11	0.343	0.46	1.0	0.74	45
SDE0604A-820K	82	$\pm 10$	1 MHz / 1 V	8	0.436	0.60	0.9	0.68	42
SDE0604A-101K	100	$\pm 10$	1 kHz / 1 V	7.5	0.559	0.70	0.8	0.62	38
SDE0604A-121K	120	$\pm 10$	1 kHz / 1 V	7.5	0.599	0.90	0.75	0.6	35
SDE0604A-151K	150	$\pm 10$	1 kHz / 1 V	7	0.9	1.1	0.52	0.52	31
SDE0604A-181K	180	$\pm 10$	1 MHz / 1 V	6	1.03	1.38	0.5	0.5	29
SDE0604A-221K	220	$\pm 10$	1 MHz / 1 V	5	1.325	1.57	0.47	0.47	25.8

\*\*\*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

Moisture Sensitivity Level ..... 1

ESD Classification (HBM) ..... N/A

### Materials

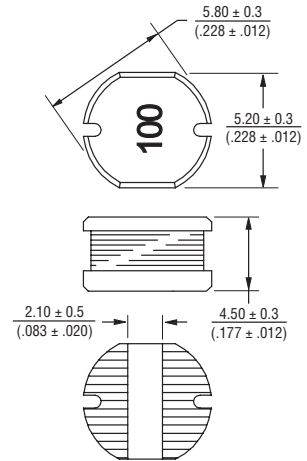
Core ..... Ferrite

Wire ..... Enameled copper

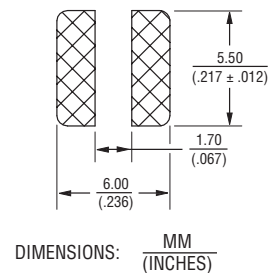
Terminal Finish ..... Sn

Packaging ..... 1000 pcs. per reel

### Product Dimensions



### Recommended Layout



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

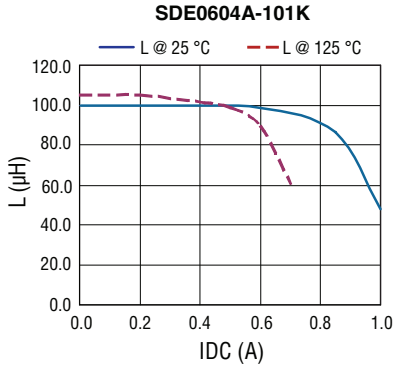
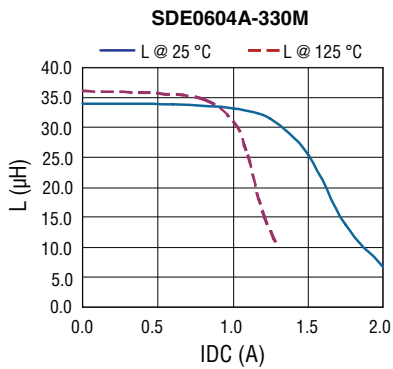
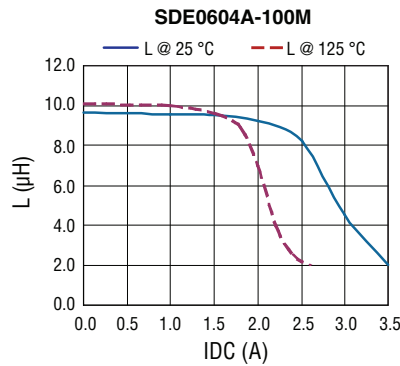
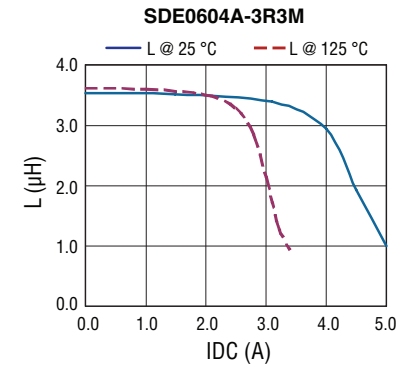
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\* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex & RoHS Recast 2011/65/EU June 8, 2011.  
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

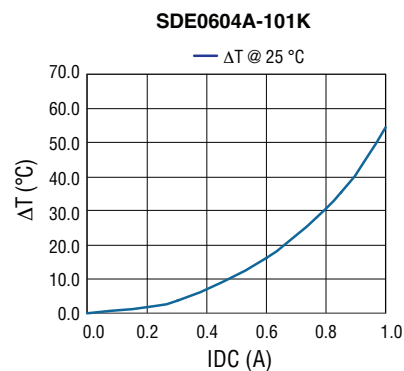
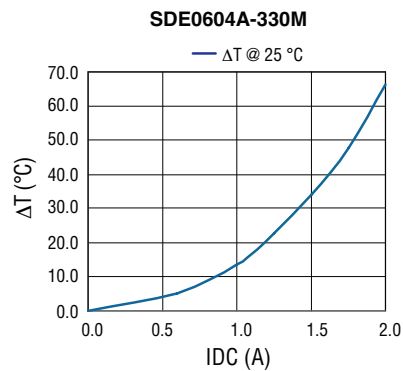
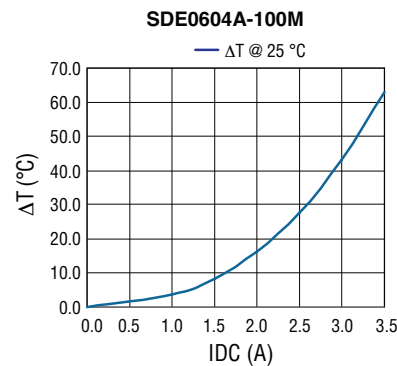
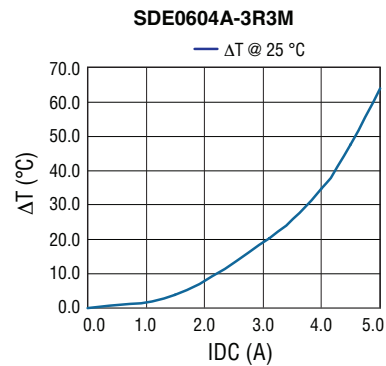
# SDE0604A Series - SMD Power Inductors

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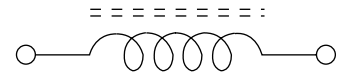
## Inductance vs. IDC



## Temperature Rise vs. IDC



## Electrical Schematic



## How to Order

**SDE0604A - 100M**

Model \_\_\_\_\_

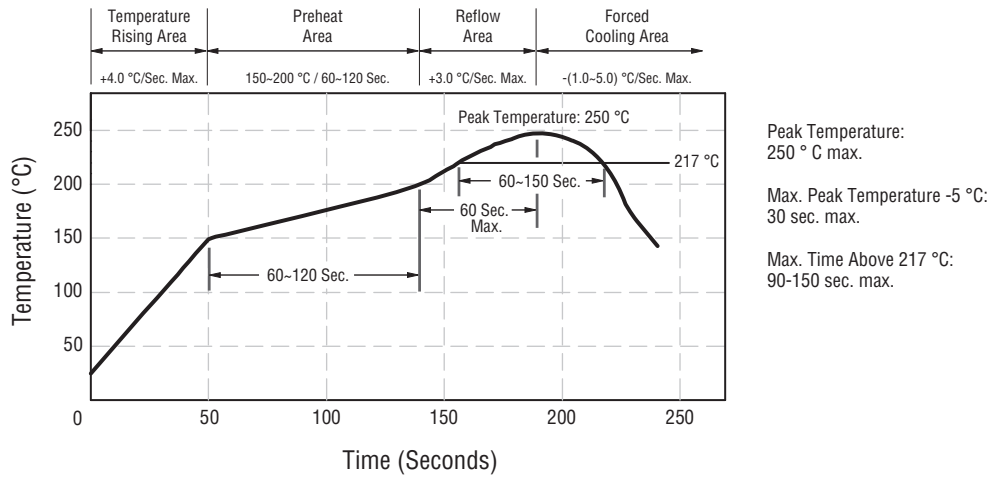
Value Code (see table) \_\_\_\_\_

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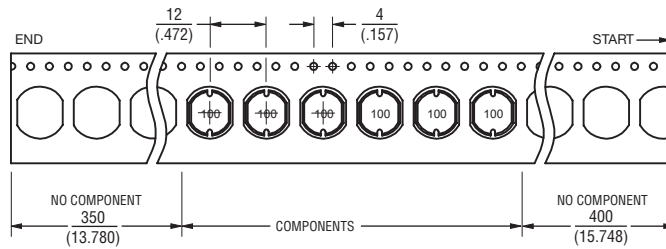
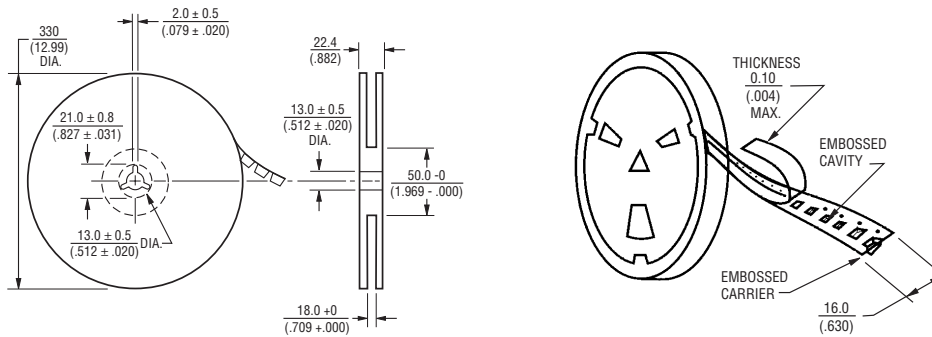
# SDE0604A Series - SMD Power Inductors

**BOURNS®**

## Soldering Profile



## Packaging Specifications



USER DIRECTION OF FEED

QTY: 1,000 PCS. PER REEL

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

REV. 12/18

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