Features

- High saturation current
- Inductance range: 1.0 to 68 µH
- 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

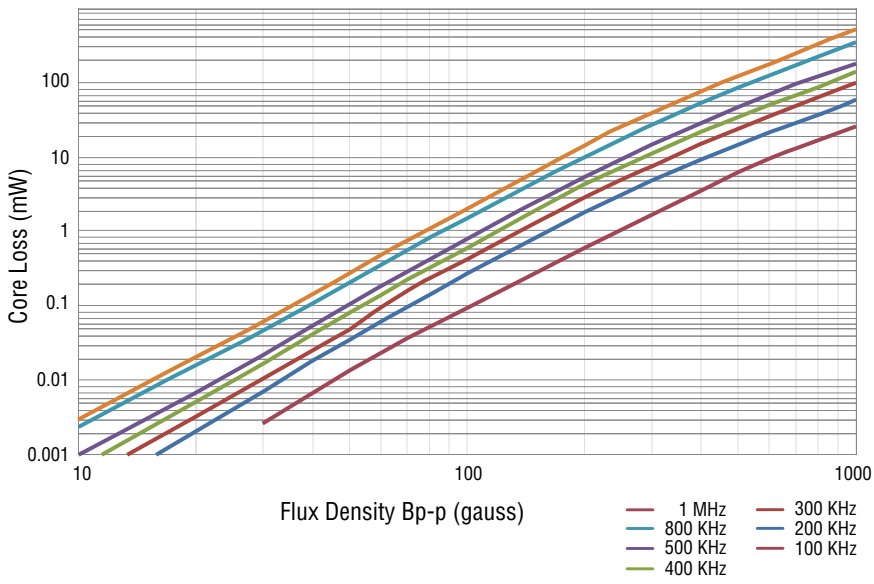
SDE0403A Series - SMD Power Inductors

Electrical Specifications @ 25 °C

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

***K-Factor: To calculate core flux density, Bp-p (gauss) = K x L(µH) x Δ I (peak-to-peak ripple current, A), determine core loss from *Core Loss vs. Flux Density* plot.

Core Loss vs. Flux Density



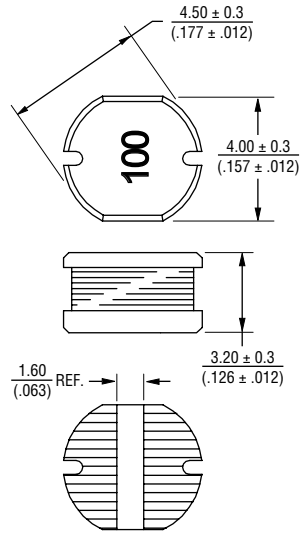
General Specifications

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 Irms
Inductance Drop ..... 10 % typ. at Isat

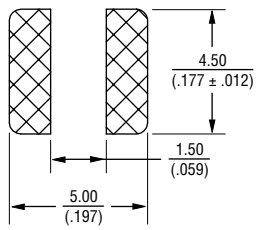
Materials

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

Product Dimensions



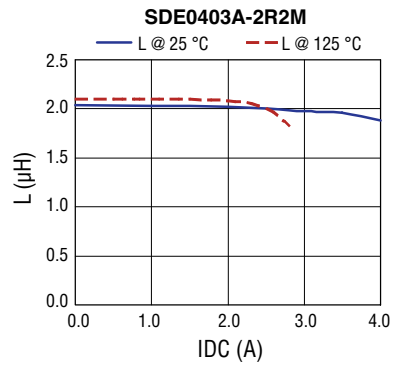
Recommended Layout

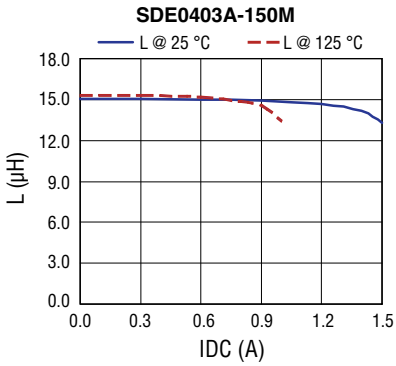


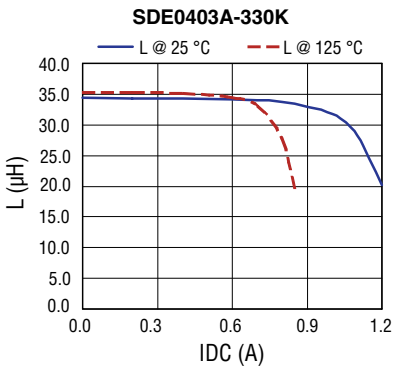
DIMENSIONS: MM (INCHES)

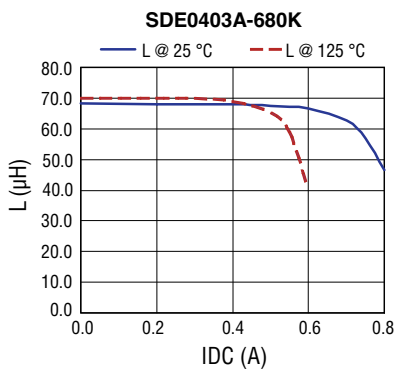
* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
** Bourns follows the prevailing definition of "halogen free" in the industry. Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content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

Inductance vs. IDC

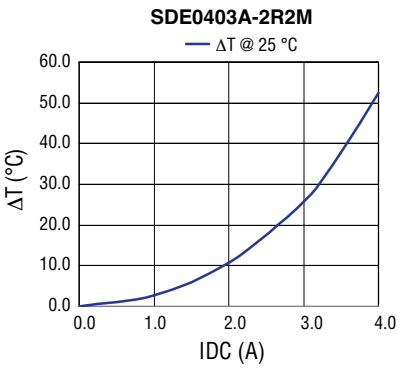


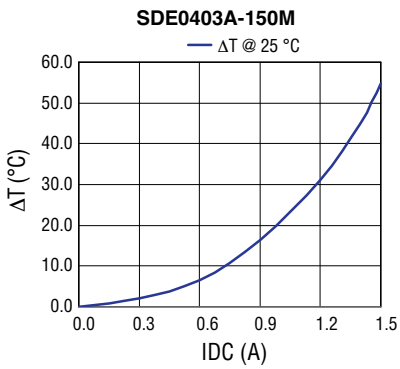


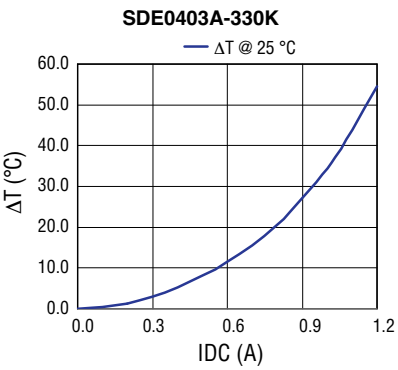


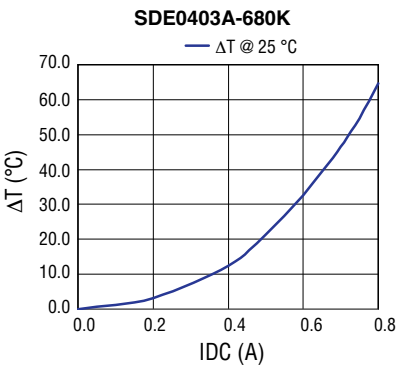


Temperature Rise vs. IDC

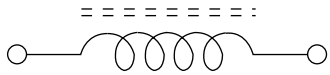








Electrical Schematic



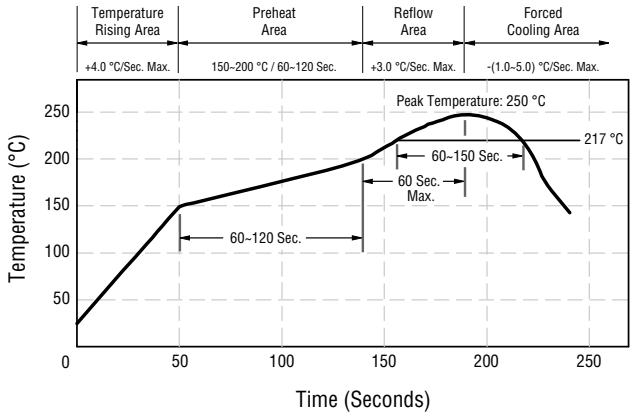
How to Order

SDE0403A - 100M

Model

Value Code (see table)

Soldering Profile

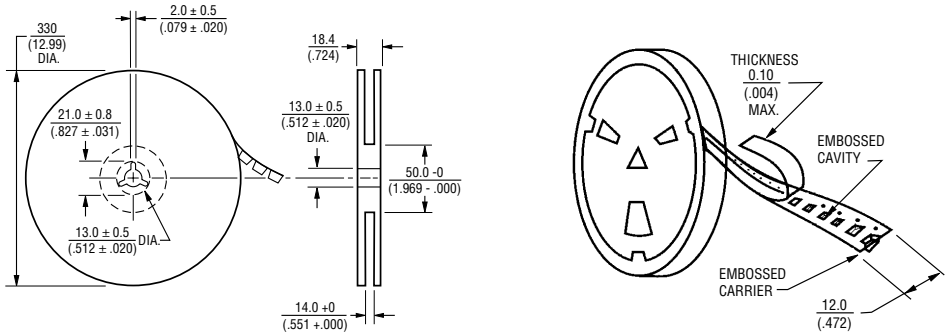


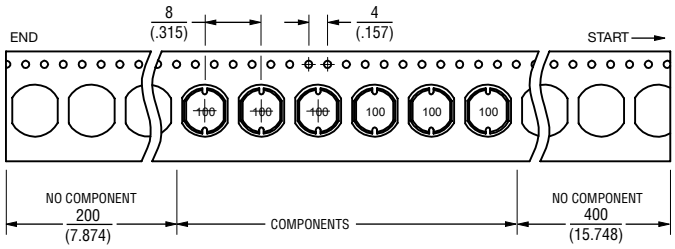
Peak Temperature:
250 ° C max.

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

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

Packaging Specifications





USER DIRECTION OF FEED

QTY: 2,000 PCS. PER REEL

DIMENSIONS: MM (INCHES)

REV. 02/17