



Features

- High saturation current
- Inductance range: 1.2 to 220 μ 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**

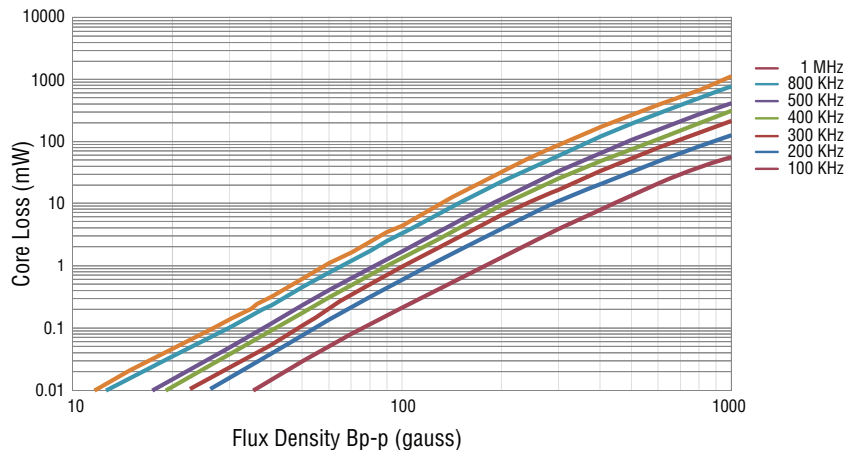
SDE0604A Series - SMD Power Inductors

Electrical Specifications @ 25 °C

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



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

Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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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.

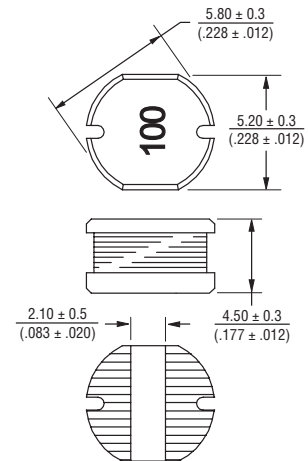
General Specifications

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

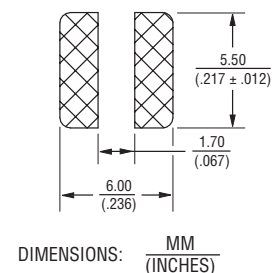
Materials

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

Product Dimensions



Recommended Layout

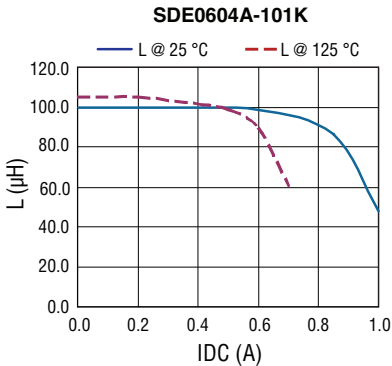
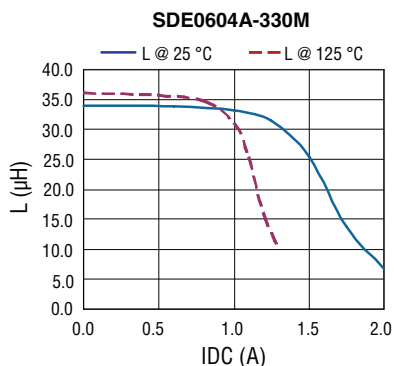
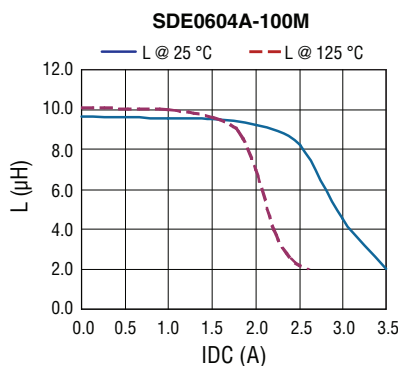
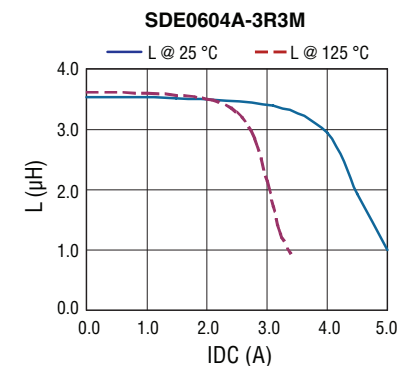


DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

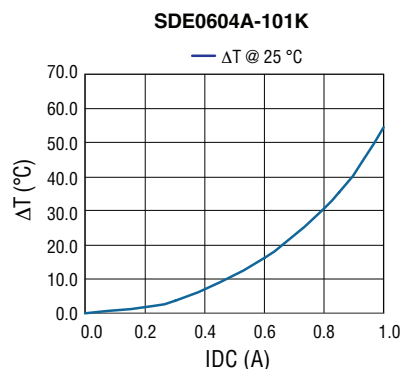
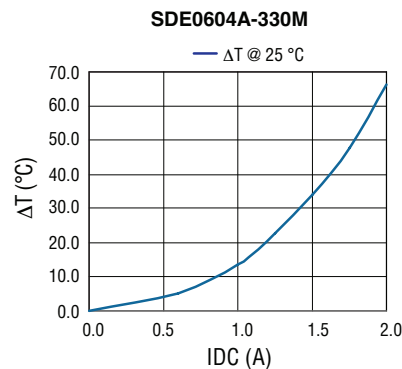
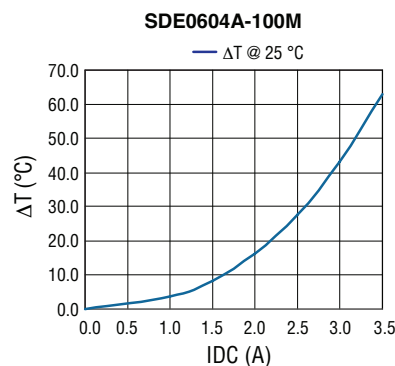
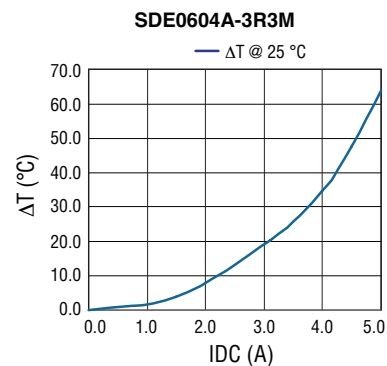
SDE0604A Series - SMD Power Inductors

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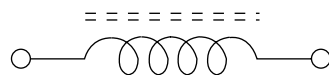
Inductance vs. IDC



Temperature Rise vs. IDC



Electrical Schematic



How to Order

SDE0604A - 100M

Model _____
Value Code (see table) _____

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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.

Top View Dimensions:

- Overall Diameter: 33.0 ± 0.5 (1.299 ± .020) DIA.
- Inner Circle Diameter: 21.0 ± 0.8 (.827 ± .031)
- Terminal Diameter: 13.0 ± 0.5 (.512 ± .020) DIA.
- Terminal Width: 22.4 ± 0.5 (.882)
- Terminal Thickness: 13.0 ± 0.5 (.512 ± .020)
- Terminal Spacing: 50.0 ± 0 (1.969 ± .000)
- Terminal Length: 18.0 ± 0 (.709 ± .000)

Side View Dimensions:

- THICKNESS: 0.10 (.004) MAX.
- EMBOSSED CAVITY
- EMBOSSED CARRIER
- Carrier Length: 16.0 (.630)

End View Dimensions:

- Overall Length: 12 (.472) + 4 (.157) = 16 (.629)
- NO COMPONENT: 350 (13.780)
- COMPONENTS: 400 (15.748)
- NO COMPONENT: 400 (15.748)

USER DIRECTION OF FEED →

QTY: 1,000 PCS. PER REEL

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

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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