



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**

Additional Information

Click these links for more information:



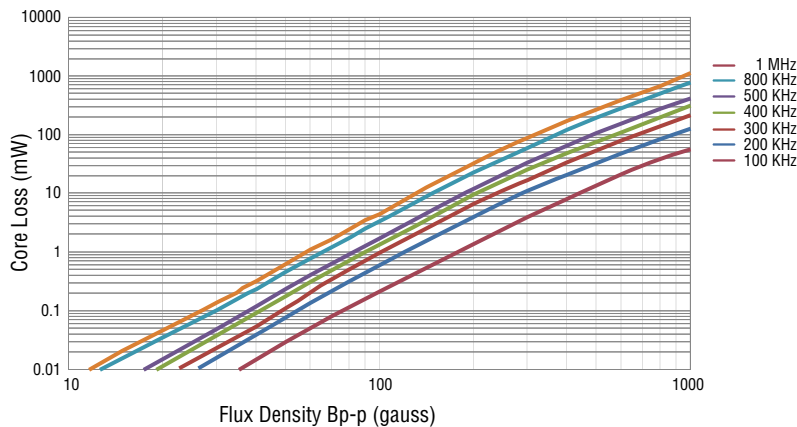
SDE0604A Series – SMD Power Inductors

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

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

**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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

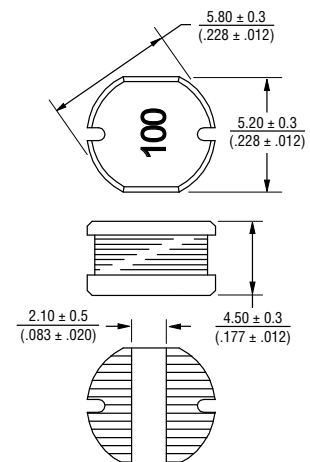
General Specifications

Operating Temperature -40 °C to +125 °C
 (Temperature rise included)
 Storage Temperature -40 °C to +125 °C
 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

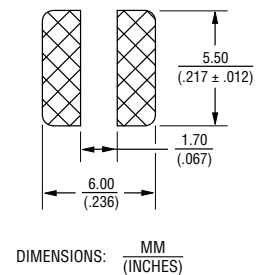
Materials

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

Product Dimensions



Recommended Layout

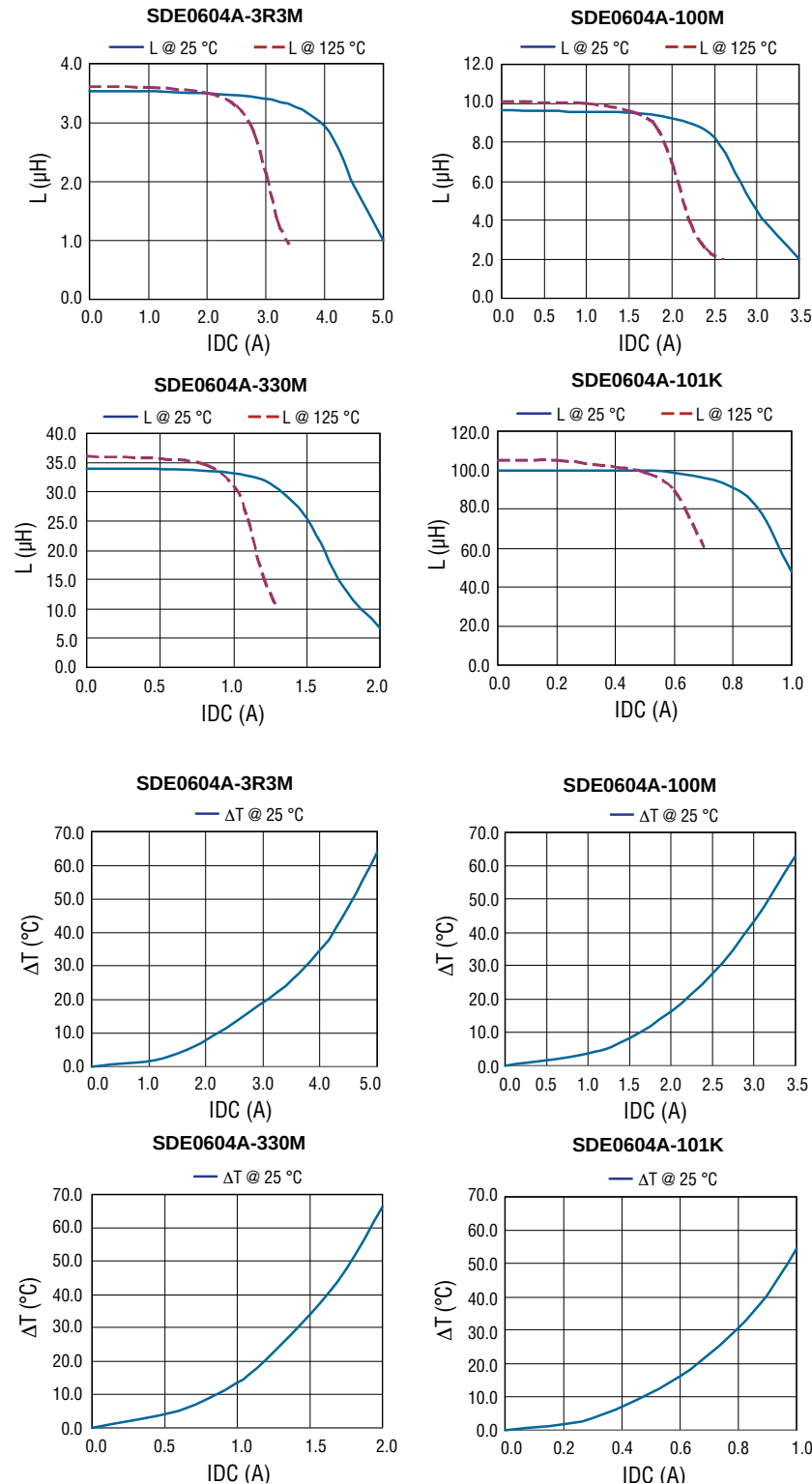


DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

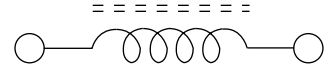
SDE0604A Series – SMD Power Inductors

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Inductance vs. IDC



Electrical Schematic



How to Order

SDE0604A - 100M

Model _____

Value Code (see table) _____

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The graph illustrates a thermal cycle with the following parameters:

- Temperature Rising Area:** 0 to 50 seconds, heating rate of +4.0 °C/Sec. Max.
- Preheat Area:** 50 to 140 seconds, temperature range 150-200 °C, duration 60-120 Sec.
- Reflow Area:** 140 to 220 seconds, heating rate of +3.0 °C/Sec. Max.
- Forced Cooling Area:** 220 to 250 seconds, cooling rate of -(1.0-5.0) °C/Sec. Max.

Key temperature points and durations are marked on the graph:

- Peak Temperature: 250 °C
- Temperature: 217 °C
- Duration: 60-120 Sec.
- Duration: 60-150 Sec.
- Duration: 60 Sec. Max.

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

Top View Dimensions:

- Overall Diameter: 330 ± 0.5 mm ($12.99 \pm .020$ DIA.)
- Inner Circle Diameter: 21.0 ± 0.8 mm ($.827 \pm .031$)
- Terminal Diameter: 13.0 ± 0.5 mm ($.512 \pm .020$ DIA.)
- Terminal Width: 22.4 ± 0.5 mm ($.882 \pm .020$)
- Terminal Thickness: 13.0 ± 0.5 mm ($.512 \pm .020$ DIA.)
- Terminal Spacing: 50.0 ± 0 mm ($1.969 \pm .000$)
- Terminal Length: 18.0 ± 0 mm ($.709 \pm .000$)

Side View Dimensions:

- THICKNESS: 0.10 mm ($.004$ MAX.)
- EMBOSSED CAVITY
- EMBOSSED CARRIER
- Overall Length: 16.0 ± 0.3 mm ($.630 \pm .012$)

End View Dimensions:

- END
- START
- 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: $\frac{MM}{(INCHES)}$

Downloaded from [Arrow.com](https://arrow.com).

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