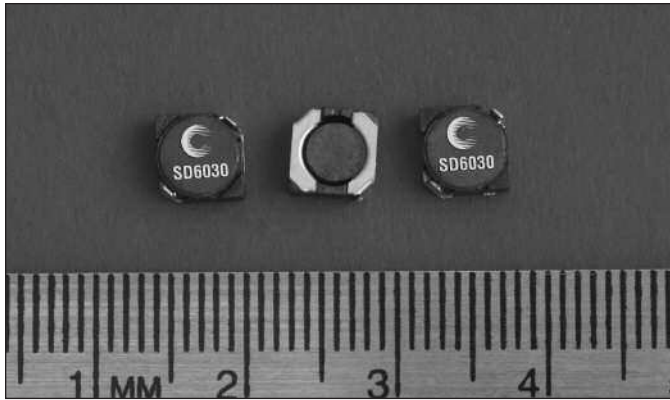


SD6030 Series

Low Profile Power Inductors



Description

- 125°C maximum total operating temperature
- Low profile surface mount inductors
- 6.0 x 6.0 x 3.0mm surface mount package
- Ferrite core material
- Shielded drum core reduces EMI

- Inductance range from 2.7µH to 680µH
- Current range from 0.16 amps to 4.08 amps
- Frequency range up to 1MHz



Applications

- Notebook computers, digital cameras
- DSL modems, PDAs
- High power LED driver
- MP3, CD players, GPS receivers
- Cellular phones, smart phones
- Wireless notebook adapters
- Battery power, TFT-LCD bias supplies
- PCMCIA, Cardbus32, MiniPCI cards

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating temperature range: -40°C to +125°C (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds maximum

Packaging

- Supplied in tape and reel packaging, 2000 per reel

Part Number	Rated Inductance (µH)	OCL ⁽¹⁾ µH ± 30%	I _{rms} ⁽²⁾ Amps	I _{sat} ⁽³⁾ Amps	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor ⁽⁴⁾
SD6030-2R7-R	2.7	2.7	4.08	2.60	13	18	34
SD6030-3R3-R	3.3	3.3	3.54	2.40	18	24	30
SD6030-4R2-R	4.2	4.1	3.11	2.20	23	31	27
SD6030-5R0-R	5.0	4.9	2.81	1.90	28	38	24
SD6030-5R8-R	5.8	5.8	2.58	1.80	33	45	22
SD6030-7R8-R	7.8	7.8	2.38	1.60	39	53	19
SD6030-100-R	10	9.3	2.15	1.30	48	65	17
SD6030-120-R	12	11.3	1.99	1.20	56	76	16
SD6030-150-R	15	14.1	1.71	1.10	76	103	14
SD6030-180-R	18	17.1	1.65	1.00	82	110	13
SD6030-220-R	22	20.4	1.57	0.90	90	122	12
SD6030-270-R	27	26.0	1.31	0.85	130	175	11
SD6030-330-R	33	32.4	1.26	0.75	140	189	9.3
SD6030-360-R	36	34.4	1.19	0.70	157	212	8.7
SD6030-440-R	44	44.0	1.10	0.62	185	250	7.9
SD6030-520-R	52	52.0	0.99	0.58	226	305	7.2
SD6030-680-R	68	65.6	0.92	0.52	263	355	6.5
SD6030-820-R	82	81.6	0.80	0.46	343	463	5.9
SD6030-101-R	100	94.4	0.76	0.42	385	520	5.6
SD6030-121-R	120	110.1	0.70	0.40	517	620	5.6
SD6030-151-R	150	144.5	0.64	0.35	608	730	5.0
SD6030-181-R	180	175.7	0.55	0.32	817	980	4.5
SD6030-221-R	220	210.9	0.50	0.30	1000	1200	4.0

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0Adc.

(2) I_{rms}: DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. Pad layout, trace thickness and width, airflow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.

(3) I_{sat} amps peak for 35% rolloff (@25°C)

(4) K-factor: Used to determine B p-p for core loss (see graph).

B p-p = K²L²ΔI, B p-p(mT), K: (K factor from table), L: (Inductance in µH), ΔI (Peak to peak ripple current in amps).

(5) Part Number Definition: SD6030-xxx-R

SD6030 = Product code and size; -xxx = Inductance value in µH;

R = decimal point; if no R is present, third character = # of zeros.

-R suffix = RoHS compliant

Part Number	Rated Inductance (μH)	OCL ⁽¹⁾ μH ± 30%	I _{rms} ⁽²⁾ Amps	I _{sat} ⁽³⁾ Amps	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor ⁽⁴⁾
SD6030-271-R	270	264.2	0.44	0.27	1300	1560	3.6
SD6030-331-R	330	313.5	0.38	0.25	1733	2080	3.3
SD6030-391-R	390	373.7	0.35	0.22	2083	2500	3.0
SD6030-471-R	470	460.0	0.33	0.20	2250	2700	2.8
SD6030-561-R	560	546.2	0.30	0.18	2767	3320	2.5
SD6030-681-R	680	659.4	0.27	0.16	3458	4150	2.3

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0Adc.

(2) I_{rms}: DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. Pad layout, trace thickness and width, airflow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.

(3) I_{sat} amps peak for 35% rolloff (@25°C)

(4) K-factor: Used to determine B p-p for core loss (see graph).

B p-p = K*L*ΔI, B p-p(mT), K: (K factor from table), L: (Inductance in μH), ΔI (Peak to peak ripple current in amps).

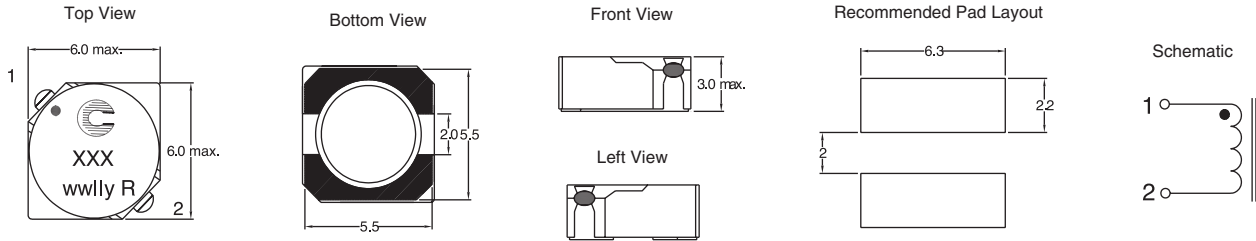
(5) Part Number Definition: SD6030-xxx-R

SD6030 = Product code and size; -xxx = Inductance value in μH;

R = decimal point; If no R is present, third character = # of zeros.

-R suffix = RoHS compliant

Dimensions - mm

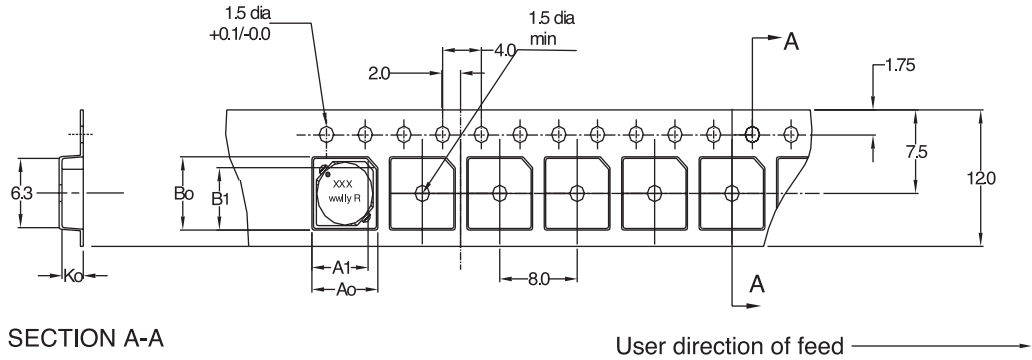


xxx = Inductance value in μH. R = decimal point. If no R is present third character = # of zeros.
wwlly = Date code, R = Revision level.

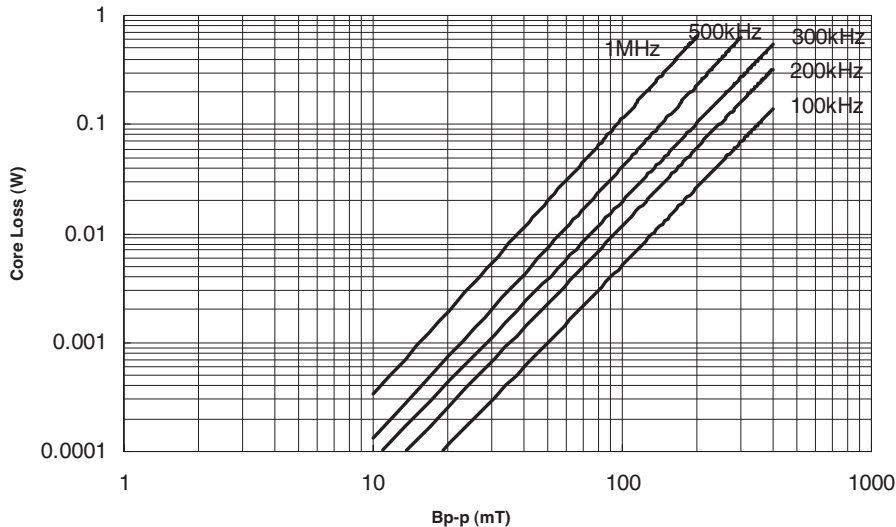
Packaging Information

Supplied in tape and reel packaging, 2000 parts per reel, 13" diameter reel.

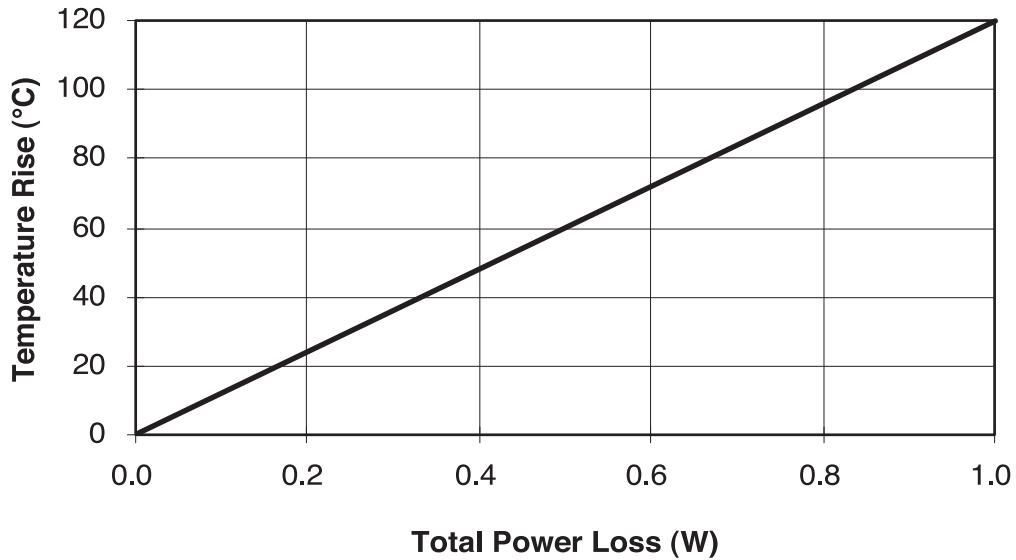
Ao=6.8 mm
Bo=6.8 mm
A1=5.8 mm
B1=5.8 mm
Ko=3.2 mm



Core Loss

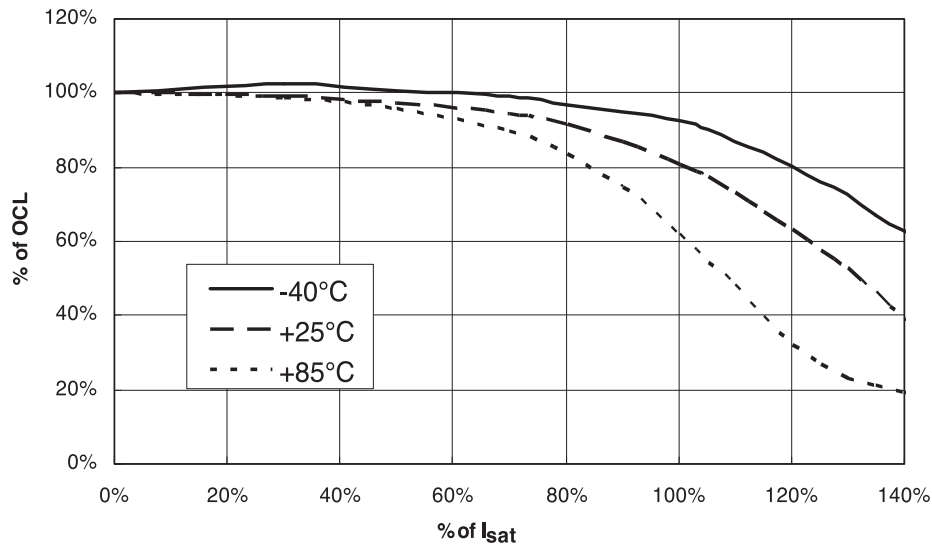


Temperature Rise vs. Loss



Inductance Characteristics

OCL Vs. I_{sat}



North America

Cooper Bussmann
1225 Broken Sound Parkway NW
Suite F
Boca Raton, FL 33487-3533
Tel: 1-561-998-4100
Fax: 1-561-241-6640
Toll Free: 1-888-414-2645

Cooper Bussmann
P.O. Box 14460
St. Louis, MO 63178-4460
Tel: 1-636-394-2877
Fax: 1-636-527-1607

Europe

Cooper Bussmann
Cooper (UK) Limited
Burton-on-the-Wolds
Leicestershire • LE12 5TH UK
Tel: +44 (0) 1509 882 737
Fax: +44 (0) 1509 882 786

Cooper Bussmann
Avda. Santa Eulalia, 290
08223
Terrassa, (Barcelona), Spain
Tel: +34 937 362 812
+34 937 362 813
Fax: +34 937 362 719

Asia Pacific

Cooper Bussmann
1 Jalan Kilang Timor
#06-01 Pacific Tech Centre
Singapore 159303
Tel: +65 278 6151
Fax: +65 270 4160

This bulletin is intended to present product design solutions and technical information that will help the end user with design applications. Cooper Bussmann reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Cooper Bussmann also reserves the right to change or update, without notice, any technical information contained in this bulletin. Once a product has been selected, it should be tested by the user in all possible applications.

Life Support Policy: Cooper Bussmann does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

© 2007 Cooper Bussmann
St. Louis, MO 63178
www.cooperbussmann.com



AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype [ameyasales1](#) [ameyasales2](#)

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com