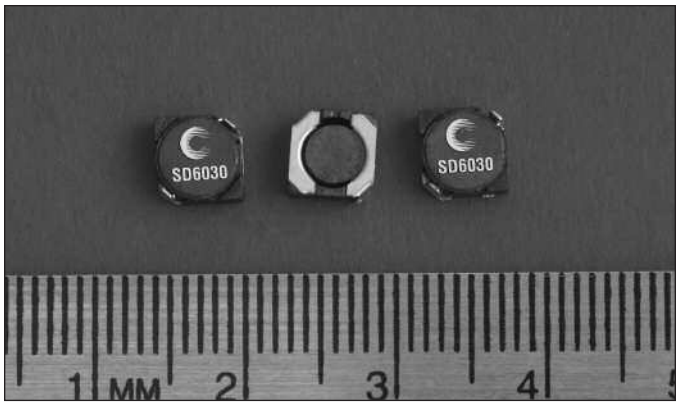
COILTRONICS®

SD6030 Series

Low Profile Power Inductors



RoHS 2002/95/EC

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%	Irms[2] Amps	Isat[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 = 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

Part Number	Rated Inductance (µH)	OCL[1] µH ± 30%	Irms[2] Amps	Isat[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

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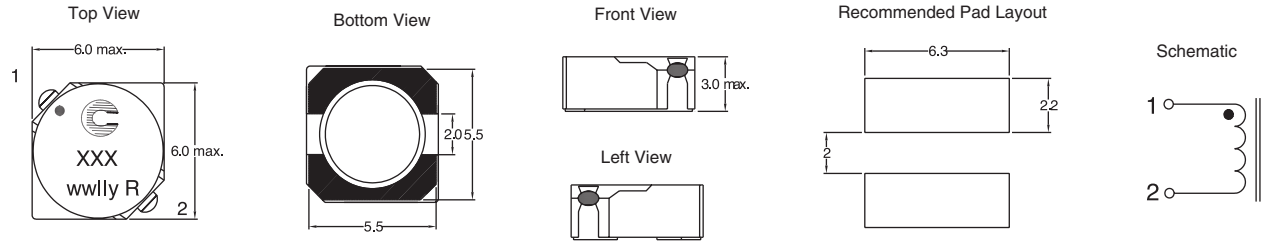
Dimensions - mm

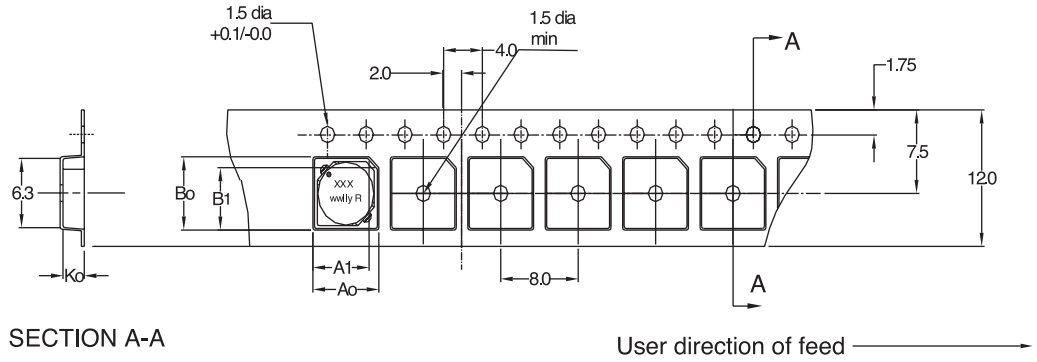


xxx = Inductance value in µH. R = decimal point. If no R is present third character = # of zeros.
wwllyy = Date code, R = Revision level.

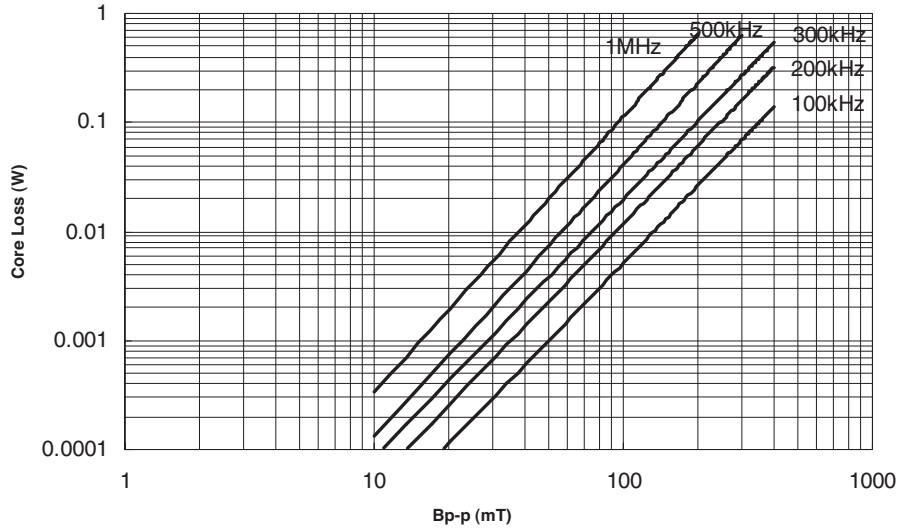
Packaging Information

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

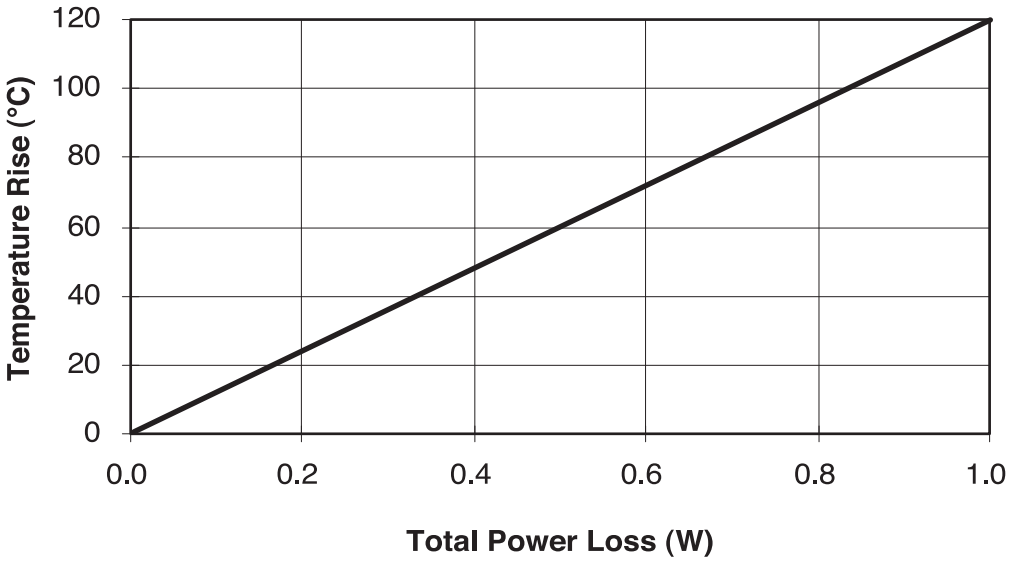
Ao=6.8 mm
Bo=6.8 mm
A1=5.8 mm
B1=5.8 mm
Ko=3.2 mm



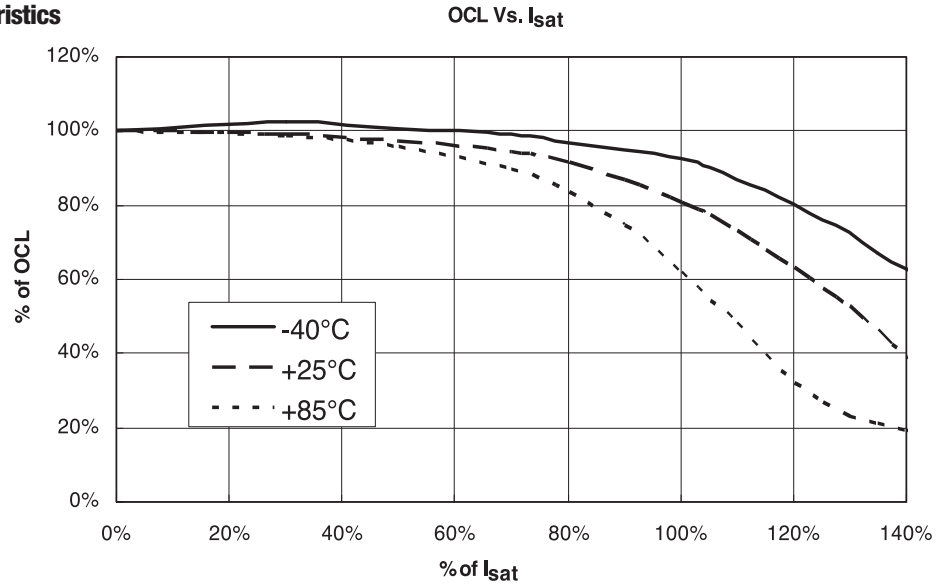
Core Loss



Temperature Rise vs. Loss



Inductance Characteristics



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Mouser Electronics

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