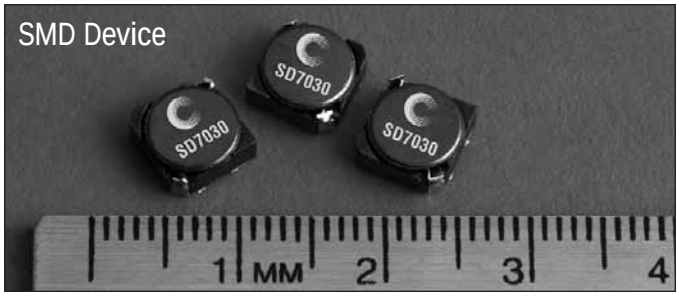
Low-Profile Shielded Drum Inductors

SD7030 Series



Description

- 125°C maximum total operating temperature
- Low profile 7.0 x 7.0 x 3.0mm surface mount inductors
- Ferrite material shielded drum core
- Inductance range from 1.5µH to 680µH
- Current range from 5.5 Amps to 0.21 Amps
- Frequency range up to 1MHz

Applications

RoHS 2002/95/EC

- PDA's, Wireless handsets
- MP3 players, CD players, organizers
- Handheld & Portable computers, GPS receivers
- ADSL/DSL/Cable modems
- Buck and Boost inductor
- Battery power, Li-Ion, 2-cell
- Digital still camera
- White LED driver

Environmental Data

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

Packaging

- Supplied in tape and reel packaging, 1500 parts per reel, 13" dia. reel

Product Specifications

Part Number	Rated Inductance (µH)	OCL[1] µH ± 30%	I_{rms}[2] Amps	I_{sat}[3] Amps	DCR mΩ@25°C (Typ.)	DCR m@25°C (Max)	K-factor [4]
SD7030-1R5-R	1.5	1.5	5.5	4.5	10	12	32
SD7030-3R3-R	3.3	3.3	3.7	3.00	20	24	22
SD7030-3R9-R	3.9	4.1	3.4	2.60	22	27	19
SD7030-5R0-R	5.0	4.9	3.2	2.40	26	31	17
SD7030-6R0-R	6.0	5.8	2.8	2.25	29	35	16
SD7030-7R3-R	7.3	7.0	2.3	2.10	45	54	13
SD7030-8R0-R	8.0	7.8	2.2	1.85	48	58	12
SD7030-100-R	10	10.0	2.1	1.70	54	65	11
SD7030-120-R	12	11.5	1.9	1.55	58	70	10
SD7030-150-R	15	14.6	1.7	1.40	70	84	9.3
SD7030-180-R	18	17.3	1.7	1.32	79	95	8.8
SD7030-220-R	22	21.0	1.4	1.20	107	128	7.6
SD7030-260-R	26	24.9	1.3	1.05	118	142	6.9
SD7030-300-R	30	30.0	1.2	0.97	138	165	6.4
SD7030-390-R	39	39.7	1.1	0.86	175	210	5.7
SD7030-440-R	44	43.4	1.1	0.80	198	238	5.3
SD7030-560-R	56	54.4	0.99	0.73	231	277	4.9
SD7030-680-R	68	66.6	0.85	0.65	253	304	4.3
SD7030-820-R	82	81.4	0.82	0.60	325	390	4.0
SD7030-101-R	100	95.5	0.70	0.54	446	535	3.6
SD7030-121-R	120	115.2	0.67	0.50	629	755	3.3
SD7030-151-R	150	145	0.57	0.44	715	858	2.9
SD7030-181-R	180	174	0.54	0.40	805	966	2.7
SD7030-221-R	220	211	0.51	0.36	1102	1322	2.4
SD7030-271-R	270	264	0.44	0.33	1259	1475	2.2
SD7030-331-R	330	317	0.38	0.30	1438	1725	2.0
SD7030-391-R	390	381	0.36	0.27	1857	2228	1.8
SD7030-471-R	470	460	0.34	0.25	2150	2581	1.7
SD7030-561-R	560	561.0	0.29	0.23	2857	3428	1.5
SD7030-681-R	680	677.2	0.28	0.21	3206	3847	1.4

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

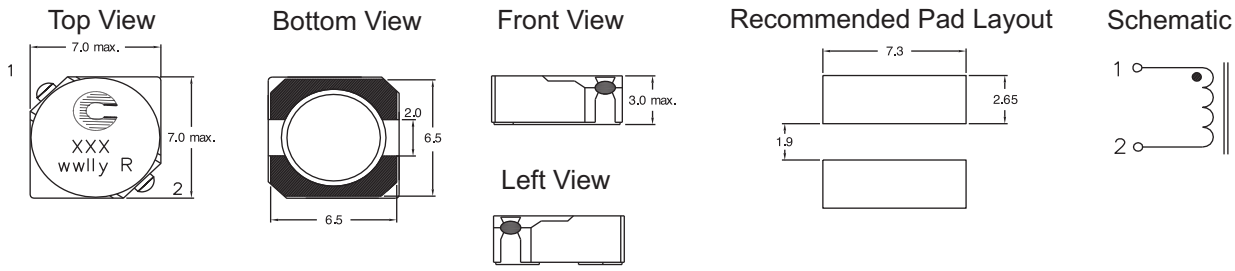
(2) I_{rms}: DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed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

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

(4) K-factor: Used to determine B_{p-p} for core loss (see graph). $B_{p-p} = K*L*\Delta I$, B_{p-p}(mT), K: (K factor from table), L: (Inductance in µH), ΔI (Peak-to-peak ripple current in Amps).

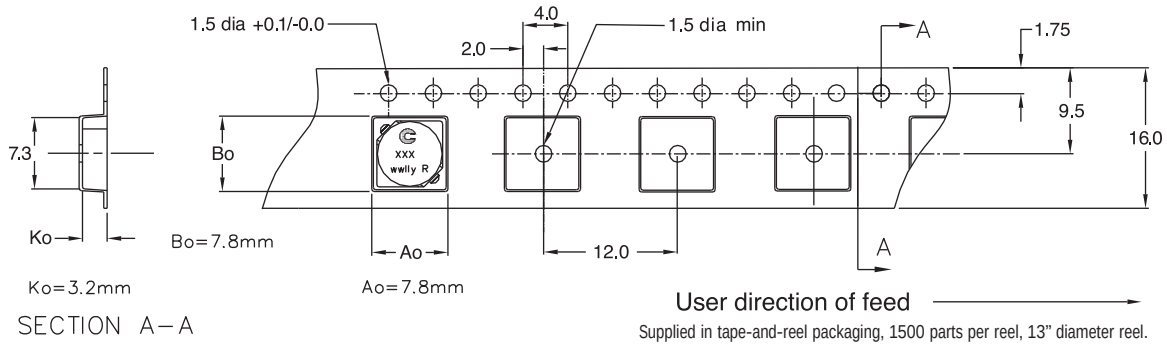
(5) Part Number Definition: SD7030-xxx-R
SD7030 = Product code and size; -xxx = Inductance value in µH;
R = decimal point; If no R is present, third character = # of zeros.
-R suffix = RoHS compliant

Dimensions - mm



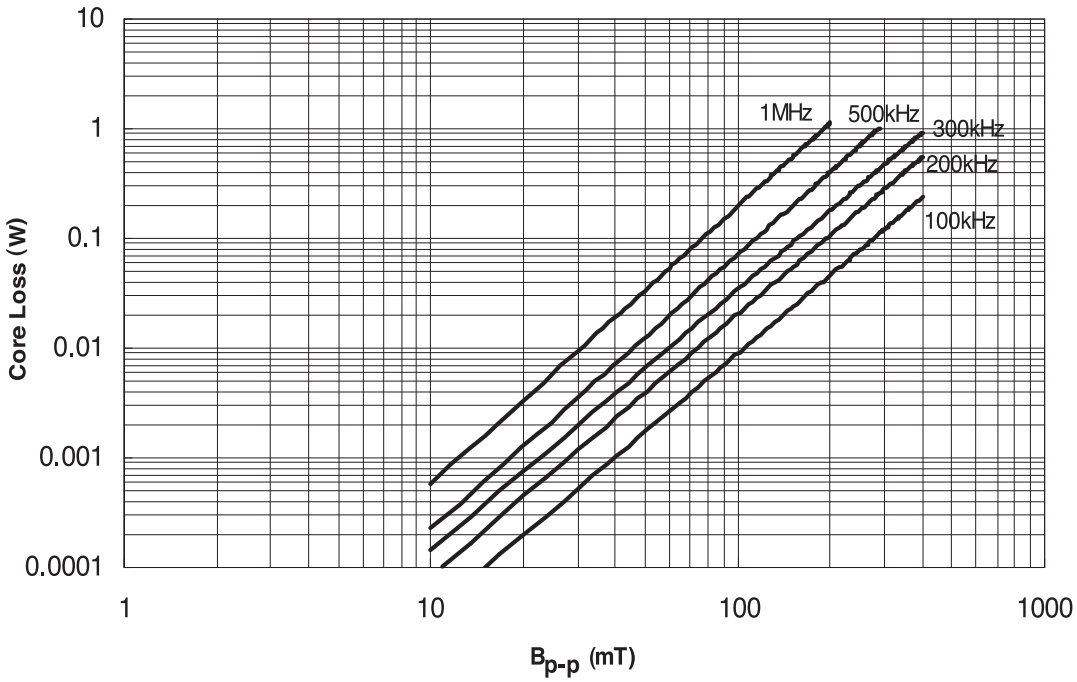
Part Marking: Coiltronics Logo xxx = inductance value in μH. R = decimal point. If no "R" is present, third character = # of zeros. wwllyy = date code. R = revision level

Packaging Information - mm

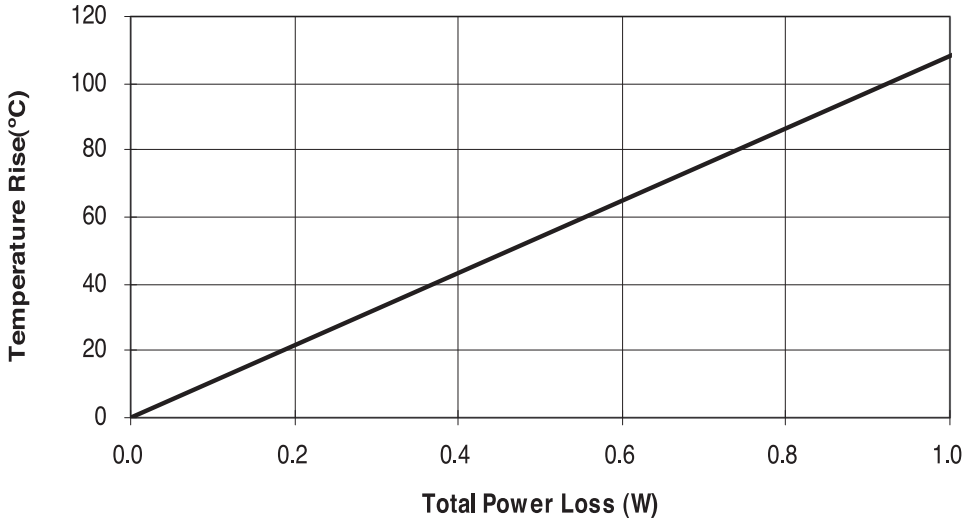


Supplied in tape-and-reel packaging, 1500 parts per reel, 13" diameter reel.

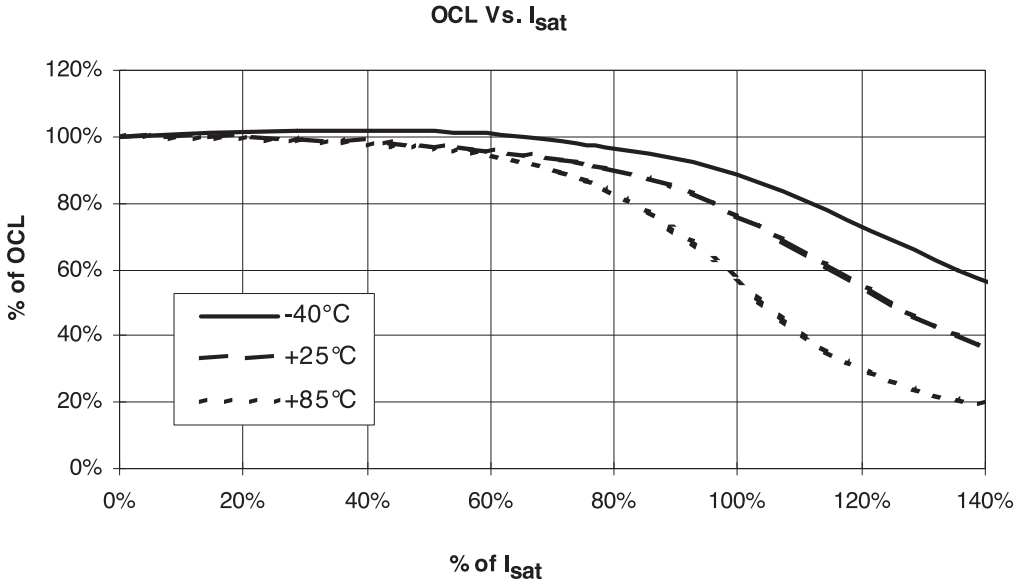
Core Loss



Temperature Rise vs. Loss



Inductance Characteristics



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