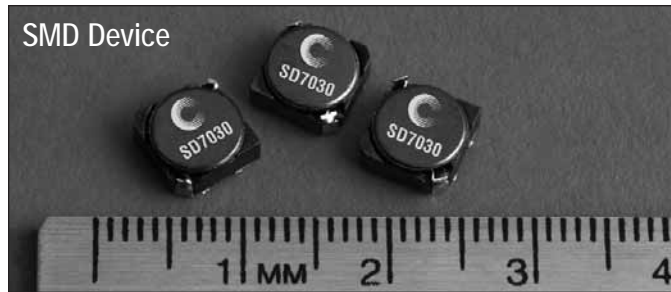


# Low-Profile Shielded Drum Inductors

## 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

- 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 <sup>(1)</sup> µH ± 30%	I <sub>rms</sub> <sup>(2)</sup> Amps	I <sub>sat</sub> <sup>(3)</sup> Amps	DCR mΩ@25°C (Typ.)	DCR mΩ@25°C (Max)	K-factor <sup>(4)</sup>
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, 0.0A<sub>dc</sub>.

(2) I<sub>rms</sub>: 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<sub>sat</sub>: Amps peak for approximately 35% rolloff (@25°C)

(4) K-factor: Used to determine B<sub>p-p</sub> for core loss (see graph). B<sub>p-p</sub> = K\*L\*ΔI, B<sub>p-p</sub>(mT), K: (K factor from table), L: (Inductance in µH), ΔI (Peak-to-peak ripple current in Amps).

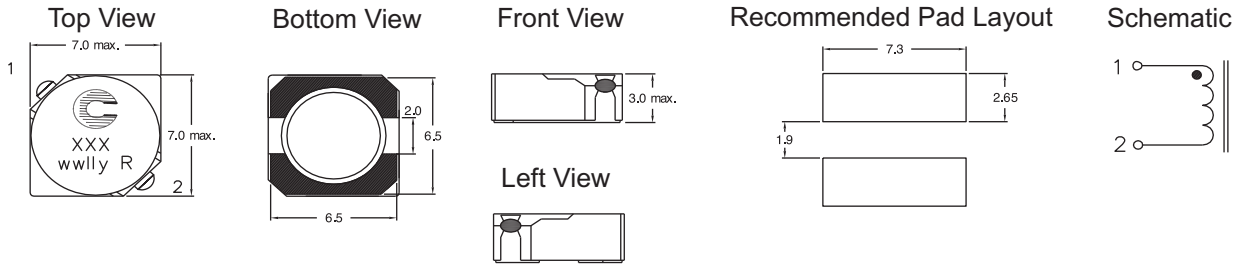
(5) Part Number Definition: SD7030-xxx-R

SD7030 = Product code and size; -xxx = Inductance value in µH;

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

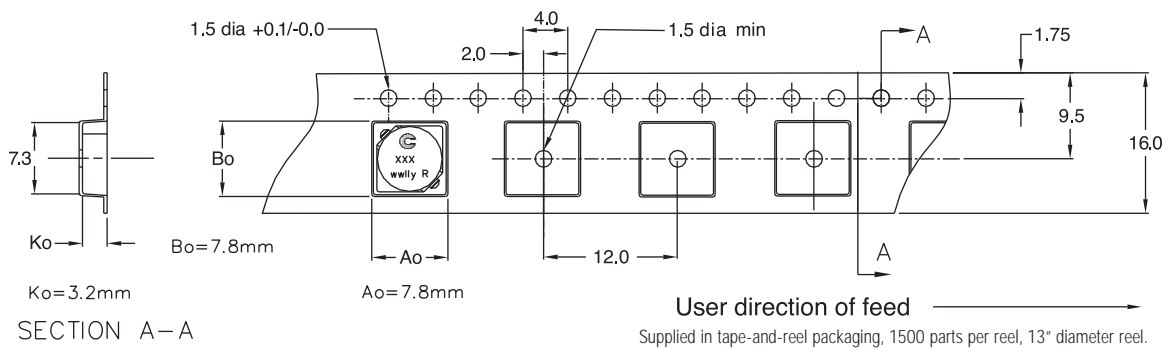
-R suffix = RoHS compliant

## Dimensions - mm

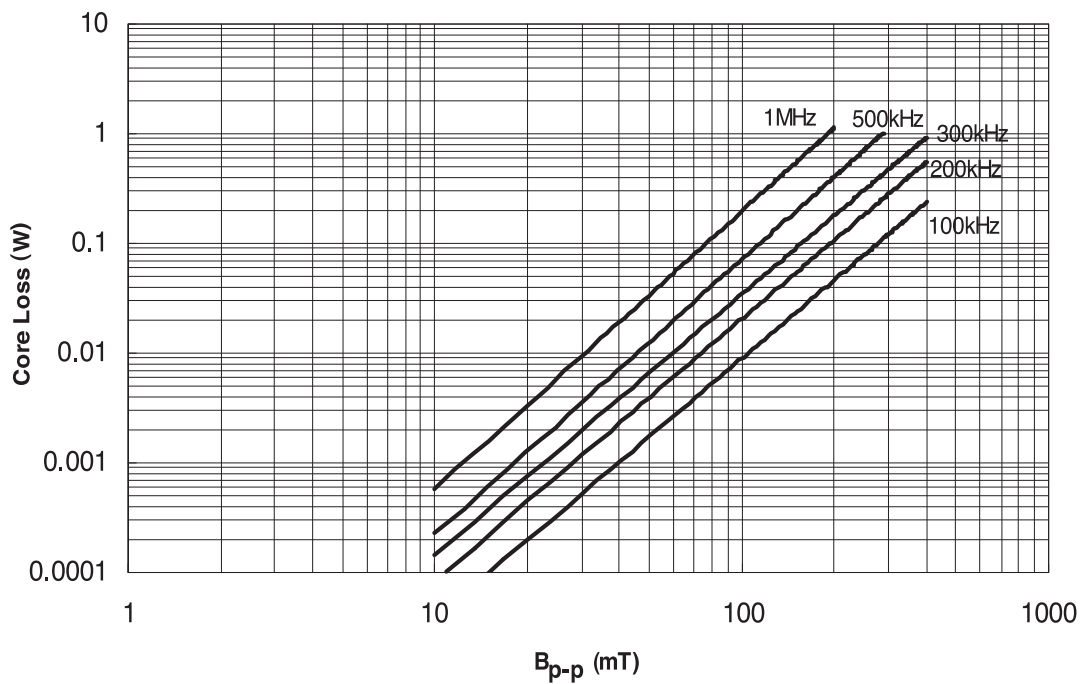


Part Marking: Coiltronics Logo xxx = inductance value in  $\mu\text{H}$ . R = decimal point. If no "R" is present, third character = # of zeros. wwlyy = date code. R = revision level

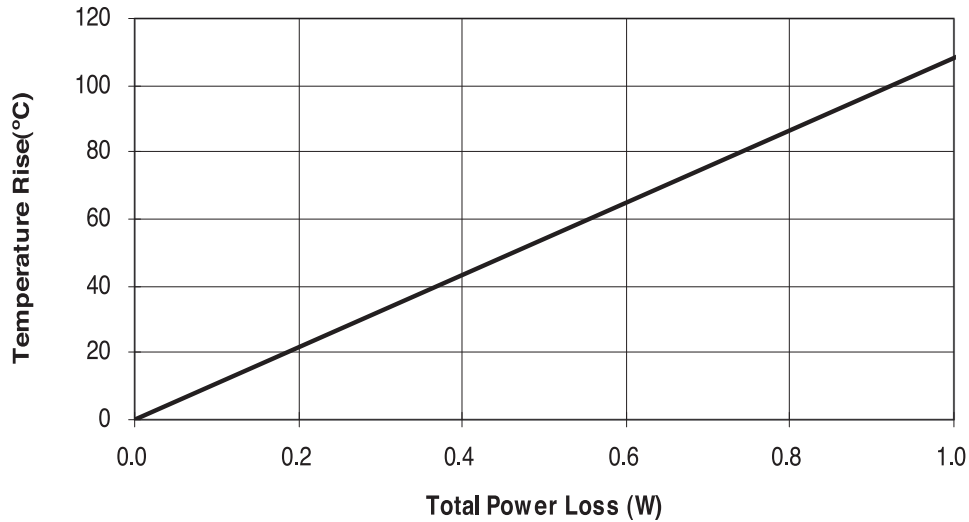
## Packaging Information - mm



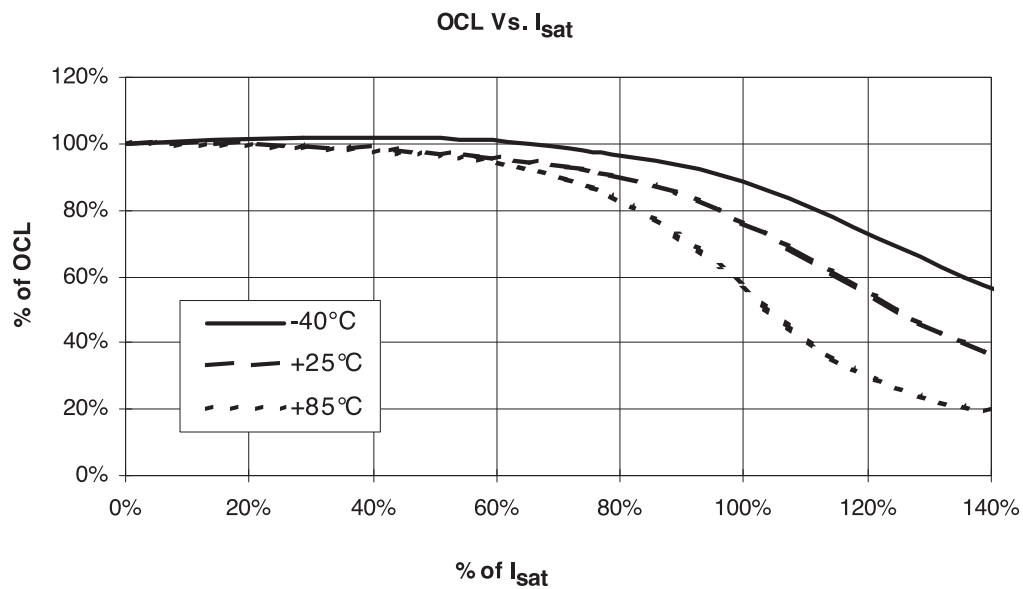
## Core Loss



## Temperature Rise vs. Loss



## Inductance Characteristics



### North America

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

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

The only controlled copy of this Data Sheet is the electronic read-only version located on the Cooper Bussmann Network Drive. All other copies of this document are by definition uncontrolled. This bulletin is intended to clearly present comprehensive product data and provide 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.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Eaton:

[SD7030-101-R](#) [SD7030-5R0-R](#)