COOPER COILTRONICS®

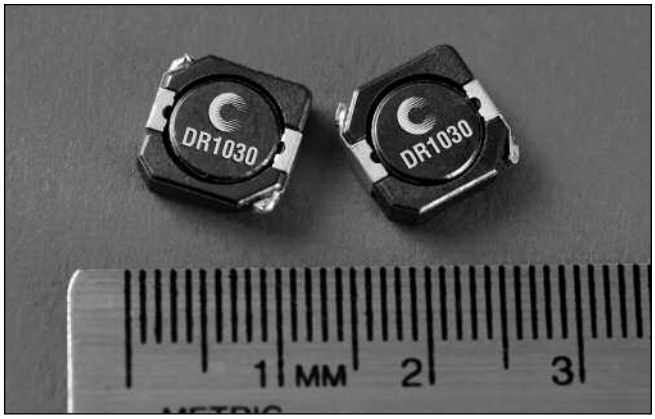
COOPER Bussmann

DR1030 Series
Low Profile Power Inductors

Description

RoHS 2002/95/EC

- 125°C maximum total temperature operation
- Low profile surface mount inductors
- 10.3mm x 10.5mm x 3.0mm shielded drum core
- Ferrite core material
- Inductance range from 1.1µH to 150µH
- Current range from 9.5 Amps to 0.68 Amps
- Frequency range up to 1MHz



Applications

- Computer, DVD players, and portable power devices
- Notebook power, LCD panels
- DC-DC converters
- Input/output filter, Buck/Boost regulators

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

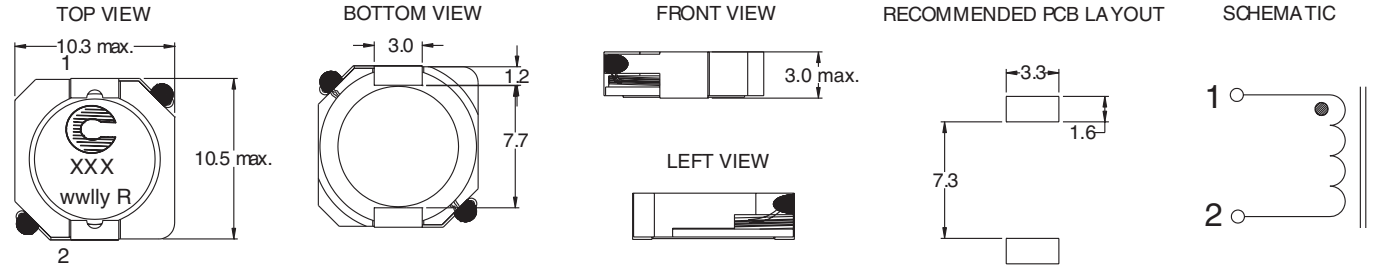
Packaging

- Supplied in tape and reel packaging, 1000 parts per reel

Part Number	Rated Inductance (µH)	OCL (1) µH ± 30%	Irms (2) Amperes	Isat (3) Amperes	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor (4)
DR1030-1R1-R	1.1	1.1	7.0	9.50	6.5	7.9	22
DR1030-1R8-R	1.8	1.9	5.9	7.41	9.1	11.0	17
DR1030-2R8-R	2.8	2.8	5.1	6.08	12.1	14.5	14
DR1030-3R9-R	3.9	4.0	4.3	5.13	16.4	20.0	12
DR1030-5R2-R	5.2	5.2	3.7	4.75	22.9	27.5	10
DR1030-6R8-R	6.8	6.8	3.5	3.90	24.9	30.0	9.0
DR1030-8R2-R	8.2	8.4	3.3	3.54	28.4	34.1	8.0
DR1030-100-R	10	10.4	2.8	3.18	40.2	48.0	7.0
DR1030-150-R	15	14.8	2.3	2.66	57.3	68.8	6.0
DR1030-220-R	22	22.8	1.8	2.19	95.5	114.6	4.5
DR1030-330-R	33	32.4	1.6	1.81	113.6	136.3	4
DR1030-470-R	47	47.9	1.3	1.52	166.6	200.0	3.4
DR1030-680-R	68	66.6	1.1	1.24	253.1	303.7	2.9
DR1030-820-R	82	82.4	1.0	1.14	332.4	382.3	2.6
DR1030-101-R	100	100	0.86	1.05	375.0	450.0	2.4
DR1030-121-R	120	119.3	0.8	0.95	523.4	602.0	1.9
DR1030-151-R	150	155.3	0.68	0.86	590.0	700	1.4

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0Adc.
(2) Irms: 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) Isat Amperes peak for approximately 35% rolloff max. (@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 uH), ΔI (Peak to peak ripple current in Amps).
(5) Part Number definition: DR1030-xxx-R
DR1030 = 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

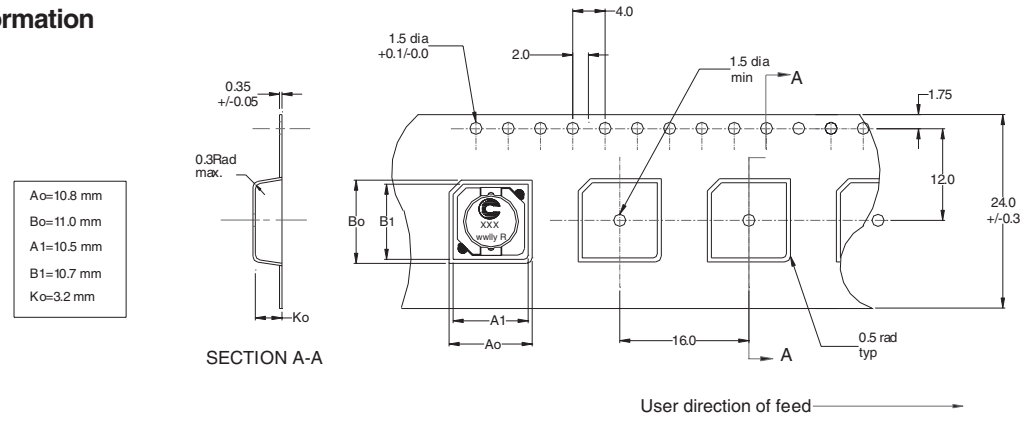
Mechanical Diagrams



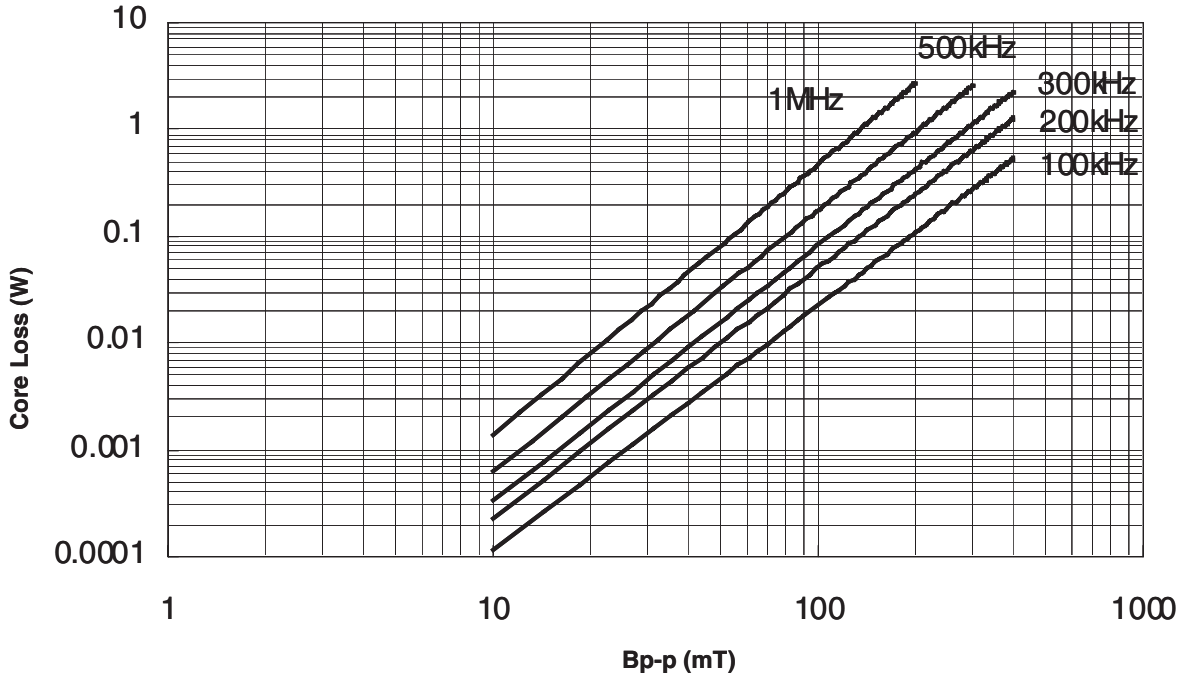
Dimensions are in millimeters.

XXX = Inductance in µH. R = decimal point. If no R is present third character = #of zeros.
wwlly = Date Code. R = Revision Level.

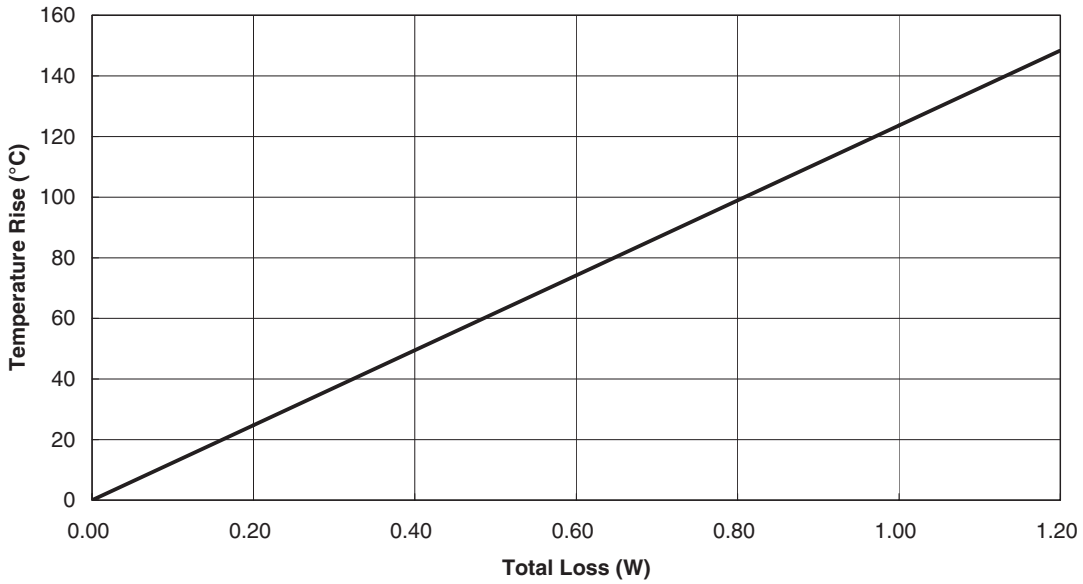
Packaging Information



Core Loss

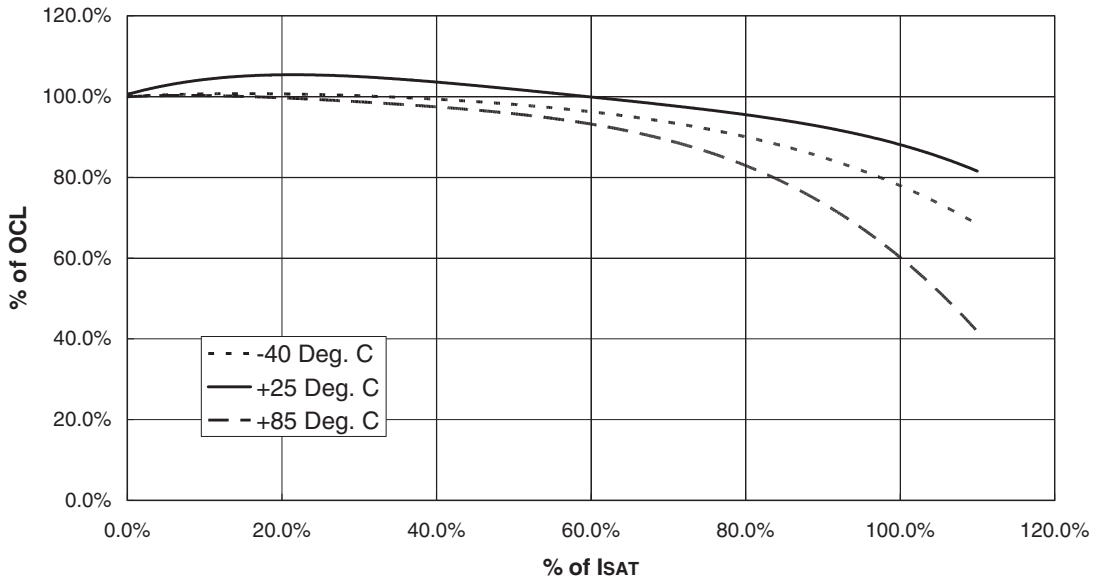


Temperature Rise vs. Total Loss



Inductance Characteristics

OCL vs. ISAT



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