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[Eaton \(formerly Cooper Bussmann\)](#)
[LDS0705-4R7M-R](#)

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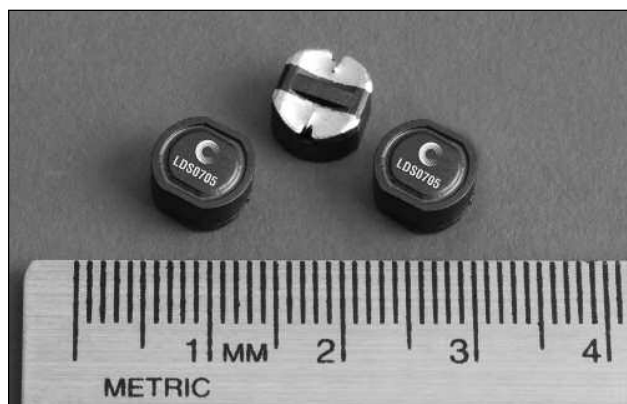
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COOPER Bussmann

LDS0705 Series Shielded Power Inductors

Description

- 125°C maximum temperature operation
- 7.8mm x 7.0mm x 5.0mm shielded drum core
- Ferrite core material
- Metalized core mounting utilizes board space
- Inductance range from 0.82µH to 470µH
- Current range from 8.57 Amps to 0.368 Amps
- Frequency range up to 1MHz



Applications

- Buck or Boost Inductor
- Noise filtering and output filter chokes
- Battery Power, DC-DC converters
- Notebook power, PDA's, Hand held computers
- DVD players
- Cellular phones

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 per reel

Part Number	Rated Inductance (µH)	OCL (1) µH	I _{rms} (2) Amperes	I _{sat} (3) Amperes	DCR (Ω) @20°C (Typical)	K-factor (4)
LDS0705-R82M-R	0.82	0.861±20%	7.68	8.57	0.0040	24.8
LDS0705-1R5M-R	1.5	1.42±20%	6.17	6.67	0.0061	19.3
LDS0705-2R2M-R	2.2	2.13±20%	5.06	5.45	0.009	15.8
LDS0705-3R3M-R	3.3	2.97±20%	4.19	4.62	0.013	13.4
LDS0705-4R7M-R	4.7	5.08±20%	3.32	3.53	0.021	10.2
LDS0705-6R8M-R	6.8	6.34±20%	3.11	3.16	0.024	9.2
LDS0705-8R2M-R	8.2	7.75±20%	2.67	2.86	0.033	8.3
LDS0705-100M-R	10.0	9.30±20%	2.54	2.61	0.036	7.6
LDS0705-150M-R	15.0	14.78±20%	2.04	2.07	0.056	6.0
LDS0705-220M-R	22.0	21.53±20%	1.66	1.71	0.084	5.0
LDS0705-330M-R	33.0	32.50±20%	1.48	1.40	0.107	4.0
LDS0705-470M-R	47.0	45.71±20%	1.21	1.18	0.158	3.4
LDS0705-680M-R	68.0	69.76±20%	0.985	0.952	0.240	2.8
LDS0705-820M-R	82.0	83.67±20%	0.850	0.870	0.323	2.5
LDS0705-101M-R	100.0	98.9±20%	0.808	0.800	0.357	2.3
LDS0705-151M-R	150.0	152.0±20%	0.649	0.645	0.554	1.9
LDS0705-221M-R	220.0	216.5±20%	0.584	0.541	0.68	1.6
LDS0705-331M-R	330.0	329.9±20%	0.470	0.438	1.06	1.3
LDS0705-471M-R	470.0	467.0±20%	0.387	0.368	1.56	1.1

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0A_{dc}.

(2) I_{rms}: DC current for an approximate ΔT of 30°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} Amperes peak for approximately 15% rolloff (@25°C)

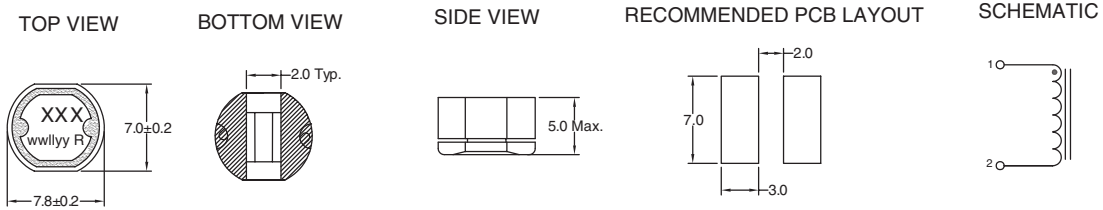
(4) K-factor: Used to determine B p-p for core loss (see graph).

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: LDS0705-xxx-R

LDS0705 = Product code and size; -xxx = Inductance value in uH; R = decimal point; If no R is present, third character = # of zeros. M = Inductance tolerance +/- 20% -R suffix = RoHS compliant

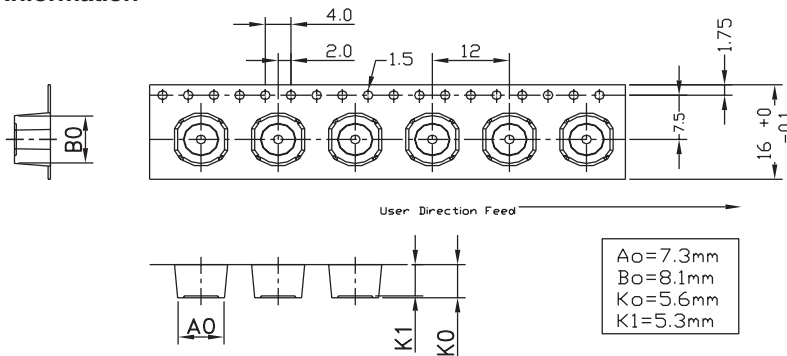
Mechanical Diagrams



Dimensions are in millimeters.

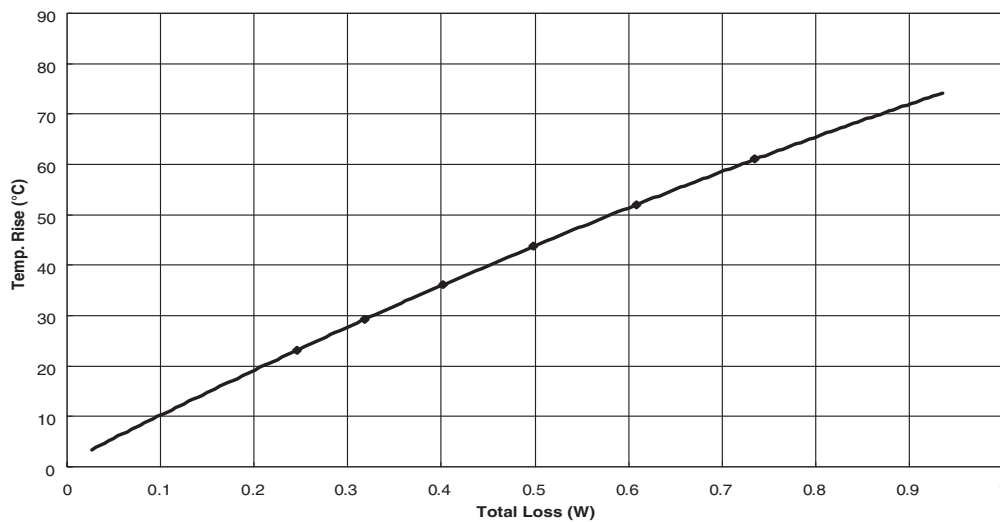
xxx = Inductance in uH. R = decimal point. If no R is present third character = # of zeros.
wwlyy = Date code, R = Revision level.

Packaging Information



Parts packaged on 13" Diameter reel,
1,000 parts per reel.

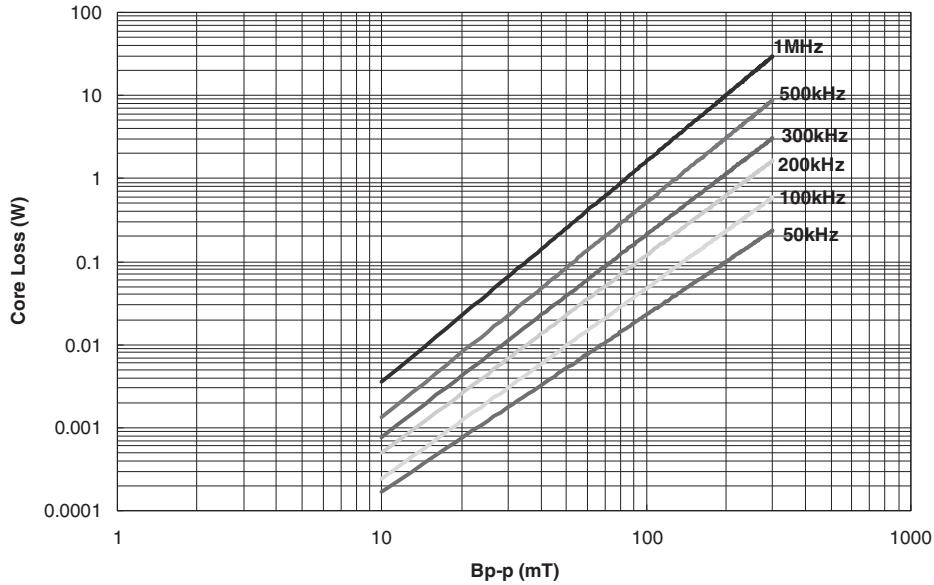
Temperature Rise vs. Watt Loss





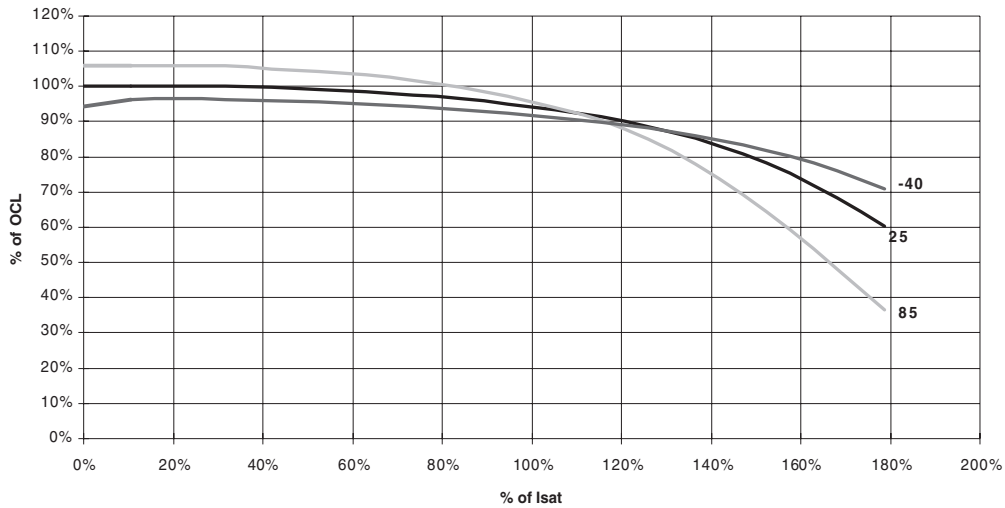
**LDS0705 Series
Shielded Power Inductors**

Core Loss



Inductance Characteristics

OCL vs. Isat



PM-4142 3/07

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