



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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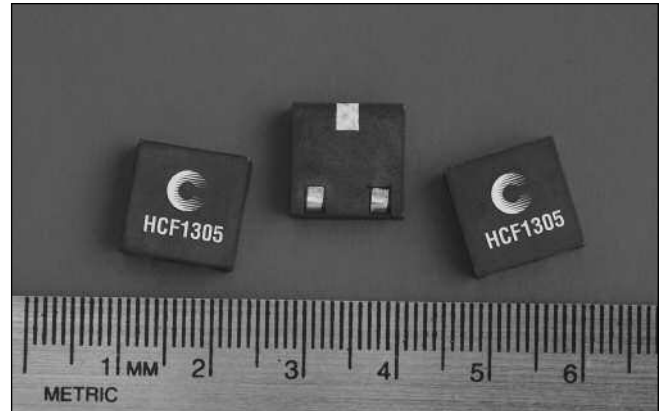
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Description

- 125°C maximum total temperature operation
- 12.5mm x 12.5mm x 5.0mm ferrite core material package
- Low profile surface mount inductors designed for higher speed switch mode applications requiring low voltage and high current
- Design utilizes ferrite core with high DC bias resistance and low core loss
- Inductance range from 0.47μH to 4.7μH
- Current range from 36.0 Amps to 10.4 Amps
- Frequency range 100kHz to 1MHz



Applications

- Next generation processors
- High current DC-DC converters
- VRM, multi-phase buck regulators
- PC Workstations, Routers, Servers
- Telecom soft switches, Base stations

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, 600 parts per reel

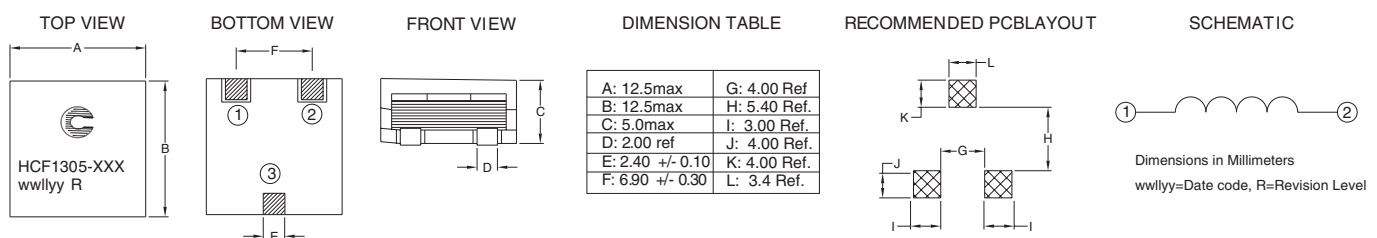
Part Number	Rated Inductance (μH)	OCL (1) μH ± 20%	Irms (2) Amperes	Isat (3) Amperes	Isat2 (4) Amperes	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor (5)
HCF1305-R47-R	0.47	0.47	32.0	36.0	30.0	0.83	1.00	21
HCF1305-R56-R	0.56	0.56	32.0	30.0	22.5	0.83	1.00	21
HCF1305-1R0-R	1.00	1.00	22.0	24.0	20.0	1.58	1.90	14
HCF1305-1R2-R	1.20	1.20	22.0	20.0	15.0	1.58	1.90	14
HCF1305-1R8-R	1.80	1.80	16.3	18.0	15.0	2.58	3.10	10
HCF1305-2R2-R	2.20	2.20	16.3	15.0	11.2	2.58	3.10	10
HCF1305-3R0-R	3.00	3.00	13.2	14.4	12.0	4.08	4.90	8.3
HCF1305-3R3-R	3.30	3.30	13.2	12.5	9.0	4.08	4.90	8.3
HCF1305-4R0-R	4.00	4.00	10.9	12.0	10.0	6.0	7.2	6.9
HCF1305-4R7-R	4.70	4.70	10.9	10.4	7.5	6.0	7.2	6.9

- 1) OCL: Open Circuit Inductance test parameters: 100kHz, 0.1Vrms, 0.0Adc. OCL @ -40°C can be lower than OCL @ 20°C by 15% max.
- 2) I rms: DC current for an approximate DT 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) Isat1: Amperes Peak for approximately 30% rolloff (@ 25°C)
- 4) Isat2: Amperes Peak for approximately 30% rolloff (@ 125°C)

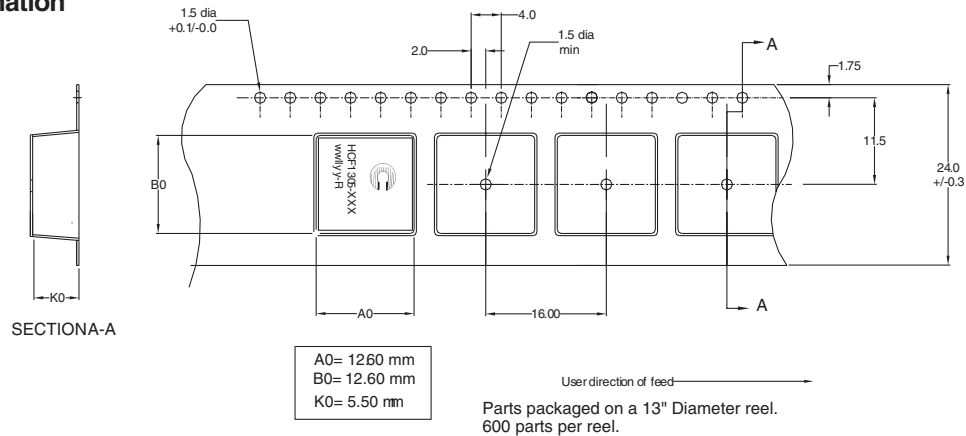
- 5) K-factor: Used to determine B p-p for core loss (see graph). B p-p = K*L*ΔI
B p-p:(mT), K: (K factor from table), L: (Inductance in μH), ΔI (Peak to peak ripple current in Amps).

Part number definition:
HCF1305-XXX-R
HCF1305 = Product code and size
XXX = Inductance value in uH.
R = Decimal point. If no R is present, third character = #of zeros
-R suffix indicates RoHS compliant

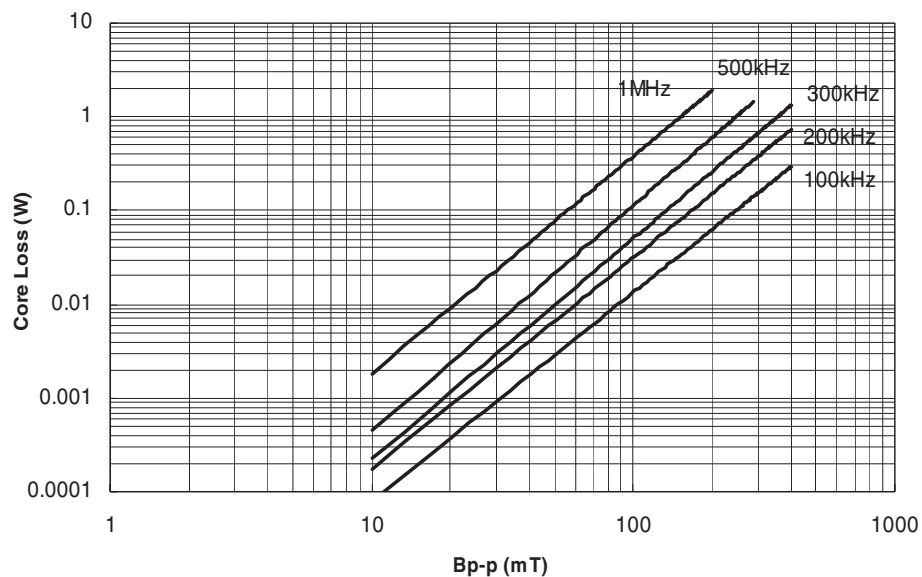
Mechanical Diagrams



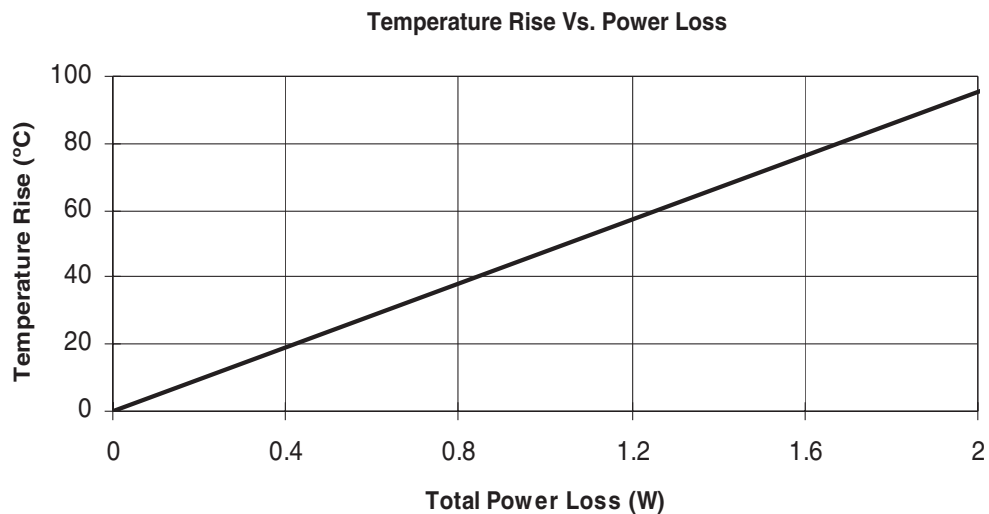
Packaging Information



Core Loss



Temperature Rise vs. Total Loss



Inductance Characteristics

