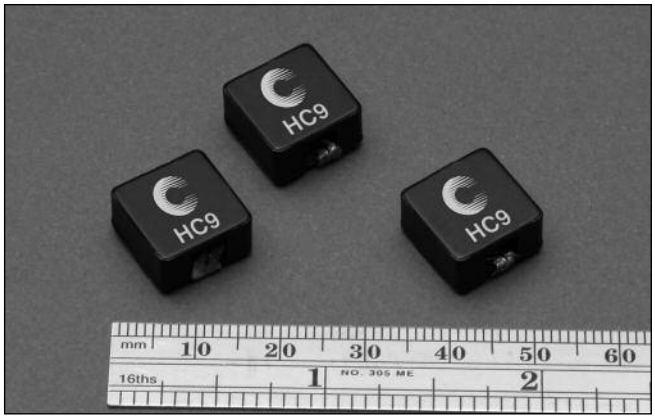
COILTRONICS®

COOPER Bussmann

HC9 Series
HIGH CURRENT 9
Power Inductors

RoHS 2002/95/EC



Description

- 155°C maximum total temperature operation
- Surface mount inductors designed for higher speed switch mode applications requiring lower inductance, low voltage and high current
- Design utilizes high temperature powder iron material with a non-organic binder to eliminate thermal aging
- Inductance Range from 0.2 uH to 47.0 uH
- Current Range from 95.0 Amps to 3.65 Amps
- Frequency Range 1kHz to 500kHz

Applications

- Next generation processors
- High current DC-DC converters
- VRM, multi-phase buck regulator
- PC, Workstations, Routers, Servers

Environmental Data

- Storage temperature range: -40°C to +155°C
- Operating temperature range: -40°C to +155°C (range is application specific)
- Solder reflow temperature: +260°C max for 10 seconds maximum

Packaging

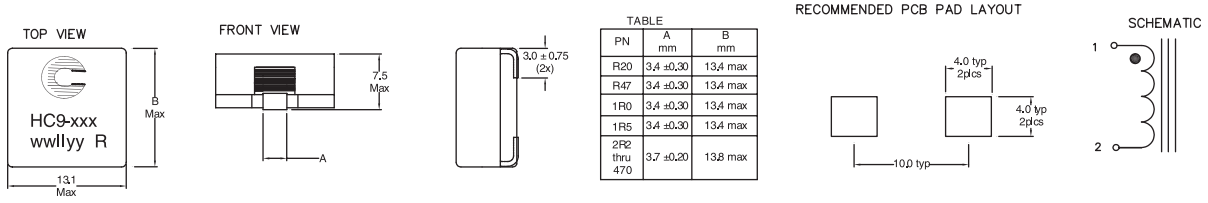
- Supplied in tape and reel packaging, 450 parts per reel

Part Number	Rated Inductance µH	OCL (1) nominal +/-15% µH	Irms (2) Amperes (Typ.)	Isat (3) Amperes 20% rolloff	Isat (4) Amperes 30% rolloff	DCR (mΩ) max. @ 20°C	Volts (5) µSec (VµS)
HC9-R20-R	0.20	0.218	46.7	65	95	0.50	2.87
HC9-R47-R	0.47	0.544	33.7	40	57	0.88	4.78
HC9-1R0-R	1.0	1.04	23.7	28	41	1.87	6.70
HC9-1R5-R	1.5	1.70	21.0	22	32	2.27	8.46
HC9-2R2-R	2.2	2.53	17.2	18	26	3.37	10.4
HC9-3R3-R	3.3	3.52	14.3	15	22	4.87	12.4
HC9-4R3-R	4.3	4.67	13.0	13.2	19.1	5.90	14.4
HC9-6R8-R	6.8	7.45	10.3	11.4	15.1	9.40	18.1
HC9-100-R	10.0	10.9	8.50	8.6	12.5	14.0	22.0
HC9-220-R	22.0	22.4	6.30	6.0	8.7	25.7	31.5
HC9-330-R	33.0	34.5	4.42	4.8	7.0	48.8	37.3
HC9-470-R	47.0	49.2	3.65	3.9	5.7	72.3	44.8

1) Test Parameters: 100KHz, 1.0Vrms
2) Irms Amperes for approximately ΔT of 40°C without core loss. De-rating is necessary for AC currents. PCB layout, trace thickness and width, airflow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 155°C under worst case conditions verified in the end application.
3) Peak current for approximately 20% rolloff @20°C
4) Peak current for approximately 30% rolloff @20°C
5) Applied Volt-Time product (V-µS) across the inductor. This value represents the applied V-µS at operating frequency necessary to generate additional core loss which contributes to the 40°C temperature rise. De-rating of the Irms is required to prevent excessive temperature rise. The 100% V-uS rating is equivalent to a ripple current Ip-p of 20% of Isat (30% rolloff option).

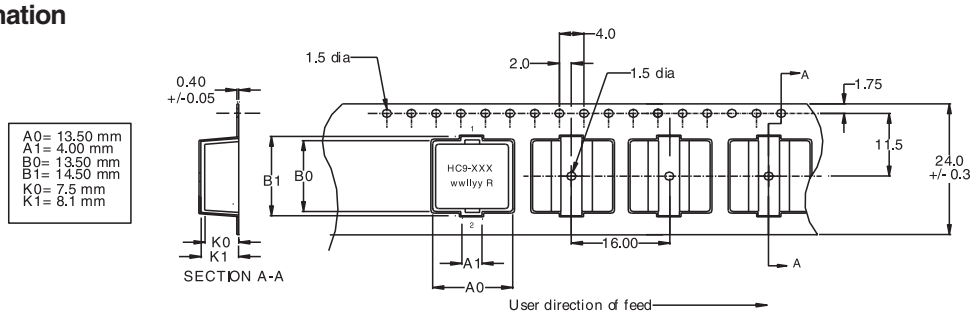
Part number definition:
First 3 characters = Product code and size.
Last 3 characters = Inductance in µH. R = decimal point.
If no R is present third character = # of zeros.

Mechanical Diagrams



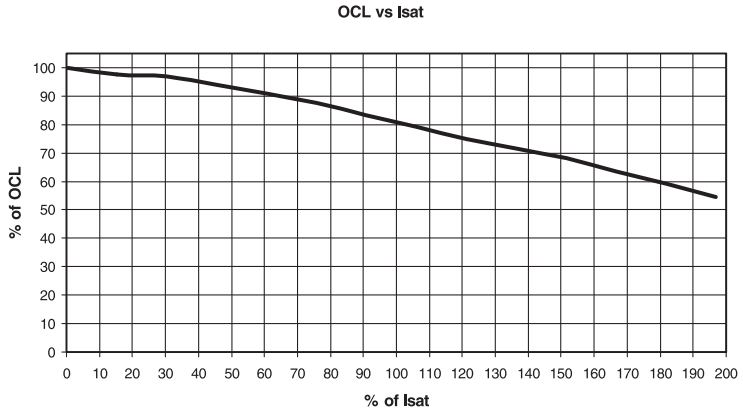
Dimensions in Millimeters. All dimensions +/-0.2 mm unless otherwise specified.
wwllyy = Date Code, R = Revision Level

Packaging Information

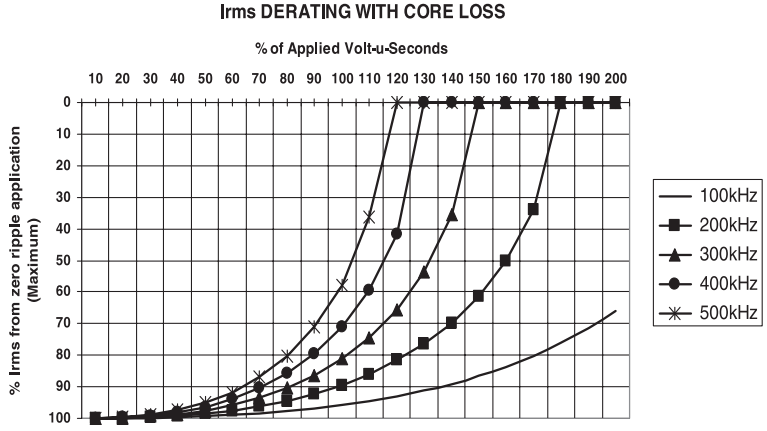


Dimensions in Millimeters

Rolloff



Core Loss



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Visit us on the Web at www.cooperbussmann.com

1225 Broken Sound Pkwy. Suite F Boca Raton, FL 33487

Tel: +1-561-998-4100 Toll Free: +1-888-414-2645 Fax: +1-561-241-6640