COOPER Bussmann

COOPER COILTRONICS®

HC8 Series
HIGH CURRENT 8 Power Inductors

RoHS 2002/95/EC

Description

- Surface mount inductors, 4.0mm height, designed for higher speed switch mode applications requiring low voltage and high current
- 155°C maximum total operating temperature
- Design utilizes high temperature powder iron material with a non-organic binder to eliminate thermal aging
- Inductance offering expanded for applications requiring higher inductance.
- Inductance Range from 0.175 uH to 47.3 uH
- Current Range from 39.0 to 2.4 Amps
- Frequency Range 1kHz to 500kHz

Applications

- Next generation microprocessors
- High current DC-DC converters
- VRM, multi-phase buck regulator
- PC, Workstations, Routers
- Telecom soft switches, Base Stations

Environmental Data

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

Packaging

- Supplied in tape and reel packaging, 800 parts per reel

Part Number	Rated Inductance µH	OCL (1) nominal +/-20% µH	Irms (2) Amperes (Typ.)	Isat (3) Amperes 15% rolloff	Isat (4) Amperes 30% rolloff	DCR (mΩ) max. @ 20°C	Volts (5) µSec (VµS) (ref.)
HC8-R15-R	0.15	0.175	39.0	43	76	0.80	1.5
HC8-R39-R	0.39	0.390	28.3	26	45	1.55	2.5
HC8-R75-R	0.75	0.766	18.8	18.5	32.7	3.40	3.5
HC8-1R2-R	1.2	1.32	16.0	14.4	25.5	4.70	4.5
HC8-1R9-R	1.9	1.90	12.4	11.8	20.9	7.7	5.5
HC8-2R6-R	2.6	2.65	10.2	10.0	17.7	11.4	6.5
HC8-3R5-R	3.5	3.52	8.50	8.7	15.3	16.5	7.5
HC8-4R5-R	4.5	4.52	8.00	7.7	13.5	18.6	8.5
HC8-5R6-R	5.6	5.65	6.70	6.9	12.1	26.3	9.5
HC8-6R9-R	6.9	6.90	6.40	6.2	10.9	28.9	10.5
HC8-8R2-R	8.2	8.27	5.50	5.7	10.0	39.6	11.5
HC8-100-R	10.0	9.77	5.20	5.2	9.2	43.6	12.5
HC8-150-R	15.0	15.02	4.10	4.2	7.4	68.6	15.5
HC8-220-R	22.0	21.40	3.40	3.5	6.2	99.5	18.6
HC8-330-R	33.0	31.65	2.70	2.9	5.1	154	22.6
HC8-470-R	47.0	47.28	2.20	2.4	4.2	237	27.6

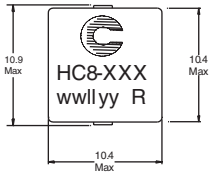
1) Test Parameters: 100KHz, 1.0Vrms
2) Irms Amperes for approximately ΔT of 40°C above 85°C ambient
3) Isat Amperes Peak for approximately 15% rolloff (@20°C)
4) Isat Amperes Peak for approximately 30% rolloff (@20°C)
5) Applied Volt-Time product (V-µS) across the inductor. This value represents the 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).

It is recommended that the temperature of the part not exceed 155°C under worst case operating conditions verified in the end application.

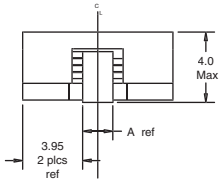
Part number definition:
HC8-XXX-R
HC8 = Product code and size
XXX = Inductance value in uH.
R = Decimal point. If no R is present, third character = #of zeros
-R suffix indicates RoHS compliant

Mechanical Diagrams

TOP VIEW



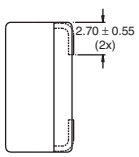
FRONT VIEW



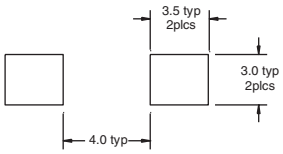
FRONT VIEW TABLE

PN	A mm
R15	2.1
R39	2.1
R75	2.1
1R	2.1
1R9 thru 470	2.7

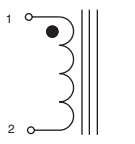
SIDE VIEW



RECOMMENDED PCB PAD LAYOUT

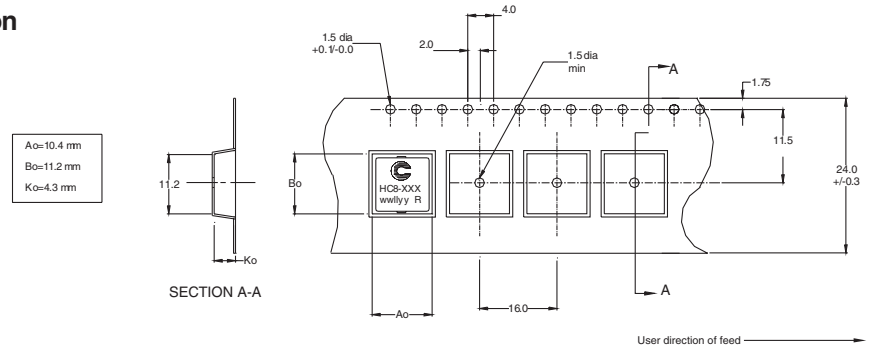


SCHEMATIC



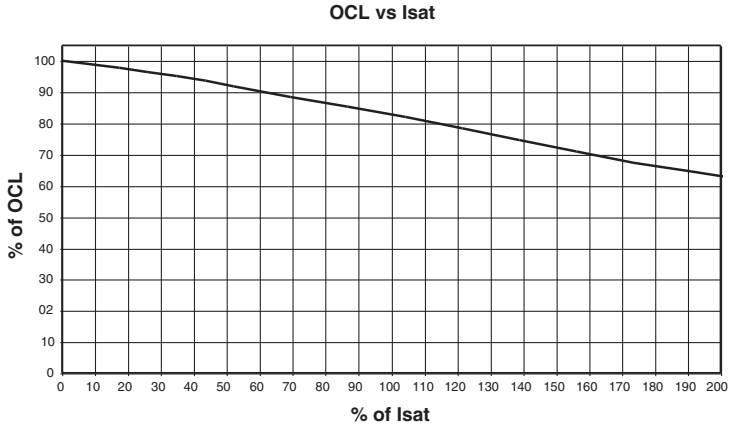
wwllyy = Date code R = Revision level
xxx = Inductance value

Packaging Information

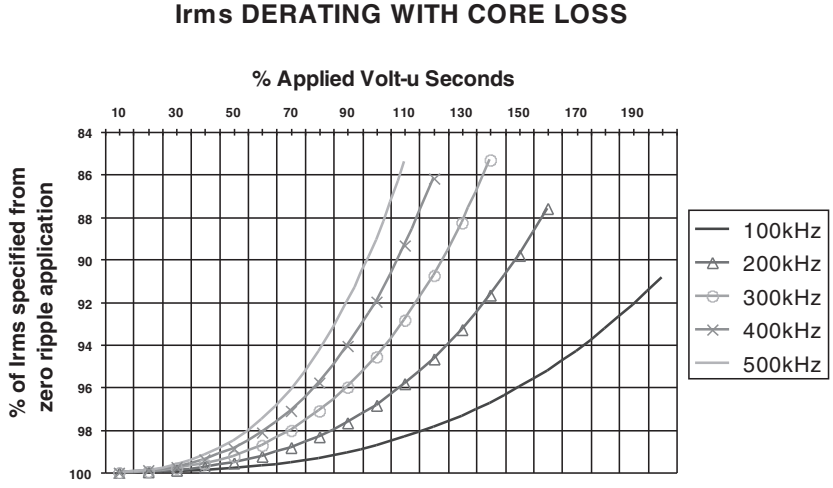


Dimensions in Millimeters

Inductance Characteristics



Core Loss



PM-4120 3/07

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