

Power Inductors



Description

- High Density, high current/low voltage applications
- Foil technology that adds higher reliability factor over the traditional magnet wire used for higher frequency circuit designs
- Current range from 78.0 to 33.8 Amps
- Inductance range from 0.50uH to 6.52uH
- Ferrite core material

Applications

- Next generation microprocessors
- · Energy storage applications
- DC-DC converters
- Computers

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating ambient temperature range: -40°C to +85°C
- Solder reflow temperature: +260°C max. for 10 seconds max.





Packaging

Supplied in bulk packaging, 24 parts per tray

Part Number	Rated Inductance µH	OCL (1) nominal +/-20% µH	Irms (2) Amperes (Typ.)	Isat (3) Amperes (Typ.)	DCR (mΩ) max. @ 20°C	Volts (4) µSec (VµS) (ref.)
HC3-R50-R	0.50	0.50	78.00	120	0.42	17.33
HC3-1R0-R	1.0	1.05	78.00	78	0.42	17.33
HC3-2R2-R	2.2	2.05	55.50	60	0.70	26.01
HC3-3R3-R	3.3	3.63	42.45	46	1.20	34.65
HC3-4R7-R	4.7	4.98	33.80	38	2.17	43.30
HC3-5R6-R	5.6	5.68	33.80	34.5	2.17	43.30
HC3-6R0-R	6.0	6.52	33.80	30.0	2.17	43.30

- 1) Test Parameters: 300kHz, 0.25 Vrms
- 2) DC current for approximately ΔT of 40°C without core loss De-rating is necessary for AC currents. PCB layout, trace thickness and width, air flow and proximity of other heat generating components will affect temperature rise. It is recommended that the temperature of the part not exceed 125°C under
- worst case conditions verified in the end application.

 3) Peak current for approximately 30% rolloff (@20°C)
- 4) Applied Volt-Time product (V-µS) across the inductor. This value represents the applied V-µS at 300kHz necessary to generate a core loss equal to 10% of the total losses for a 40°C temperature rise.

Part number definition:

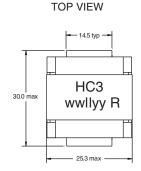
HC3-XXX-R

HC3 = Product code and size XXX = Inductance value in uH.

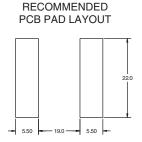
R = Decimal point. If no R is present, third character = #of zeros

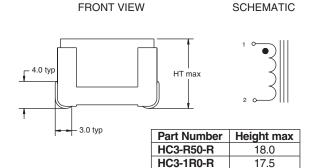
-R suffix indicates RoHS compliant

Mechanical Diagrams



wwllyy = Date code R = Revision level





HC3-2R2-R

HC3-3R3-R

HC3-4R7-R

HC3-5R6-R

HC3-6R0-R

17.5

17.5

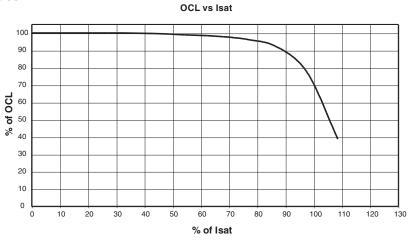
17.5

17.5

17.5



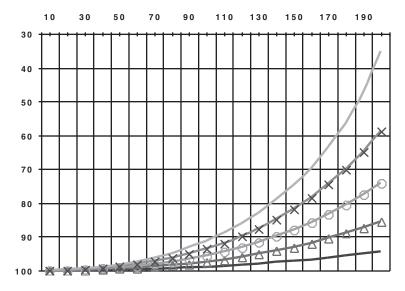
Inductance Characteristics

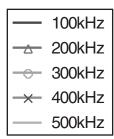


Core Loss

Irms DERATING WITH CORE LOSS for HC3 % Applied Volt-u Seconds

%of Irms specified from zero ripple application







PM-4122 3/07

Visit us on the Web at www.cooperbussmann.com

© Cooper Electronic Technologies 2007 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

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