



HIGH CURRENT 1 Power Inductors

Description

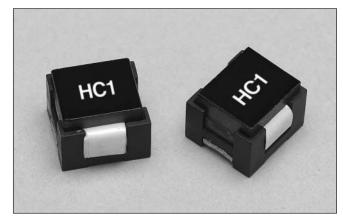
- Designed for high current, low voltage applications
- · Low DCR, high efficiency
- Foil construction for higher frequency circuit designs
- Suited for IR and vapor reflow solder
- Frequency range 1kHz to 1MHz

Applications

- Next generation microprocessors
- High current DC-DC converters
- Computers

Environmental Data

- Storage temperature range: -40C to +125C
- Operating ambient temperature range: -40C to +85C (range is application specific).
- Infrared reflow temperature: +260C for 10 seconds maximum



Packaging

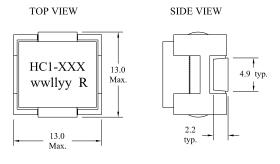
• Supplied in tape and reel packaging, 250 per reel

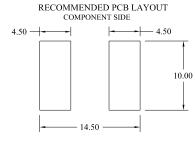
Part Number	Rated Inductance µH	OCL (1) ± 15% μΗ	Irms (2) Amperes (Approx.)	Isat (3) Amperes (Approx.)	DCR (Ω) Max. @ 20°C	Volt-µSec (4) (VµS) (ref.)
HC1-R22	0.22	0.218	51.42	40.5	0.00034	1.83
HC1-R30	0.30	0.291	51.42	31.8	0.00034	1.83
HC1-R57	0.57	0.572	37.83	33.4	0.00063	3.66
HC1-R87	0.87	0.866	28.01	31.0	0.00138	5.49
HC1-1R0	1.0	1.12	28.01	25.4	0.00138	5.49
HC1-1R7	1.7	1.66	22.30	22.2	0.0018	7.33
HC1-2R3	2.3	2.29	22.30	16.7	0.0018	7.33
HC1-3R6	3.6	3.59	16.76	13.4	0.0032	9.16
HC1-5R1	5.1	5.15	12.79	11.2	0.0054	10.99
HC1-7R8	7.8	7.85	12.79	6.7	0.0054	10.99
HC1-100	10	10.5	12.79	5.3	0.0054	10.99

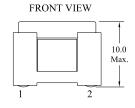
¹⁾ OCL (Open Circuit Inductance) Test parameters: 300KHz, .25Vrms, 0.0Adc & Isat.

total losses for 40°C temperature rise. See Core Loss Graph.
Units supplied in tape & reel packaging; 250 parts on 13" diameter reel.

Mechanical Diagrams









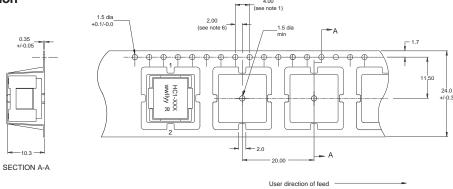
²⁾ Irms Amperes for approximately ΔT of 40°C. DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.

³⁾ Isat Amperes Peak for approximately 30% rolloff @ 20°C

⁴⁾ Applied Volt-Time product (V-µS) across the inductor. This value represents the applied V-µS at 200kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise. See Core Loss Graph

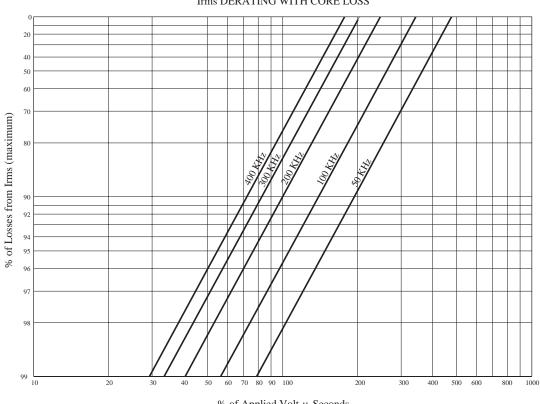


Packaging Information



Core Loss

Irms DERATING WITH CORE LOSS



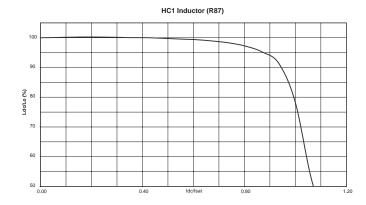
% of Applied Volt- $\mu\text{-}Seconds$

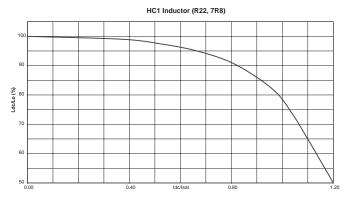


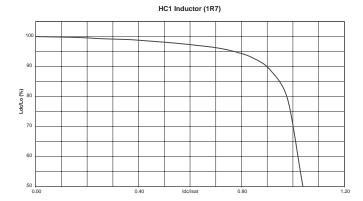
COILTRONICS®

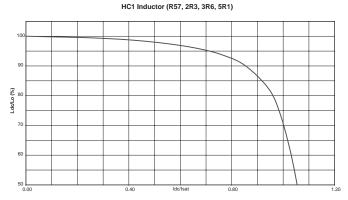


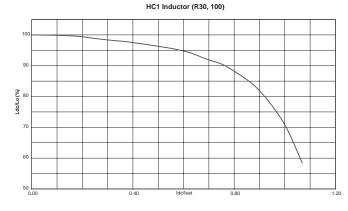
Inductance vs. Idc

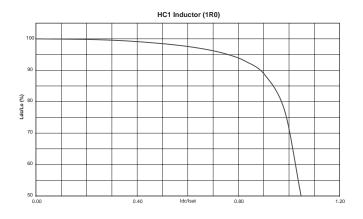














PM-4113 1/05

Visit us on the Web at www.cooperET.com

© Cooper Electronic Technologies 2005 3601 Quantum Boulevard Boynton Beach, Florida 33426-8638 Tel: +1-561-752-5000 Toll Free: +1-888-414-2645 Fax: +1-561-742-1178

This bulletin is intended to present product design solutions and technical information that will help the end user with design applications. Cooper Electronic Technologies reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Cooper Electronic Technologies also reserves the right to change or update, without notice, any technical information contained in this bulletin. Once a product has been selected, it should be tested by the user in all possible applications.

Life Support Policy: Cooper Electronic Technologies does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.