

## Description

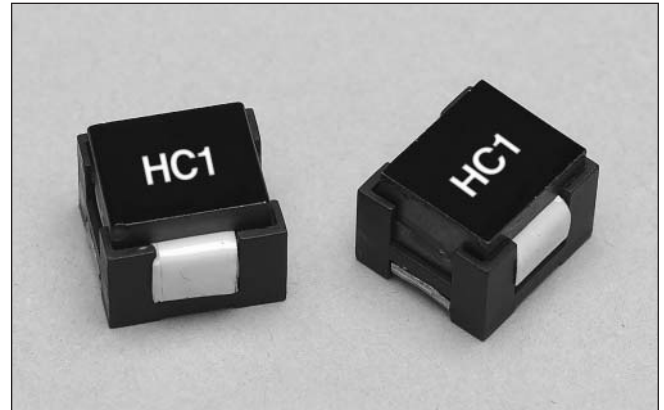
- Designed for high current, low voltage applications
- Low DCR, high efficiency
- Foil construction for higher frequency circuit designs
- Suited for IR and vapor reflow solder
- Frequency range 1kHz to 1MHz

## 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 $\mu\text{H}$	OCL (1) $\pm 15\%$ $\mu\text{H}$	I <sub>rms</sub> (2) Amperes (Approx.)	I <sub>sat</sub> (3) Amperes (Approx.)	DCR ( $\Omega$ ) Max. @ 20°C	Volt- $\mu\text{Sec}$ (4) (V $\mu\text{S}$ ) (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 & I<sub>sat</sub>.

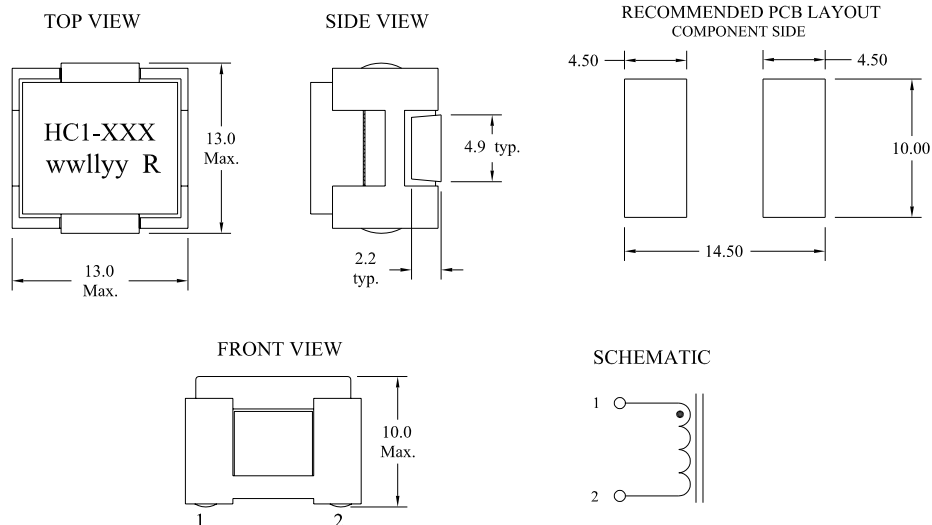
2) I<sub>rms</sub> Amperes for approximately  $\Delta T$  of 40°C. DC current for an approximate  $\Delta T$  of 40°C without core loss. Derating is necessary for AC currents. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.

3) I<sub>sat</sub> Amperes Peak for approximately 30% rolloff @ 20°C

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

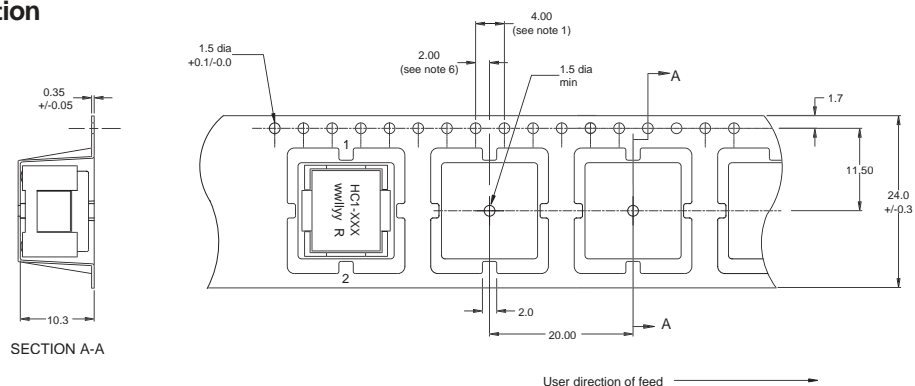
Units supplied in tape & reel packaging; 250 parts on 13" diameter reel.

## Mechanical Diagrams

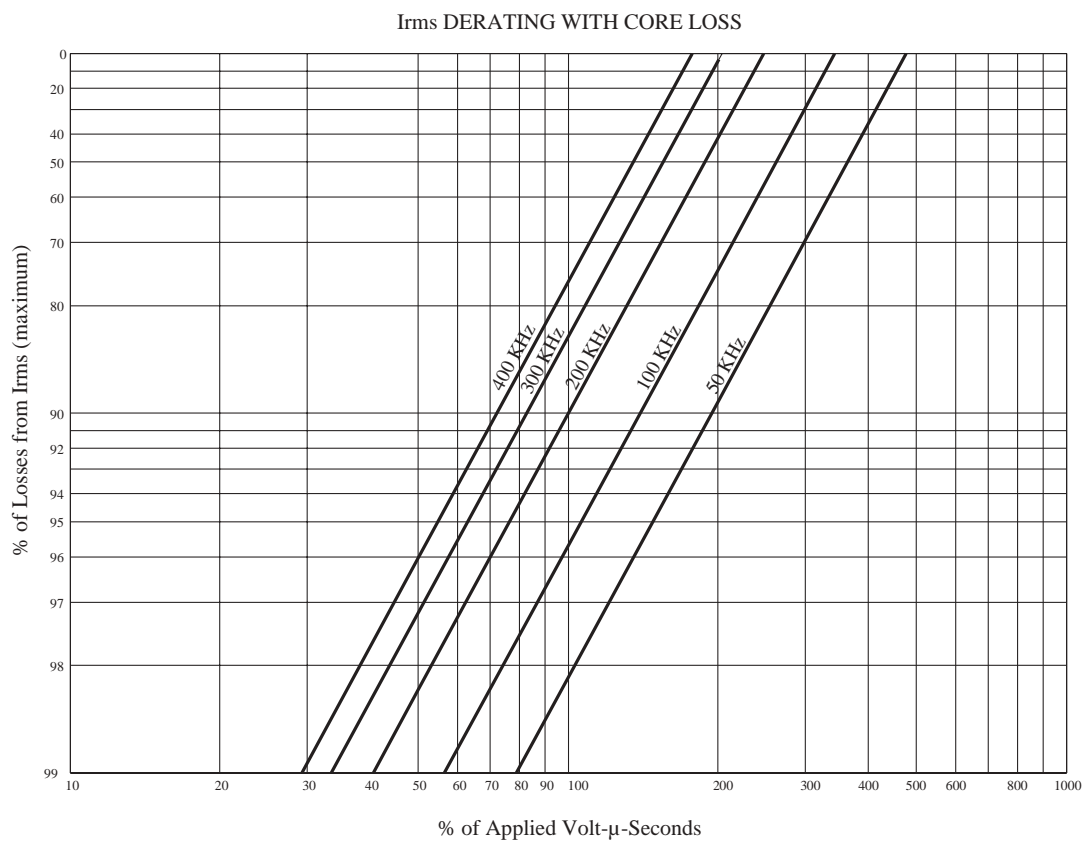


Dimensions in Millimeters

**Packaging Information**

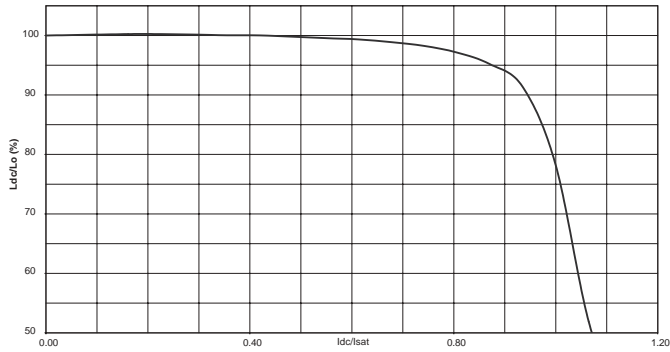


**Core Loss**

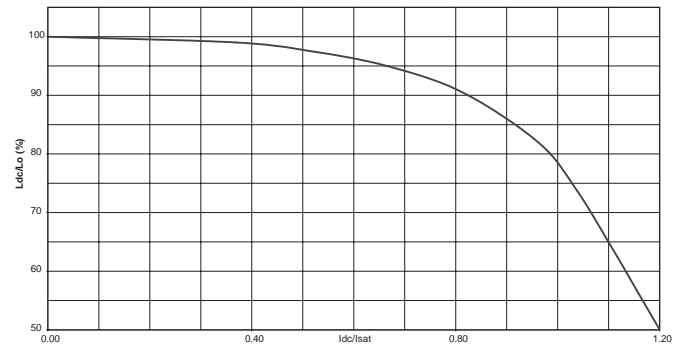


## Inductance vs. $I_{dc}$

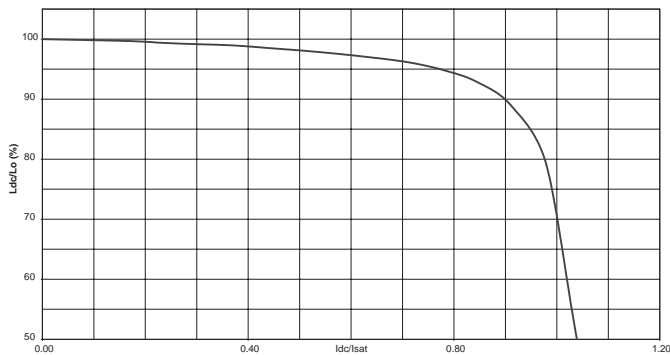
HC1 Inductor (R87)



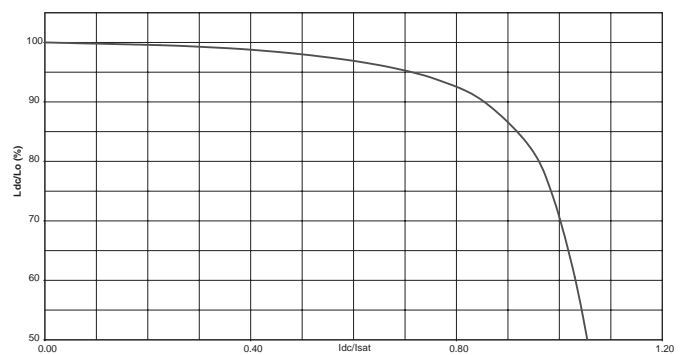
HC1 Inductor (R22, 7R8)



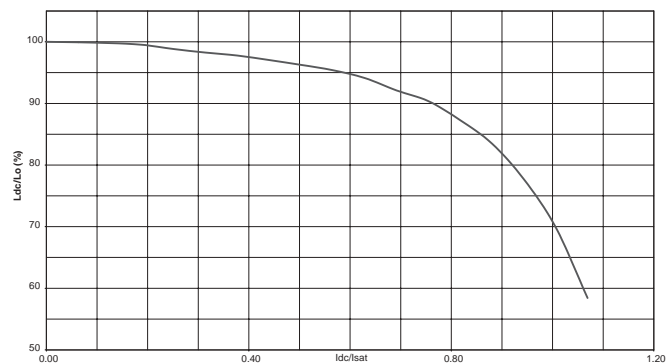
HC1 Inductor (1R7)



HC1 Inductor (R57, 2R3, 3R6, 5R1)



HC1 Inductor (R30, 100)



HC1 Inductor (1R0)

