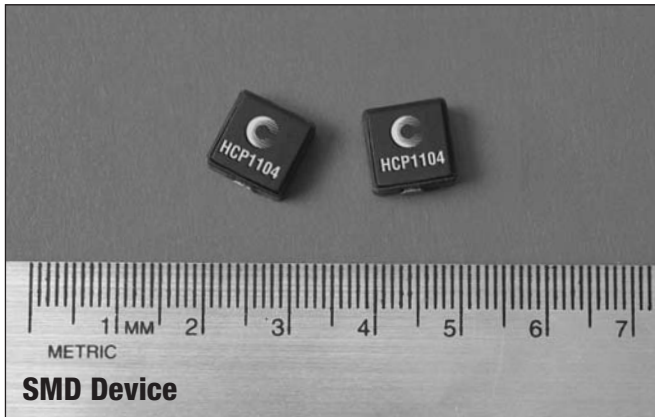


# High Current, Pressed, Power Inductors

## HCP1104 Series



### Applications

- Notebook power
- VRM, multi-phase buck regulator
- DC-DC converters
- PC workstations/Servers
- Routers

### Environmental Data

- Storage temperature range: -55°C to +125°C
- Operating temperature range: -55°C to +125°C (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds maximum

### Packaging

- Supplied in tape and reel packaging, 950 parts per reel, 13" diameter reel

### Description

- 125°C maximum total temperature operation
- Low profile surface mount inductors
- 10 x 11.5 x 4.0mm package
- Magnetically shielded, low EMI
- Pressed powder iron core material
- Enhanced core coating eliminates rusting and provides high insulation impedance
- Inductance range from 0.2µH to 0.9µH
- Current range from 42.0 Amps to 22 Amps
- Frequency range up to 1MHz
- Black or gray aesthetic color

### Product Specifications

Part Number <sup>5</sup>	Rated Inductance (µH)	OCL <sup>1</sup> µH ± 20%	I <sub>rms</sub> <sup>2</sup> Amps	I <sub>sat</sub> <sup>3</sup> Amps	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor <sup>4</sup>
HCP1104-R36-R	0.36	0.36	30	40	1.0	1.2	289
HCP1104-R56-R	0.56	0.56	25	32	1.60	1.8	287
HCP1104-R90-R	0.90	0.90	22	25	2.30	2.5	168

<sup>1</sup> Open Circuit Inductance (OCL) Test Parameters: 100kHz, 0.25V, 0.0A<sub>dc</sub>

<sup>2</sup> I<sub>rms</sub>: DC current for an approximate ΔT rise of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow and proximity of other heat generating components will affect the temperature rise. It is recommended the part temperature not exceed 125°C under worst case operating conditions verified in the end application.

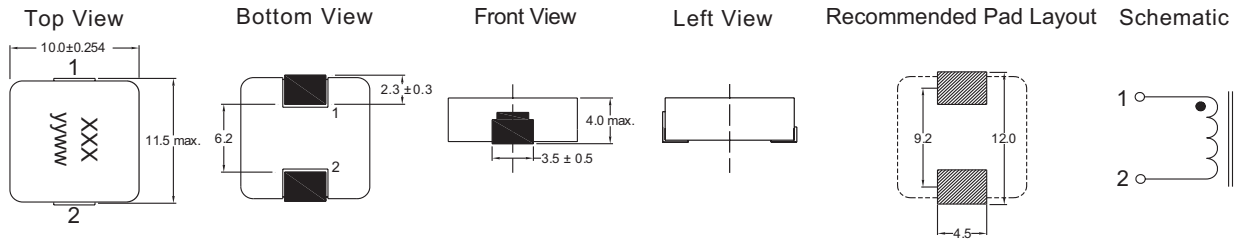
<sup>3</sup> I<sub>sat</sub>: Amps for approximately 20% rolloff (@25°C).

<sup>4</sup> K-factor: Used to determine B<sub>p-p</sub> for core loss (see graph). B<sub>p-p</sub> = K \* L \* ΔI, B<sub>p-p</sub>: (Gauss), K: (K-factor from table), L: (inductance in µH), ΔI (peak-to-peak ripple current in amps).

<sup>5</sup> Part Number Definition: HCP1104-xxx-R

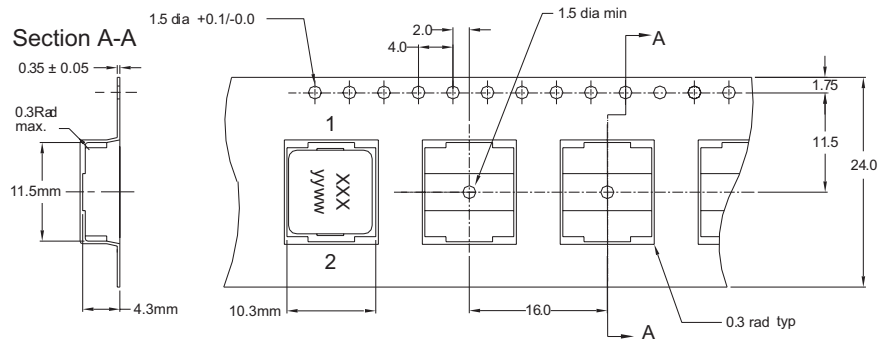
- HCP1104 = Product code and size
- xxx= Inductance value in µH, R = decimal point. If no "R" is present, then third character = # of zeros
- \*-R" suffix = RoHS compliant

### Dimensions - mm



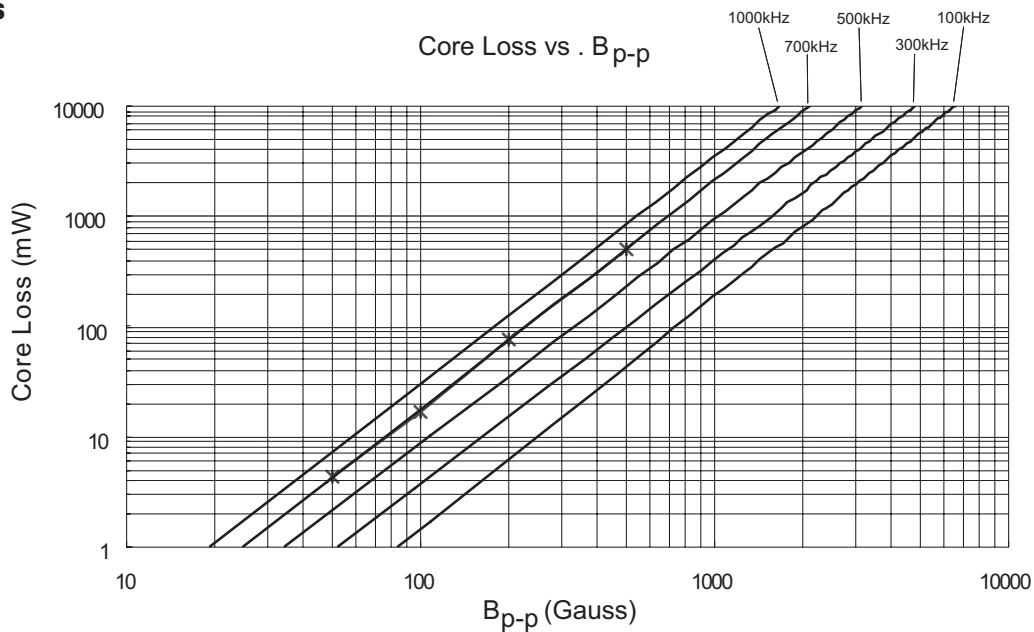
Part Marking: HCP1104      xxx = Inductance value in  $\mu$ H. (R = Decimal point). If no "R" is present, then last character is # of zeros      yyww = Date code

### Packaging Information - mm

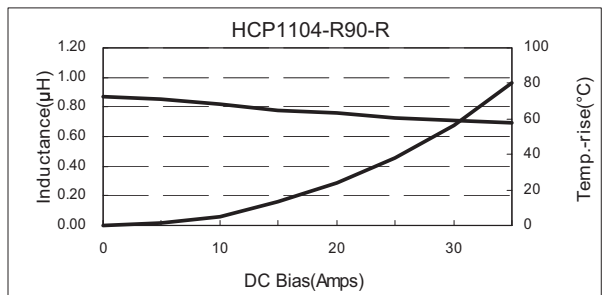
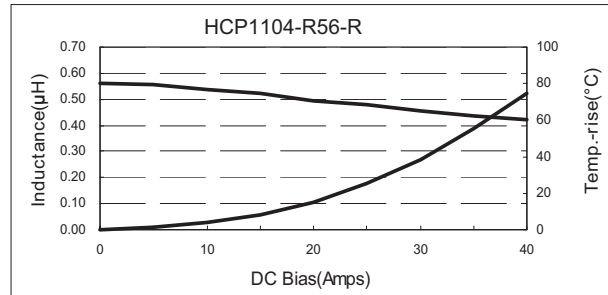
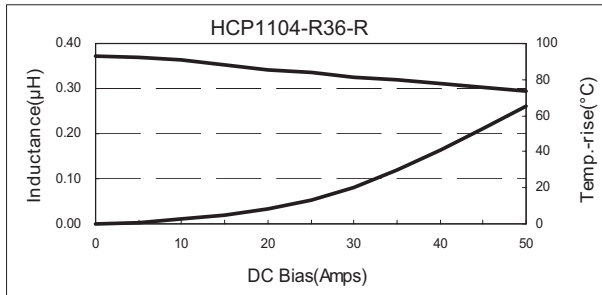


Supplied in tape-and-reel packaging, 950 parts per reel, 13" diameter reel.

### Core Loss



## Performance Graphs



### North America

Cooper Electronic Technologies  
1225 Broken Sound Parkway NW  
Suite F  
Boca Raton, FL 33487-3533  
Tel: 1-561-998-4100  
Fax: 1-561-241-6640  
Toll Free: 1-888-414-2645

Cooper Bussmann  
P.O. Box 14460  
St. Louis, MO 63178-4460  
Tel: 1-636-394-2877  
Fax: 1-636-527-1607

### Europe

Cooper Electronic Technologies  
Cooper (UK) Limited  
Burton-on-the-Wolds  
Leicestershire • LE12 5TH UK  
Tel: +44 (0) 1509 882 737  
Fax: +44 (0) 1509 882 786

Cooper Electronic Technologies  
Avda. Santa Eulalia, 290  
08223  
Terrassa, (Barcelona), Spain  
Tel: +34 937 362 812  
+34 937 362 813  
Fax: +34 937 362 719

### Asia Pacific

Cooper Electronic Technologies  
1 Jalan Kilang Timor  
#06-01 Pacific Tech Centre  
Singapore 159303  
Tel: +65 278 6151  
Fax: +65 270 4160

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