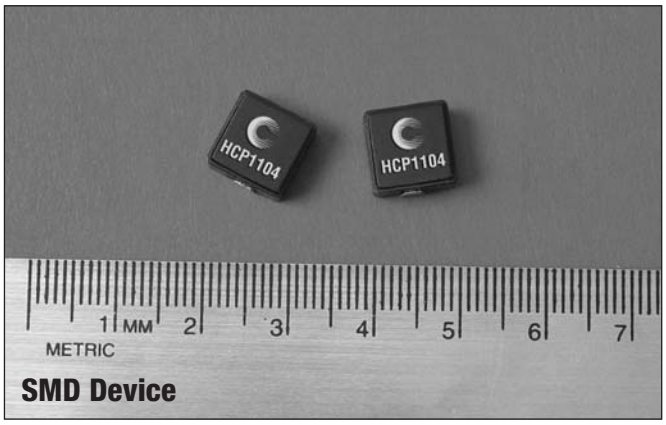
COILTRONICS®

High Current, Pressed, Power Inductors

HCP1104 Series



SMD Device

RoHS 2002/95/EC

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

Description

- 125°C maximum total temperature operation
- Low profile surface mount inductors
- 10 x 11.5 x 4.0mm package
- 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

Packaging

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

Product Specifications

Part Number[5]	Rated Inductance (µH)	OCL[1] µH ± 20%	I_{rms}[2] Amps	I_{sat}[3] Amps	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor[4]
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

1 Open Circuit Inductance (OCL) Test Parameters: 100kHz, 0.25V, 0.0Adc

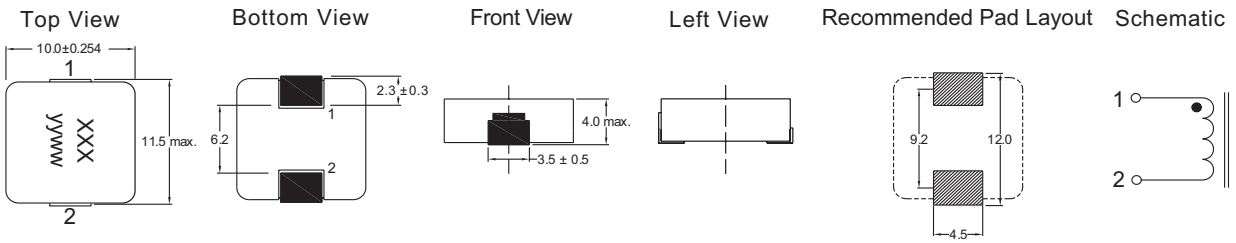
2 I_{rms}: DC current for an approximate ΔT rise of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow and proximity of other heat generating components will affect the temperature rise. It is recommended the part temperature not exceed 125°C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

3 I_{sat}: Amps for approximately 20% rolloff (@25°C).

4 K-factor: Used to determine B_{p-p} for core loss (see graph). $B_{p-p} = K * L * \Delta I$, B_{p-p}: (Gauss), K: (K-factor from table), L: (inductance in µH), ΔI (peak-to-peak ripple current in amps).

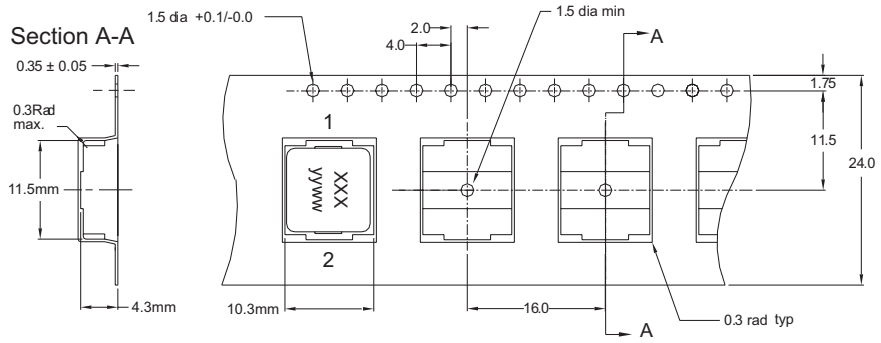
5 Part Number Definition: HCP1104-xxx-R
- HCP1104 = Product code and size
- xxx= Inductance value in µH, R = decimal point. If no "R" is present, then third character = # of zeros
- "-R" suffix = RoHS compliant

Dimensions - mm



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

Packaging Information - mm



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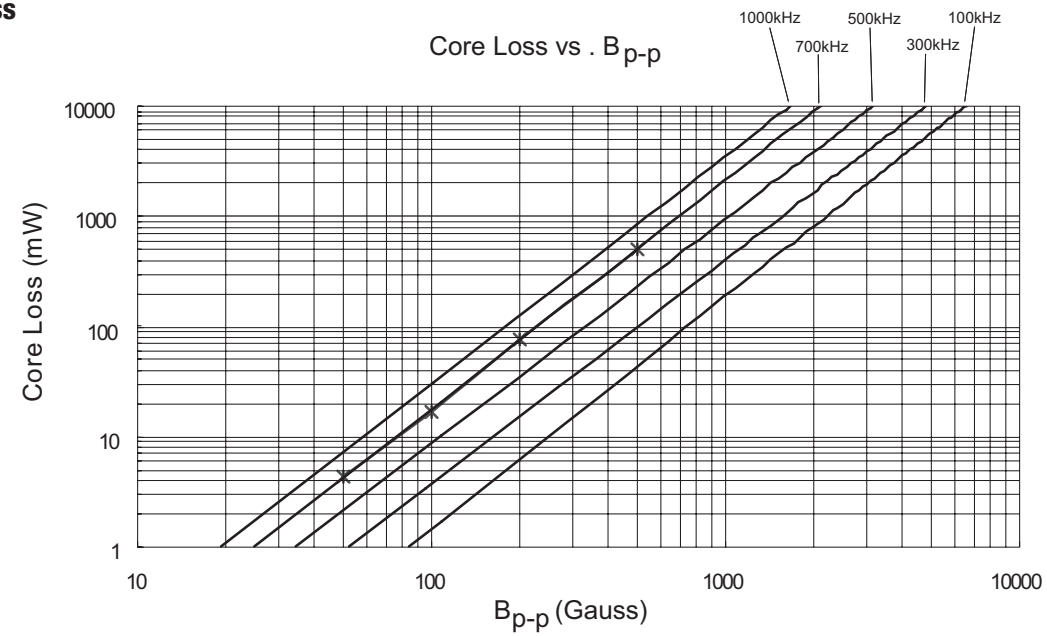
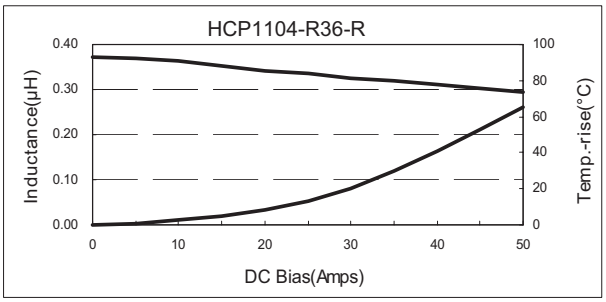
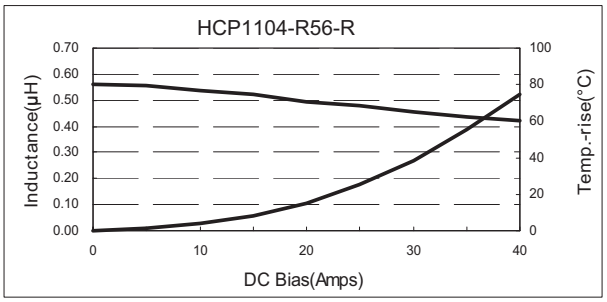
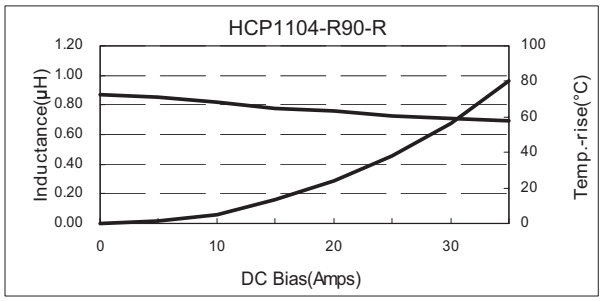
Core Loss



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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