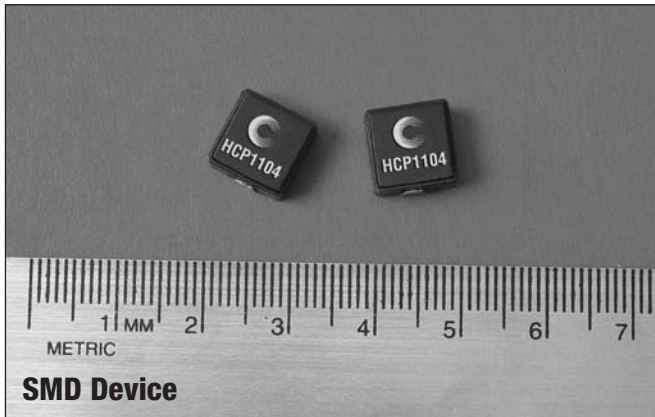


High Current, Pressed, Power Inductors

HCP1104 Series



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

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

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, 0.0A_{dc}

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.

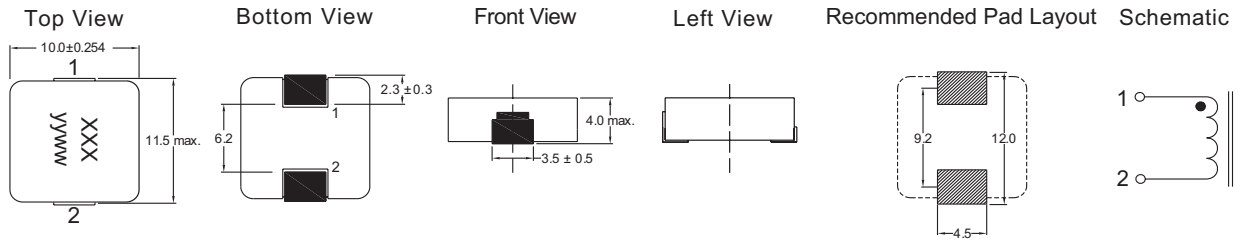
3 I_{sat}: Amps for approximately 20% rolloff (@25°C).

4 K-factor: Used to determine B_{p-p} for core loss (see graph). B_{p-p} = K · L · ΔI, 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

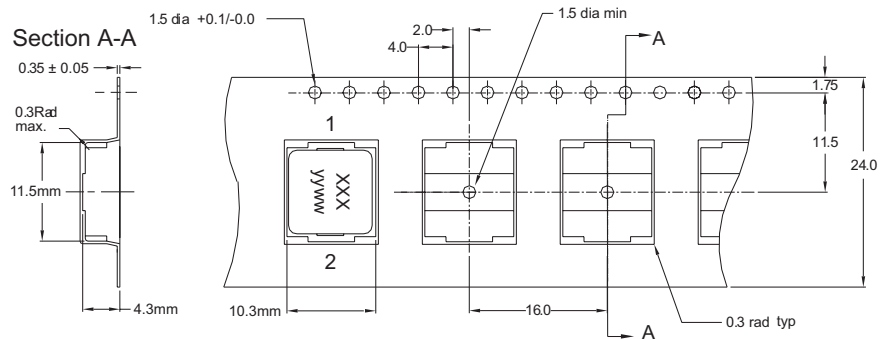


Part Marking: HCP1104

xxx = Inductance value in μH . (R = Decimal point). If no "R" is present, then last character is # of zeros

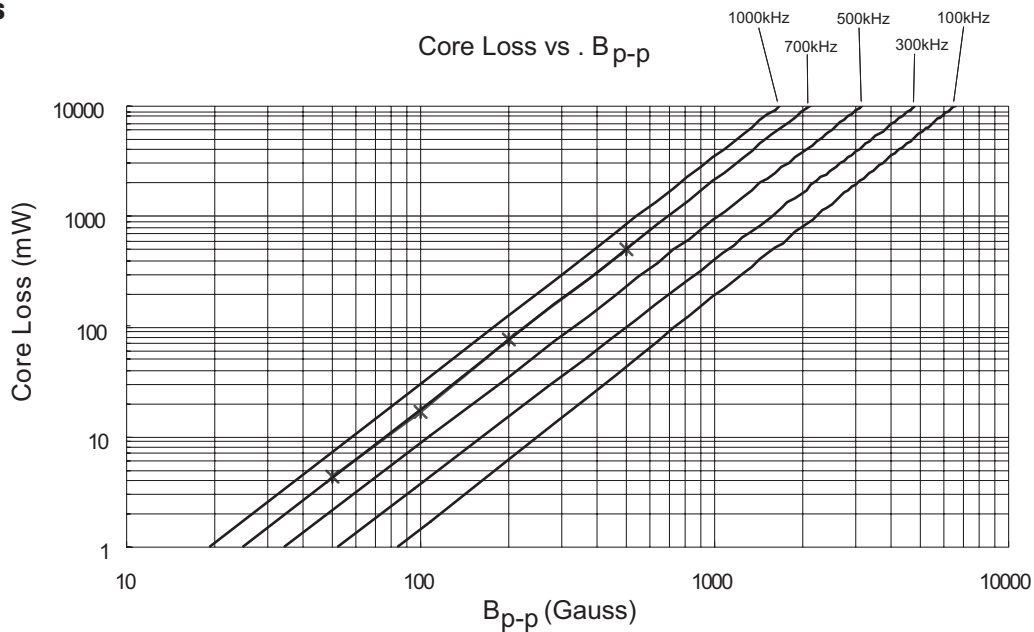
yyww = Date code

Packaging Information - mm

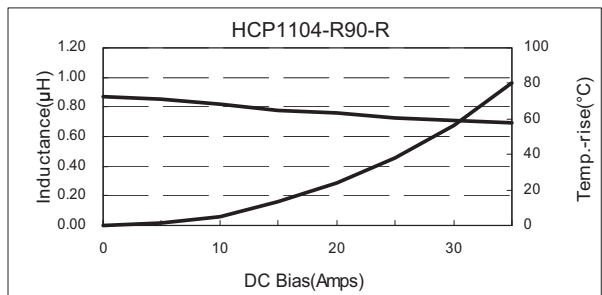
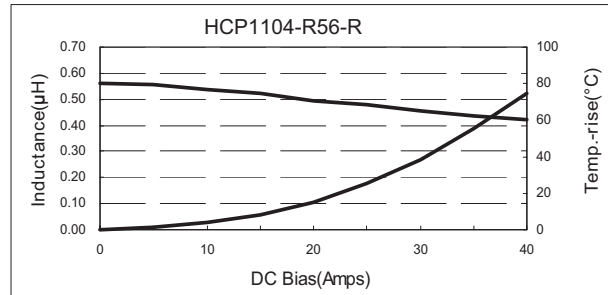
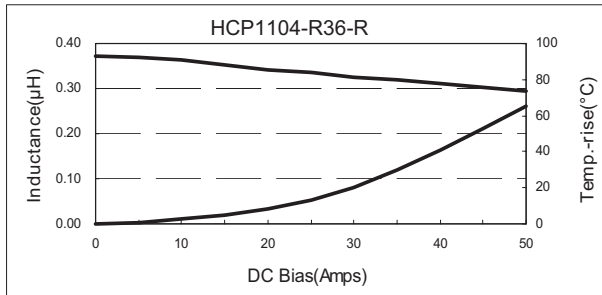


Supplied in tape-and-reel packaging, 950 parts per reel, 13" diameter reel.

Core Loss



Performance Graphs



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