

**SMD Power Inductor**

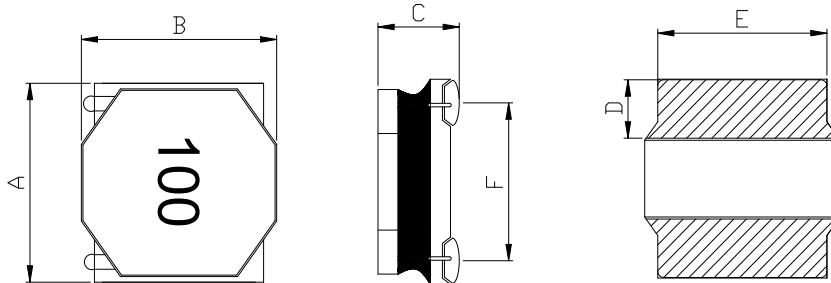
**HPC5040NF-SERIES**

**1. Features**

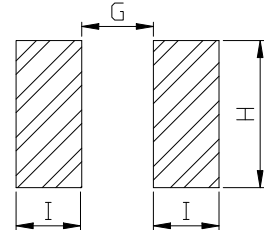
1. This specification applies Low Profile Power Inductors.
2. 100% Lead(Pb) & Halogen-Free and RoHS compliant.
3. Operating temperature :-40~+125°C (Including self - temperature rise).



**2. Dimension**



**Recommend Land pattern**



Series	Inductance	A(mm)	B(mm)	C(mm)	D(mm)	E (mm)	F(mm)
HPC5040NF	≤ 10 uH	4.95±0.2	4.95±0.2	3.9±0.2	1.3±0.3	4.2±0.2	3.7ref
	> 10 uH			3.8±0.2			

G(mm)	H(mm)	I(mm)
2.1	4.2	1.5

Note: 1. The above PCB layout reference only.  
 2. Recommend solder paste thickness at 0.12mm and above.

**3. Part Numbering**



- A: Series
- B: Dimension
- C: Type
- D: Inductance
- E: Inductance Tolerance

A/B\*C

1R0=1.00uH, 100=10uH, 101=100uH, 102=1000uH  
 K=± 10%, L=±15%, M=±20%, Y=± 30%.

marking direction cannot decide polarity. Color: Black, unidirectional.  
 magnetic shielding

## 4. Specification

Part Number	Inductance L0 (uH) @ 0 A	Tolerance				Rated current		DCR (mΩ) @25°C ±20%.
		K	L	M	Y	Temperature current I rms (A)	Saturation current I sat (A)	
HPC5040NF-R60	0.60	/	/	±20%	±30%	8.00	11.0	8
HPC5040NF-1R0	1.00	/	/	±20%	±30%	5.00	7.50	12
HPC5040NF-1R5	1.50	/	/	±20%	±30%	4.50	6.50	15
HPC5040NF-1R8	1.80	/	/	±20%	±30%	4.20	6.10	18
HPC5040NF-2R2	2.20	/	/	±20%	±30%	3.80	5.70	21
HPC5040NF-3R3	3.30	/	/	±20%	±30%	3.50	4.40	24
HPC5040NF-4R7	4.70	/	/	±20%	±30%	3.20	3.90	32
HPC5040NF-6R8	6.80	/	/	±20%	±30%	2.50	3.30	43
HPC5040NF-100	10.0	/	/	±20%	±30%	2.20	2.52	56
HPC5040NF-150	15.0	/	±15%	±20%	±30%	1.80	2.00	80
HPC5040NF-220	22.0	/	±15%	±20%	±30%	1.50	1.62	123
HPC5040NF-330	33.0	/	±15%	±20%	±30%	1.20	1.30	180
HPC5040NF-470	47.0	±10%	±15%	±20%	±30%	1.00	1.10	270
HPC5040NF-680	68.0	±10%	±15%	±20%	±30%	0.80	0.90	400
HPC5040NF-820	82.0	±10%	±15%	±20%	±30%	0.75	0.78	490
HPC5040NF-101	100	±10%	±15%	±20%	±30%	0.72	0.75	560
HPC5040NF-221	220	±10%	±15%	±20%	±30%	0.55	0.62	1500

**Note:**

1. All test data referenced to 25°C ambient , Ls:100KHz/1V.
2. Testing Instrument : HP4284A,CH11025,CH3302,CH1320 ,CH1320S LCR METER / Rdc:CH502BC MICRO OHMMETER.
3. Heat Rated Current (Irms) will cause the coil temperature rise approximately Δt of 40°C.
4. Saturation Current (Isat) will cause L0 to drop approximately 30%.
5. Rated DC Current : The less value which is I rms or Isat.
6. The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions.Circuit design,component,PCB trace size and thickness,airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
7. Special inquiries besides the above common used types can be met on your requirement.

### 5. Typical Performance Curves

