

# SMD Power Inductor

HPC4030NV-SERIES

## 1. Features

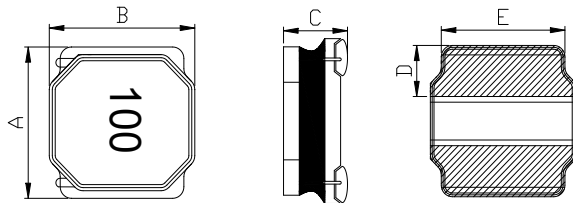
1. Magnetic-resin shielded construction reduces buzz noise to ultra-low levels
2. Metallization on ferrite core results in excellent shock resistance and damage-free durability
3. Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI)
4. 30% higher current rating than conventional inductors of equal size
5. Takes up less PCB real estate and save more power
6. High reliability -Reliability tests comply with AEC-Q200
7. Operating temperature:-55~+125℃(Including self - temperature rise)



## 2. Applications

1. LED Lighting
2. Next-generation mobile devices with multifunction such as mobile TV and digital movie cameras
3. Flat-screen TVs, blue-ray disc recorders, set top box
4. Notebooks, desktop computers, servers, graphic cards cards
5. Portable gaming devices, personal navigation systems, personal multimedia devices
6. Automotive systems
7. Telecomm base stations

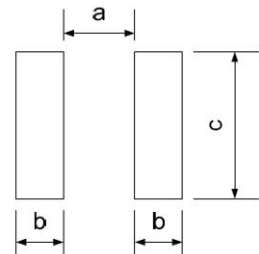
## 3. Dimension



| Series    | *A(mm)  | *B(mm)  | C(mm)   | D(mm)    | E(mm)   |
|-----------|---------|---------|---------|----------|---------|
| HPC4030NV | 4.0±0.2 | 4.0±0.2 | 3.0Max. | 1.35±0.3 | 3.4±0.4 |

\*Dimensions are not including the termination. For maximum overall dimensions with termination , add 0.1mm.

## Recommend Land pattern



| a(mm)  | b(mm)  | c(mm)  |
|--------|--------|--------|
| 1.3Typ | 1.5Typ | 3.7Typ |

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

## 4. Part Numbering



- A: Series
  - B: Dimension
  - C: Type
  - D: Inductance
  - E: Inductance Tolerance
- A/B\*C  
 V=Vehicle  
 100=10uh  
 M=±20%
- marking direction cannot decide polarity. Color: Black, unidirectional magnetic shielding

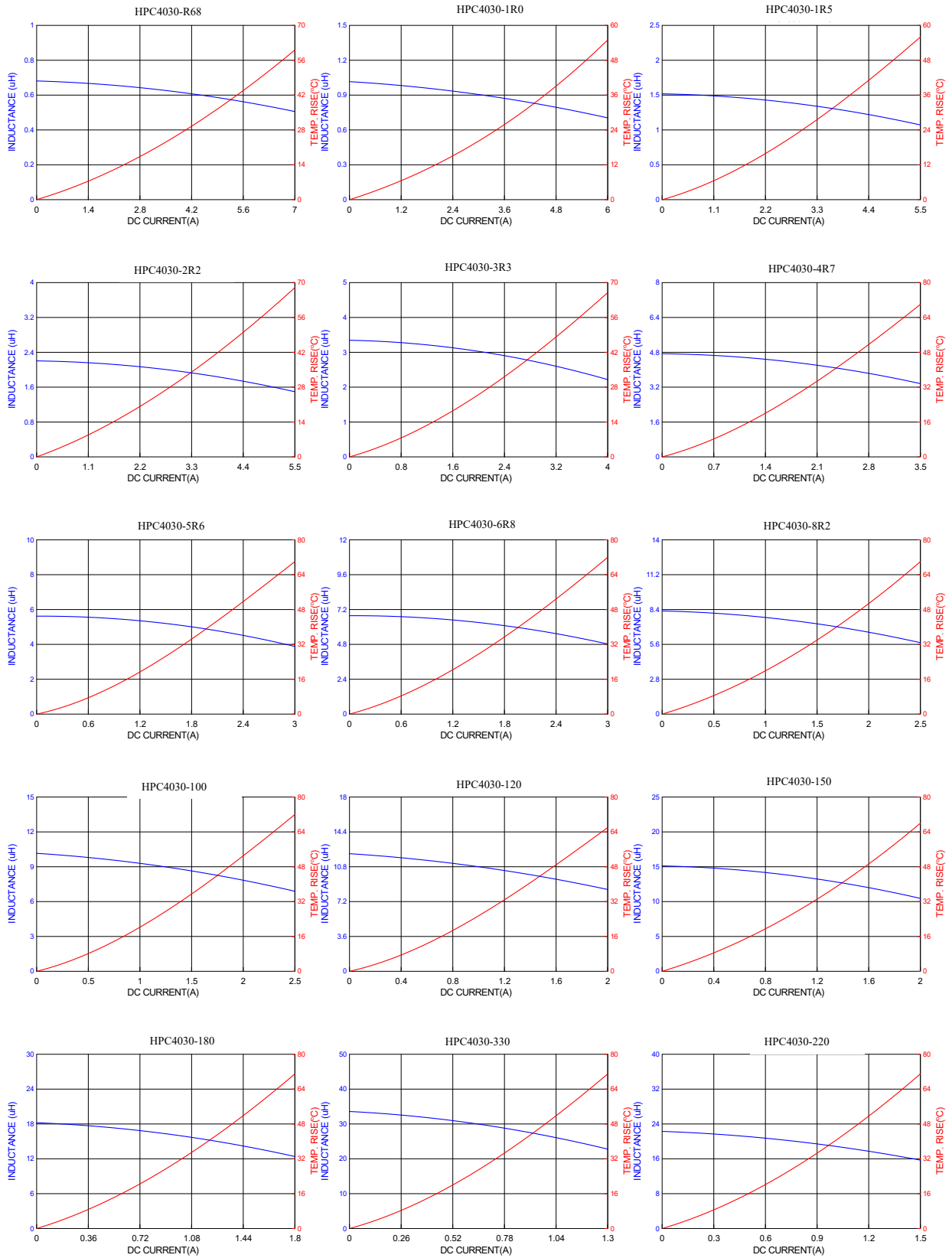
## 5. Specification

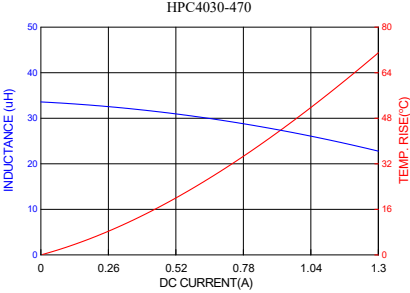
| Part Number    | Inductance<br>L0 (uH)±20%<br>@ 0 A | Rated current                       |                                    | DCR<br>(mΩ)<br>@25°C<br>±20%. |
|----------------|------------------------------------|-------------------------------------|------------------------------------|-------------------------------|
|                |                                    | Temperature<br>current<br>I rms (A) | Saturation<br>current<br>I sat (A) |                               |
| HPC4030NV-R68M | 0.68                               | 4.60                                | 6.80                               | 10                            |
| HPC4030NV-1R0M | 1.00                               | 4.20                                | 5.30                               | 14                            |
| HPC4030NV-1R5M | 1.50                               | 3.40                                | 4.90                               | 20                            |
| HPC4030NV-2R2M | 2.20                               | 3.00                                | 4.90                               | 30                            |
| HPC4030NV-3R3M | 3.30                               | 2.40                                | 3.30                               | 40                            |
| HPC4030NV-4R7M | 4.70                               | 2.05                                | 2.90                               | 60                            |
| HPC4030NV-5R6M | 5.60                               | 1.95                                | 2.60                               | 65                            |
| HPC4030NV-6R8M | 6.80                               | 1.80                                | 2.75                               | 90                            |
| HPC4030NV-8R2M | 8.20                               | 1.60                                | 2.10                               | 90                            |
| HPC4030NV-100M | 10.0                               | 1.50                                | 2.00                               | 100                           |
| HPC4030NV-120M | 12.0                               | 1.30                                | 1.80                               | 135                           |
| HPC4030NV-150M | 15.0                               | 1.20                                | 1.70                               | 190                           |
| HPC4030NV-180M | 18.0                               | 1.10                                | 1.50                               | 200                           |
| HPC4030NV-220M | 22.0                               | 1.00                                | 1.30                               | 225                           |
| HPC4030NV-330M | 33.0                               | 0.85                                | 1.10                               | 330                           |
| HPC4030NV-470M | 47.0                               | 0.72                                | 0.95                               | 445                           |

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 (I rms) will cause the coil temperature rise approximately Δt of 40°C.
4. Saturation Current ( I sat ) will cause L0 to drop approximately 30%.
5. Rated DC Current : The less value whith is I rms or I sat.
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 Curve





Core chipping