



## Sealed Power Inductor

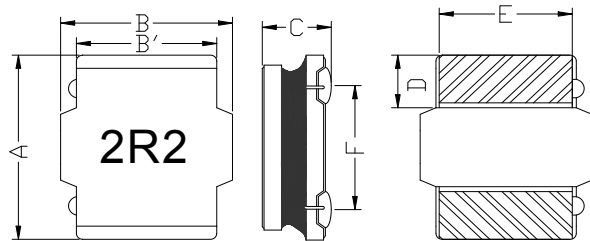
GPC6045NF-SERIES

### 1. Features

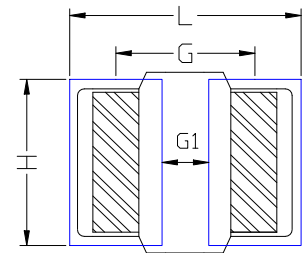
1. This specification applies Low Profile Power Inductors.
2. 100% Lead(Pb) & Halogen-Free and RoHS compliant.
3. Operating temperature :-40~+125°C (Including self - temperature rise)



### 2. Dimension



#### Recommended Land pattern



| Series    | A(mm)   | B(mm)   | B'(mm)  | C(mm)   | D(mm)   | E(mm)   | F(mm)    |
|-----------|---------|---------|---------|---------|---------|---------|----------|
| GPC6045NF | 6.0±0.3 | 6.0±0.3 | 4.8±0.2 | 4.2±0.3 | 1.7±0.3 | 4.5±0.3 | 4.25±0.3 |

| L(mm) | G(mm) | G1(mm)  | H(mm) |
|-------|-------|---------|-------|
| 6.5   | 4.25  | 1.80min | 4.8   |

Note: 1. The above PCB layout reference only.  
2. Recommend solder paste thickness at 0.15mm and above.

### 3. Part Numbering

|            |             |           |   |            |          |
|------------|-------------|-----------|---|------------|----------|
| <b>GPC</b> | <b>6045</b> | <b>NF</b> | - | <b>2R2</b> | <b>Y</b> |
| A          | B           | C         |   | D          | E        |

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

A/B\*C

2R2=2.20uH,100=10uH,101=100uH,102=1000uH  
M=±20%,Y=±30%.

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



## 4. Specification

| Part Number   | Inductance<br>L0 (uH)<br>@ 0 A | Tolerance |      |      |      | Rated current                       |                                    | DCR<br>(mΩ) @25℃<br>±20%. |
|---------------|--------------------------------|-----------|------|------|------|-------------------------------------|------------------------------------|---------------------------|
|               |                                |           |      |      |      | Temperature<br>current<br>I rms (A) | Saturation<br>current<br>I sat (A) |                           |
| GPC6045NF-R36 | 0.36                           | /         | /    | ±20% | ±30% | 9.00                                | 18.00                              | 4.80                      |
| GPC6045NF-R47 | 0.47                           | /         | /    | ±20% | ±30% | 8.60                                | 17.00                              | 6.80                      |
| GPC6045NF-R82 | 0.82                           | /         | /    | ±20% | ±30% | 8.20                                | 14.50                              | 8.50                      |
| GPC6045NF-1R0 | 1.00                           | /         | /    | ±20% | ±30% | 8.00                                | 13.50                              | 10.0                      |
| GPC6045NF-1R2 | 1.20                           | /         | /    | ±20% | ±30% | 7.50                                | 12.50                              | 10.5                      |
| GPC6045NF-1R5 | 1.50                           | /         | /    | ±20% | ±30% | 7.00                                | 12.00                              | 11.7                      |
| GPC6045NF-1R8 | 1.80                           | /         | /    | ±20% | ±30% | 6.80                                | 11.00                              | 12.0                      |
| GPC6045NF-2R0 | 2.00                           | /         | /    | ±20% | ±30% | 6.50                                | 10.50                              | 13.5                      |
| GPC6045NF-2R2 | 2.20                           | /         | /    | ±20% | ±30% | 6.00                                | 9.50                               | 15.0                      |
| GPC6045NF-2R3 | 2.30                           | /         | /    | ±20% | ±30% | 5.80                                | 9.30                               | 16.0                      |
| GPC6045NF-3R3 | 3.30                           | /         | /    | ±20% | ±30% | 5.00                                | 7.80                               | 21.0                      |
| GPC6045NF-3R6 | 3.60                           | /         | /    | ±20% | ±30% | 4.90                                | 7.40                               | 22.5                      |
| GPC6045NF-4R7 | 4.70                           | /         | ±15% | ±20% | ±30% | 4.50                                | 6.80                               | 26.0                      |
| GPC6045NF-5R6 | 5.60                           | /         | ±15% | ±20% | ±30% | 4.10                                | 6.40                               | 31.0                      |
| GPC6045NF-6R3 | 6.30                           | /         | ±15% | ±20% | ±30% | 3.80                                | 5.90                               | 33.0                      |
| GPC6045NF-6R8 | 6.80                           | /         | ±15% | ±20% | ±30% | 3.60                                | 5.70                               | 34.0                      |
| GPC6045NF-100 | 10.0                           | ±10%      | ±15% | ±20% | ±30% | 3.20                                | 4.60                               | 52.0                      |
| GPC6045NF-150 | 15.0                           | ±10%      | ±15% | ±20% | ±30% | 2.80                                | 3.80                               | 71.0                      |
| GPC6045NF-220 | 22.0                           | ±10%      | ±15% | ±20% | ±30% | 2.30                                | 3.30                               | 96.0                      |
| GPC6045NF-330 | 33.0                           | ±10%      | ±15% | ±20% | ±30% | 1.80                                | 2.50                               | 145                       |
| GPC6045NF-470 | 47.0                           | ±10%      | ±15% | ±20% | ±30% | 1.60                                | 2.00                               | 200                       |

### Note:

1. All test data referenced to 25℃ ambient , Ls:1MHz/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℃
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℃ 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

