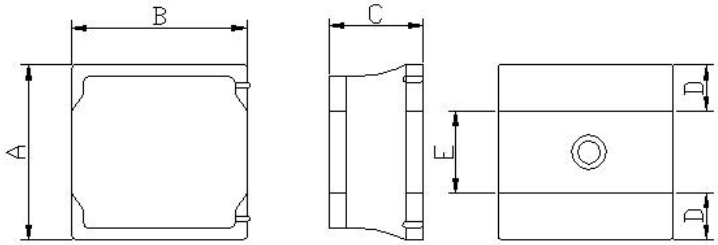
# Power Inductor

**HPC3012TF-SERIES**

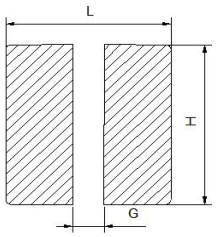
## 1. Features

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

## 2. Dimension




**Recommended PC Board Pattern**




| A | B | C | D | E |
|---|---|---|---|---|
| 3.0±0.2 | 3.0±0.2 | 1.2 max | 1.0 ref | 1.0 ref |

| L | G | H |
|---|---|---|
| 3.2 | 1.0 | 3.2 |

Unit:mm

## 3. Part Numbering

| HPC | 3012 | TF | - | 100 | M |
|---|---|---|---|---|---|
| A | B | C | | D | E |

A: Series
B: Dimension
C: Lead Free
D: Inductance 100=10.0uH
E: Inductance Tolerance K=±10%, L=±15%, M=±20%, Y=±30%.

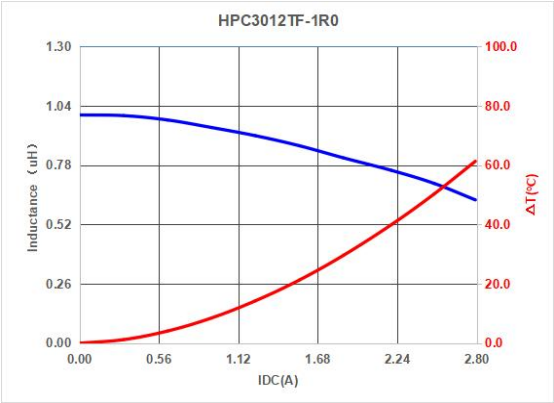
## 4. Specification

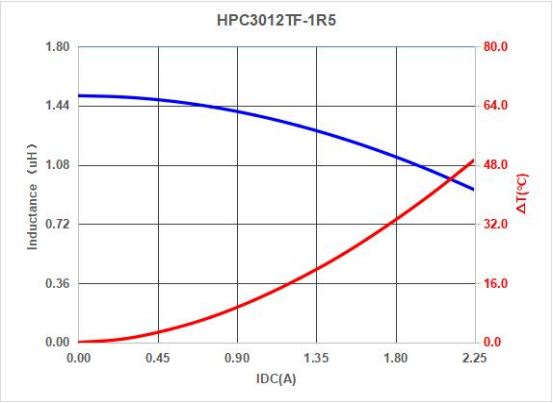
| Part Number | Inductance (uH)±20% @ 0 A | Test Frequency (Hz) | I rms (A) | | I sat (A) | | DCR (Ω) ±20% |
|---|---|---|---|---|---|---|---|
| | | | Typ | Max | Typ | Max | |
| HPC3012TF-1R0Y | 1.00±30% | 0.1V/1M | 2.20 | 2.00 | 2.50 | 2.15 | 0.042 |
| HPC3012TF -1R5Y | 1.50±30% | 0.1V/1M | 2.00 | 1.85 | 2.00 | 1.70 | 0.056 |
| HPC3012TF -2R2M | 2.20 | 0.1V/1M | 1.90 | 1.70 | 1.80 | 1.50 | 0.080 |
| HPC3012TF -3R3M | 3.30 | 0.1V/1M | 1.70 | 1.55 | 1.50 | 1.20 | 0.100 |
| HPC3012TF-4R7M | 4.70 | 0.1V/1M | 1.50 | 1.30 | 1.30 | 1.05 | 0.130 |
| HPC3012TF-6R8M | 6.80 | 0.1V/1M | 1.20 | 1.05 | 1.20 | 0.90 | 0.180 |
| HPC3012TF-100M | 10.0 | 0.1V/1M | 1.00 | 0.89 | 0.90 | 0.76 | 0.245 |
| HPC3012TF-150M | 15.0 | 0.1V/1M | 0.90 | 0.74 | 0.80 | 0.62 | 0.386 |
| HPC3012TF-220M | 22.0 | 0.1V/1M | 0.70 | 0.61 | 0.60 | 0.49 | 0.580 |
| HPC3012TF-330M | 33.0 | 0.1V/1M | 0.45 | 0.40 | 0.45 | 0.40 | 1.100 |
| HPC3012TF-470M | 47.0 | 0.1V/1M | 0.40 | 0.36 | 0.40 | 0.36 | 1.450 |

Note:

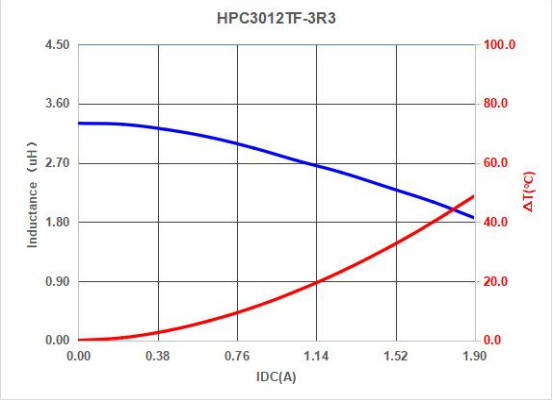
Isat: Saturation Current (Isat) will cause L0 to drop approximately 30%.
Irms: Heat Rated Current (Irms) will cause the coil temperature rise approximately ΔT of 40℃
Rated DC current: The lower value of Irms and Isat.

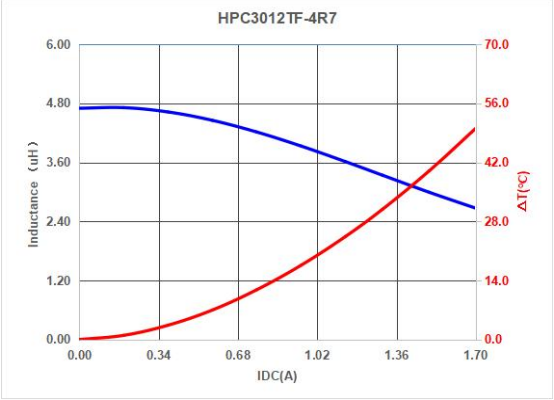
## 10.Typical Performance Curves

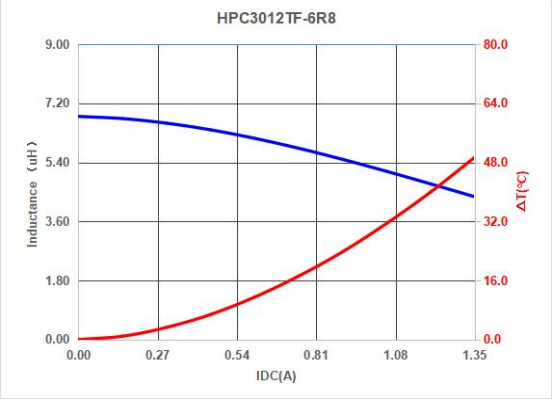


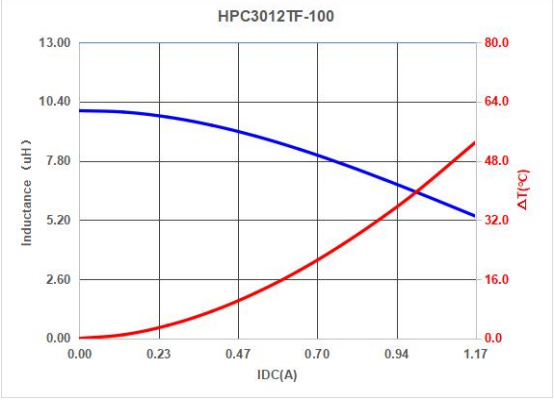



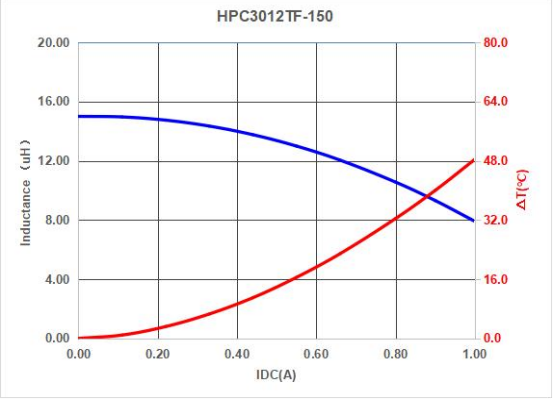


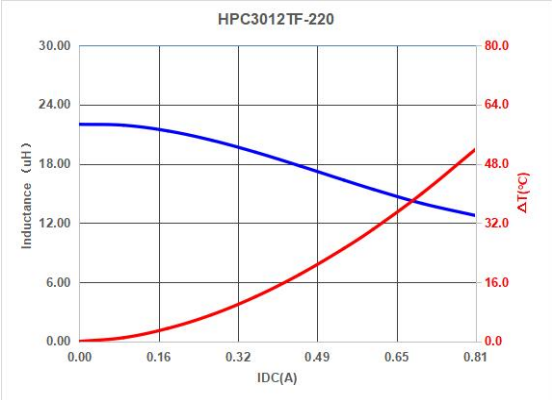


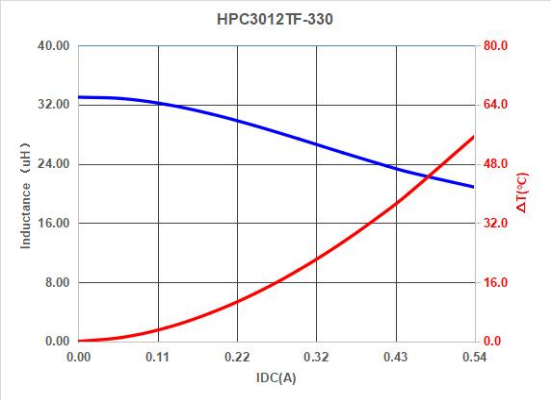



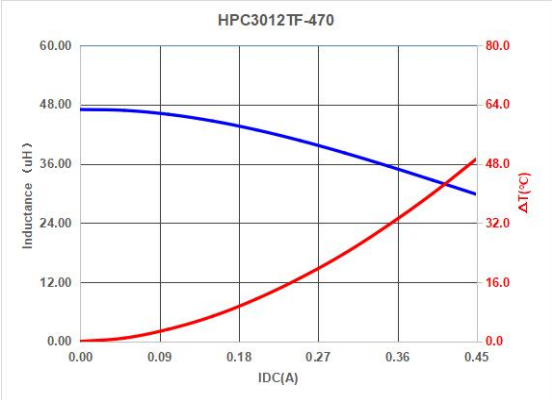




HPC3012TF-220
Inductance（uH）
ΔT(℃)
IDC(A)
30.00
24.00
18.00
12.00
6.00
0.00
80.0
64.0
48.0
32.0
16.0
0.0
0.00
0.16
0.32
0.49
0.65
0.81


HPC3012TF-330
Inductance（uH）
ΔT(℃)
IDC(A)
40.00
32.00
24.00
16.00
8.00
0.00
80.0
64.0
48.0
32.0
16.0
0.0
0.00
0.11
0.22
0.32
0.43
0.54


HPC3012TF-470
Inductance（uH）
ΔT(℃)
IDC(A)
60.00
48.00
36.00
24.00
12.00
0.00
80.0
64.0
48.0
32.0
16.0
0.0
0.00
0.09
0.18
0.27
0.36
0.45