Power Inductor

1. Features

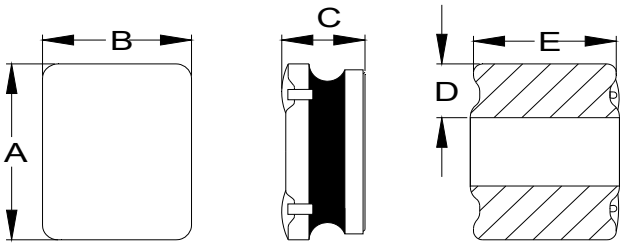
1. Low Profile Power Inductors.
2. 100% Lead(Pb)-Free & Halogen-Free and RoHS compliant.
3. High reliability-complied with AEC-Q200.

2. Applications

AEC-Q200

For automotive applications.

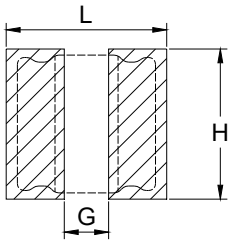
3. Dimension



*A	*B	*C	D	E
2.5±0.2	2.0±0.2	1.0±0.2	0.9±0.3	2.0±0.2

Unit:mm
*Termination are not included in dimension. For maximum overall dimensions with ternmination , add 0.1mm.

Recommend PC Board Pattern



L	G	H
3.0	0.7	2.5

Note:
1. PCB layout is referred to IPC-7351B standard
2. The above PCB layout is for reference only.

4. Part Numbering

THPC	252012	BM	V	-	1R5	M
A	B	C	D		E	F

A: Series
B: Dimension
C: Lead Free
D: Code V=Vehicle
E: Inductance 1R5=1.50uH
F: Inductance Tolerance M=±20%

Anti-static packaging

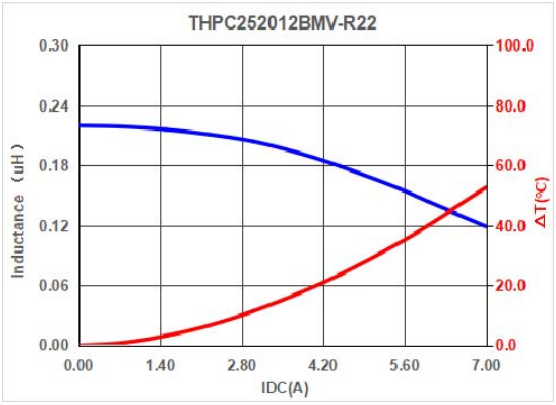
5. Specification

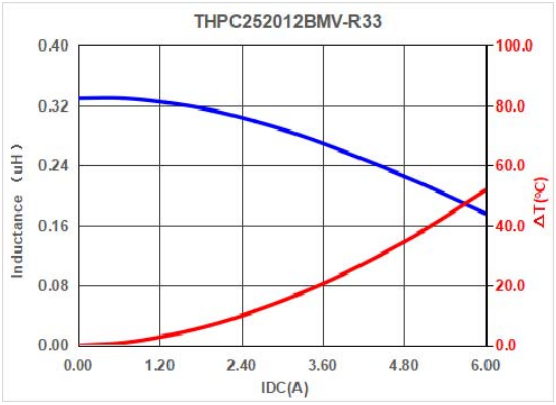
Part Number	Inductance (uH)±20% @ 0 A	I rms (A)		I sat (A)		DCR (mΩ)	
		Typ	Max	Typ	Max	Typ	Max
THPC252012BMV-R22M	0.22	6.00	5.50	5.50	5.00	15	18
THPC252012BMV-R33M	0.33	5.20	4.80	4.80	4.40	20	24
THPC252012BMV-R47M	0.47	4.80	4.50	4.30	4.00	26	32
THPC252012BMV-R68M	0.68	4.40	4.00	3.70	3.50	37	45
THPC252012BMV-1R0M	1.00	3.60	3.30	3.00	2.80	50	60
THPC252012BMV-1R2M	1.20	3.40	3.10	2.90	2.70	61	74
THPC252012BMV-1R5M	1.50	3.10	2.80	2.70	2.50	70	84
THPC252012BMV-2R2M	2.20	2.70	2.30	2.10	1.90	94	113
THPC252012BMV-3R3M	3.30	2.20	1.90	1.70	1.50	126	152
THPC252012BMV-4R7M	4.70	1.80	1.60	1.50	1.30	225	270
THPC252012BMV-6R8M	6.80	1.50	1.30	1.20	1.10	310	372
THPC252012BMV-8R2M	8.20	1.40	1.20	1.10	1.00	380	456
THPC252012BMV-100M	10.0	1.30	1.10	1.00	0.90	495	594

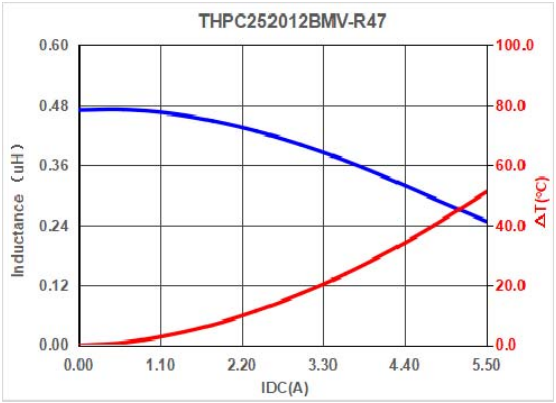
Note:

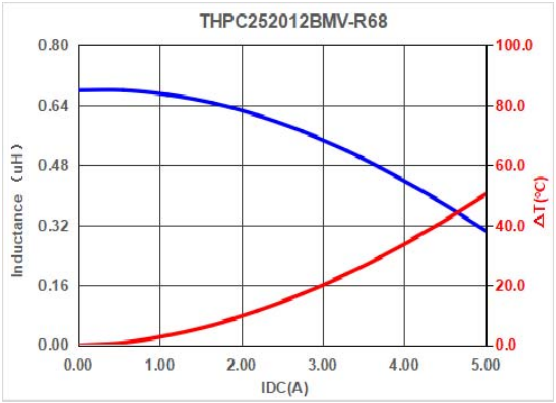
1. Test frequency : Ls : 100KHz /1.0V.
2. All test data are tested to 25°C ambient.
3. Testing Instrument (or eq.): Agilent 4284A,E4991A,4339B,KEYSIGHT E4980A/AL,chroma3302,3250,16502.
4. Heat rated current (Irms): current that cause temperature to rise approximately ΔT of 40°C.
5. Saturation current (Isat): current that cause L0 to drop approximately 30%.
6. The part temperature (ambient + temp. rise) should not exceed 125°C under worst case operating conditions.Circuit design, PCB trace and thickness, airflow and other cooling conditions all affect the part temperature. Part temperature should be verified in the end application.
7. Irms Test : temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.
8. Rated DC current: the lower value of Irms and Isat.

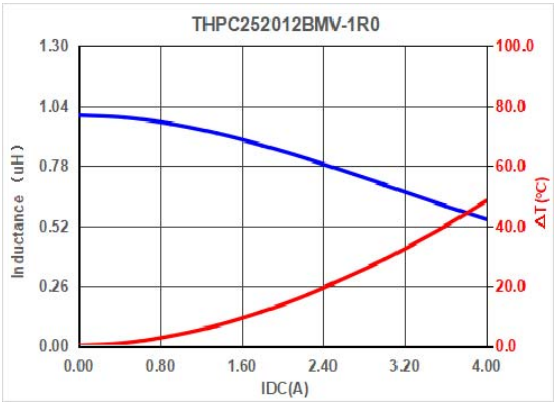
11. Typical Performance Curves

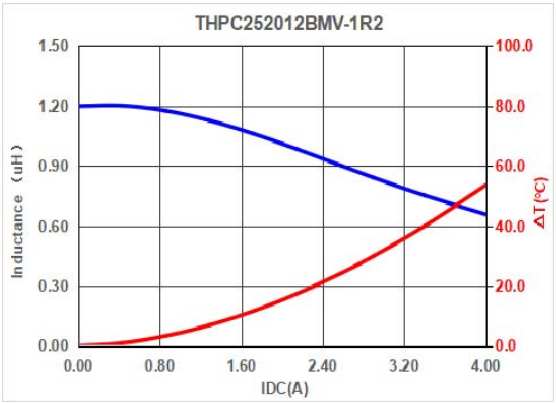


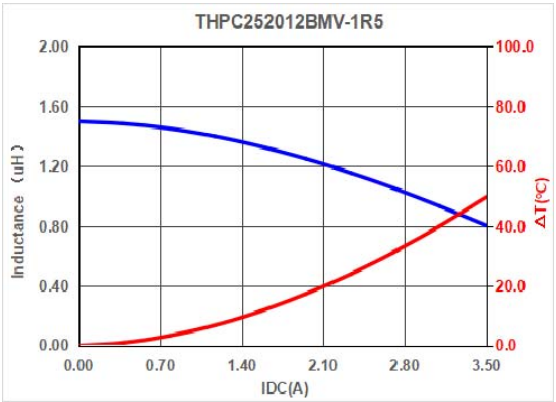


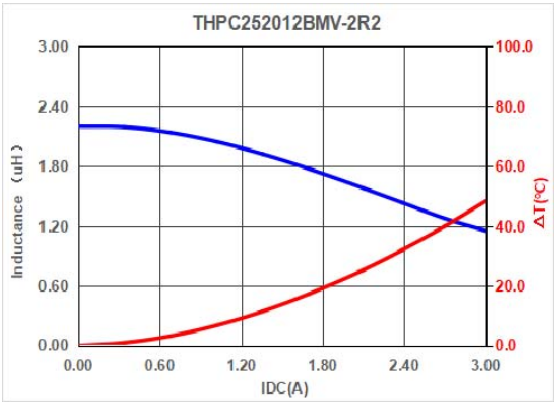


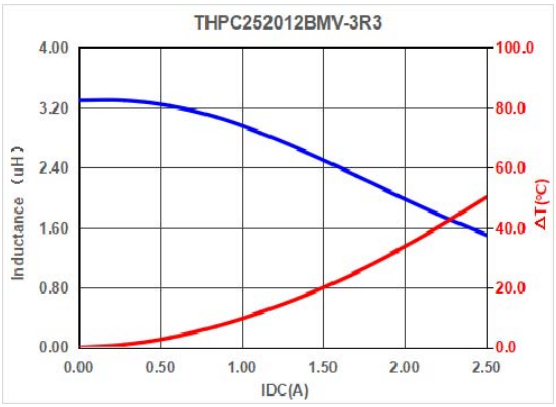


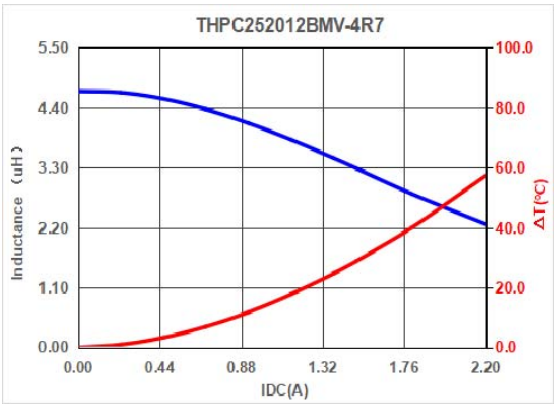


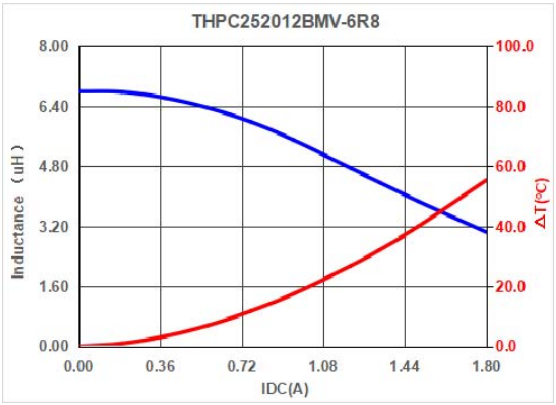


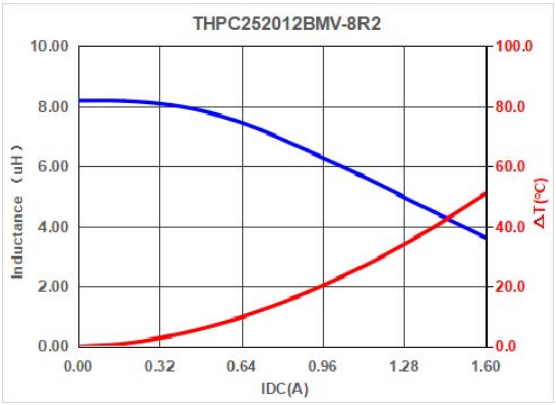


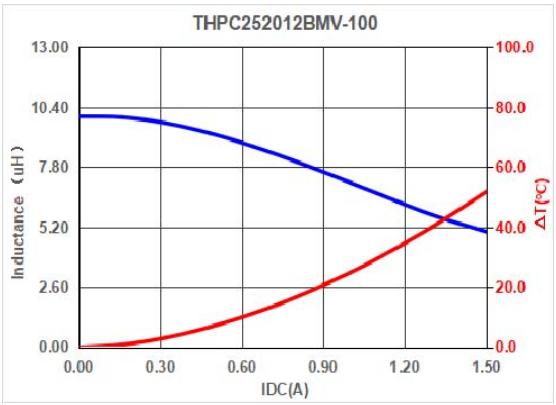



THPC252012BMV-3R3
Inductance (uH)
ΔT(℃)
IDC(A)
4.00
3.20
2.40
1.60
0.80
0.00
100.0
80.0
60.0
40.0
20.0
0.0
0.00
0.50
1.00
1.50
2.00
2.50


THPC252012BMV-4R7
Inductance (uH)
ΔT(℃)
IDC(A)
5.50
4.40
3.30
2.20
1.10
0.00
100.0
80.0
60.0
40.0
20.0
0.0
0.00
0.44
0.88
1.32
1.76
2.20


THPC252012BMV-6R8
Inductance (uH)
ΔT(℃)
IDC(A)
8.00
6.40
4.80
3.20
1.60
0.00
100.0
80.0
60.0
40.0
20.0
0.0
0.00
0.36
0.72
1.08
1.44
1.80


THPC252012BMV-8R2
Inductance (uH)
ΔT(℃)
IDC(A)
10.00
8.00
6.00
4.00
2.00
0.00
100.0
80.0
60.0
40.0
20.0
0.0
0.00
0.32
0.64
0.96
1.28
1.60


THPC252012BMV-100
Inductance (uH)
ΔT(℃)
IDC(A)
13.00
10.40
7.80
5.20
2.60
0.00
100.0
80.0
60.0
40.0
20.0
0.0
0.00
0.30
0.60
0.90
1.20
1.50