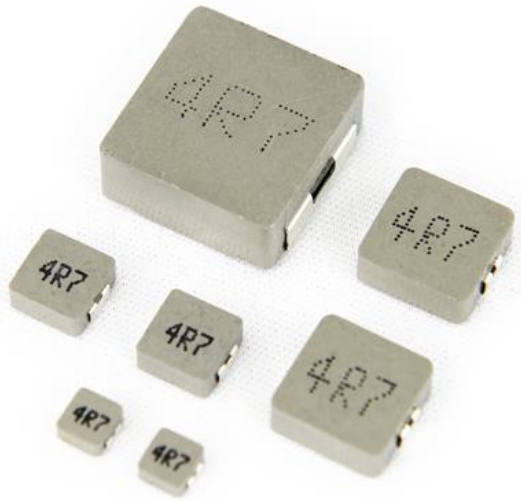
Hong Dang Technology Co., Ltd.

鴻達電能科技股份有限公司

High Current, Power Inductors

SMD Metal Alloy



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生產工廠：昆山瑪冀電子有限公司　蘇州市昆山花橋鎮花安路 1618 號

Hong Dang Technology Co., Ltd.

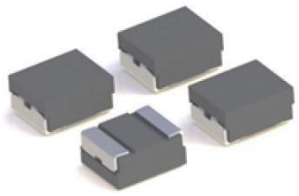
鴻達電能科技股份有限公司

Product List

Part No.	Dimensions	Inductance range	DCR range	Heating Rating Current	Saturation Current	Page
	L x W x H(Max.)	(μH)	DCR (mΩ)	Idc (A)	Isat (A)	
MPC201610	2.2x1.8x1.0	0.24 ~ 2.2	24 ~ 197	1.6 ~ 4.0	1.9 ~ 4.8	3
MPC252010	2.7x1.8x1.0	0.22 ~ 2.2	18 ~ 121	1.8 ~ 5.8	2.4 ~ 6.6	9
MPC252012	2.7x1.8x1.2	0.47 ~ 2.2	28 ~ 105	2.3 ~ 4.5	2.5 ~ 5.0	13
MPC3012	3.7x3.2x1.2	0.12 ~ 10.0	5.5 ~ 360	1.0 ~ 10	1.5 ~ 17	17
MPC3020	3.7x3.2x2.0	0.22 ~ 4.7	10 ~ 158	2.4 ~ 10	3.3 ~ 16	22
MPCA-4012	4.75x4.45x1.2	0.15 ~ 4.7	9 ~ 195	1.8 ~ 7.5	2.8 ~ 15	27
MPCA-4020	4.75x4.45x2.0	0.10 ~ 22.0	4 ~ 363	1.2 ~ 13.0	1.65 ~ 22	32
MPCA-5015	5.7x5.4x1.5	0.47 ~ 4.7	13 ~ 103	3.5 ~ 9.0	4.5 ~ 13	38
MPCA-0518	5.7x5.4x1.8	0.47 ~ 10.0	9 ~ 155	2.5 ~ 10.5	3.0 ~ 15.5	41
MPCA-0530	5.7x5.4x3.0	0.10 ~ 10.0	3 ~ 125	3.2 ~ 25	3.5 ~ 33	47
MPCA-0618	7.3x6.8x1.8	0.10 ~ 22.0	2.3 ~ 350	1.8 ~ 25	2.3 ~ 38	52
MPCA-0624	7.3x6.8x2.4	0.22 ~ 22.0	3.0 ~ 230	2.0 ~ 21	2.5 ~ 34	57
MPCA-0630	7.3x6.8x3.0	0.10 ~ 33.0	1.2 ~ 310	2.0 ~ 32	2.5 ~ 56	62
MPCA-0640	7.3x6.8x4.0	0.36 ~ 10.0	1.8 ~ 65	5.0 ~ 24	5.0 ~ 25	69
LPCA-1040	11.5x10.3x4.0	0.15 ~ 100	0.65 ~ 350	2.2 ~ 45	2.3 ~ 75	72
LPCA-1350	13.8x12.9x5.0	0.22 ~ 47	0.7 ~ 130	3.0 ~ 55	5.0 ~ 75	79
LPCA-1770	17.45x17.15x7.0	1.0 ~ 100	1.5 ~ 130	4.0 ~ 42	4.5 ~ 62	85

High Current, Power Inductors

MPC201610-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 2.2x1.8x 1.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Inductance range from 0.24μH to 2.2μH
- Current range from 1.9 to 4.8 Amps
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
MPC201610-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

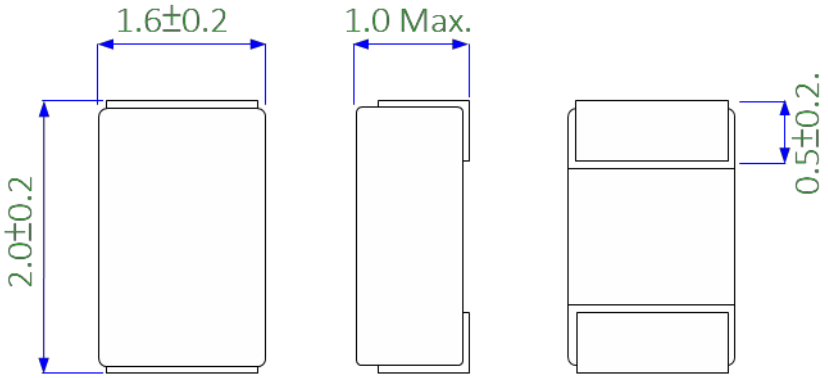
Global Part Number			
M P C	2 0 1 6 1 0	1 R 5	M
Product Series	Dimensions	Inductance	Value Tol.

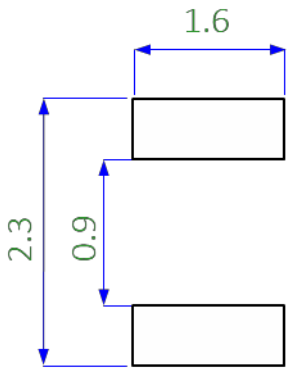
Part No.	Inductance	DC Resistance	Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)	Idc (A)	Isat (A)
	±20 %, 1MHz, 1V	MAX.	TYP.	TYP.
MPC201610-R24M	0.24	24	4.0	4.8
MPC201610-R33M	0.33	36	3.4	4.2
MPC201610-R47M	0.47	46	2.7	3.56
MPC201610-R68M	0.68	66	2.4	3.2
MPC201610-1R0M	1.00	78	2.1	2.7
MPC201610-1R5M	1.50	137	1.8	2.2
MPC201610-2R2M	2.20	197	1.6	1.9

Notes

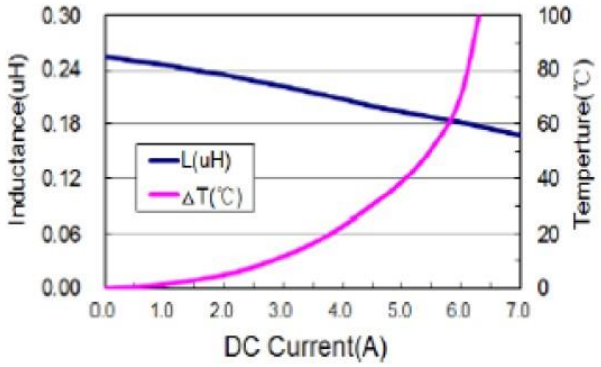
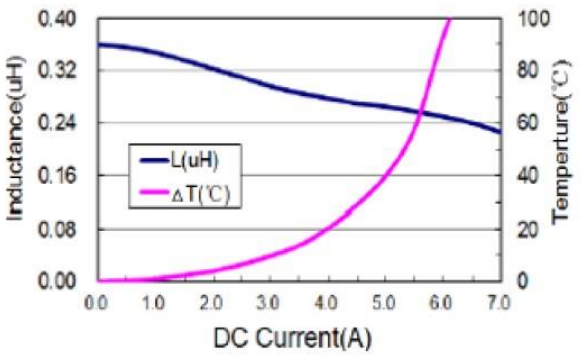
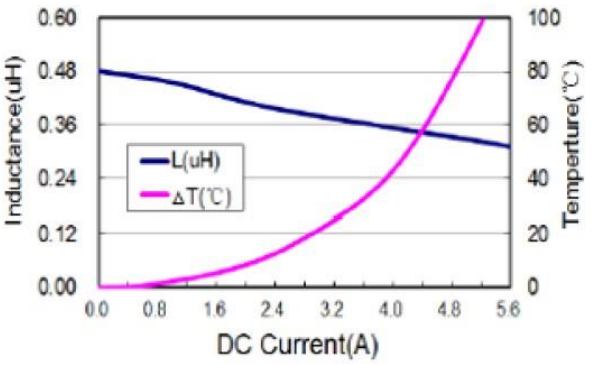
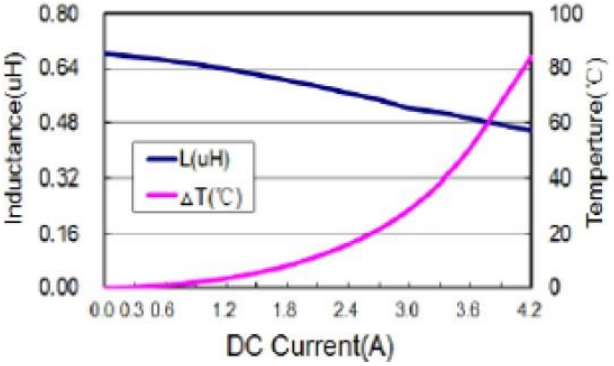
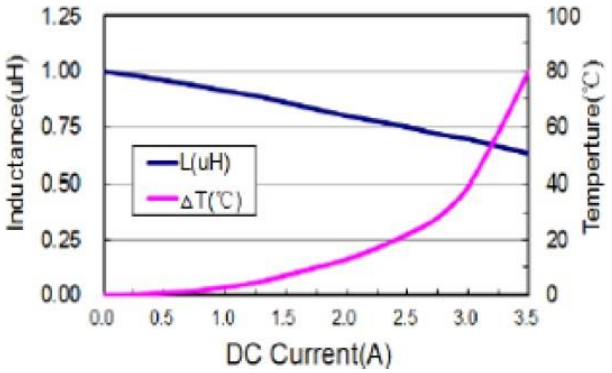
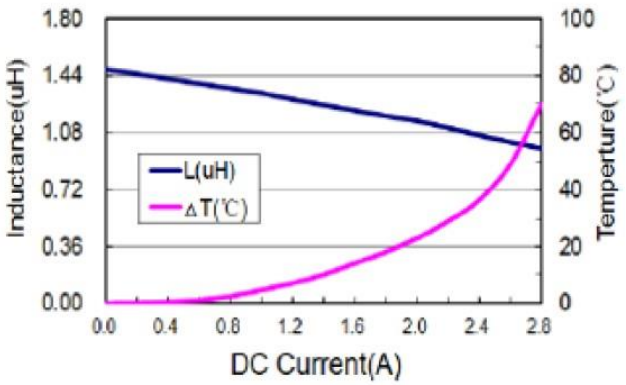
1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

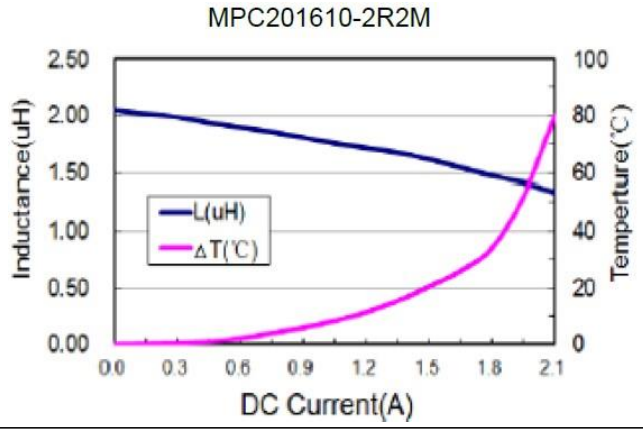
•Dimensions-mm





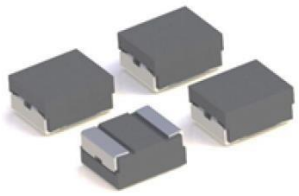
Recommend Land Pattern Dimensions

Performance Graphs	
Test Instruments	Test Condition
Agilent E4980A Precision LCR Meter E4980A With HP42841A Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 1MHz, 1.0V
MPC201610-R24M 	MPC201610-R33M 
MPC201610-R47M 	MPC201610-R68M 
MPC201610-1R0M 	MPC201610-1R5M 


MPC201610-2R2M
Inductance(uH)
2.50
2.00
1.50
1.00
0.50
0.00
100
80
60
40
20
0
Temperture(℃)
L(uH)
ΔT(℃)
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
DC Current(A)

High Current, Power Inductors

MPC252010-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 2.7x1.8x 1.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Inductance range from 0.22μH to 2.2μH
- Current range from 2.4 to 6.6 Amps
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPC252010-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

Global Part Number

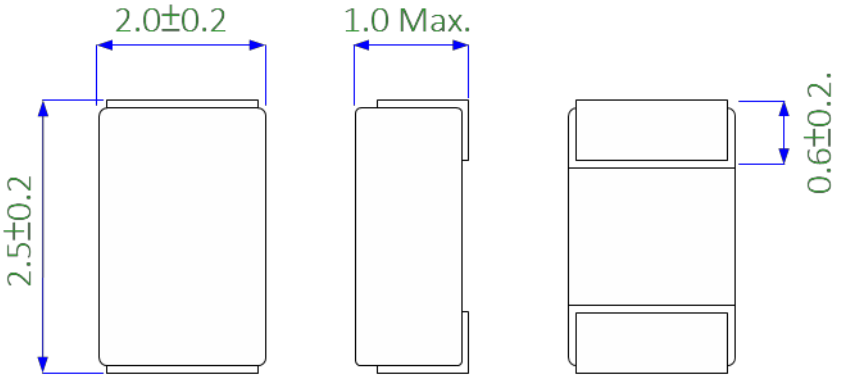
M P C	2 5 2 0 1 0	1 R 5	M
Product Series	Dimensions	Inductance	Value Tol.

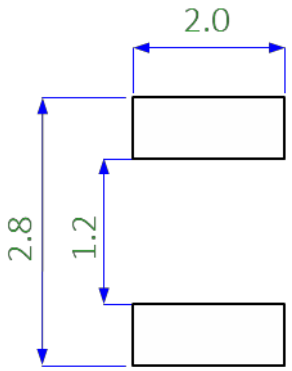
Part No.	Inductance	DC Resistance	Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)	Idc (A)	Isat (A)
	±20 %, 1MHz, 1V	MAX.	TYP.	TYP.
MPC252010-R22M	0.22	18	5.8	6.6
MPC252010-R33M	0.33	26	4.4	5.3
MPC252010-R47M	0.47	41	3.5	4.5
MPC252010-R68M	0.68	45	3.3	4.3
MPC252010-1R0M	1.00	65	2.8	3.55
MPC252010-1R5M	1.50	95	2.2	2.9
MPC252010-2R2M	2.20	121	1.8	2.4

Notes

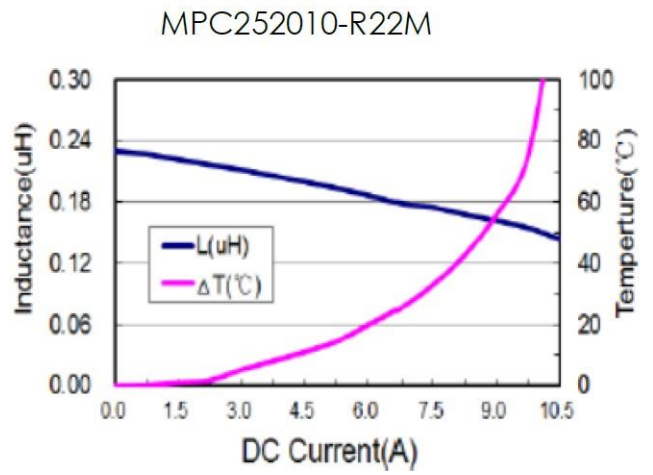
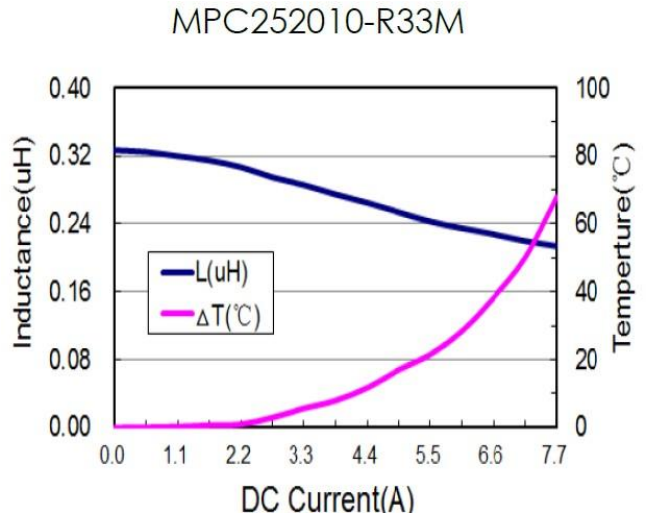
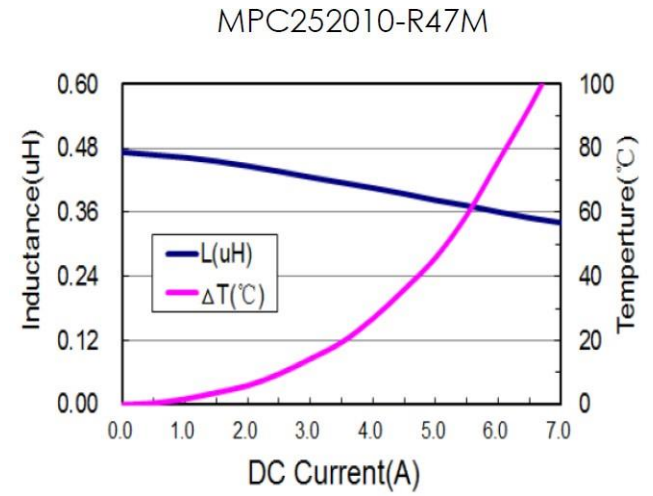
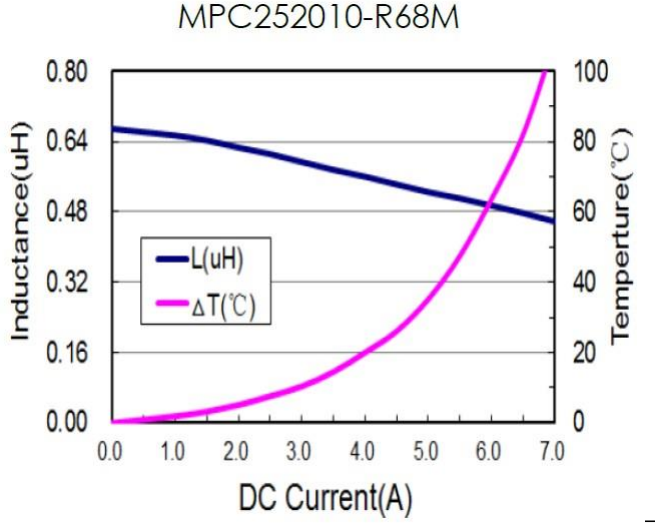
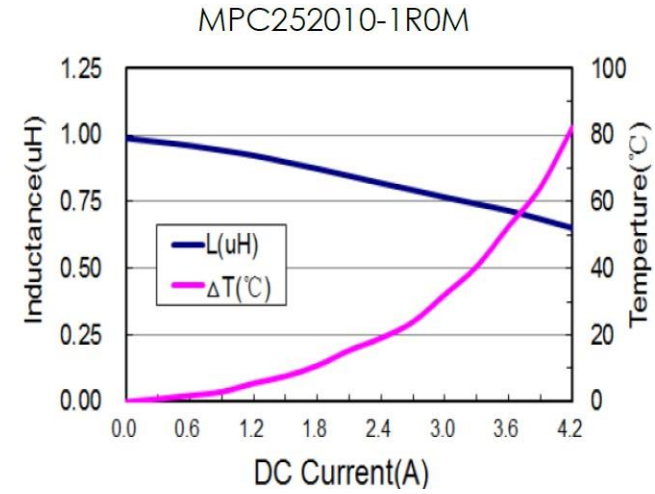
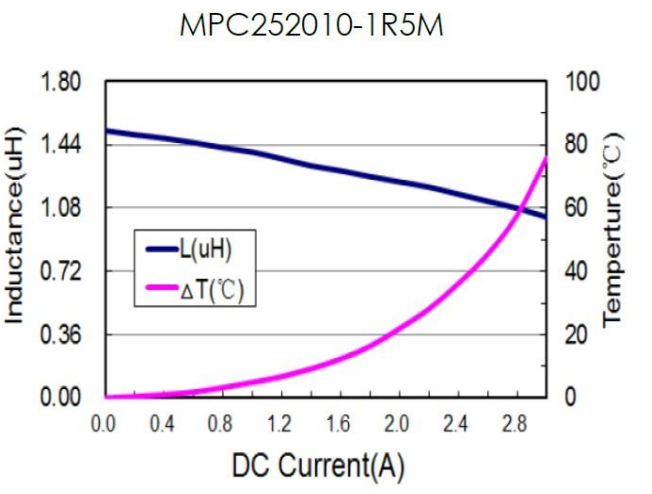
1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm

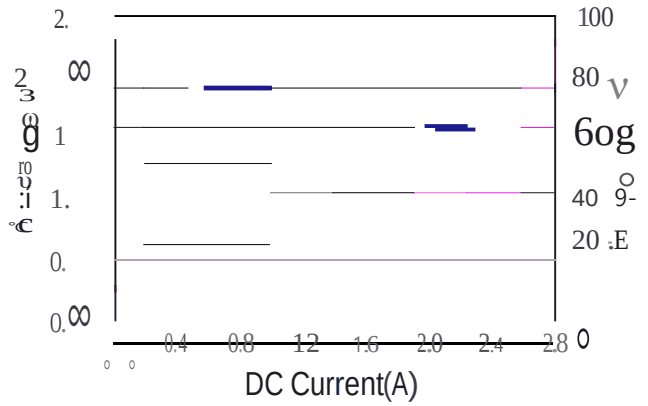




Recommend Land Pattern Dimensions

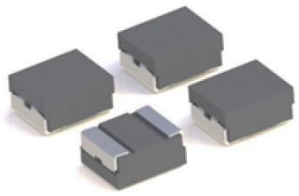
Performance Graphs	
Test Instruments	Test Condition
Agilent E4980A Precision LCR Meter E4980A With HP42841A Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 1MHz, 1.0V
	
	
	

MPC25201 0-2R2M



High Current, Power Inductors

MPC252012-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 2.7x1.8x 1.2mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Inductance range from 0.47μH to 2.2μH
- Current range from 2.5 to 5.0 Amps
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPC252012-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

Global Part Number

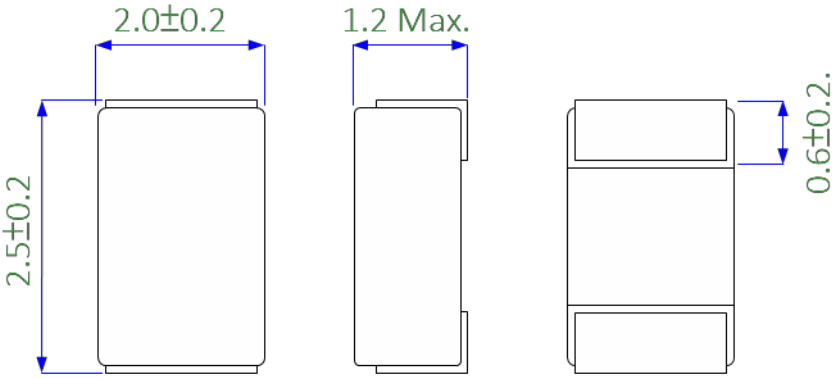
M P C	2 5 2 0 1 2	1 R 5	M
Product Series	Dimensions	Inductance	Value Tol.

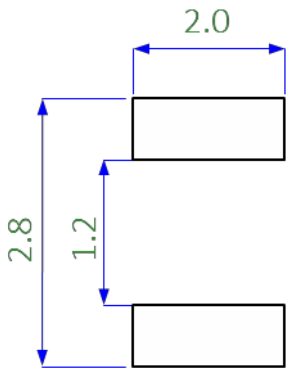
Part No.	Inductance	DC Resistance	Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)	Idc (A)	Isat (A)
	±20 %, 1MHz, 1V	MAX.	TYP.	TYP.
MPC252012-R47M	0.47	28	4.5	5
MPC252012-1R0M	1.0	55	3.1	3.8
MPC252012-1R5M	1.5	70	2.7	2.9
MPC252012-2R2M	2.2	105	2.3	2.5

Notes

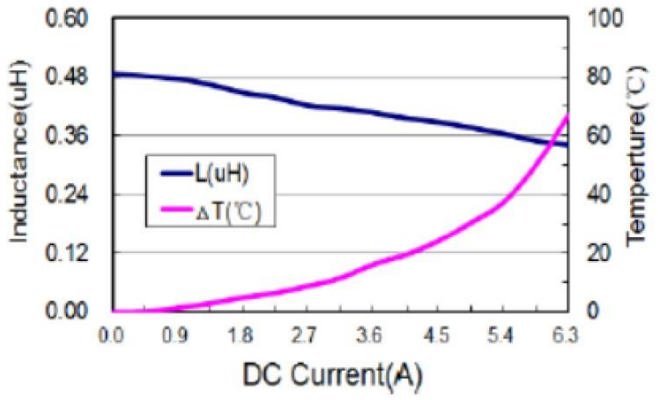
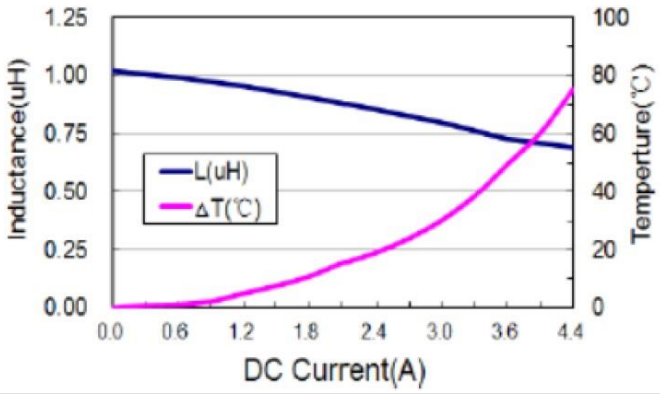
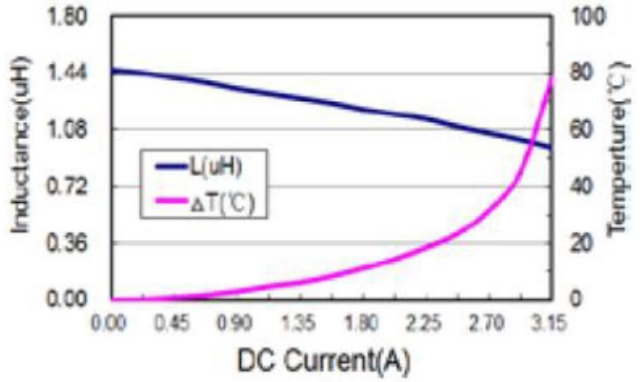
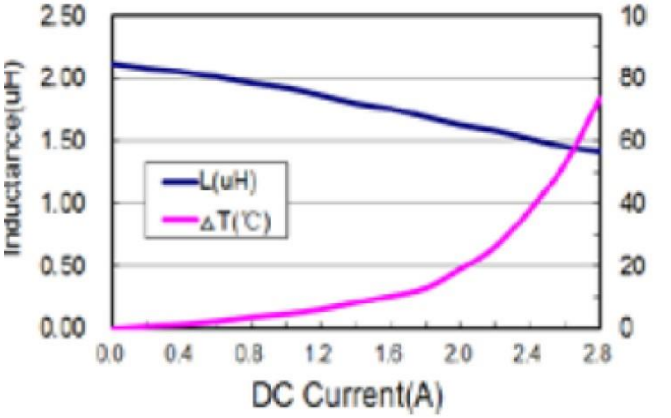
1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm



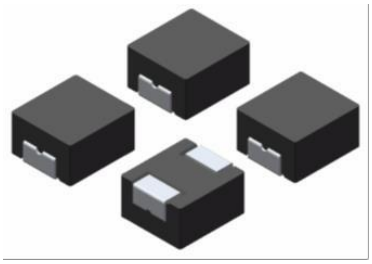


Recommend Land Pattern Dimensions

Performance Graphs	
Test Instruments	Test Condition
Agilent E4980A Precision LCR Meter E4980A With HP42841A Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 1MHz, 1.0V
MPC252012-R47M 	MPC252012-1R0M 
MPC252012-1R5M 	MPC252012-2R2M 

High Current, Power Inductors

MPC3012-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 3.7x3.2x 1.2mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Inductance range from 0.12μH to 10μH
- Current range from 1.5 to 17 Amps
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPC3012-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

Global Part Number

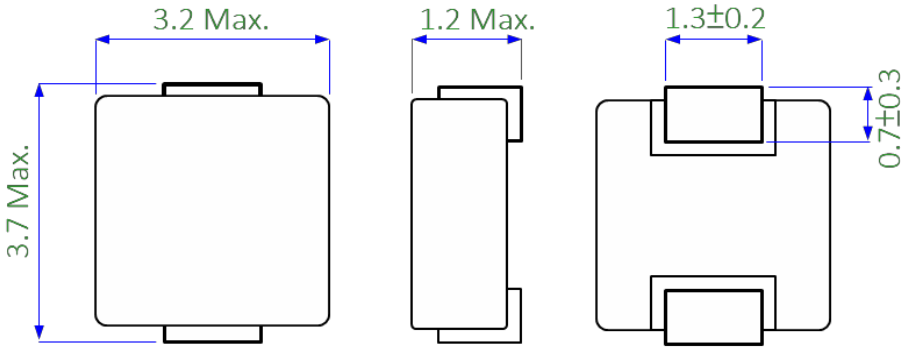
M P C	3 0 1 2	1 R 5	M
Product Series	Dimensions	Inductance	Value Tol.

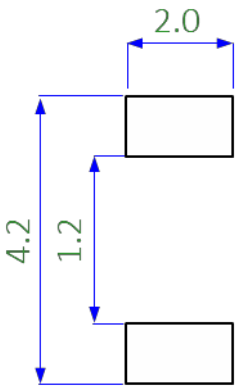
Part No.	Inductance	DC Resistance	Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)	Idc (A)	Isat (A)
	±20 %, 1MHz, 1V	TYP. / MAX.	TYP.	TYP.
MPC3012-R12M	0.12	4.3 / 5.5	10	17
MPC3012-R33M	0.33	15.8 / 18.0	7.2	9.6
MPC3012-R47M	0.47	22.0 / 25.0	6.2	8.2
MPC3012-1R0M	1.00	39.2 / 45.0	4	5.4
MPC3012-2R2M	2.20	88.5 / 102	2.5	4
MPC3012-3R3M	3.30	136 / 155	1.8	2.4
MPC3012-100M	10.00	313 / 360	1	1.5

Notes

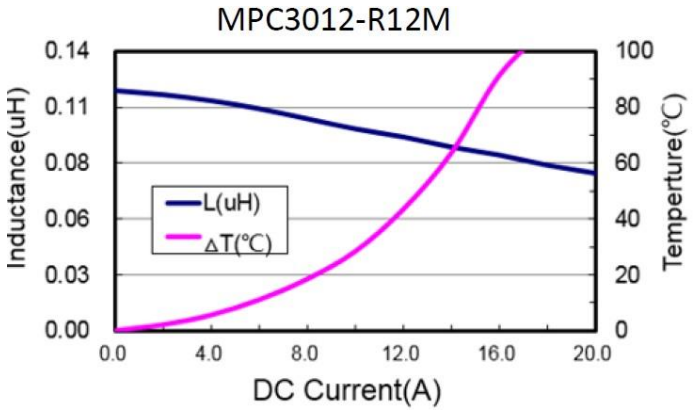
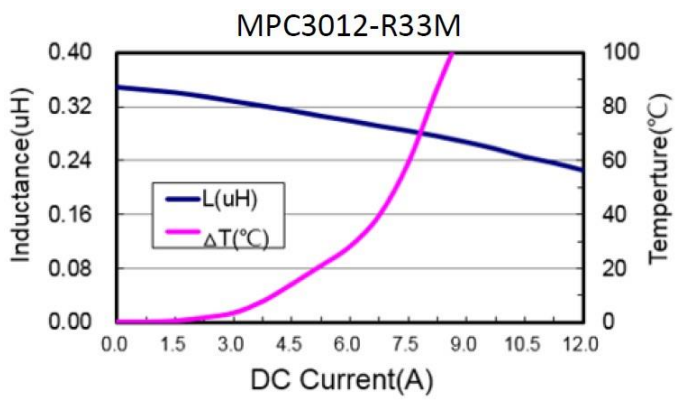
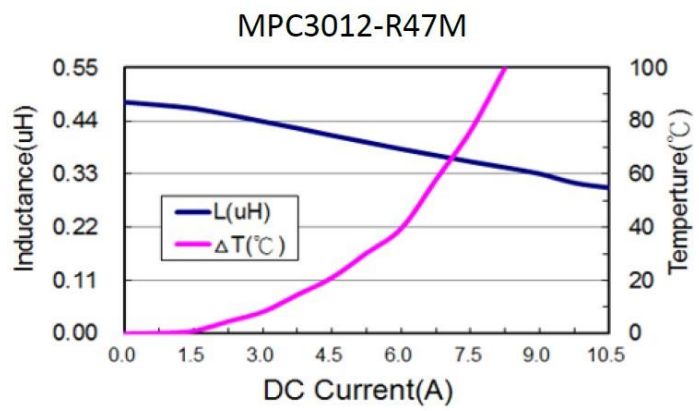
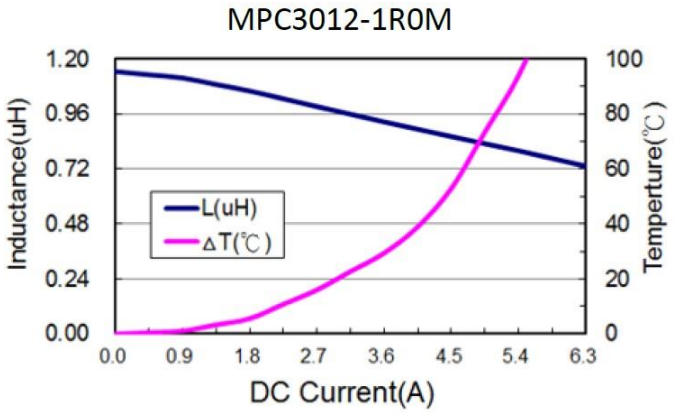
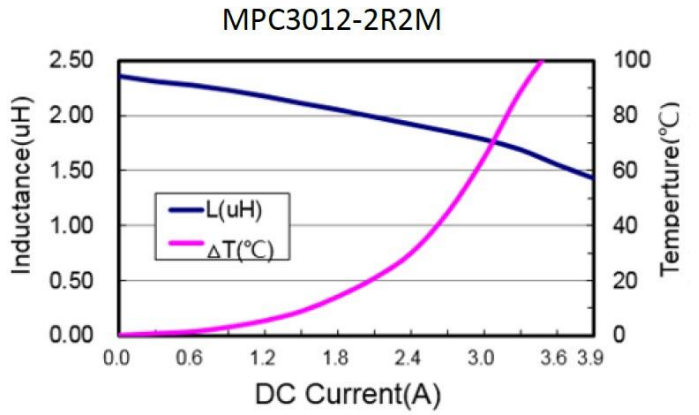
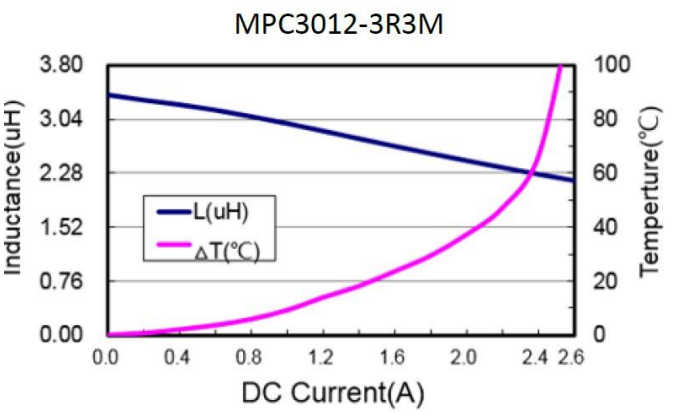
1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

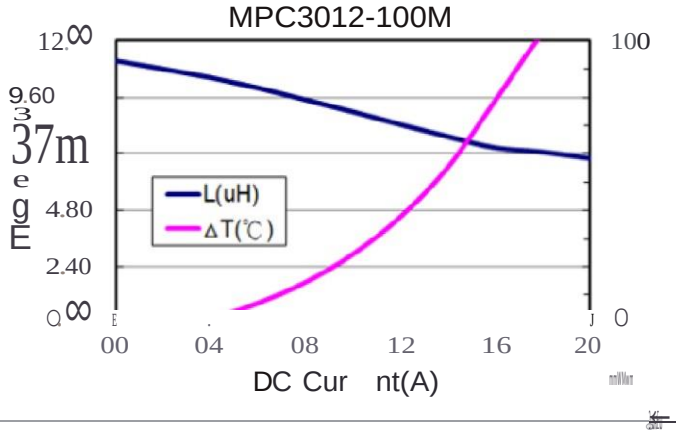
•Dimensions-mm





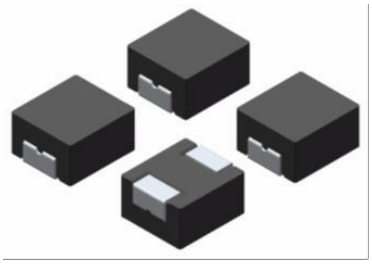
Recommend Land Pattern Dimensions

Performance Graphs	
Test Instruments	Test Condition
Agilent E4980A Precision LCR Meter E4980A With HP42841A Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 1MHz, 1.0V
	
	
	


MPC3012-100M
12.00
9.60
7.37m
4.80
2.40
0.00
100
0
L(uH)
ΔT(℃)
00
04
08
12
16
20
DC Current(A)

High Current, Power Inductors

MPC3020-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 3.7x3.2x 2.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Inductance range from 0.12μH to 10μH
- Current range from 1.5 to 17 Amps
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPC3020-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

Global Part Number

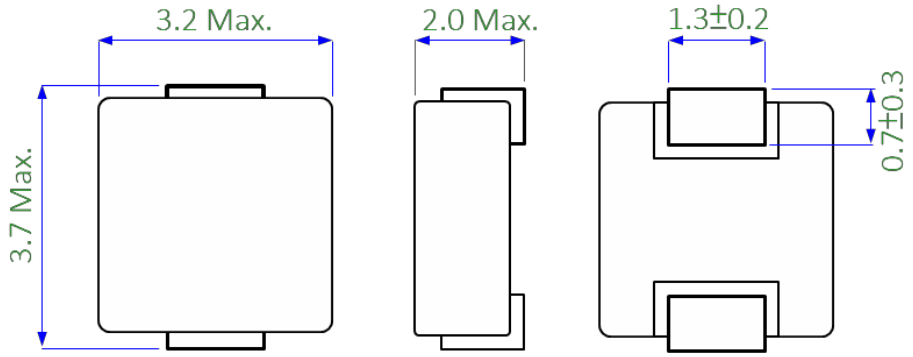
M P C	3 0 2 0	1 R 5	M
Product Series	Dimensions	Inductance	Value Tol.

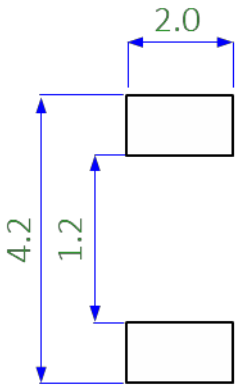
Part No.	Inductance	DC Resistance	Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)	Idc (A)	Isat (A)
	±20 %, 1MHz, 1V	MAX.	TYP.	TYP.
MPC3020-R22M	0.22	10.0	10.0	16
MPC3020-R33M	0.33	18.5	10.0	14
MPC3020-R47M	0.47	21.5	8.0	11
MPC3020-R68M	0.68	26.0	7.0	10
MPC3020-1R0M	1.0	36.0	5.0	8
MPC3020-1R5M	1.5	39.0	4.2	6
MPC3020-2R2M	2.2	69.0	3.3	4.8
MPC3020-3R3M	3.3	95.0	1.6	3
MPC3020-4R7M	4.7	158.0	2.4	3.3

Notes

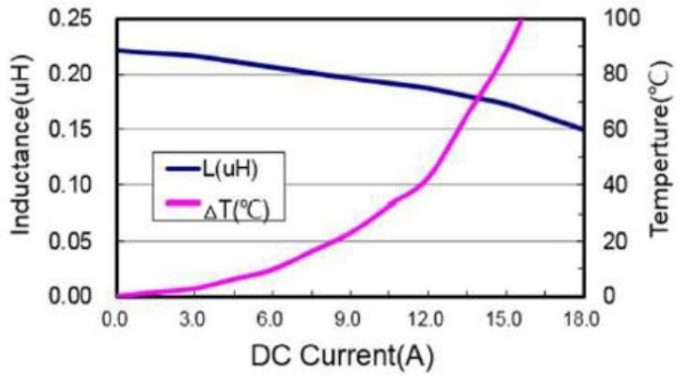
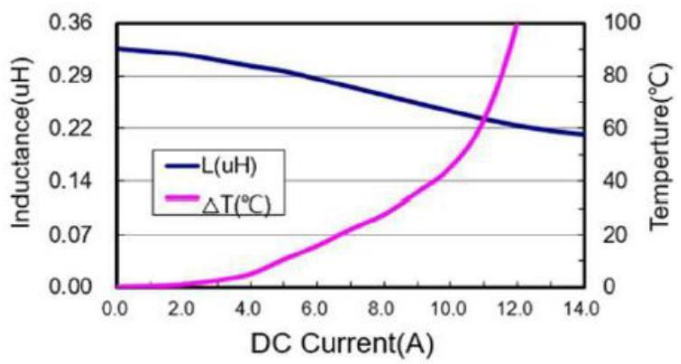
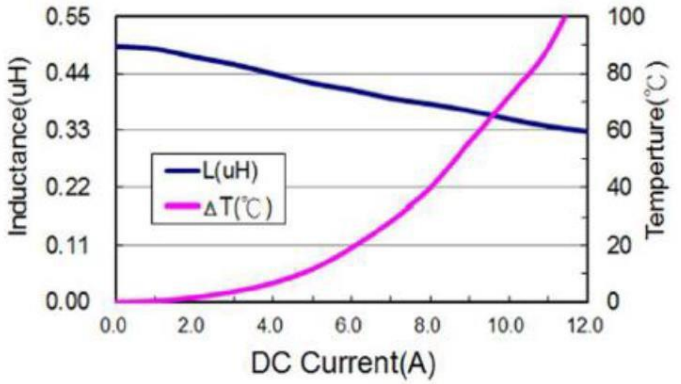
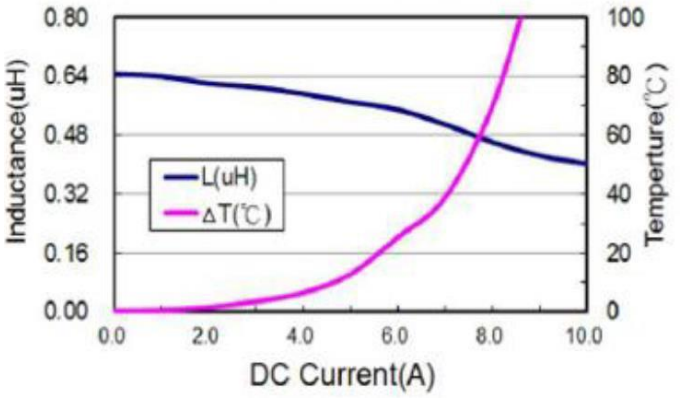
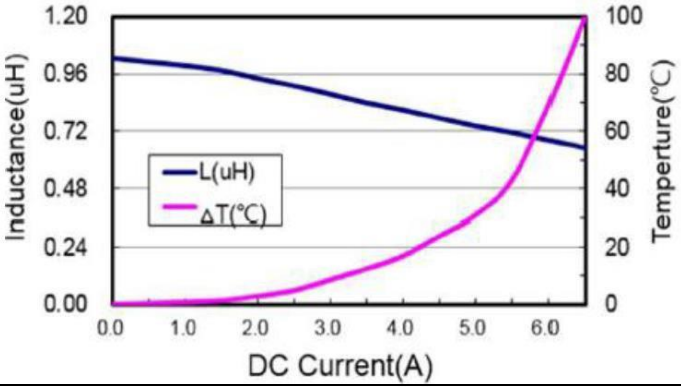
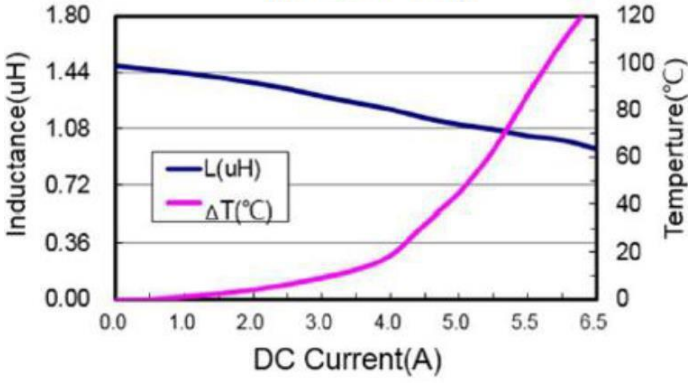
1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm

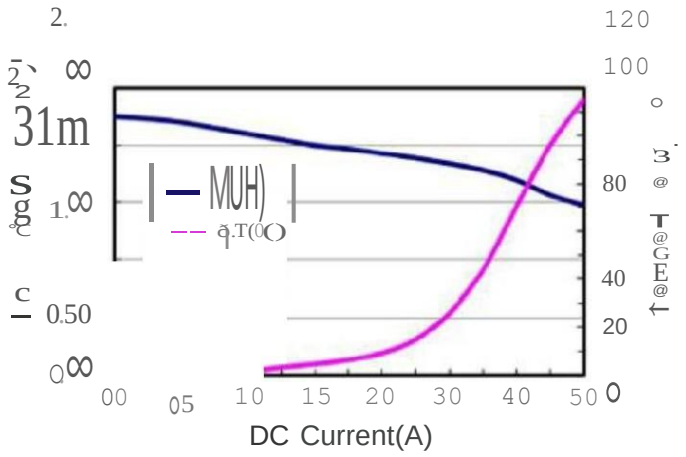




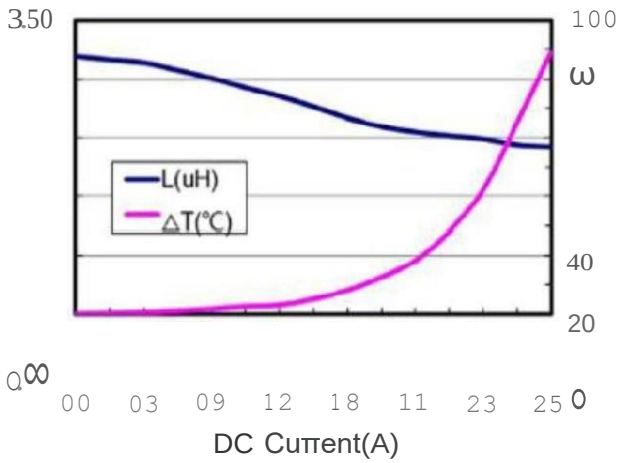
Recommend Land Pattern Dimensions

Performance Graphs	
Test Instruments	Test Condition
Agilent E4980A Precision LCR Meter E4980A With HP42841A Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 1MHz, 1.0V
MPC3020-R22M 	MPC3020-R33M 
MPC3020-R47M 	MPC3020-R68M 
MPC3020-1R0M 	MPC3020-1R5M 

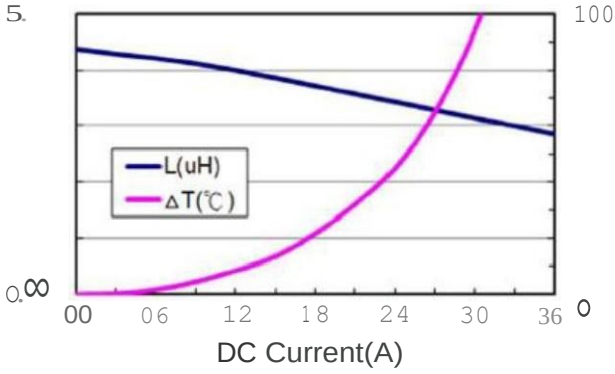
MPC3020-2R2M



MPC3020-3R3M



MPC3020-4R7M



High Current, Power Inductors

MPCA-0412-XXX-M Power Choke

Description

- Halogen Free
- 125°C maximum total temperature operation
- 4.75 x 4.45 x 1.2mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0412-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

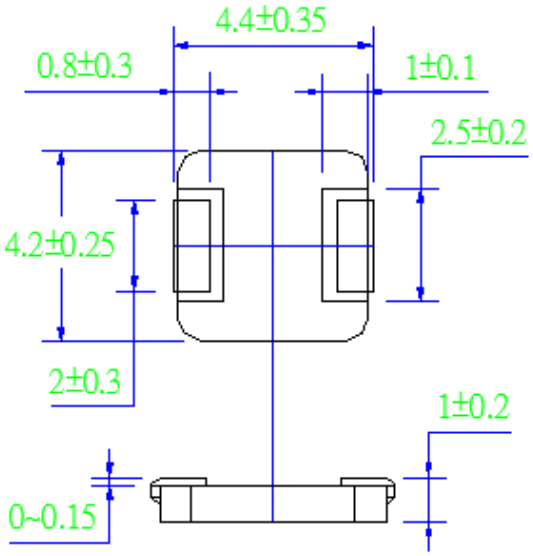
Global Part Number			
M P C A	0 4 1 2	1 R 0	M
Product Series	Dimensions	Inductance	ValueTol.

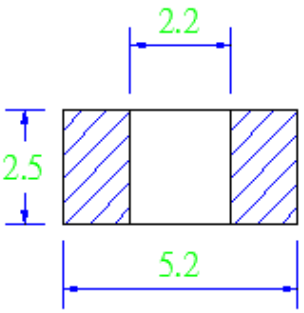
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0412-R15-M	0.15	8.0	9.0	7.5	15.0
MPCA-0412-R22-M	0.22	9.5	11.0	7.0	11.0
MPCA-0412-R33-M	0.33	17.0	19.0	6.5	8.4
MPCA-0412-R47-M	0.47	19.0	21.0	6.0	6.8
MPCA-0412-R68-M	0.68	32.0	36.0	4.7	6.0
MPCA-0412-1R0-M	1.0	43.0	47.0	4.5	5.5
MPCA-0412-1R5-M	1.5	68.0	75.0	3.25	4.0
MPCA-0412-2R2-M	2.2	79.4	83.5	2.75	3.5
MPCA-0412-4R7-M	4.7	175.0	195.0	1.8	2.8

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





Recommend Land Pattern Dimensions

Marking

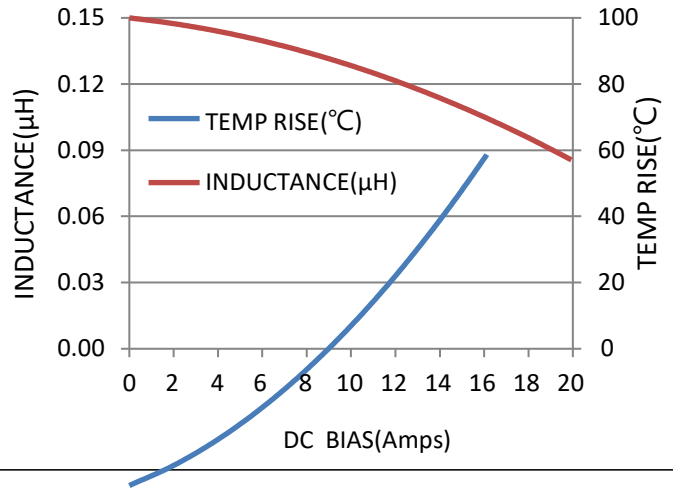
The inductor is marked with a 3-digit code

Example - -1.0→1R0

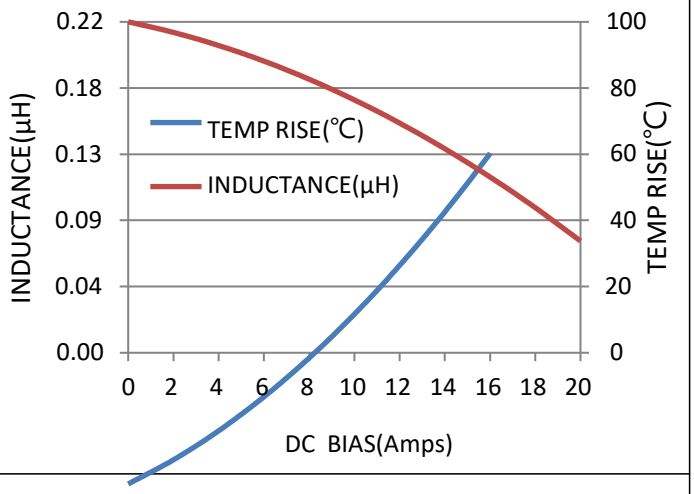
Note：Using Ink for marking

Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

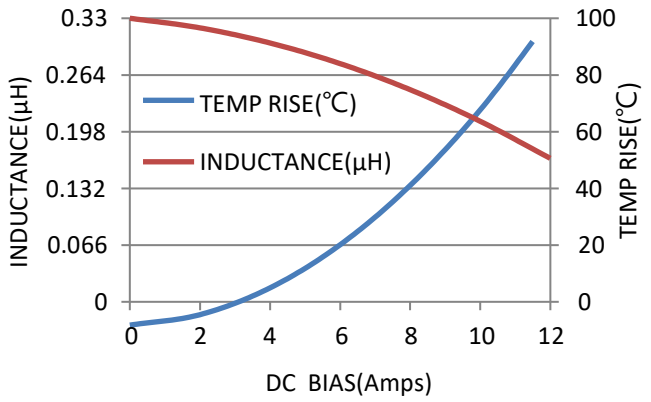
MPCA-0412-R15-M



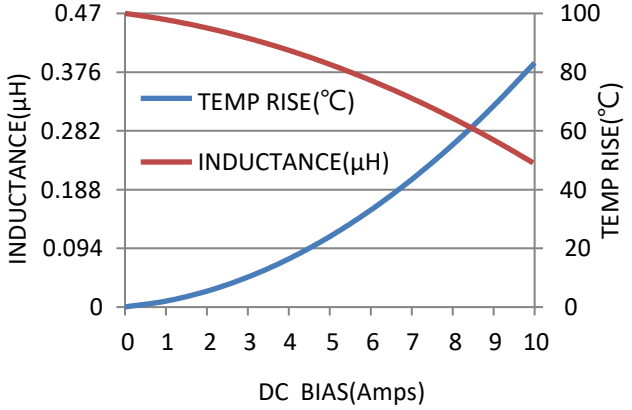
MPCA-0412-R22-M



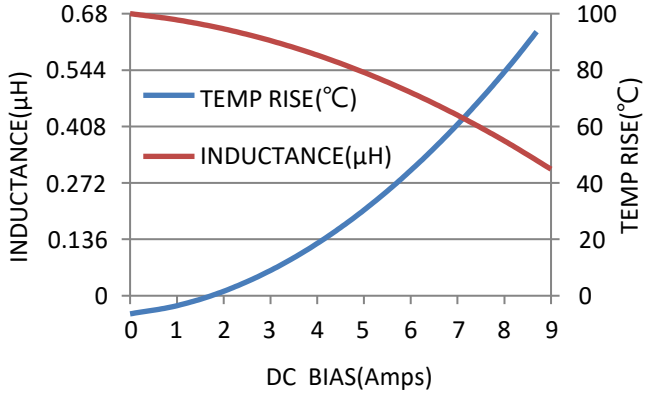
MPCA-0412-R33-M



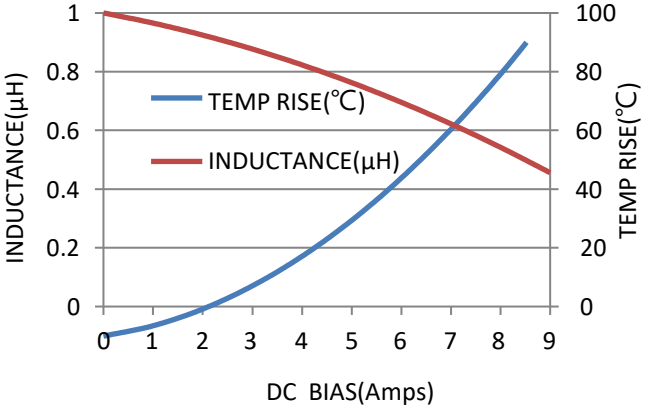
MPCA-0412-R47-M

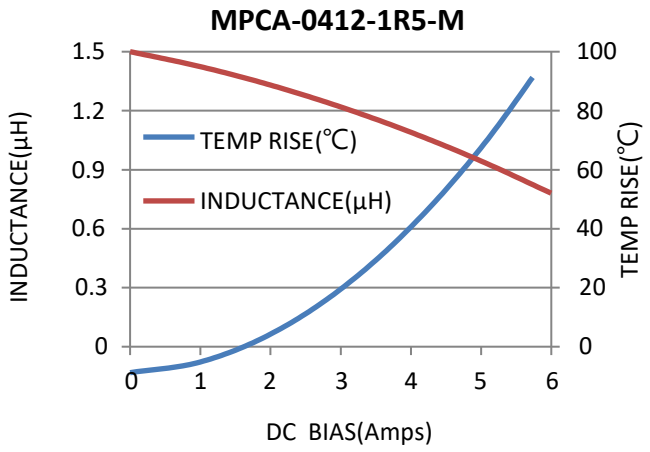


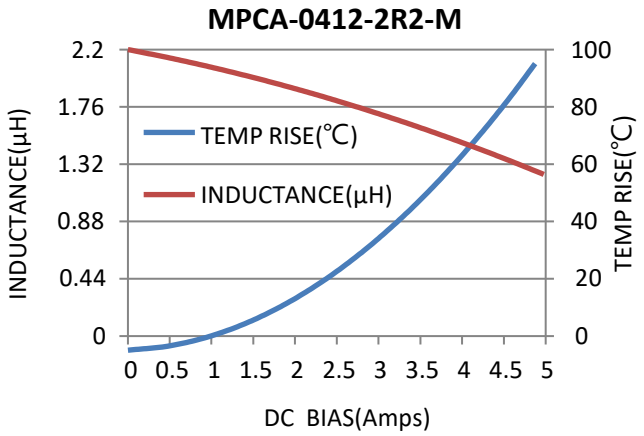
MPCA-0412-R68-M

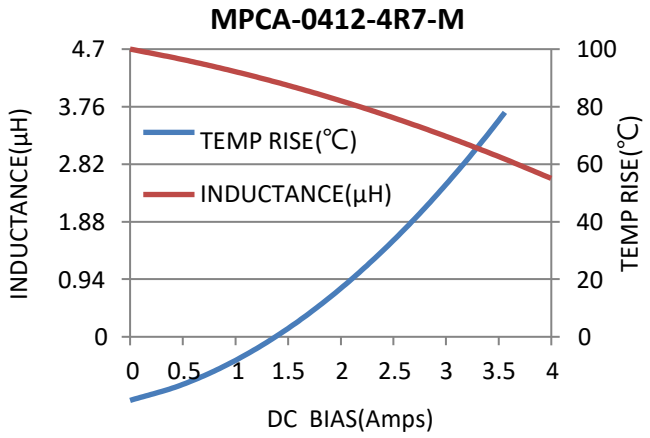


MPCA-0412-1R0-M




MPCA-0412-1R5-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
1.5
1.2
0.9
0.6
0.3
0
100
80
60
40
20
0
0 1 2 3 4 5 6
DC BIAS(Amps)


MPCA-0412-2R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
2.2
1.76
1.32
0.88
0.44
0
100
80
60
40
20
0
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5
DC BIAS(Amps)


MPCA-0412-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
4.7
3.76
2.82
1.88
0.94
0
100
80
60
40
20
0
0 0.5 1 1.5 2 2.5 3 3.5 4
DC BIAS(Amps)

High Current, Power Inductors

MPCA-0420-XXX-M Power Choke

Description

- Halogen Free
- 125°C maximum total temperature operation
- 4.75 x 4.45 x 2.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0420-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

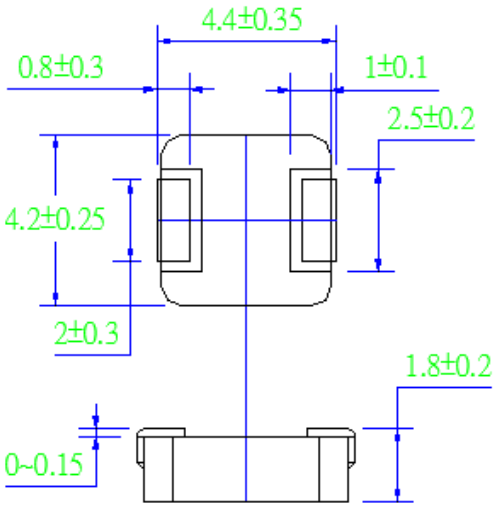
Global Part Number			
M P C A	0 4 2 0	1 R 0	M
Product Series	Dimensions	Inductance	Value Tol.

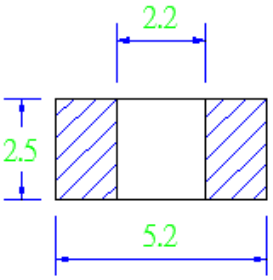
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0420-R10-M	0.10	3.5	4.0	13.0	22.0
MPCA-0420-R22-M	0.22	6.0	6.6	9.5	12.5
MPCA-0420-R33-M	0.33	9.0	11.0	**10.0**	12.0
MPCA-0420-R47-M	0.47	12.5	14.0	7.5	9.5
MPCA-0420-R56-M	0.56	14.0	16.0	7.0	10.0
MPCA-0420-R68-M	0.68	16.0	18.0	7.0	9.0
MPCA-0420-1R0-M	1.0	24.0	27.0	6.0	7.0
MPCA-0420-1R2-M	1.2	24.0	27.0	6.0	7.0
MPCA-0420-1R5-M	1.5	38.0	46.0	5.0	6.0
MPCA-0420-2R2-M	2.2	52.0	58.0	4.5	5.0
MPCA-0420-3R3-M	3.3	74.0	87.0	3.3	4.0
MPCA-0420-4R7-M	4.7	92.0	105.0	2.8	3.0
MPCA-0420-6R8-M	6.8	160.0	175.0	2.4	2.5
MPCA-0420-100-M	10.0	256.0	282.0	1.6	2.2
MPCA-0420-220-M	22.0	330.0	363.0	1.2	1.65

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





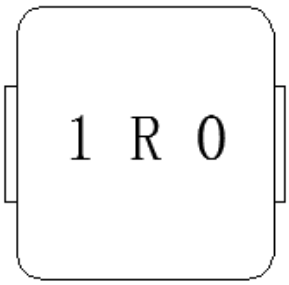
Recommend Land Pattern Dimensions

•Marking

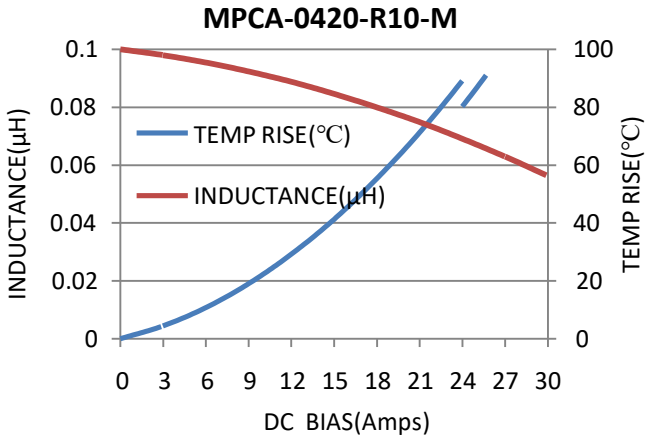
The inductor is marked with a 3-digit code

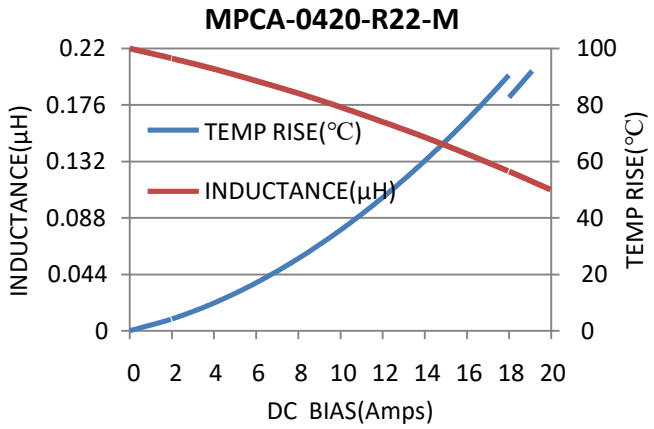
Example - -1.0→1R0

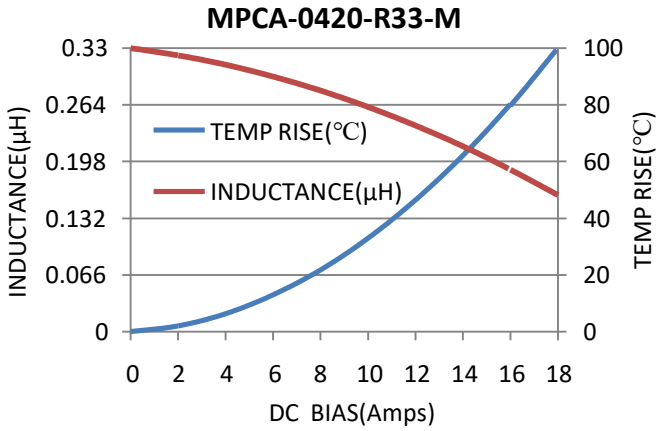
Note：Using Ink for marking

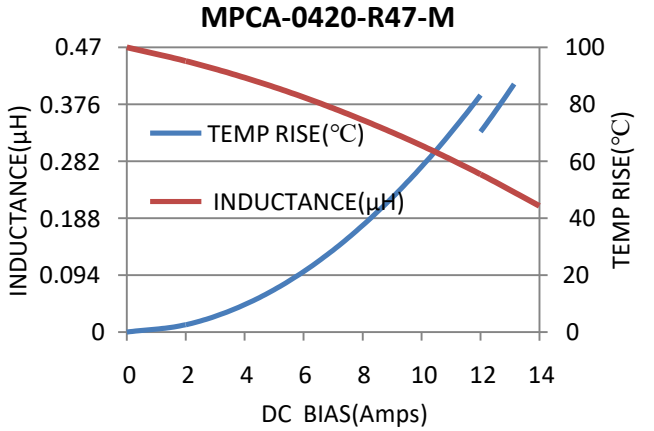


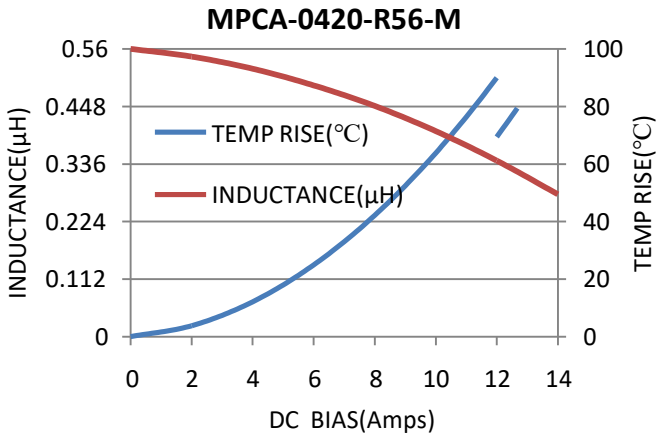
Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

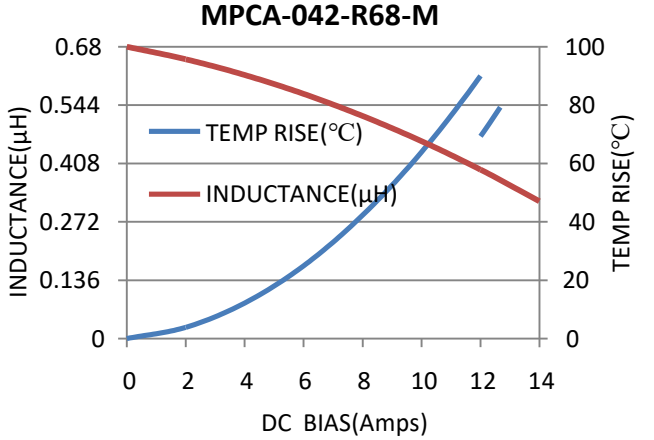


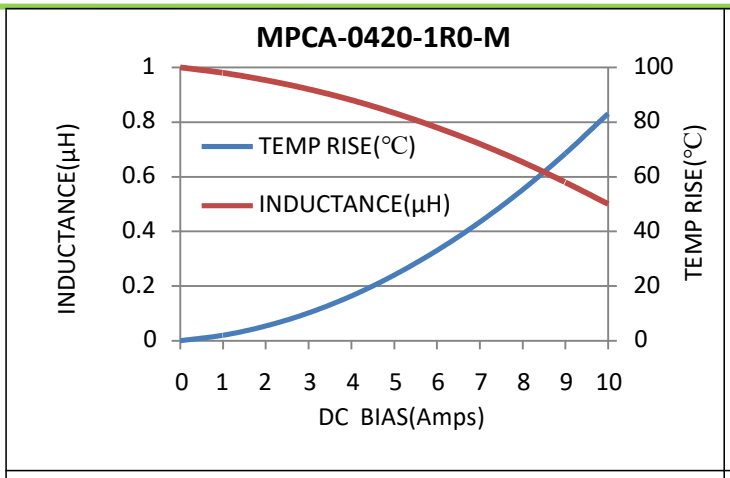


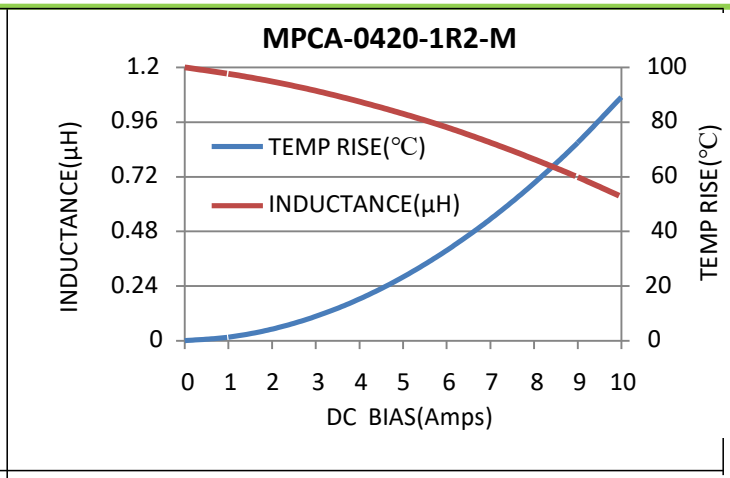


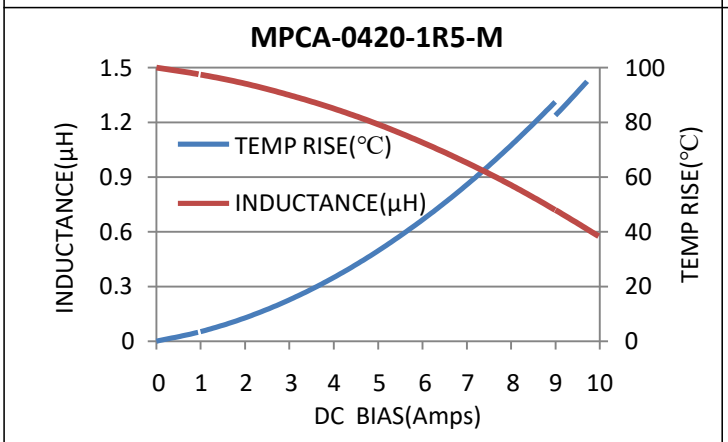


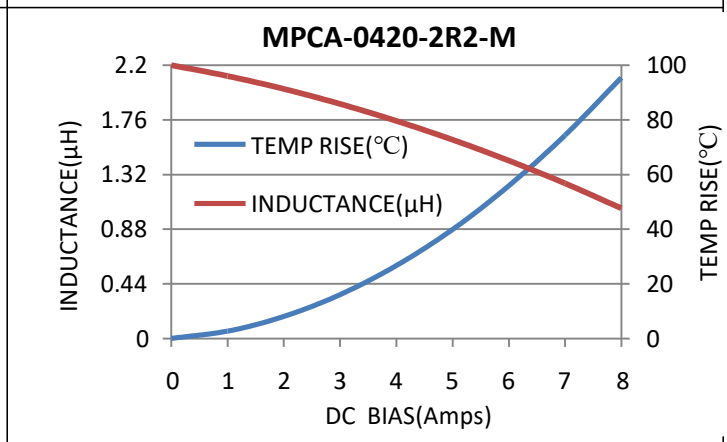


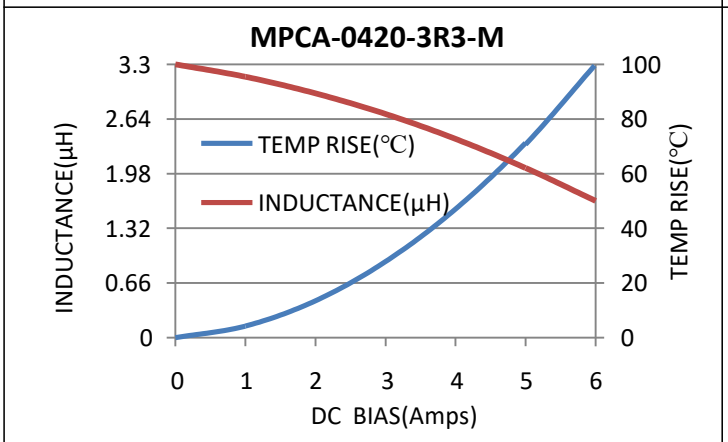


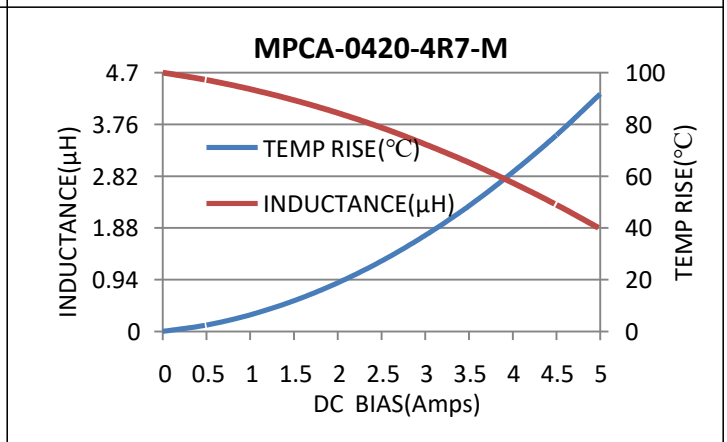

MPCA-0420-1R0-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

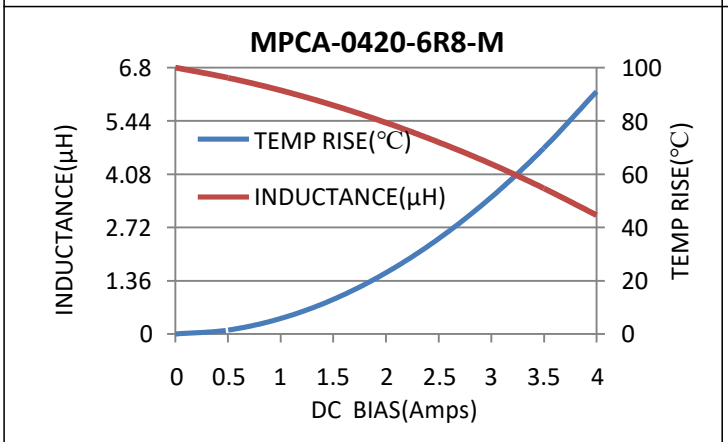

MPCA-0420-1R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

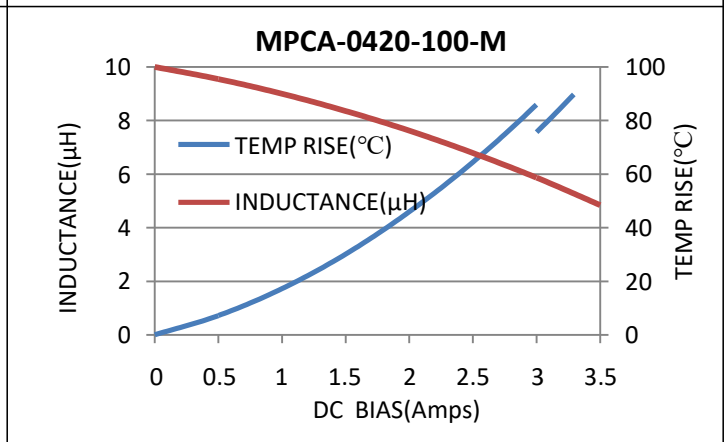

MPCA-0420-1R5-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

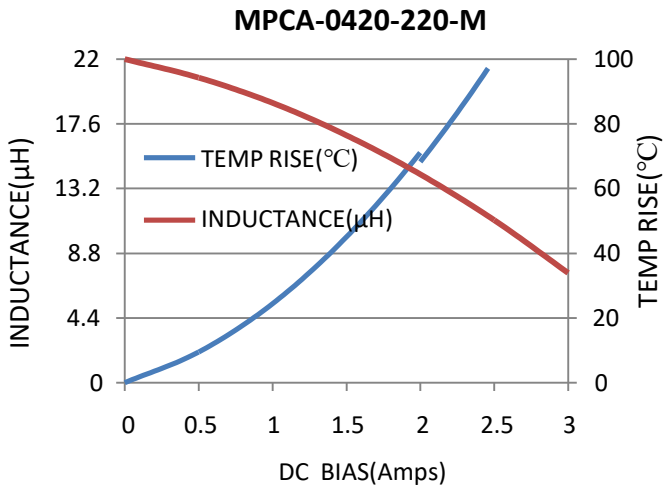

MPCA-0420-2R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0420-3R3-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0420-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0420-6R8-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0420-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0420-220-M
22
17.6
13.2
8.8
4.4
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
INDUCTANCE(μH)
TEMP RISE(℃)
0
0.5
1
1.5
2
2.5
3
DC BIAS(Amps)

High Current, Power Inductors

MPCA-0515-XXX-M Power Choke

Description

- Halogen Free
- 125°C maximum total temperature operation
- 5.7 x 5.4 x 1.5mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55°C to +125 °C

•Operating temperature range: -55°C to +125°C (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0515-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

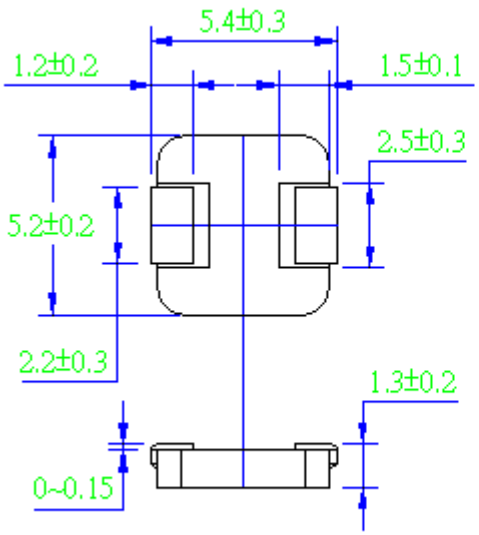
Global Part Number			
M P C A	0 5 1 5	1 R 0	M
Product Series	Dimensions	Inductance Value	Tol.

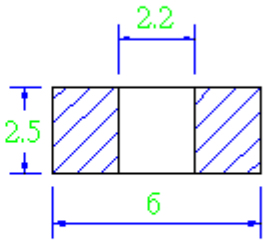
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0515-R47-M	0.47	11.0	13.0	9.0	13.0
MPCA-0515-1R0-M	1.0	19.0	23.0	7.0	9.5
MPCA-0515-2R2-M	2.2	57.0	64.0	4.5	6.0
MPCA-0515-4R7-M	4.7	93.0	103.0	3.5	4.5

Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25°C)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





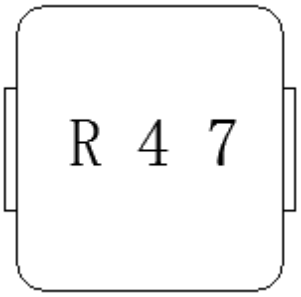
Recommend Land Pattern Dimensions

•Marking

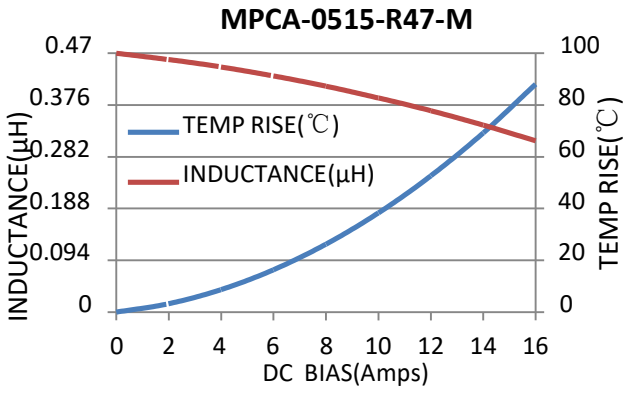
The inductor is marked with a 3-digit code

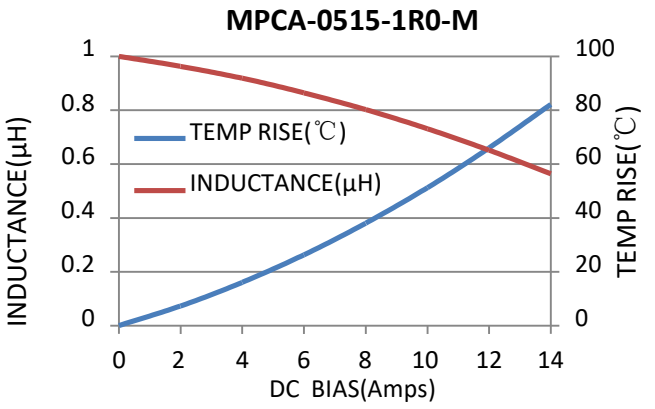
Example - -0.47→R47

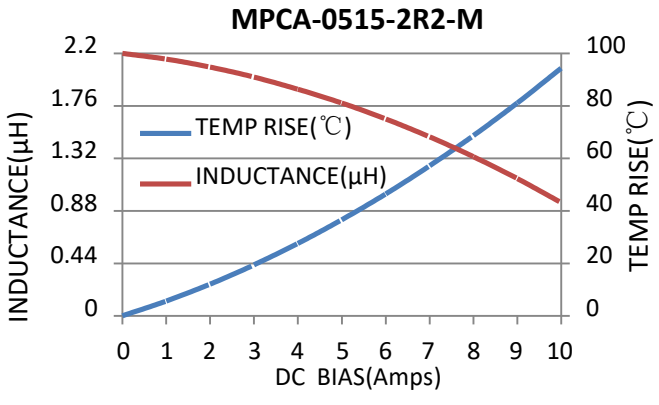
Note：Using Inkfor marking

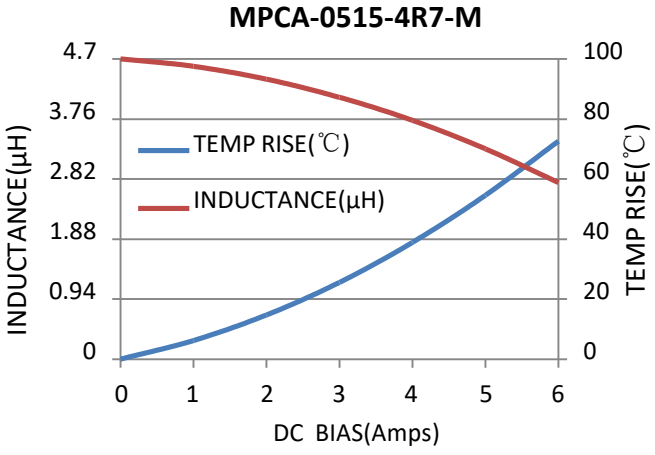


Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V









High Current, Power Inductors

MPCA-0518-XXX-M Power Choke

Description

- Halogen Free
- 125°C maximum total temperature operation
- 5.7 x 5.4 x 1.8mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55°C to +125 °C

•Operating temperature range: -55°C to +125°C (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0518-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

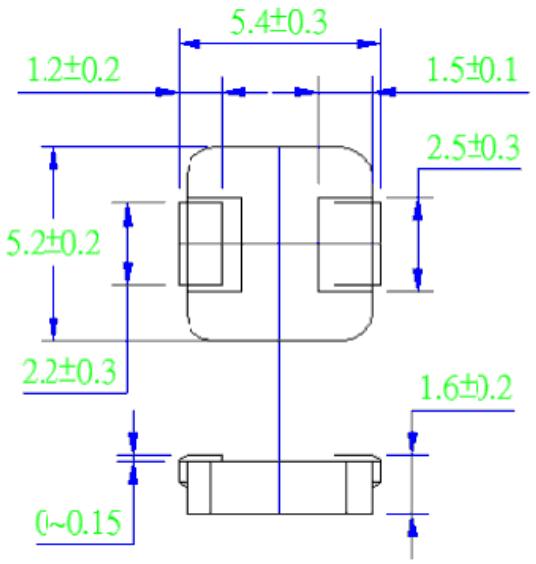
Global Part Number			
M P C A	0 5 1 8	1 R 0	M
Product Series	Dimensions	Inductance	ValueTol.

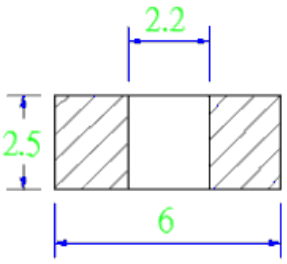
Part No.	Inductance	DC Resistance		Heatin Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0518-R47-M	0.47	7.7	9.0	10.5	15.5
MPCA-0518-R56-M	0.56	8.0	10.0	9.5	15.0
MPCA-0518-1R0-M	1.0	15.0	17.0	8.0	9.0
MPCA-0518-1R5-M	1.5	21.0	26.0	7.5	9.0
MPCA-0518-2R2-M	2.2	30.0	35.0	5.0	6.5
MPCA-0518-3R3-M	3.3	52.0	58.0	4.5	5.0
MPCA-0518-4R7-M	4.7	78.0	85.0	3.5	4.0
MPCA-0518-6R8-M	6.8	107.0	120.0	2.8	3.4
MPCA-0518-100-M	10.0	140.0	155.0	2.5	3.0

Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25°C)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





Recommend Land Pattern Dimensions

Marking

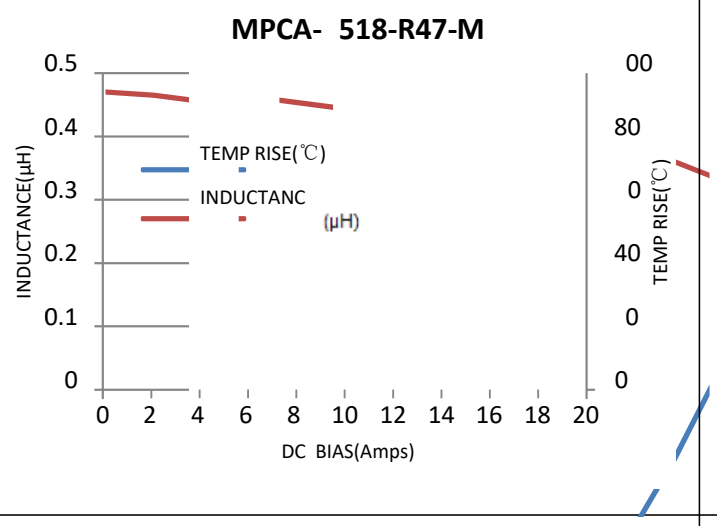
The inductor is marked with a 3-digit code

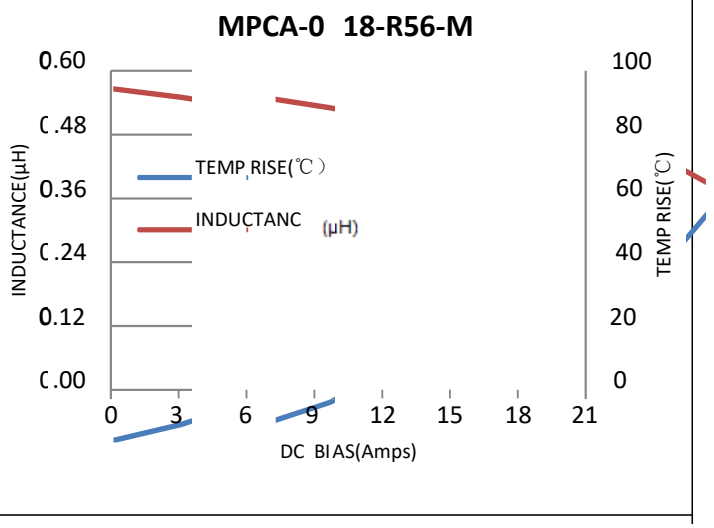
Example - -1.0→1R0

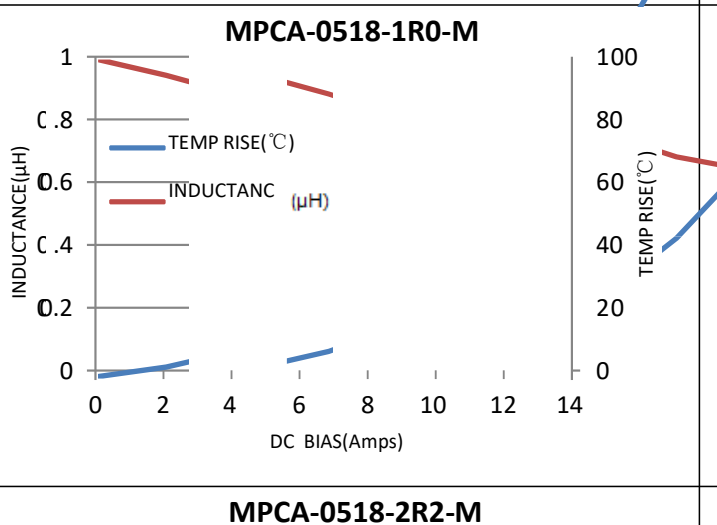
Note：Using Ink for marking

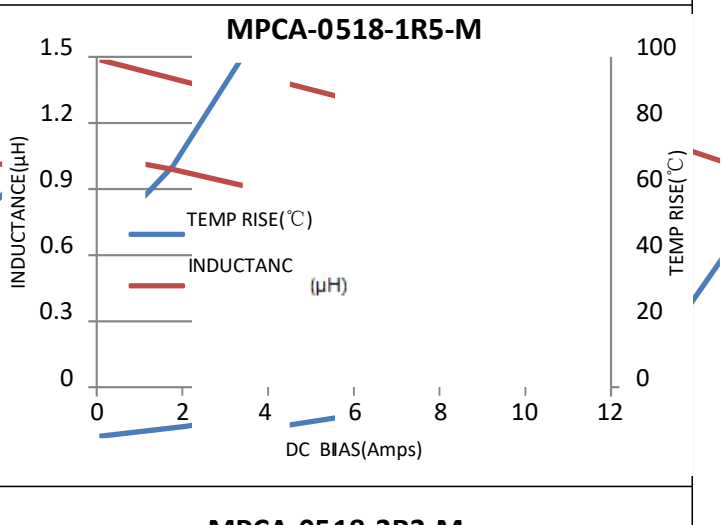
Performance Graphs

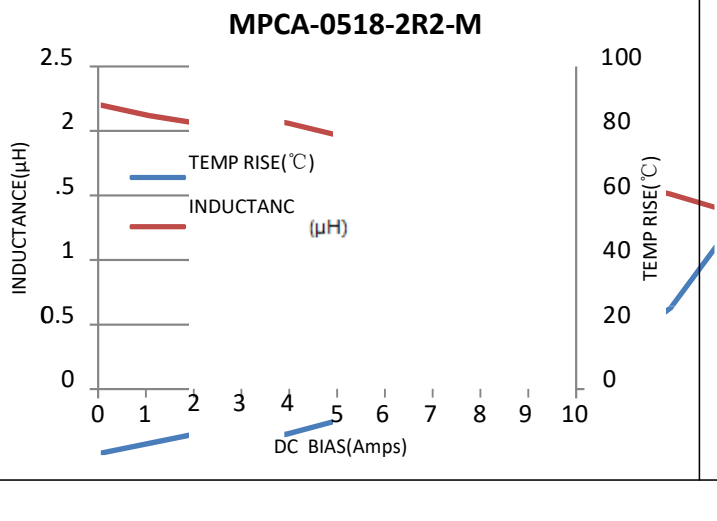
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

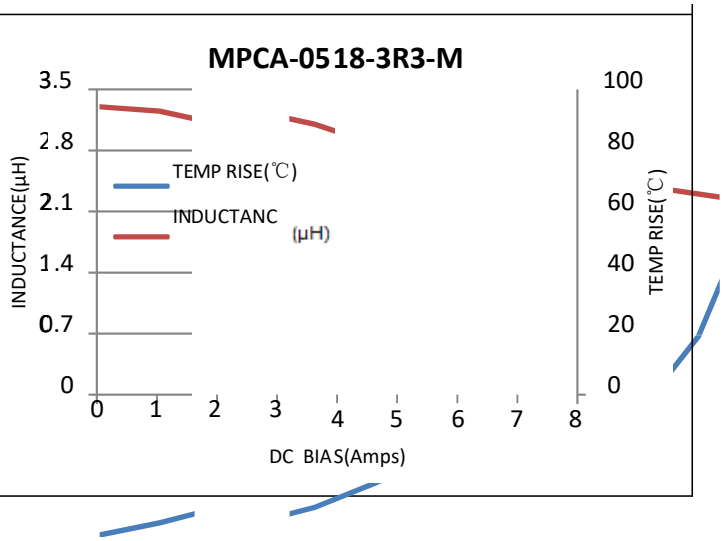


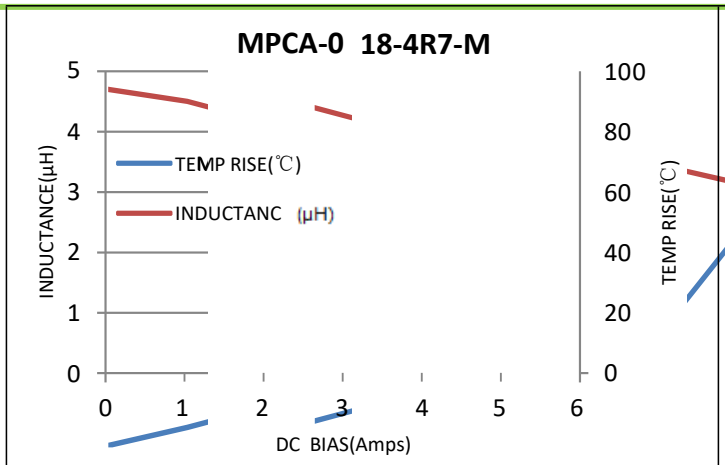


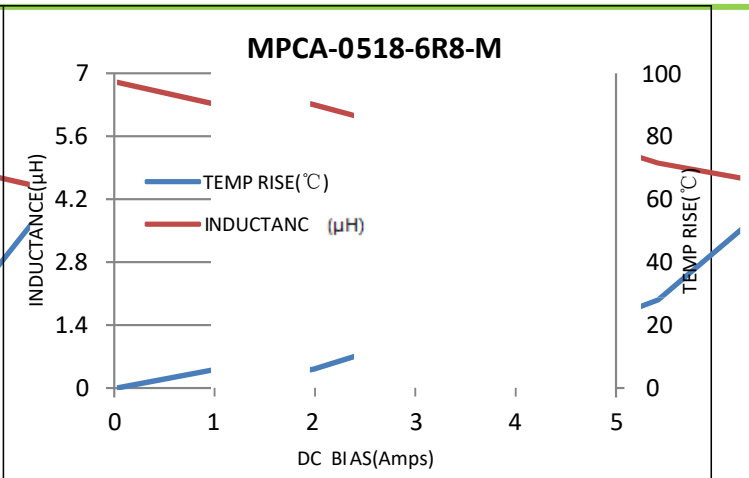


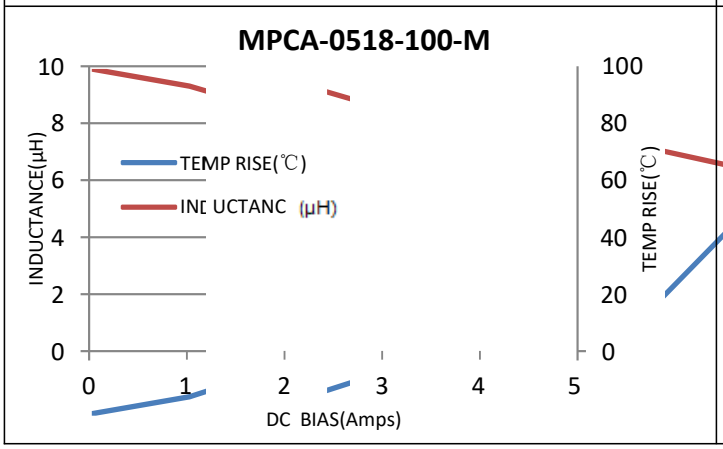






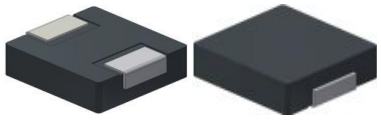

MPCA-0 18-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
INDUCTANC (μH)
TEMP RISE(℃)
DC BIAS(Amps)


MPCA-0518-6R8-M
INDUCTANCE(μH)
TEMP RISE(℃)
INDUCTANC (μH)
TEMP RISE(℃)
DC BIAS(Amps)


MPCA-0518-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
INDUCTANC (μH)
TEMP RISE(℃)
DC BIAS(Amps)

High Current, Power Inductors

MPCA-0530-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 5.7 x 5.4 x 3.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

•Storage temperature range: -55℃ to +125 ℃

•Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)

•Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0530-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

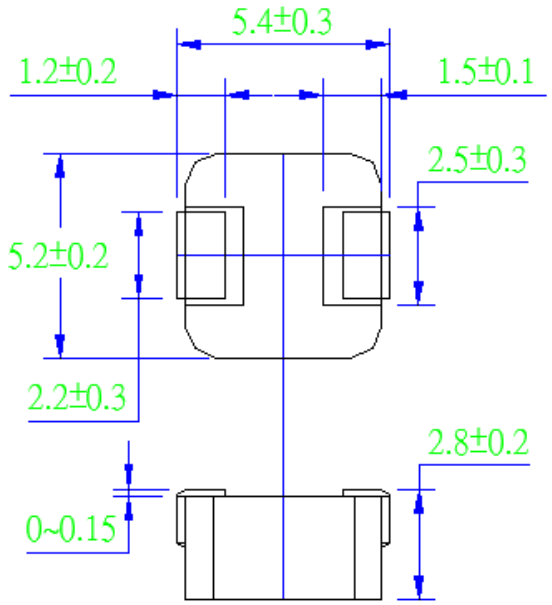
Global Part Number											
M	P	C	A	0	5	3	0	1	R	0	M
Product Series				Dimensions				Inductance Value			Tol.

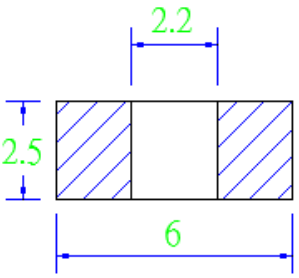
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0530-R10-M	0.10	2.4	3.0	25.0	33.0
MPCA-0530-R20-M	0.20	3.5	3.9	14.0	14.5
MPCA-0530-R33-M	0.33	4.5	5.5	14.0	18.0
MPCA-0530-R35-M	0.35	4.5	5.5	14.0	18.0
MPCA-0530-R47-M	0.47	7.4	8.5	11.0	12.0
MPCA-0530-R68-M	0.68	11.0	12.0	9.0	11.5
MPCA-0530-1R0-M	1.0	13.0	14.0	8.5	11.0
MPCA-0530-1R2-M	1.2	15.0	16.0	8.5	11.0
MPCA-0530-1R5-M	1.5	20.0	25.0	8.2	8.5
MPCA-0530-2R2-M	2.2	25.0	29.0	7.0	7.5
MPCA-0530-3R3-M	3.3	32.0	38.0	5.5	6.0
MPCA-0530-4R7-M	4.7	50.0	60.0	4.5	5.0
MPCA-0530-6R8-M	6.8	75.0	90.0	3.5	4.0
MPCA-0530-100-M	10.0	110.0	125.0	3.2	3.5

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





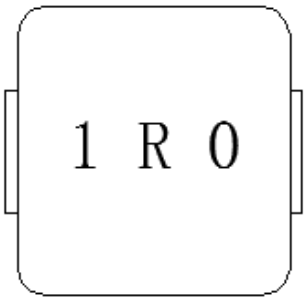
Recommend Land Pattern Dimensions

Marking

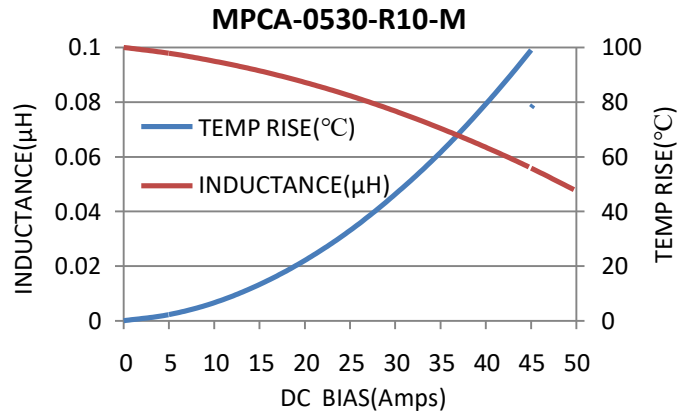
The inductor is marked with a 3-digit code

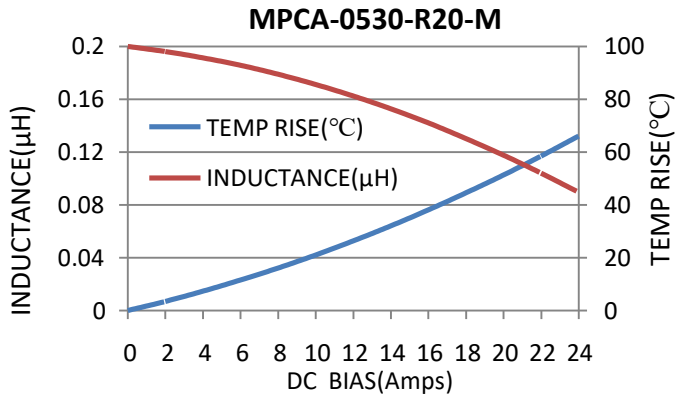
Example - -1.0→1R0

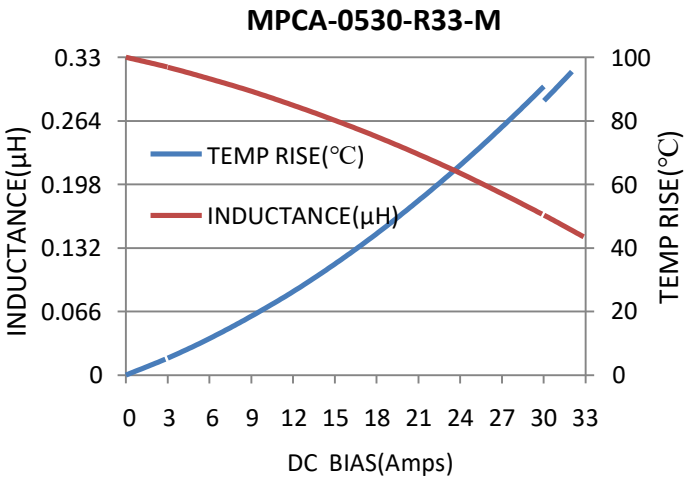
Note：Using Ink for marking

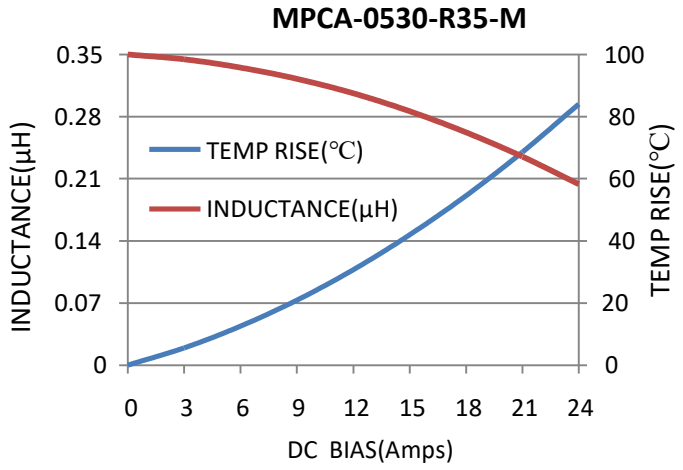


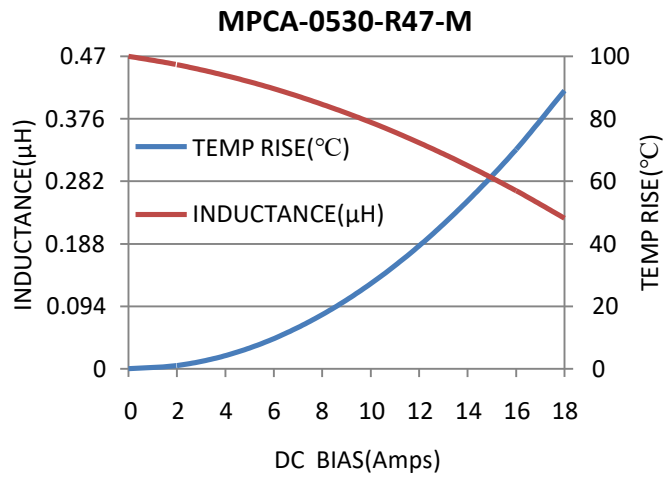
Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

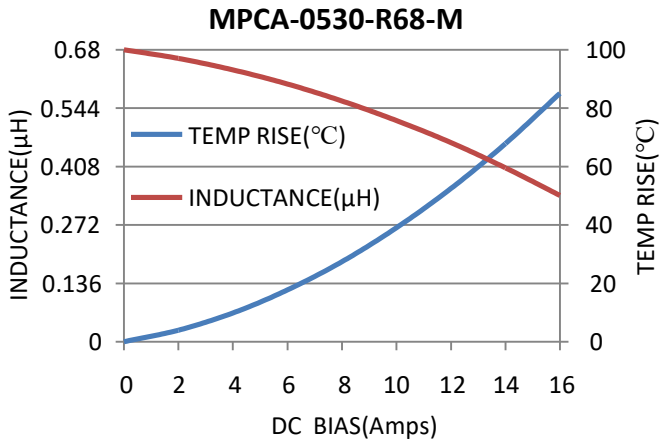


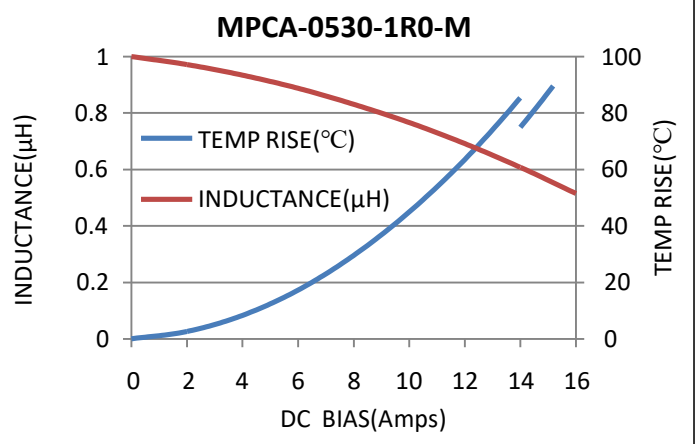


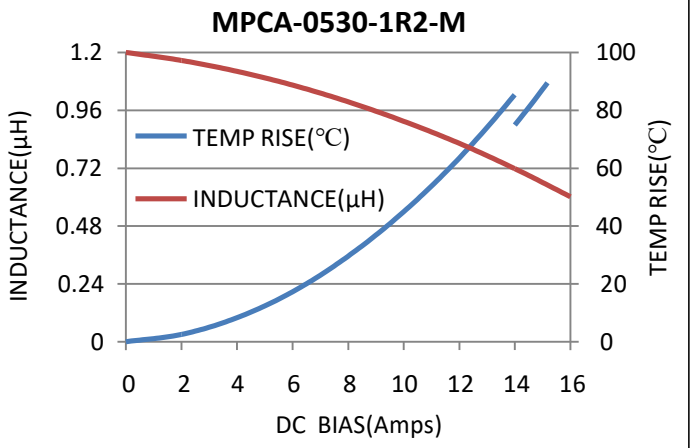


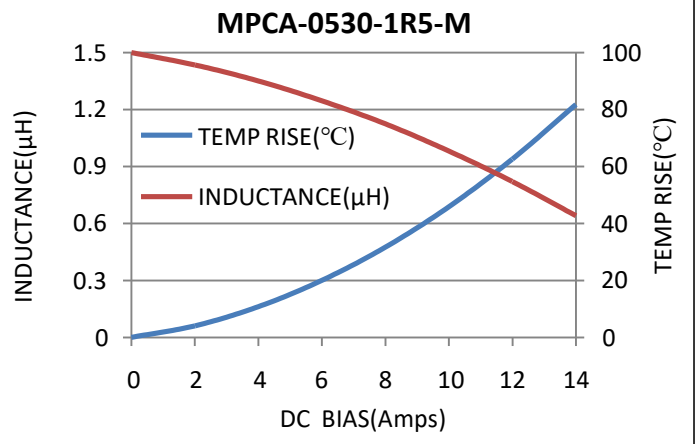


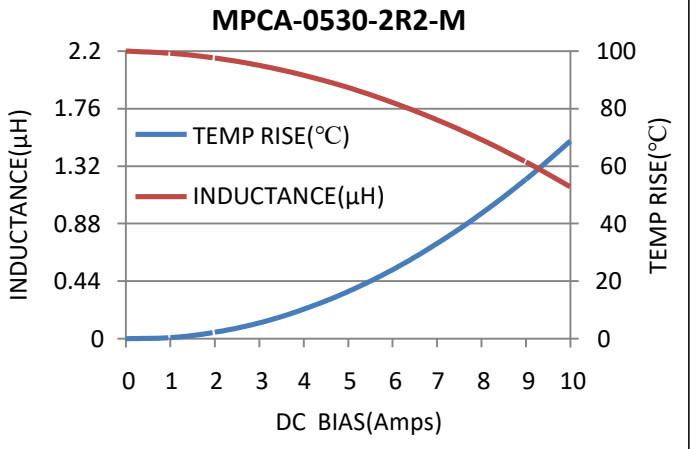


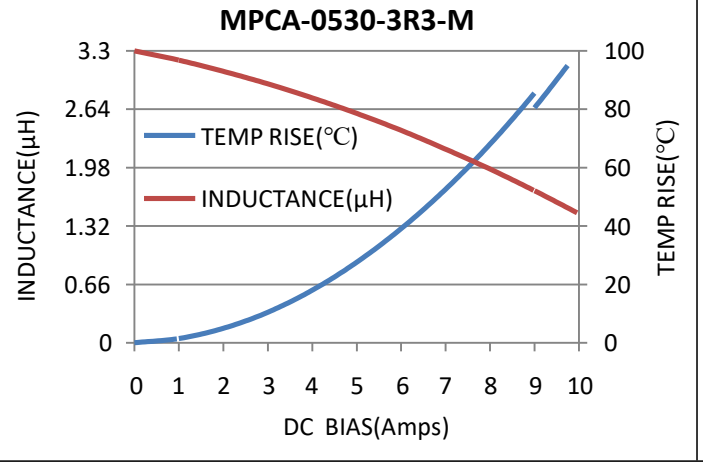


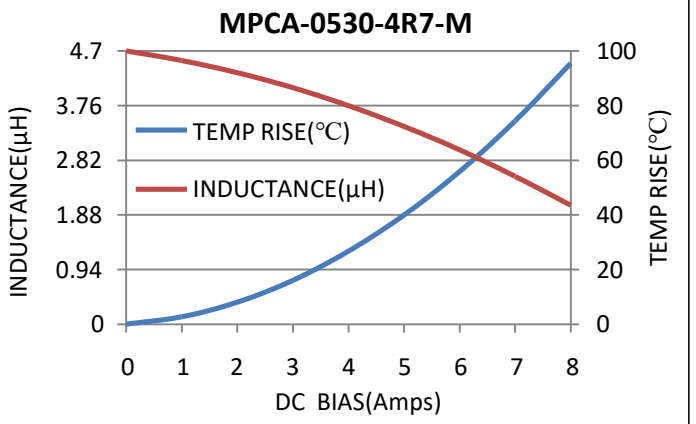

MPCA-0530-1R0-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

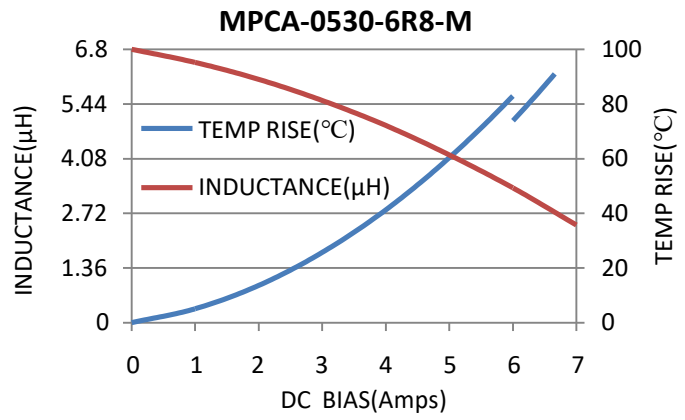

MPCA-0530-1R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

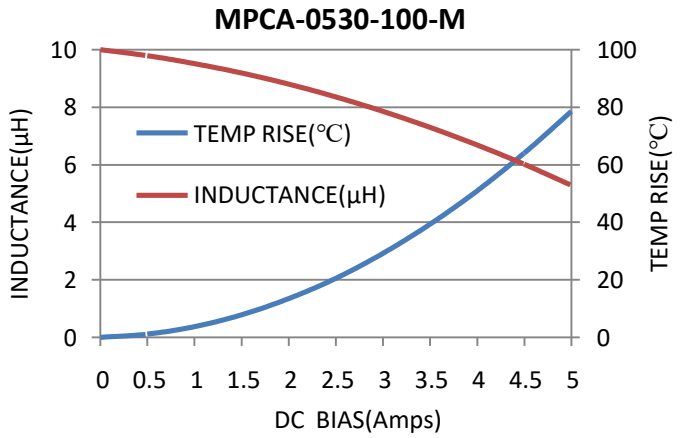

MPCA-0530-1R5-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0530-2R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0530-3R3-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

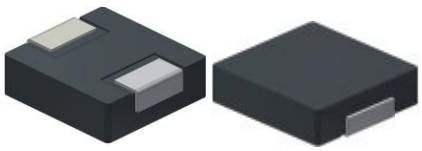

MPCA-0530-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


MPCA-0530-6R8-M
INDUCTANCE(μH)
TEMP RISE(℃)
6.8
5.44
4.08
2.72
1.36
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 1 2 3 4 5 6 7
DC BIAS(Amps)


MPCA-0530-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
10
8
6
4
2
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5
DC BIAS(Amps)

High Current, Power Inductors

MPCA-0618-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 7.3x6.8x 1.8mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0618-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

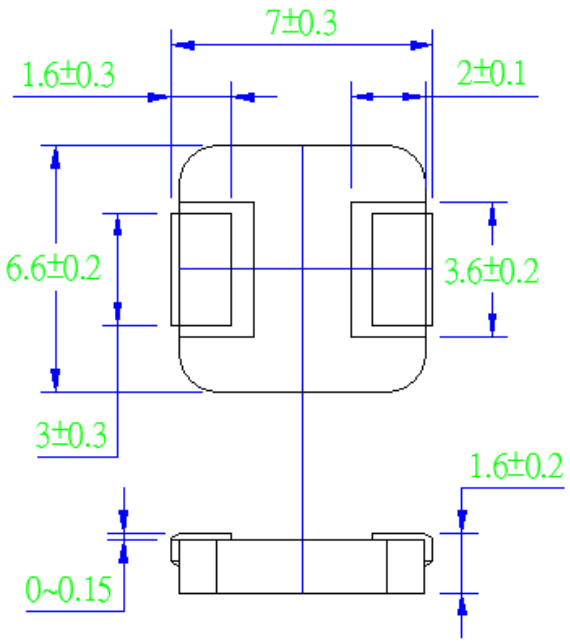
Global Part Number				
M P C A	0 6 1 8	1 R 0	M	
Product Series	Dimensions	Inductance Value	Tol.	

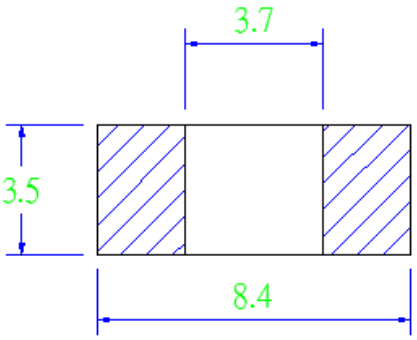
	Inductance	DC Resistance		Heating Rating Current	Saturation Current
L0 (μH)	DCR (mΩ)			Isat (A)	
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
	0.1	2.0	2.3	25.0	38.0
	0.22	3.0	3.5	22.0	24.0
	0.47	8.0	8.4	11.5	18.0
	0.68	10.0	12.0	9.5	17.0
	1.0	13.0	16.0	8.5	14.0
	1.5	20.0	26.0	8.0	9.2
	2.2	28.0	35.0	7.0	8.0
	3.3	43.0	50.0	4.5	6.5
	4.7	56.0	62.0	4.0	5.0
	6.8	101.0	110.0	3.0	4.5
	10.0	140.0	155.0	2.3	2.5
	22.0	310.0	350.0	1.8	2.3

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





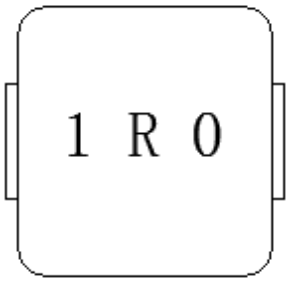
Recommend Land Pattern Dimensions

•Marking

The inductor is marked with a 3-digit code

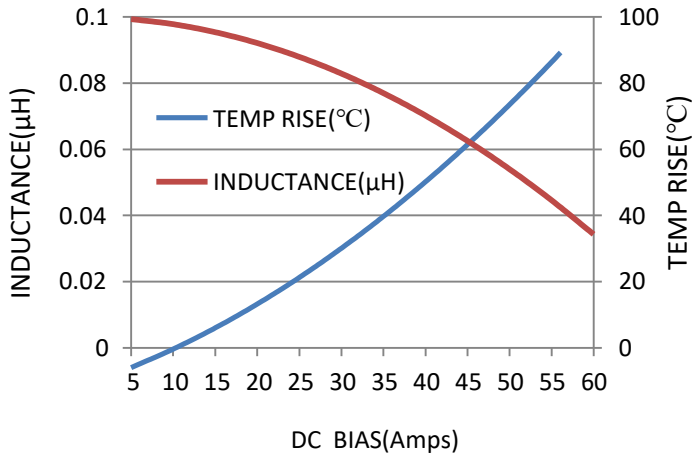
Example - -1.0→1R0

Note：Using Ink for marking

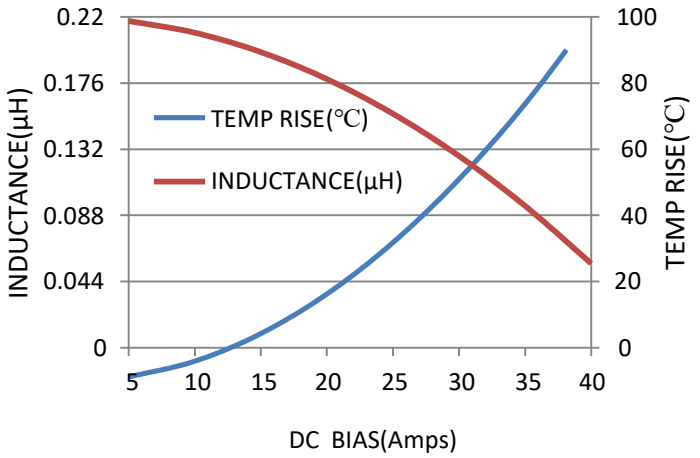


Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

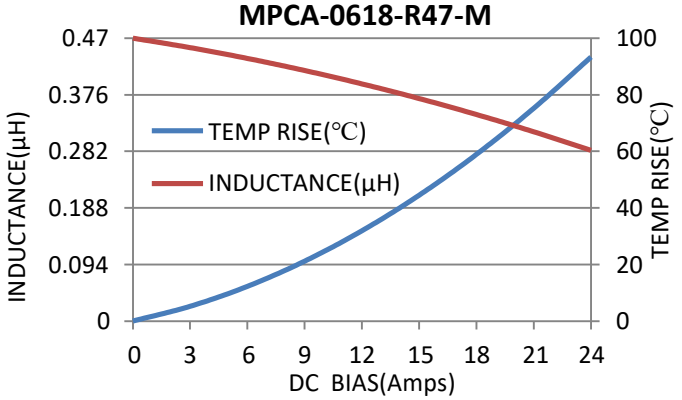
MPCA-0618-R10-M



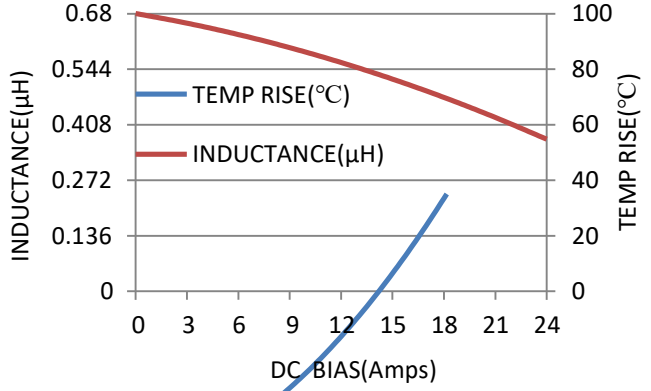
MPCA-0618-R22-M



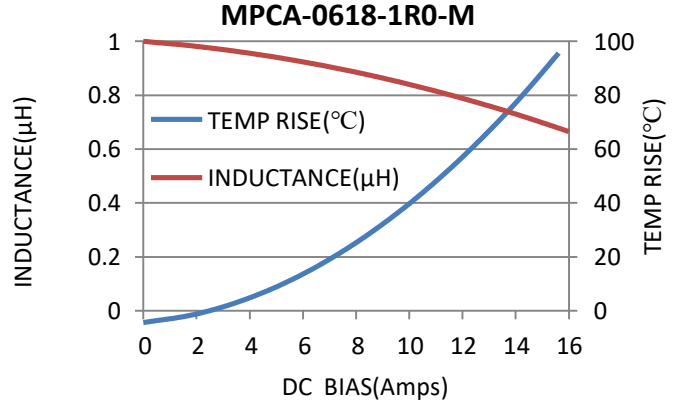
MPCA-0618-R47-M



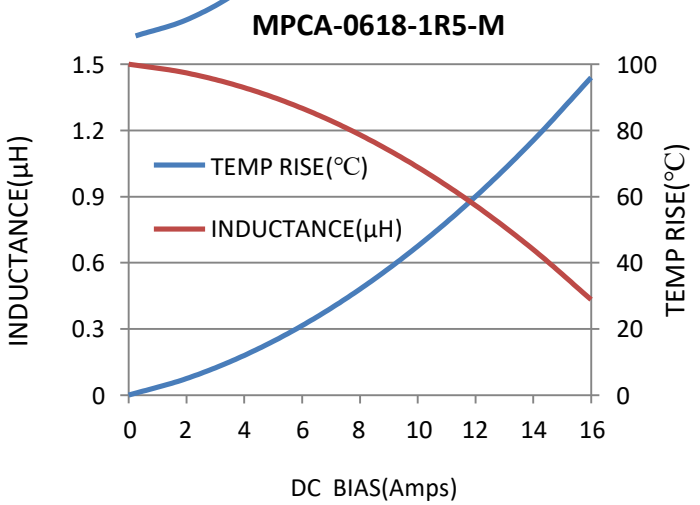
MPCA-0618-R68-M

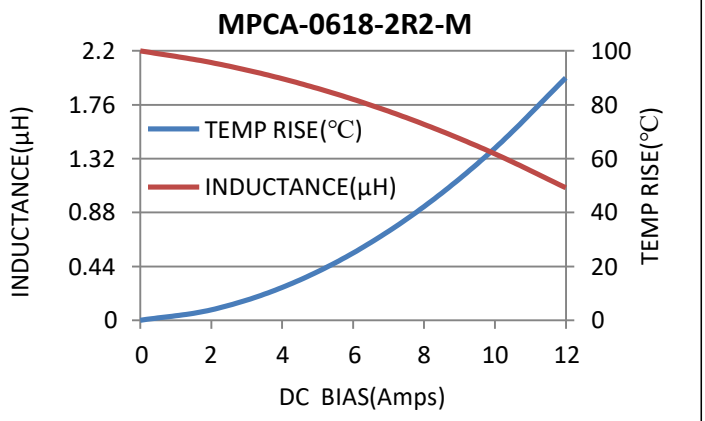


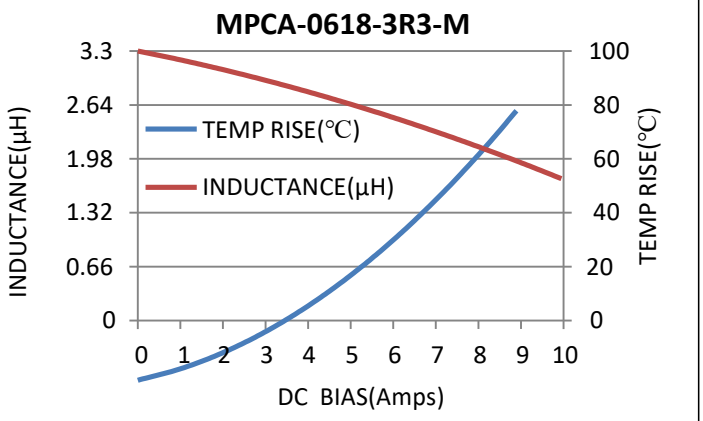
MPCA-0618-1R0-M

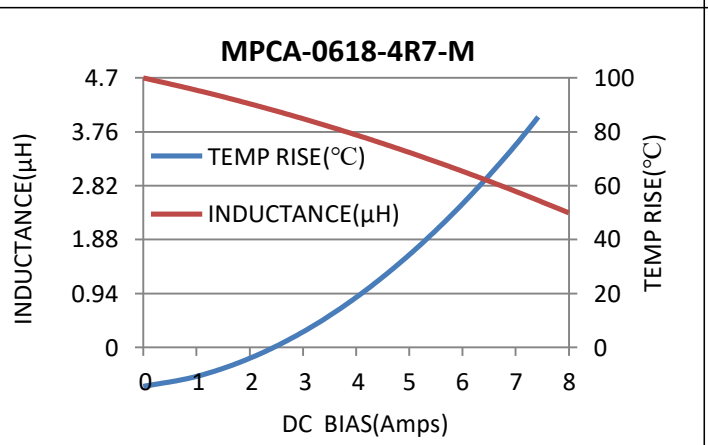


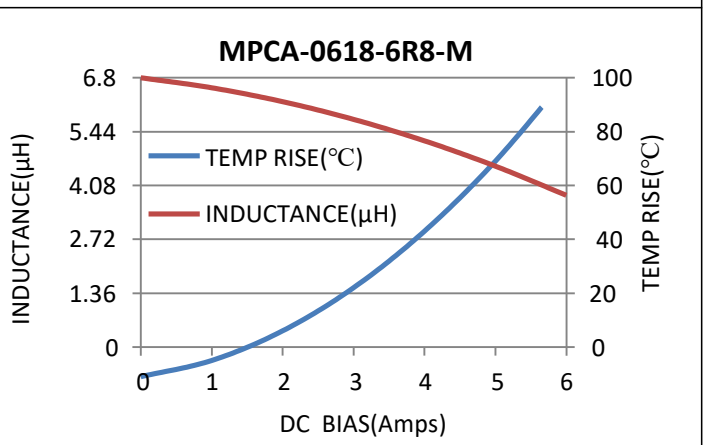
MPCA-0618-1R5-M

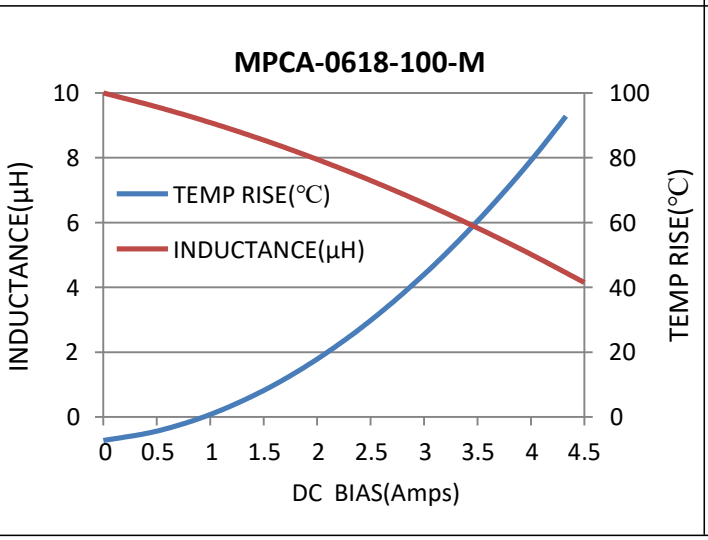


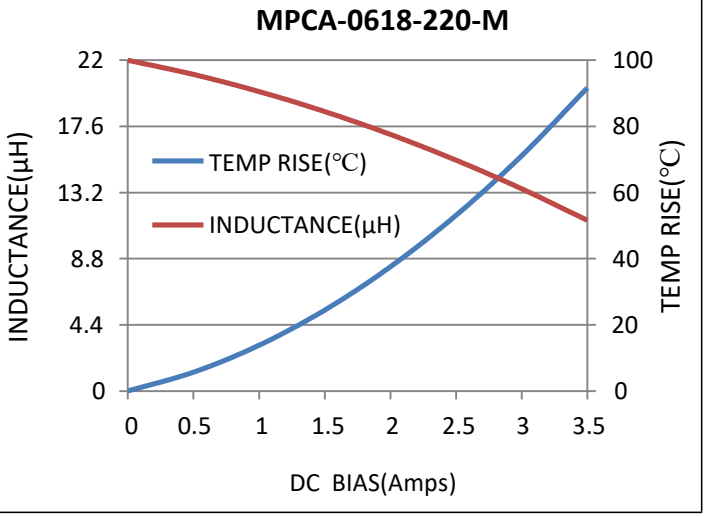

MPCA-0618-2R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
2.2
1.76
1.32
0.88
0.44
0
100
80
60
40
20
0
0 2 4 6 8 10 12


MPCA-0618-3R3-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
3.3
2.64
1.98
1.32
0.66
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10


MPCA-0618-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
4.7
3.76
2.82
1.88
0.94
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8

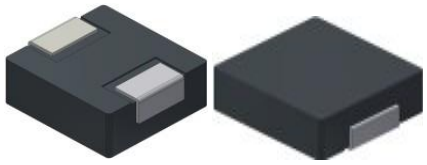

MPCA-0618-6R8-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
6.8
5.44
4.08
2.72
1.36
0
100
80
60
40
20
0
0 1 2 3 4 5 6


MPCA-0618-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
10
8
6
4
2
0
100
80
60
40
20
0
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5


MPCA-0618-220-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
22
17.6
13.2
8.8
4.4
0
100
80
60
40
20
0
0 0.5 1 1.5 2 2.5 3 3.5

High Current, Power Inductors

MPCA-0624-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 7.3x6.8x 2.4mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0624-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

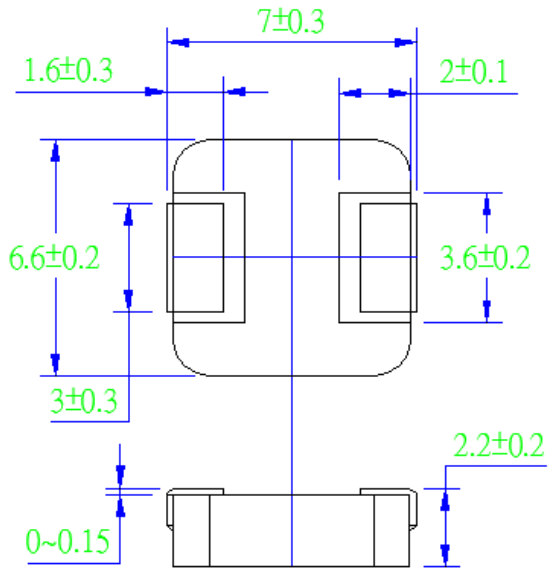
Global Part Number			
M P C A	0 6 2 4	1 R 0	M
Product Series	Dimensions	Inductance	ValueTol.

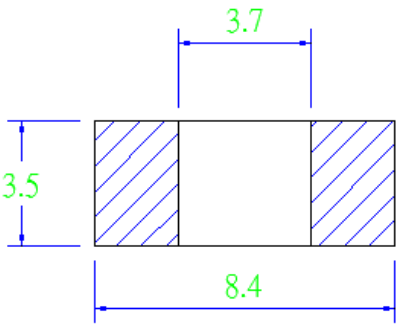
	Inductance	DC Resistance		Heating Rating Current	Saturation Current
L0 (μH)	DCR (mΩ)			Isat (A)	
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
	0.22	2.5	3.0	21.0	34.0
	0.33	3.5	4.1	18.0	24.5
	0.47	4.5	5.1	15.0	22.0
	0.56	5.5	6.5	13.0	17.0
	0.68	6.2	7.0	12.0	16.0
	1.0	11.0	13.5	9.0	16.0
	1.5	17.0	20.0	9.0	13.5
	2.2	23.0	28.0	7.0	11.0
	3.3	31.0	39.0	5.5	8.5
	4.7	45.0	54.0	5.0	7.5
	6.8	57.0	70.0	4.0	6.0
	10.0	92.0	101.0	3.1	4.0
	15.0	145.0	160.0	2.5	3.3
	22.0	220.0	230.0	2.0	2.5

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





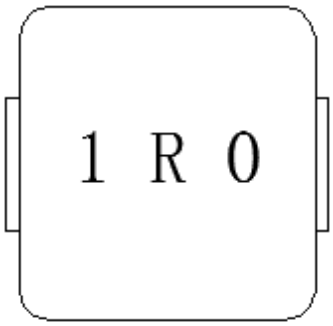
Recommend Land Pattern Dimensions

•Marking

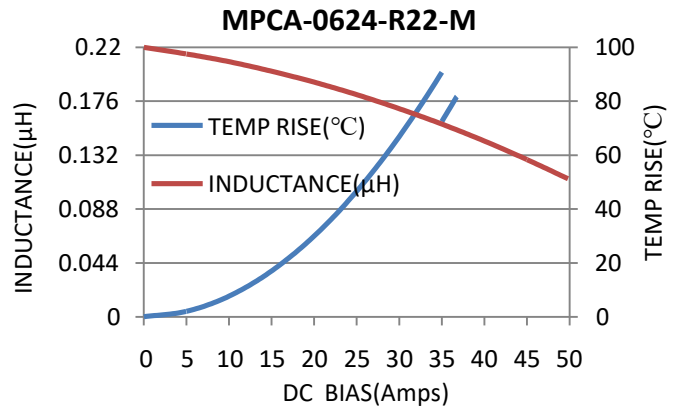
The inductor is marked with a 3-digit code

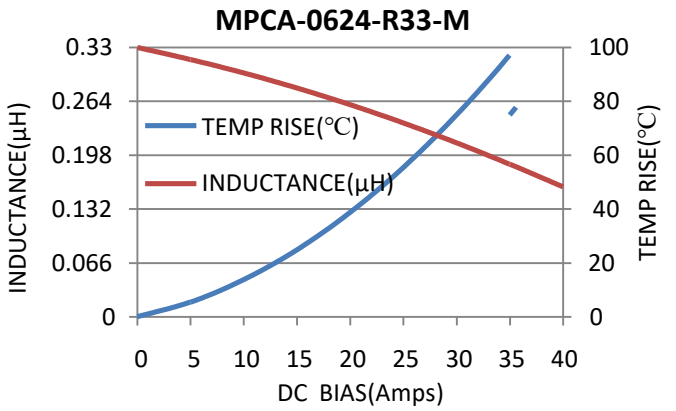
Example - -1.0→1R0

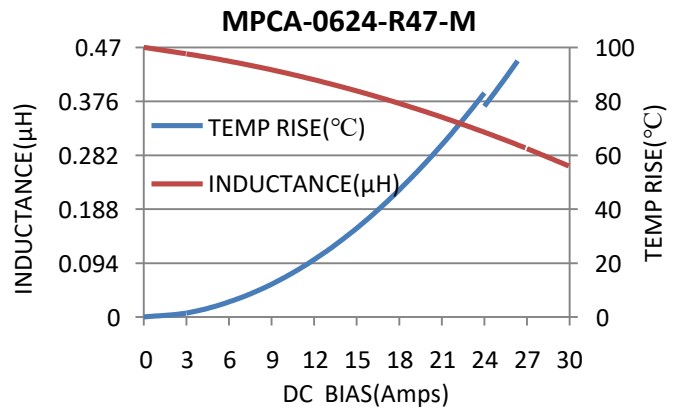
Note：Using Ink for marking

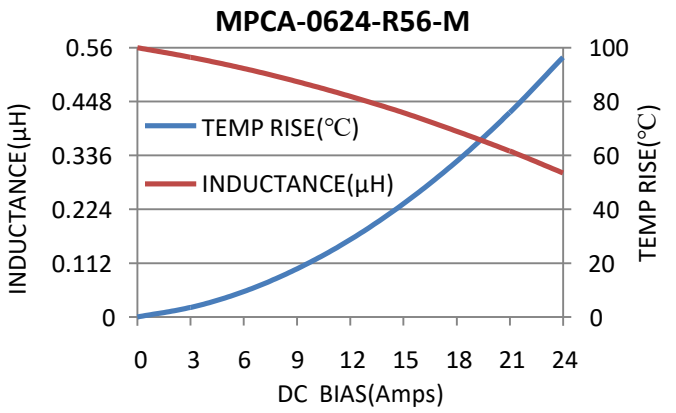


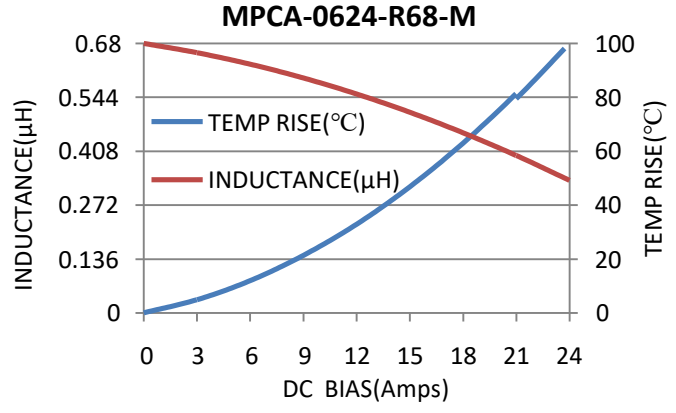
Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

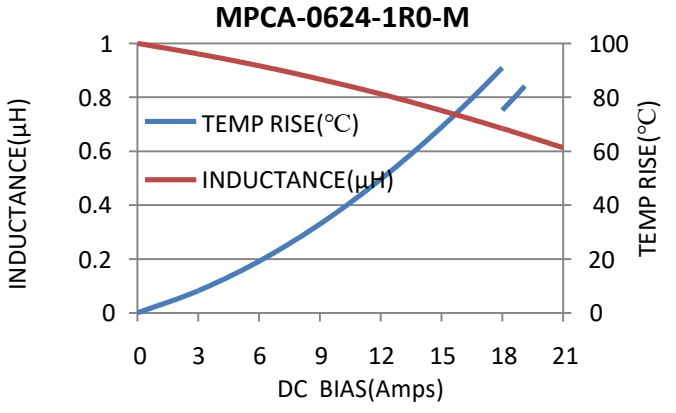


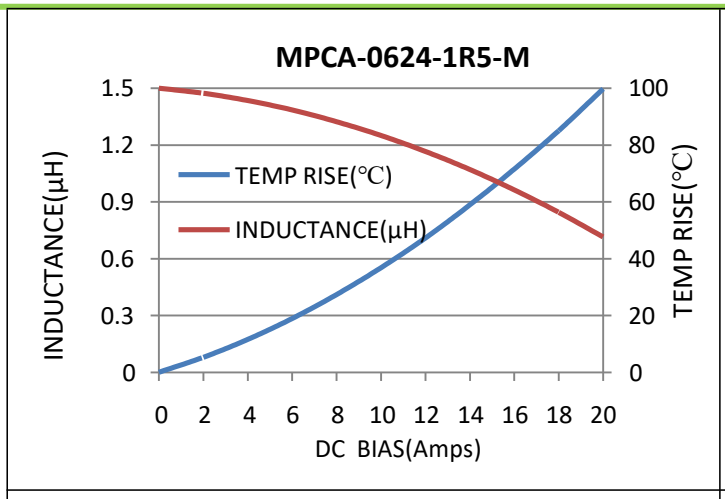


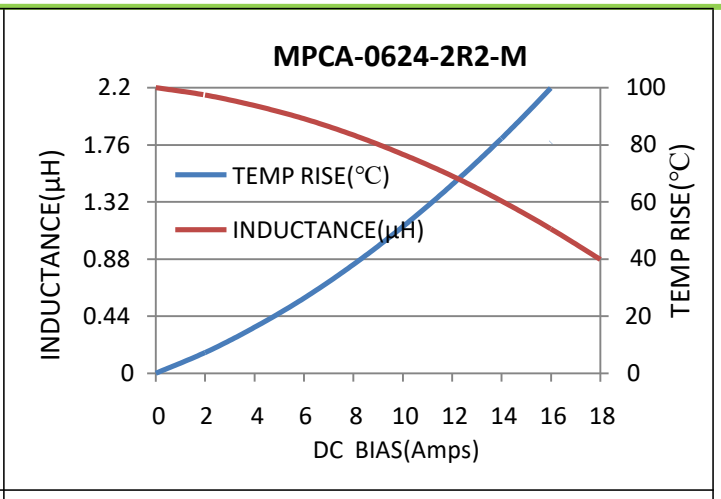


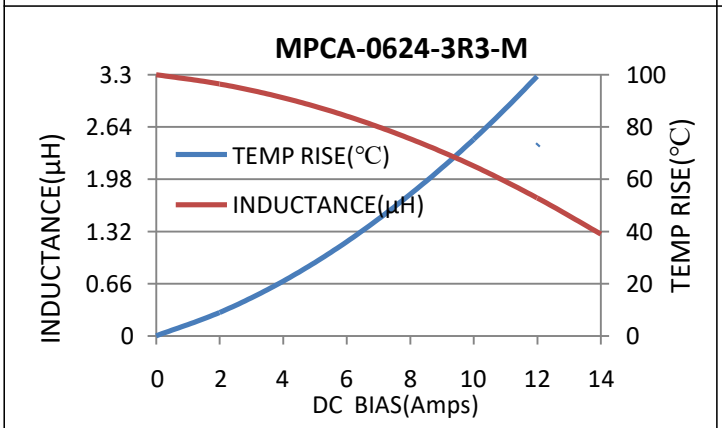


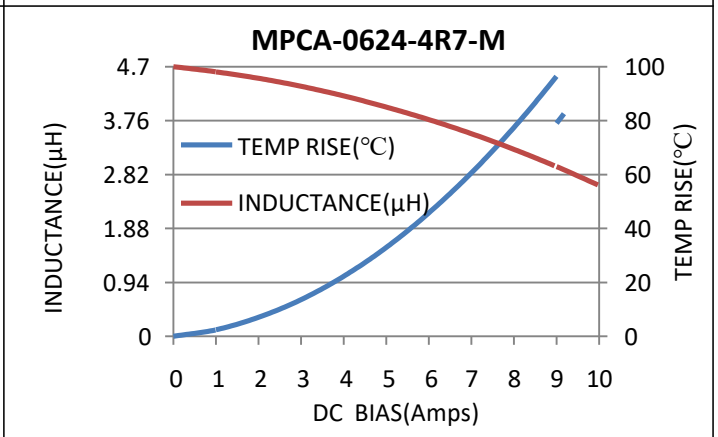


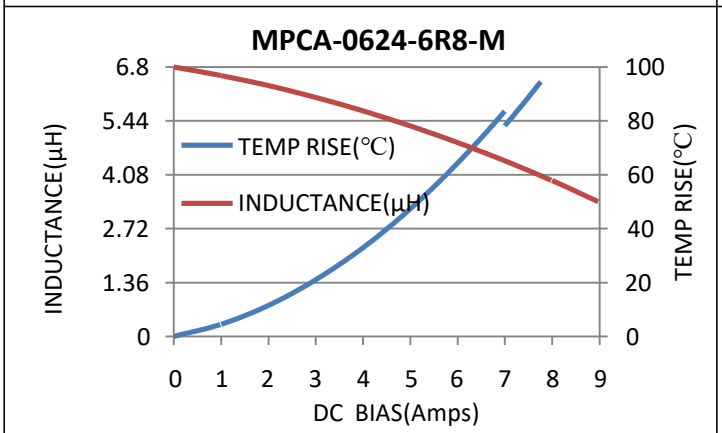


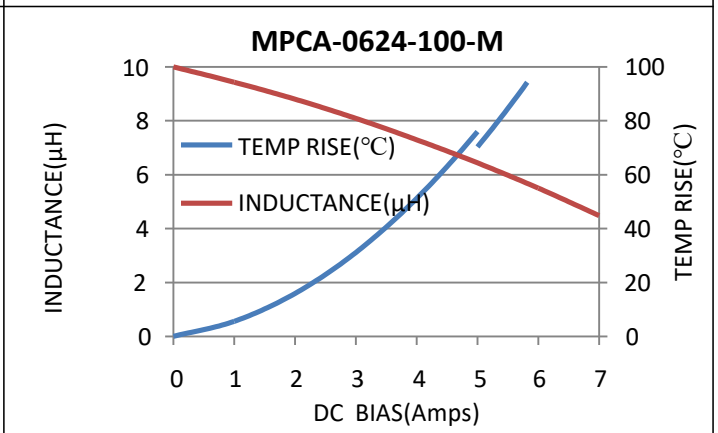

MPCA-0624-1R5-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
1.5
1.2
0.9
0.6
0.3
0
100
80
60
40
20
0
0 2 4 6 8 10 12 14 16 18 20

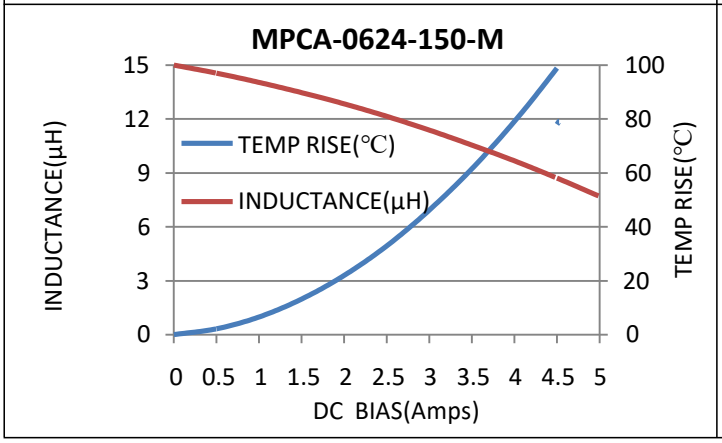

MPCA-0624-2R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
2.2
1.76
1.32
0.88
0.44
0
100
80
60
40
20
0
0 2 4 6 8 10 12 14 16 18

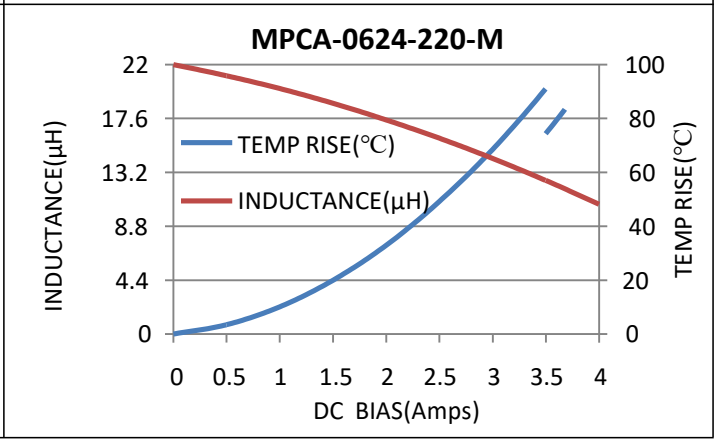

MPCA-0624-3R3-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
3.3
2.64
1.98
1.32
0.66
0
100
80
60
40
20
0
0 2 4 6 8 10 12 14


MPCA-0624-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
4.7
3.76
2.82
1.88
0.94
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10


MPCA-0624-6R8-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
6.8
5.44
4.08
2.72
1.36
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9

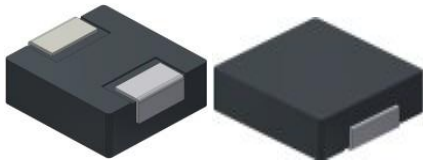

MPCA-0624-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
10
8
6
4
2
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7


MPCA-0624-150-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
15
12
9
6
3
0
100
80
60
40
20
0
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5


MPCA-0624-220-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
22
17.6
13.2
8.8
4.4
0
100
80
60
40
20
0
0 0.5 1 1.5 2 2.5 3 3.5 4

High Current, Power Inductors

MPCA-0630-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 7.3x6.8x 3.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0630-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

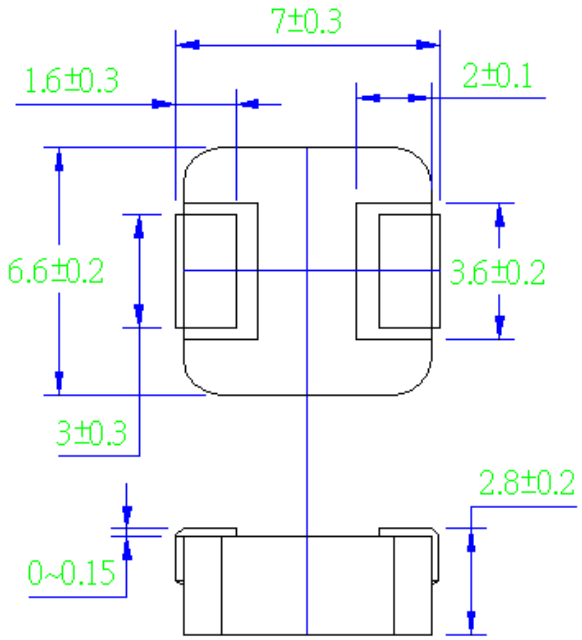
Global Part Number										
M	P	C	A	0	6	3	0	1	R	5	M
Product Series				Dimensions				Inductance			Value Tol.

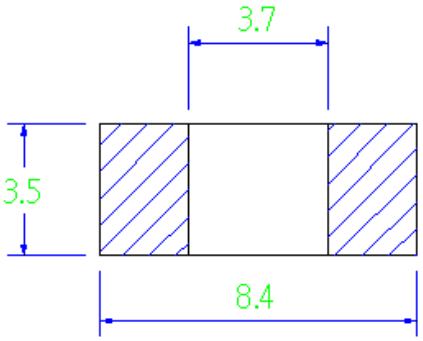
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0630-R10-M	0.1	0.9	1.2	32.0	56.0
MPCA-0630-R22-M	0.22	2.5	3.0	24.0	34.0
MPCA-0630-R24-M	0.24	2.6	3.1	23.0	26.0
MPCA-0630-R33-M	0.33	3.0	3.5	21.0	25.0
MPCA-0630-R47-M	0.47	3.5	4.1	18.0	20.0
MPCA-0630-R56-M	0.56	3.9	4.5	16.5	18.0
MPCA-0630-R68-M	0.68	4.8	5.3	16.0	17.0
MPCA-0630-R82-M	0.82	5.4	6.0	14.0	16.0
MPCA-0630-1R0-M	1.0	6.7	7.4	12.0	15.0
MPCA-0630-1R5-M	1.5	10.6	12.1	12.0	14.0
MPCA-0630-2R2-M	2.2	13.5	15.0	9.5	10.0
MPCA-0630-3R3-M	3.3	18.0	22.0	8.5	9.5
MPCA-0630-4R7-M	4.7	28.0	33.0	6.0	6.5
MPCA-0630-5R6-M	5.6	37.0	42.0	5.0	6.0
MPCA-0630-6R8-M	6.8	42.5	48.0	5.0	6.0
MPCA-0630-8R2-M	8.2	54.0	60.0	5.0	6.0
MPCA-0630-100-M	10.0	62.0	67.0	4.5	5.5
MPCA-0630-150-M	15.0	104.0	115.0	3.0	4.5
MPCA-0630-220-M	22.0	180.0	200.0	2.3	3.0
MPCA-0630-330-M	33.0	280.0	310.0	2.0	2.5

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





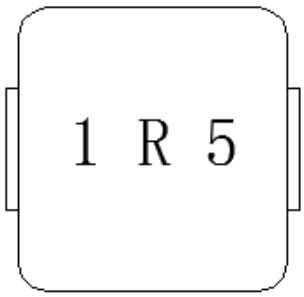
Recommend Land Pattern Dimensions

•Marking

The inductor is marked with a 3-digit code

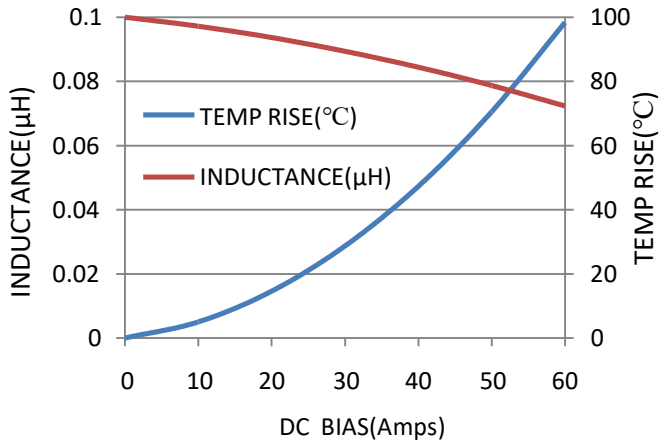
Example - -1.5→1R5

Note：Using Ink for marking

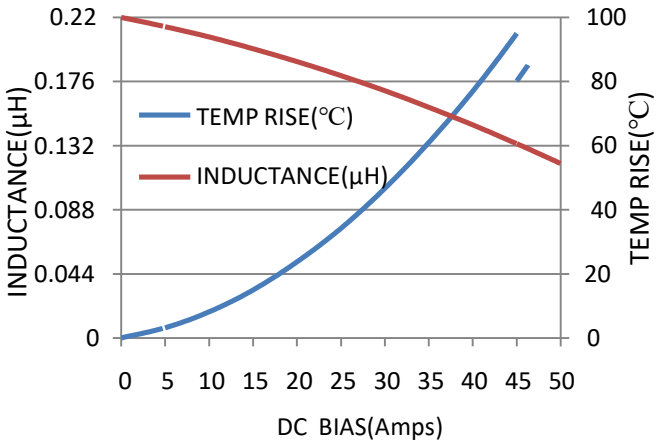


Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

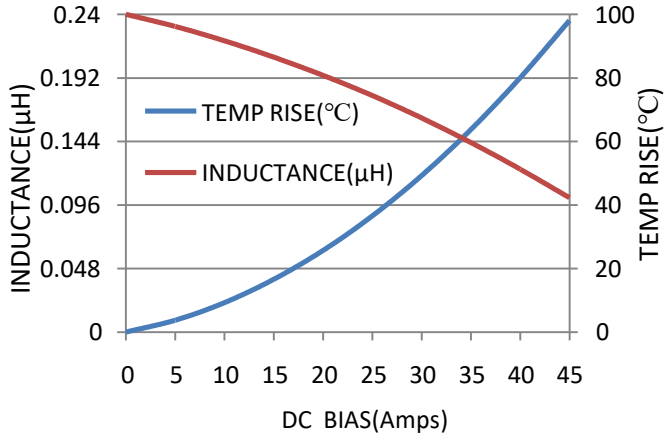
MPCA-0630-R10-M



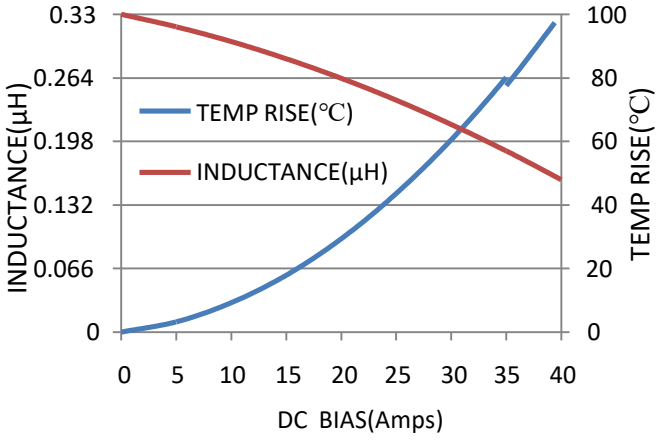
MPCA-0630-R22-M



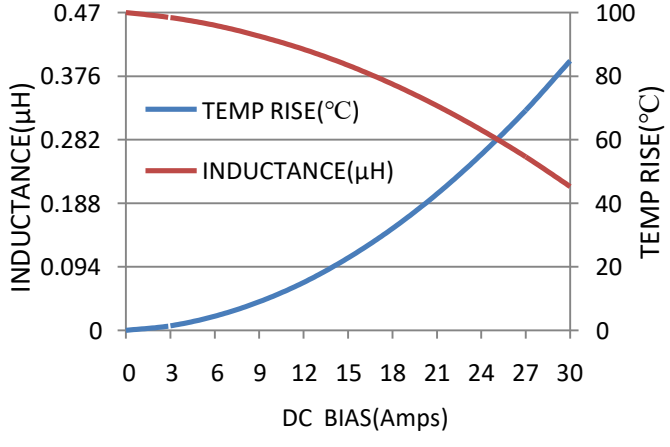
MPCA-0630-R24-M



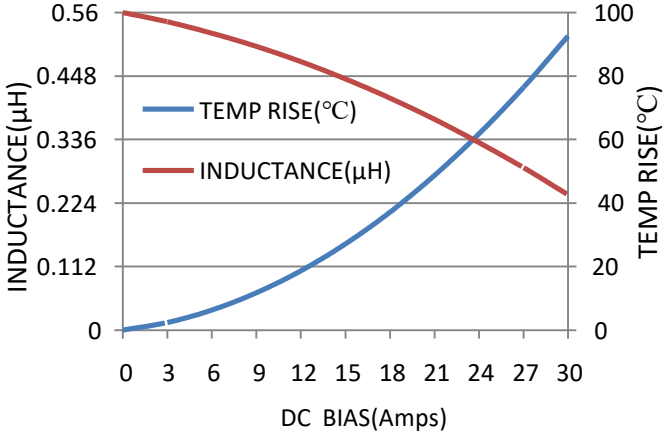
MPCA-0630-R33-M

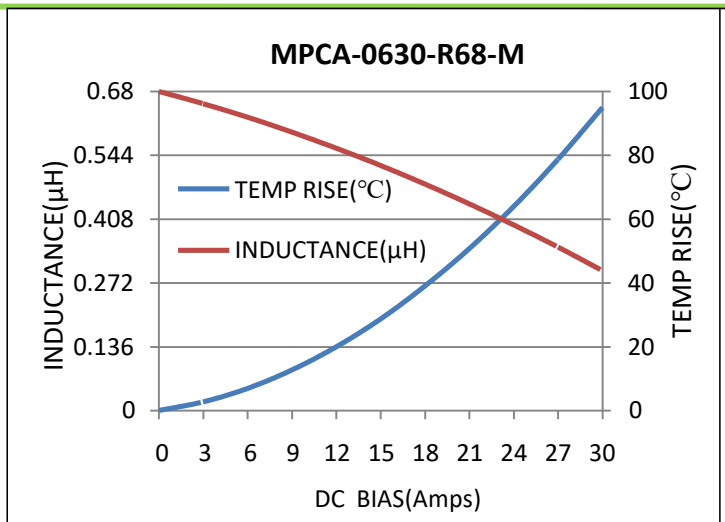


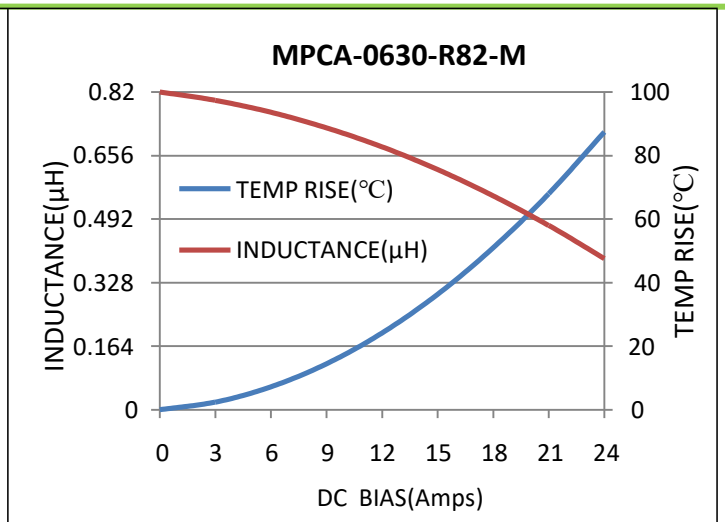
MPCA-0630-R47-M

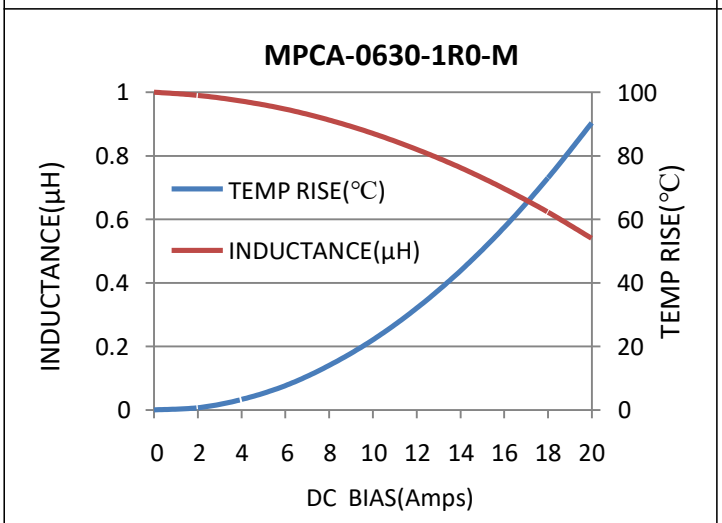


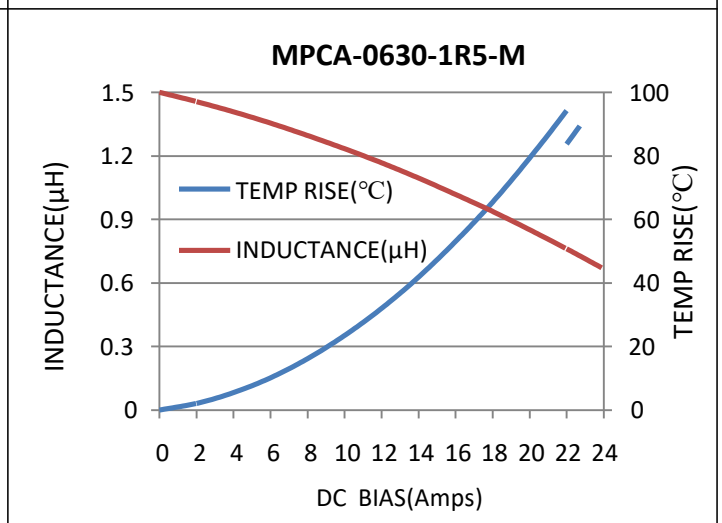
MPCA-0630-R56-M

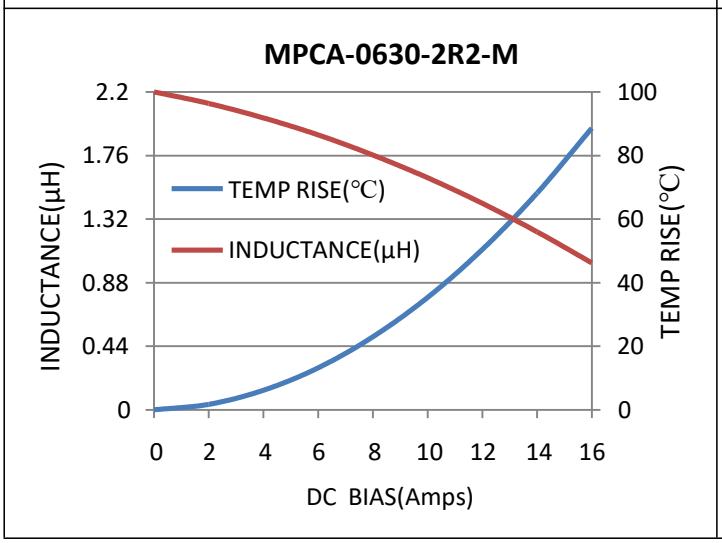


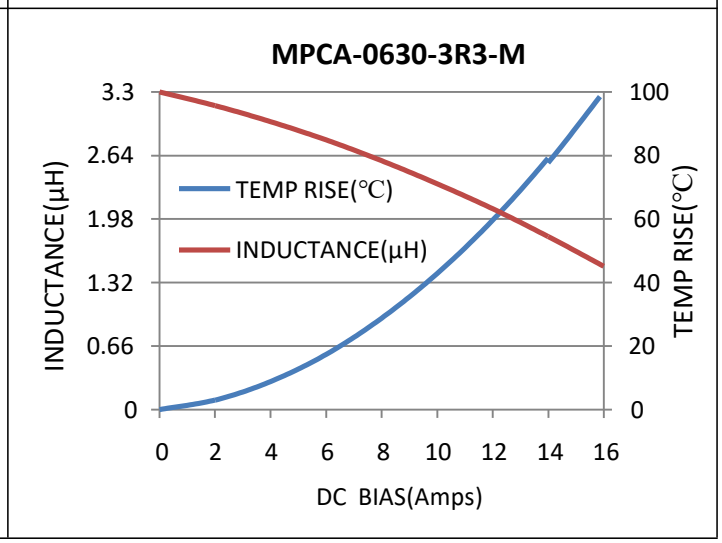

MPCA-0630-R68-M
INDUCTANCE(μH)
TEMP RISE(℃)
0.68
0.544
0.408
0.272
0.136
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 3 6 9 12 15 18 21 24 27 30
DC BIAS(Amps)

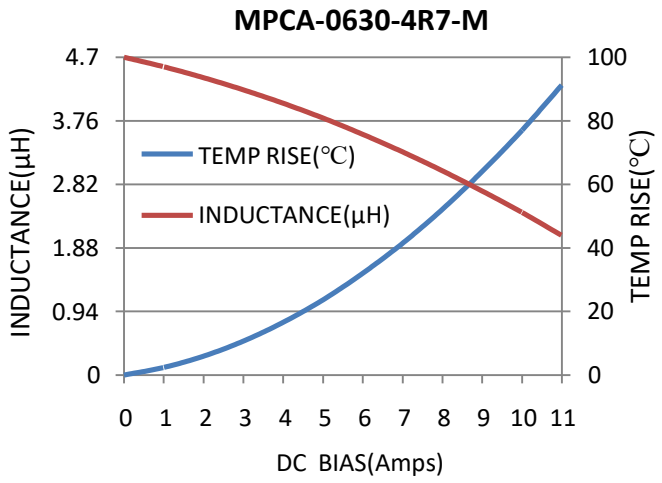

MPCA-0630-R82-M
INDUCTANCE(μH)
TEMP RISE(℃)
0.82
0.656
0.492
0.328
0.164
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 3 6 9 12 15 18 21 24
DC BIAS(Amps)

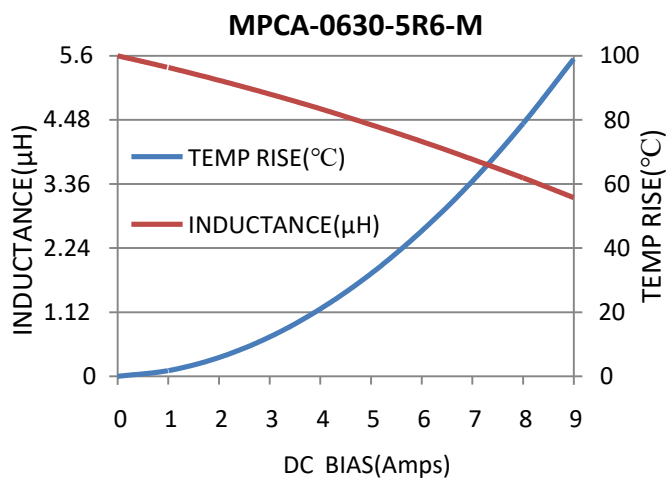

MPCA-0630-1R0-M
INDUCTANCE(μH)
TEMP RISE(℃)
1
0.8
0.6
0.4
0.2
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 2 4 6 8 10 12 14 16 18 20
DC BIAS(Amps)

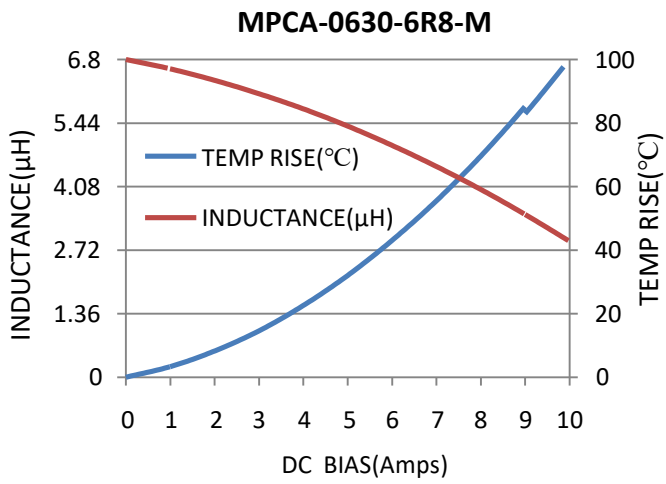

MPCA-0630-1R5-M
INDUCTANCE(μH)
TEMP RISE(℃)
1.5
1.2
0.9
0.6
0.3
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 2 4 6 8 10 12 14 16 18 20 22 24
DC BIAS(Amps)

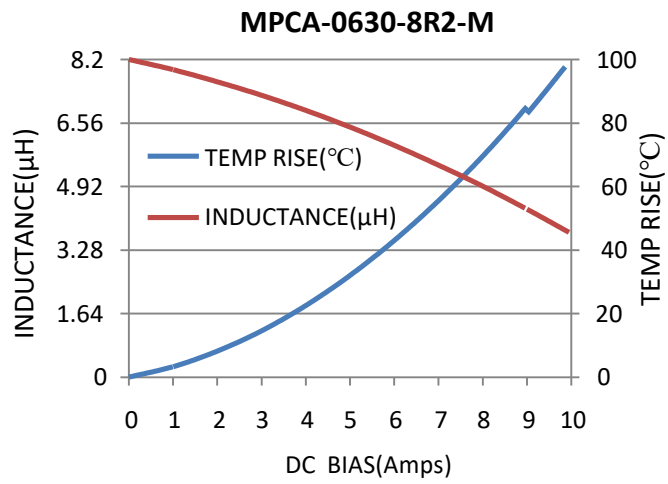

MPCA-0630-2R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
2.2
1.76
1.32
0.88
0.44
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 2 4 6 8 10 12 14 16
DC BIAS(Amps)

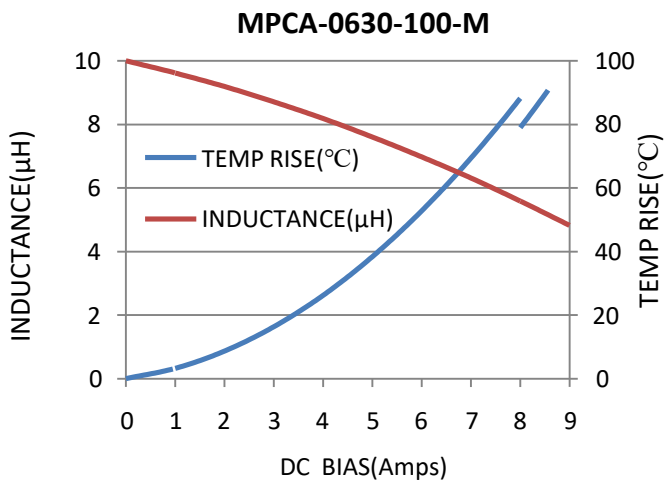

MPCA-0630-3R3-M
INDUCTANCE(μH)
TEMP RISE(℃)
3.3
2.64
1.98
1.32
0.66
0
100
80
60
40
20
0
TEMP RISE(℃)
INDUCTANCE(μH)
0 2 4 6 8 10 12 14 16
DC BIAS(Amps)

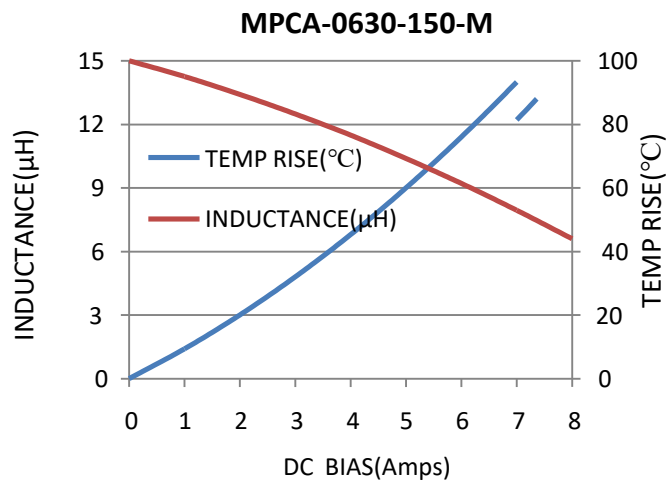

MPCA-0630-4R7-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
4.7
3.76
2.82
1.88
0.94
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10 11

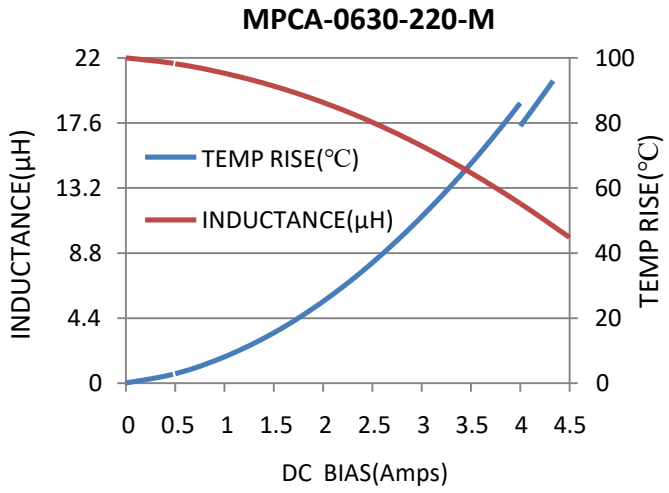

MPCA-0630-5R6-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
5.6
4.48
3.36
2.24
1.12
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9

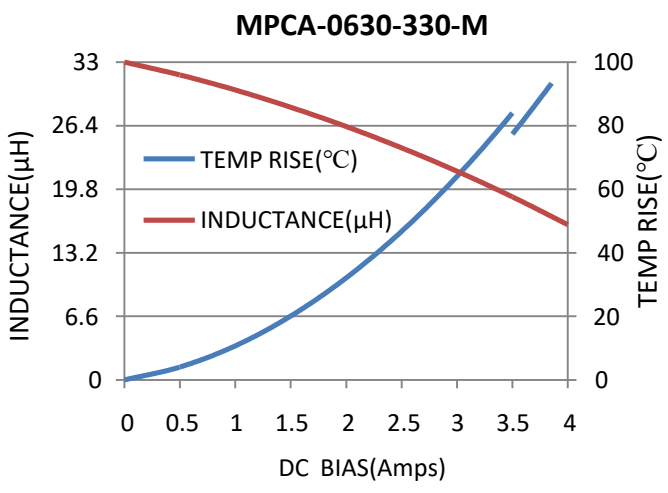

MPCA-0630-6R8-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
6.8
5.44
4.08
2.72
1.36
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10


MPCA-0630-8R2-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
8.2
6.56
4.92
3.28
1.64
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10


MPCA-0630-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
10
8
6
4
2
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9

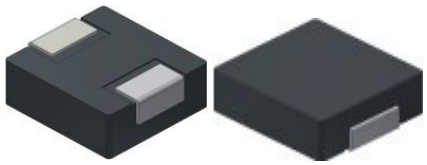

MPCA-0630-150-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
15
12
9
6
3
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8


MPCA-0630-220-M
22
17.6
13.2
8.8
4.4
0
INDUCTANCE(μH)
100
80
60
40
20
0
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
DC BIAS(Amps)


MPCA-0630-330-M
33
26.4
19.8
13.2
6.6
0
INDUCTANCE(μH)
100
80
60
40
20
0
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
0 0.5 1 1.5 2 2.5 3 3.5 4
DC BIAS(Amps)

High Current, Power Inductors

MPCA-0640-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 7.3x6.8x 4.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
MPCA-0640-100-M	10.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

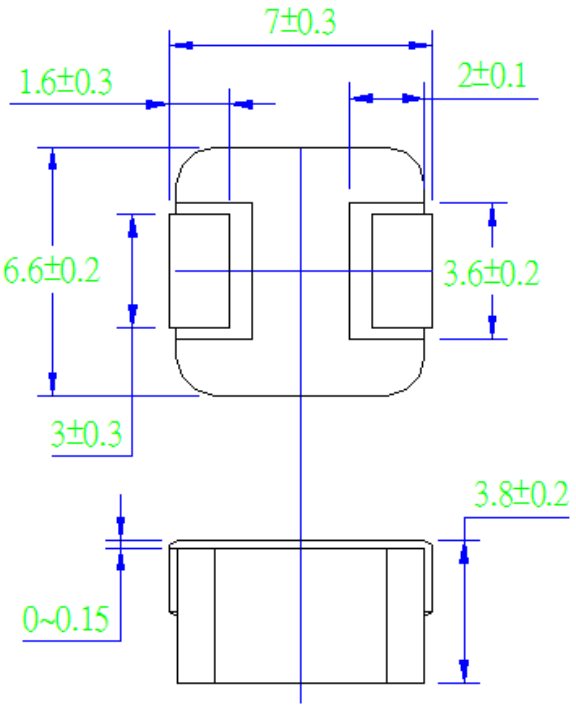
Global Part Number											
M	P	C	A	0	6	4	0	1	0	0	M
Product Series				Dimensions				Inductance Value			Tol.

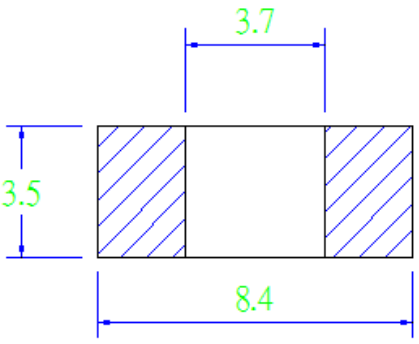
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
MPCA-0640-R36-M	0.36	1.5	1.8	24.0	25.0
MPCA-0640-6R8-M	6.8	39.0	45.0	5.5	6.5
MPCA-0640-100-M	10.0	60.0	65.0	5.0	5.0

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to dropapproximately30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





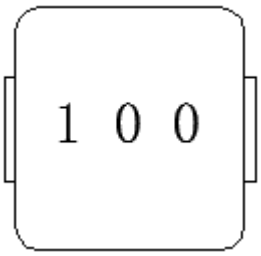
Recommend Land Pattern Dimensions

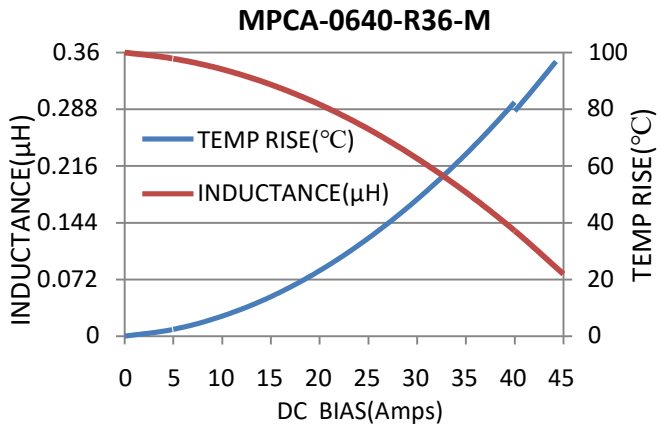
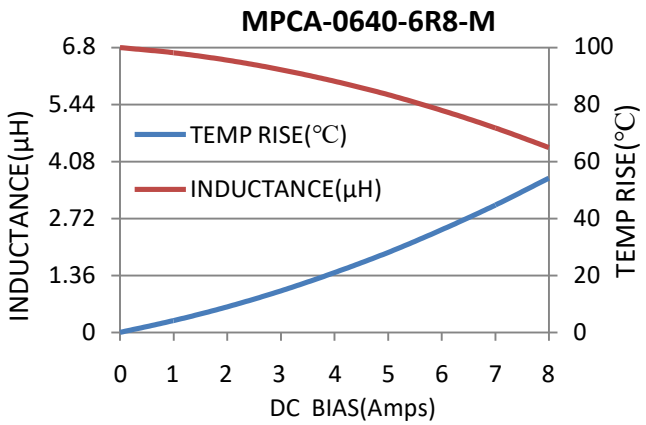
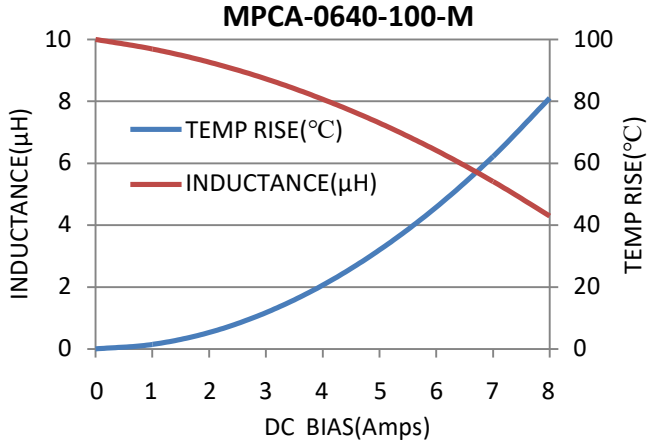
•Marking

The inductor is marked with a 3-digit code

Example - -10.0→100

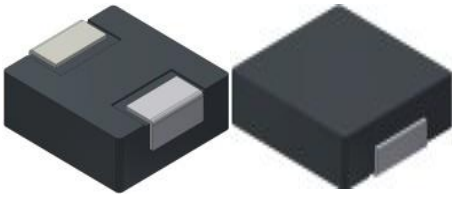
Note：Using Ink for marking



Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V
	
	

High Current, Power Inductors

LPCA-1040-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 11.5x10.3x 4.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
LPCA-1040-1R5-M	1.5μH	±20 %
Model	Inductance Value	Inductance Tolerance

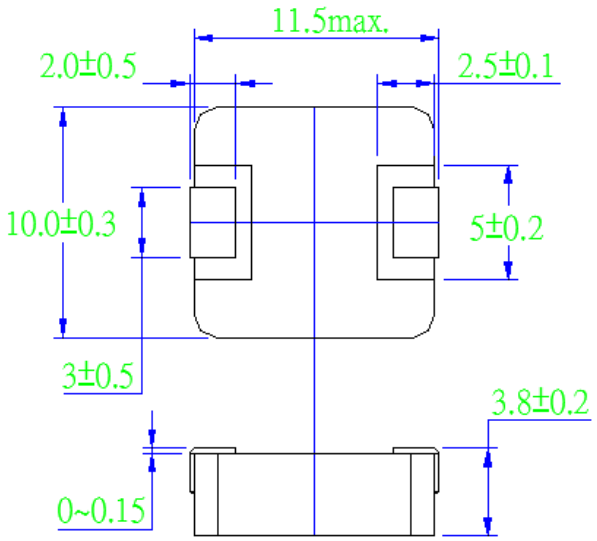
Global Part Number			
L P C A	1 0 4 0	1 R 5	M
Product Series	Dimensions	Inductance	ValueTol.

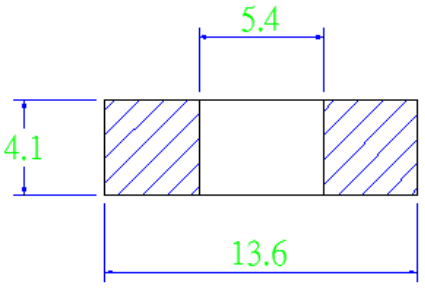
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
LPCA-1040-R15-M	0.15	0.5	0.65	45.0	75.0
LPCA-1040-R22-M	0.22	0.9	1.0	35.0	60.0
LPCA-1040-R30-M	0.30	0.95	1.1	35.0	50.0
LPCA-1040-R36-M	0.36	1.05	1.2	30.0	50.0
LPCA-1040-R47-M	0.47	1.5	1.7	30.0	40.0
LPCA-1040-R56-M	0.56	1.6	1.8	25.0	33.0
LPCA-1040-R68-M	0.68	2.1	2.4	23.0	30.0
LPCA-1040-R80-M	0.80	2.6	2.7	23.0	29.0
LPCA-1040-1R0-M	1.0	3.0	3.3	19.0	28.0
LPCA-1040-1R5-M	1.5	3.8	4.2	16.0	26.0
LPCA-1040-2R2-M	2.2	6.0	7.0	12.0	18.0
LPCA-1040-3R3-M	3.3	10.0	11.8	11.0	16.0
LPCA-1040-4R7-M	4.7	17.0	20.0	9.0	15.0
LPCA-1040-6R8-M	6.8	22.0	25.0	8.5	12.0
LPCA-1040-8R2-M	8.2	25.0	27.0	8.0	9.0
LPCA-1040-100-M	10.0	27.0	30.0	7.8	8.5
LPCA-1040-150-M	15.0	40.0	45.0	6.5	7.0
LPCA-1040-220-M	22.0	58.0	66.0	5.0	5.5
LPCA-1040-330-M	33.0	85.0	92.0	4.4	5.0
LPCA-1040-470-M	47.0	130.0	145.0	3.3	3.5
LPCA-1040-680-M	68.0	178.0	195.0	2.5	3.0
LPCA-1040-101-M	100	315.0	350.0	2.2	2.3

Notes

1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃(reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm





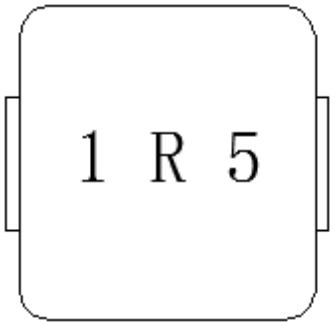
Recommend Land Pattern Dimensions

• Marking

The inductor is marked with a 3-digit code

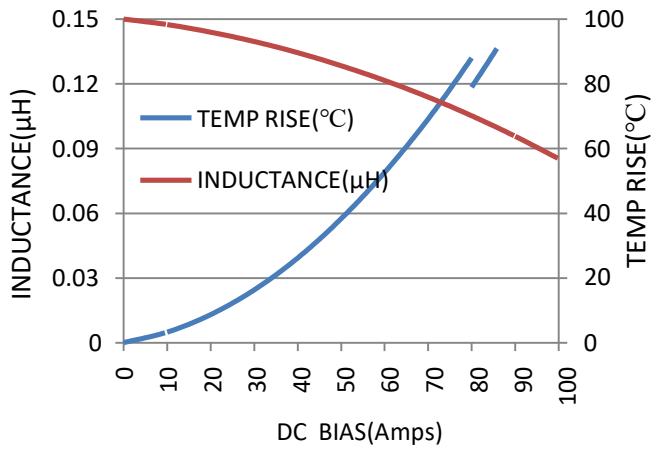
Example - -1.5→1R5

Note：Using Ink for marking

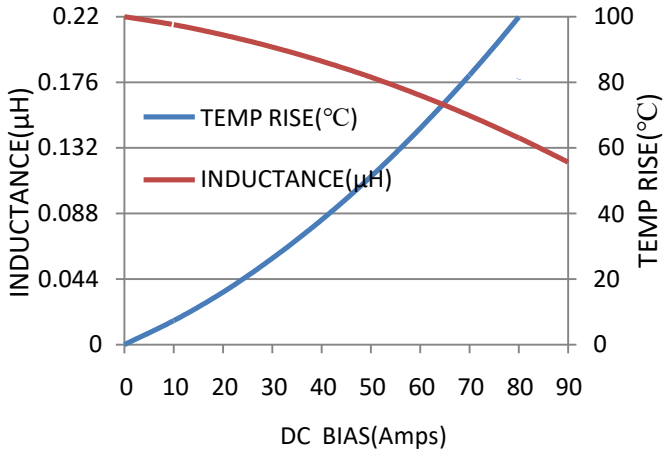


Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

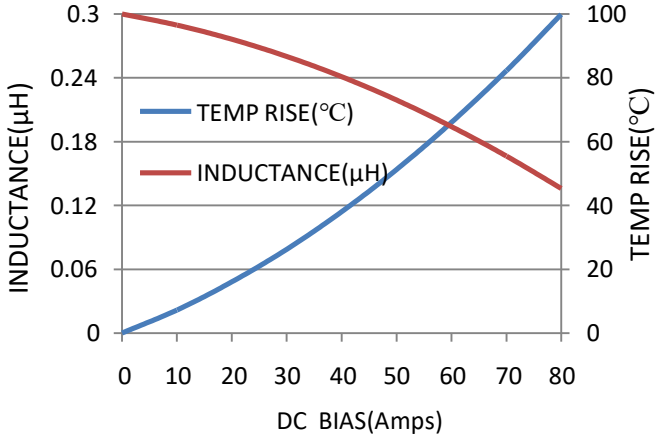
LPCA-1040-R15-M



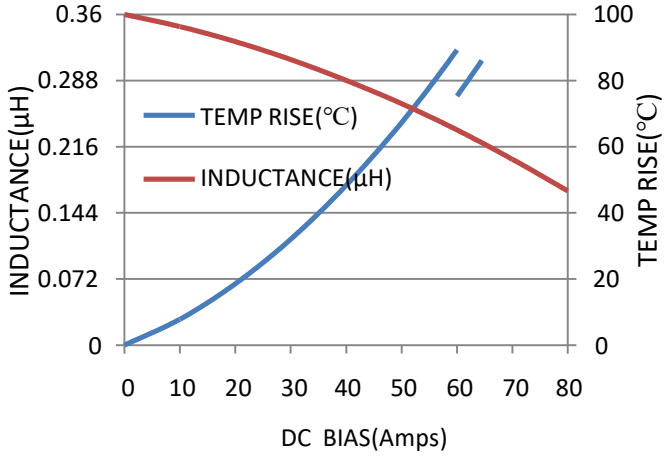
LPCA-1040-R22-M



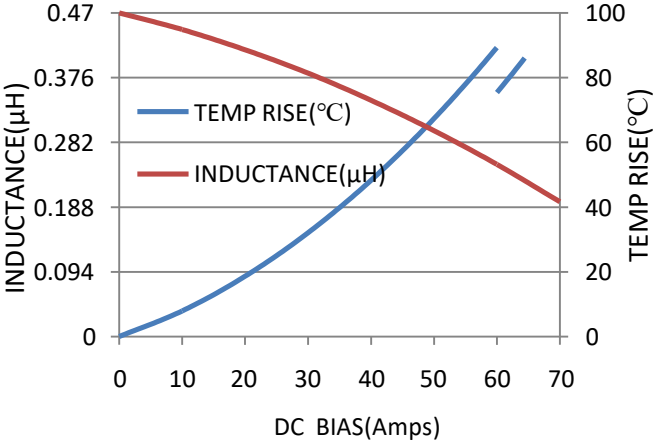
LPCA-1040-R30-M



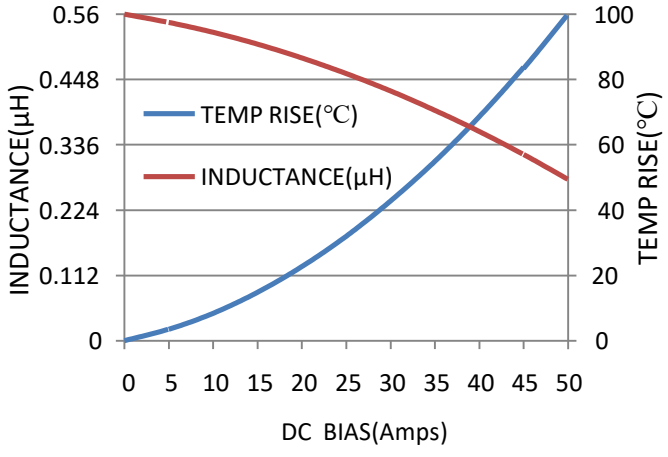
LPCA-1040-R36-M



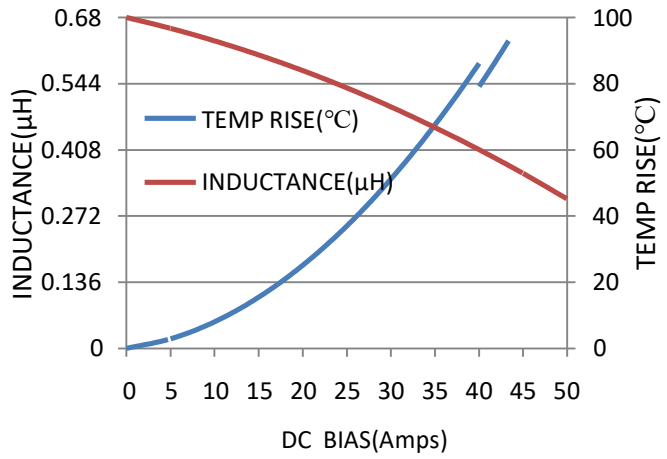
LPCA-1040-R47-M



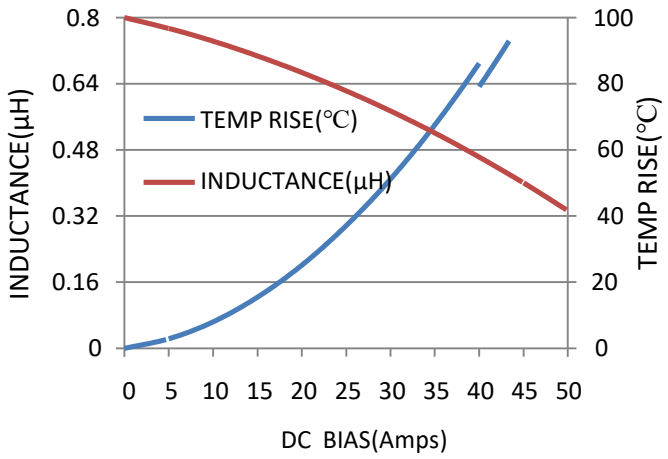
LPCA-1040-R56-M



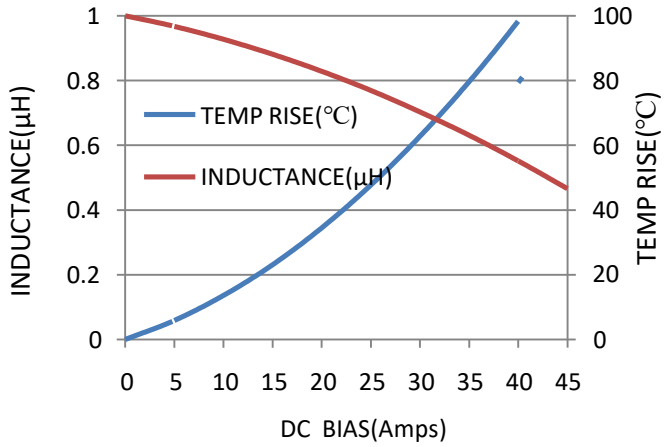
LPCA-1040-R68-M



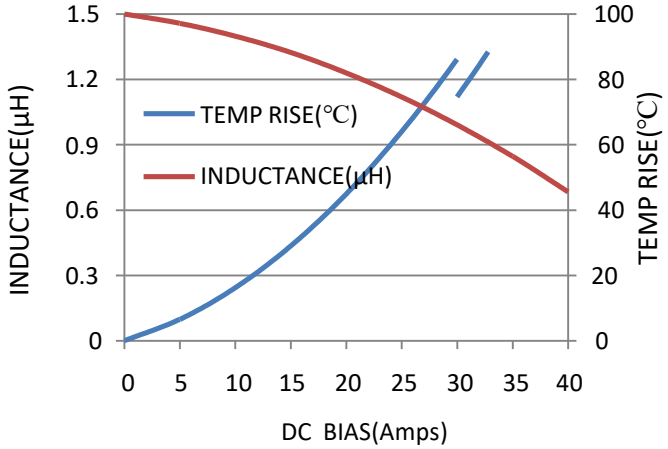
LPCA-1040-R80-M



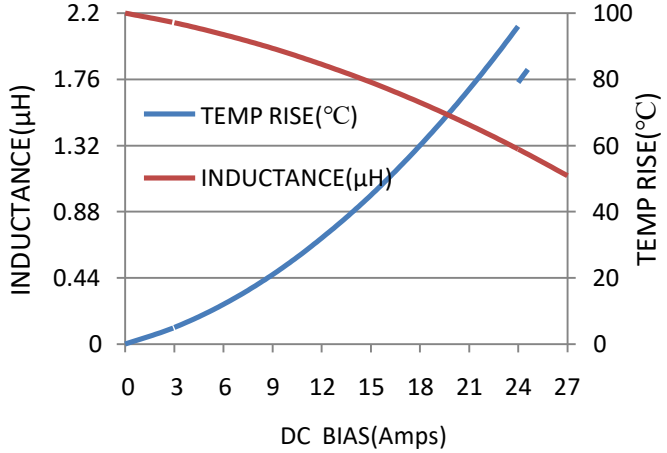
LPCA-1040-1R0-M



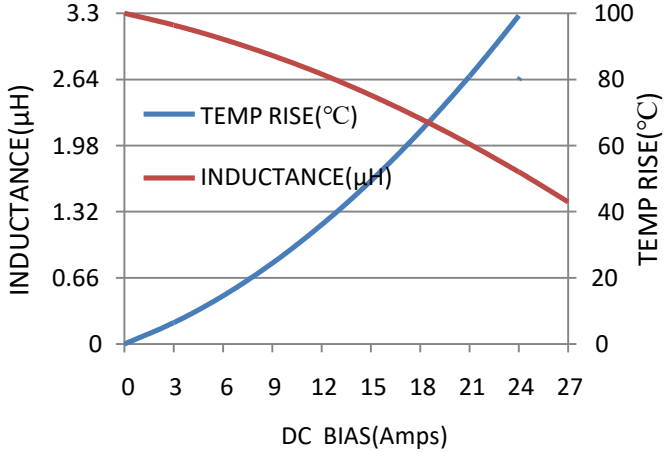
LPCA-1040-1R5-M



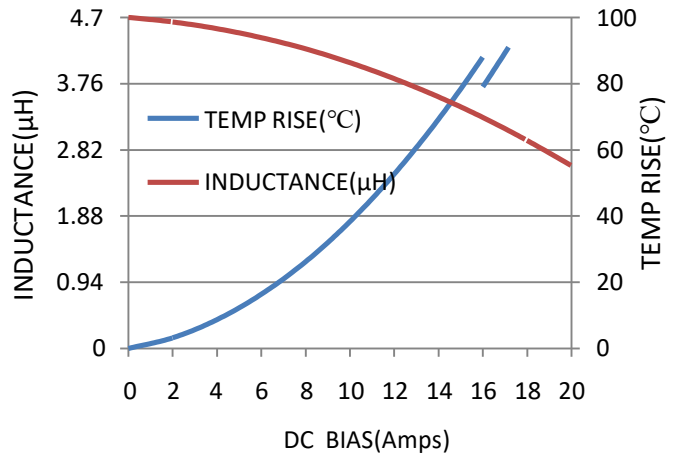
LPCA-1040-2R2-M



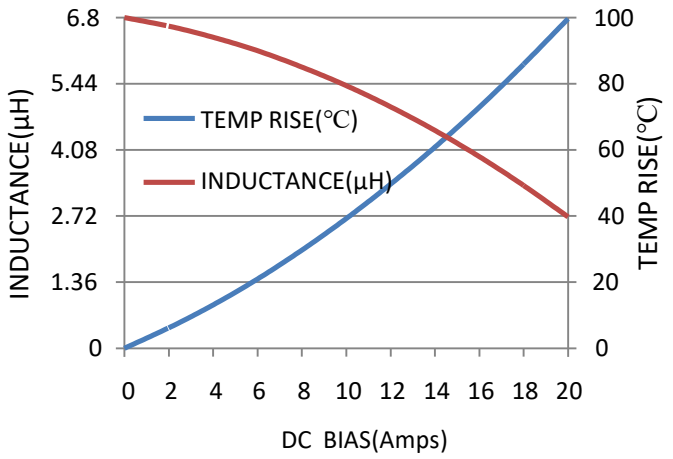
LPCA-1040-3R3-M



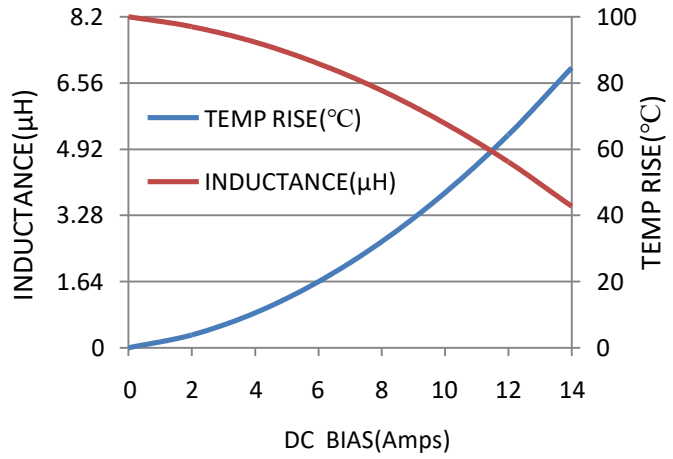
LPCA-1040-4R7-M



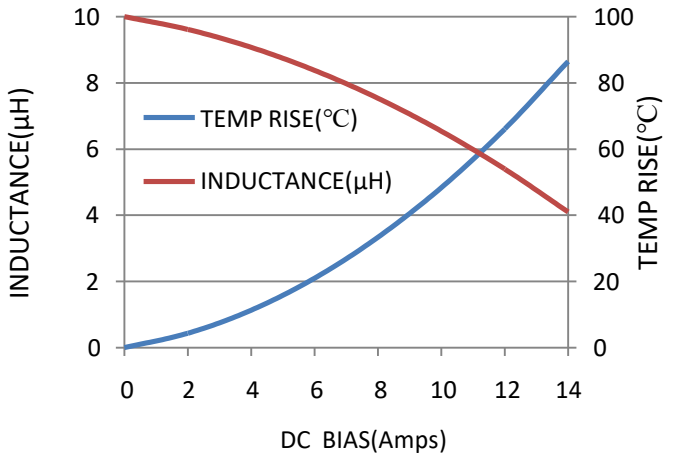
LPCA-1040-6R8-M



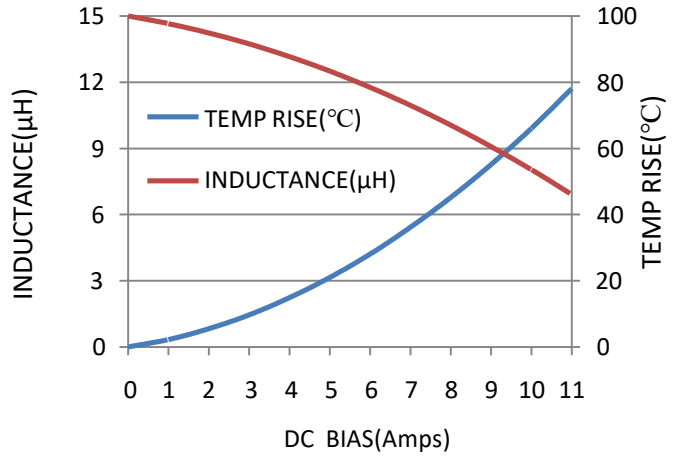
LPCA-1040-8R2-M



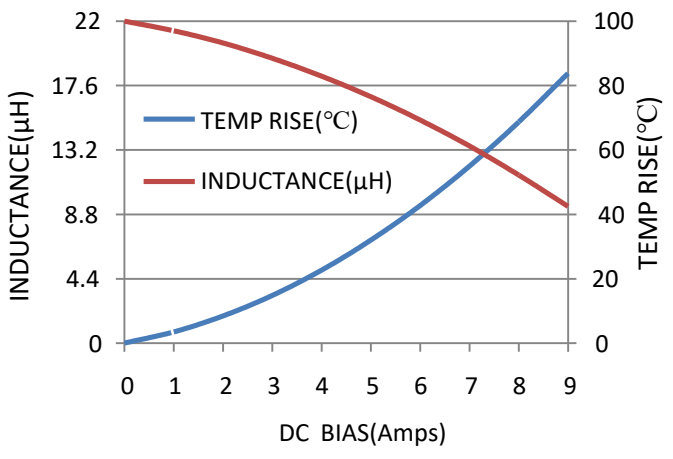
LPCA-1040-100-M



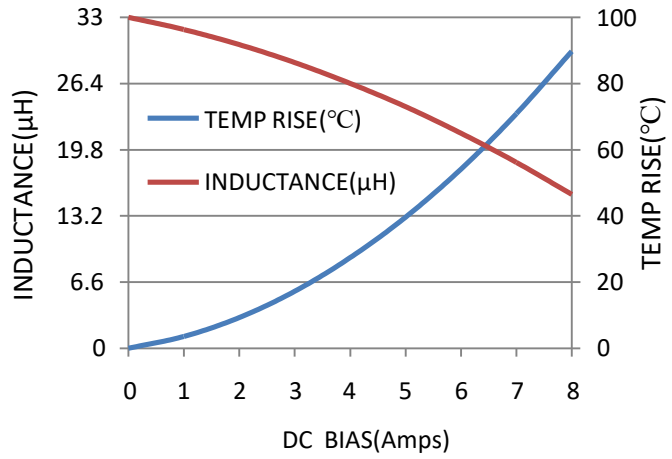
LPCA-1040-150-M



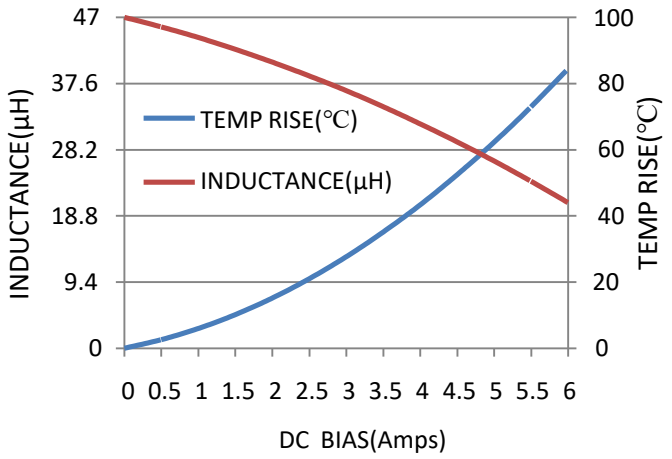
LPCA-1040-220-M



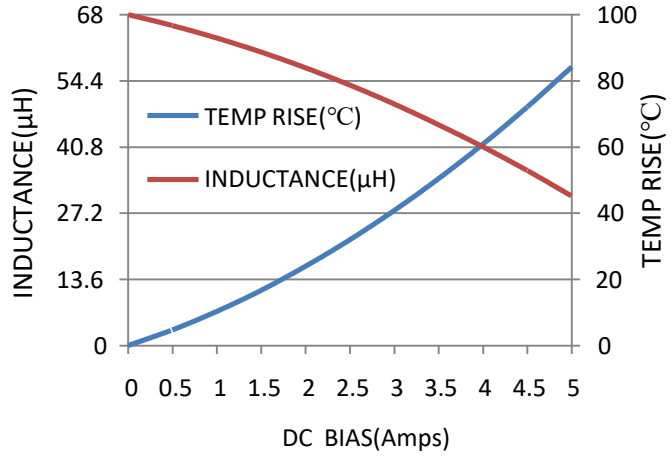
LPCA-1040-330-M



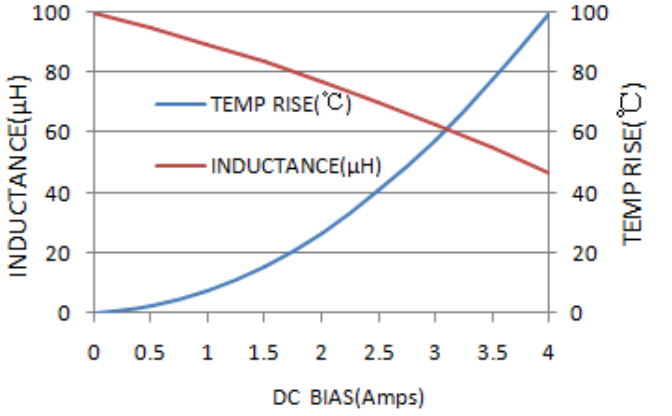
LPCA-1040-470-M



LPCA-1040-680-M

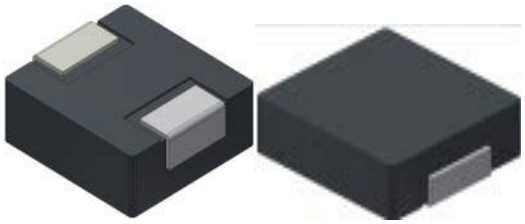


LPCA-1040-101-M



High Current, Power Inductors

LPCA-1350-XXX-M Power Choke



Description

- Halogen Free
- 125°C maximum total temperature operation
- 13.8x12.9x 5.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55°C to +125 °C
- Operating temperature range: -55°C to +125°C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
LPCA-1350-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

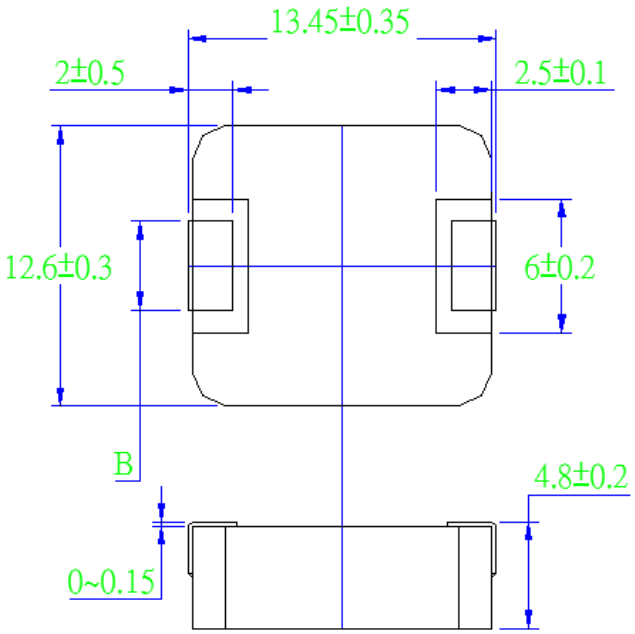
Global Part Number									
L	P	C	A	1	3	5	0	1	R	0	M
Product Series				Dimensions				Inductance Value			Tol.

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
LPCA-1350-R22-M	0.22	0.5	0.7	50.0	75.0
LPCA-1350-R36-M	0.36	0.74	0.85	42.0	50.0
LPCA-1350-R50-M	0.5	1.1	1.15	38.0	48.0
LPCA-1350-R68-M	0.68	1.35	1.55	33.0	46.0
LPCA-1350-R82-M	0.82	1.45	1.67	30.0	39.0
LPCA-1350-1R0-M	1.0	1.9	2.2	26.0	35.0
LPCA-1350-1R5-M	1.5	2.8	3.2	23.0	33.0
LPCA-1350-2R2-M	2.2	4.0	5.0	15.0	24.0
LPCA-1350-3R3-M	3.3	5.9	7.0	14.0	22.0
LPCA-1350-4R7-M	4.7	8.2	9.0	13.0	21.0
LPCA-1350-6R8-M	6.8	14.5	18.0	12.0	16.0
LPCA-1350-100-M	10.0	19.0	22.0	9.0	12.0
LPCA-1350-150-M	15.0	23.0	30.0	8.0	10.0
LPCA-1350-220-M	22.0	51.0	58.0	4.5	6.5
LPCA-1350-330-M	33.0	75.0	84.0	3.5	6.0
LPCA-1350-470-M	47.0	116.0	130.0	3.0	5.0

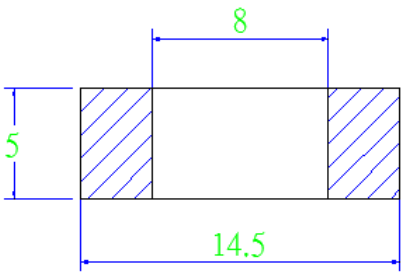
Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25 °C)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

•Dimensions-mm



Code	Dimensions	
	R36/R50/R68 1R0/1R5/2R2	3R3/100/150 220/330/470
B	3.85±0.5	5.0±0.5



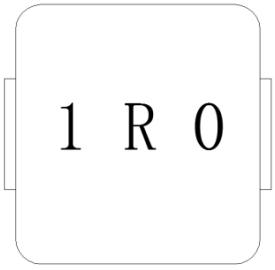
Recommend Land Pattern Dimensions

•Marking

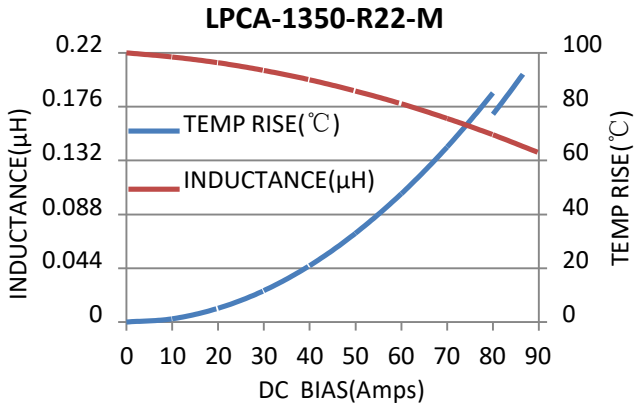
The inductor is marked with a 3-digit code

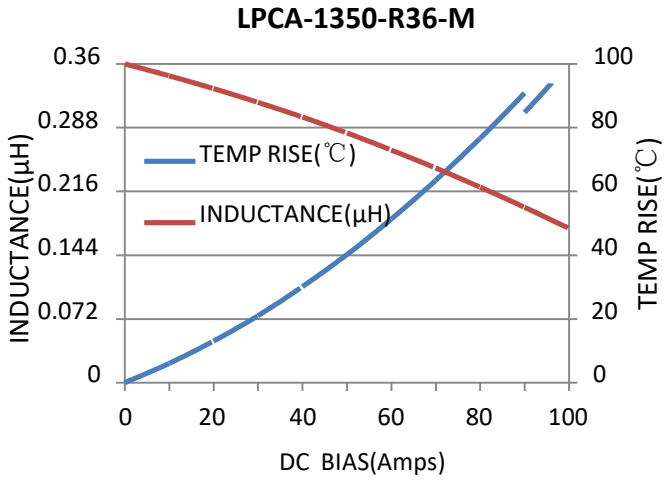
Example - -1.0→1R0

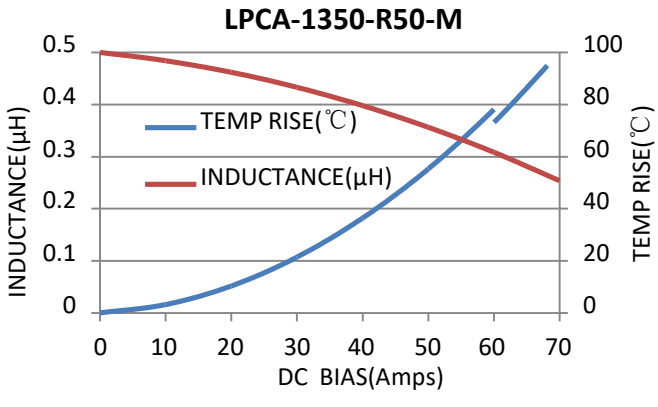
Note：Using Ink for marking

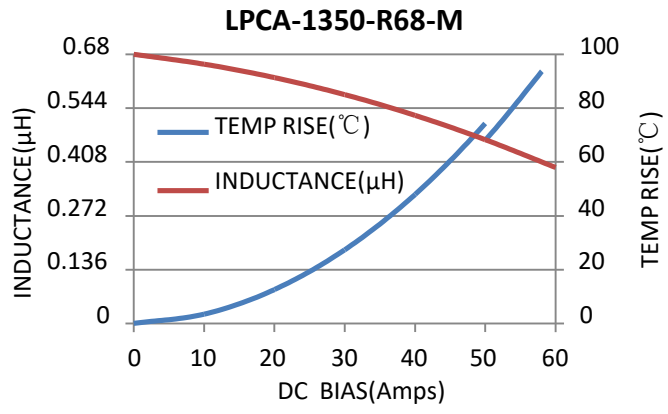


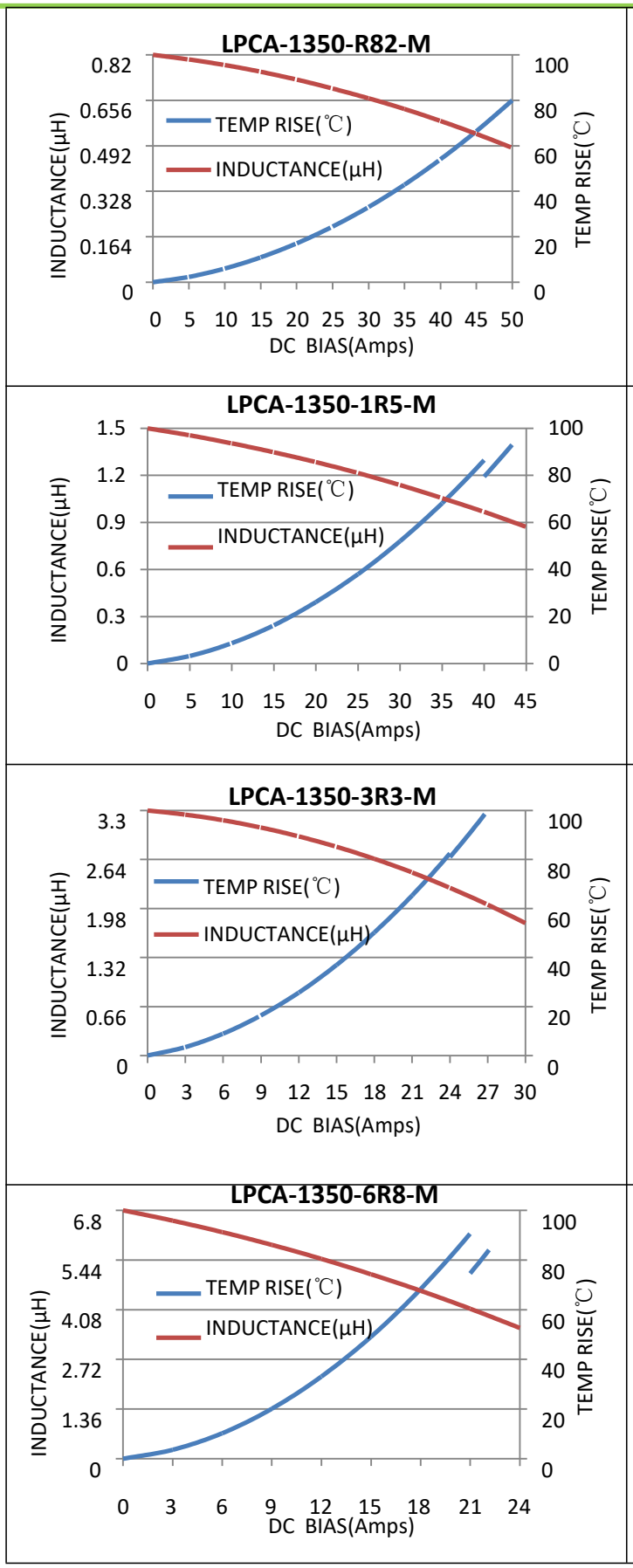
Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ± 3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

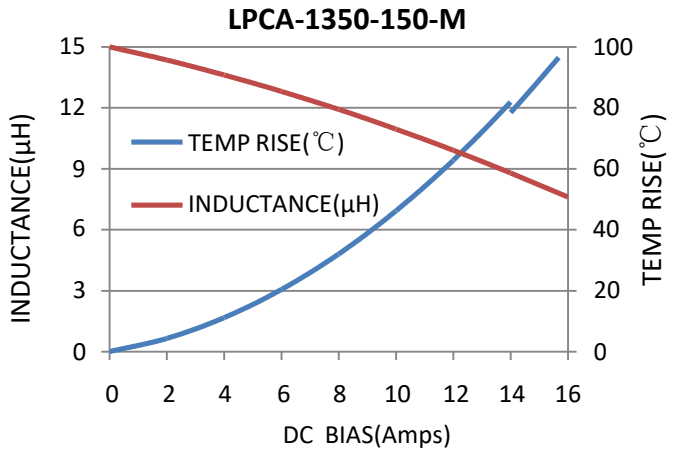


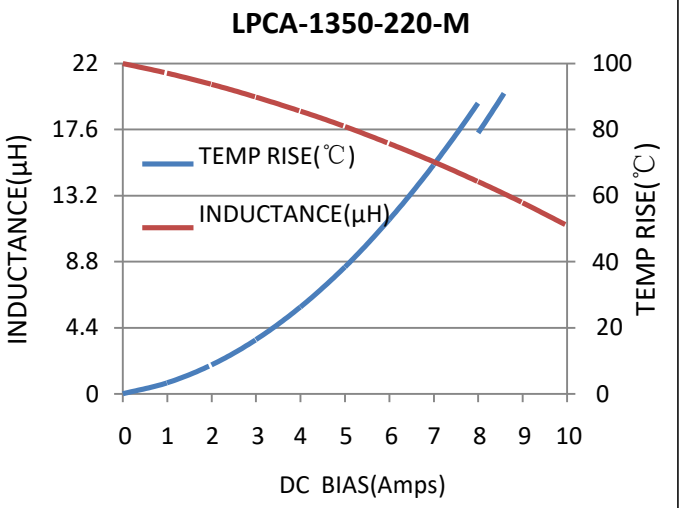


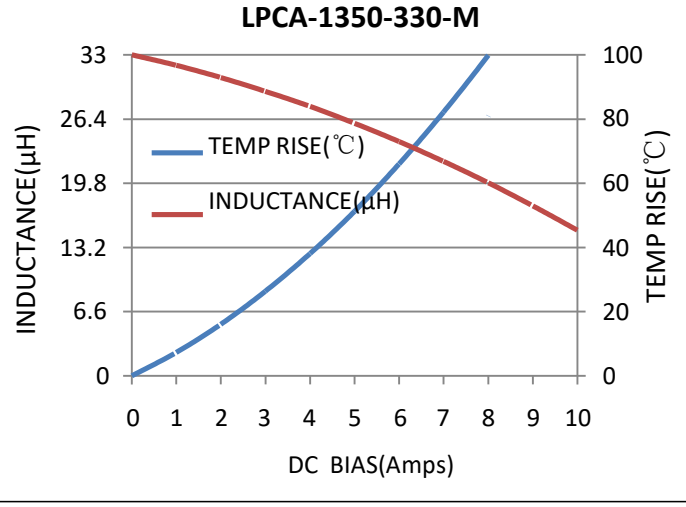


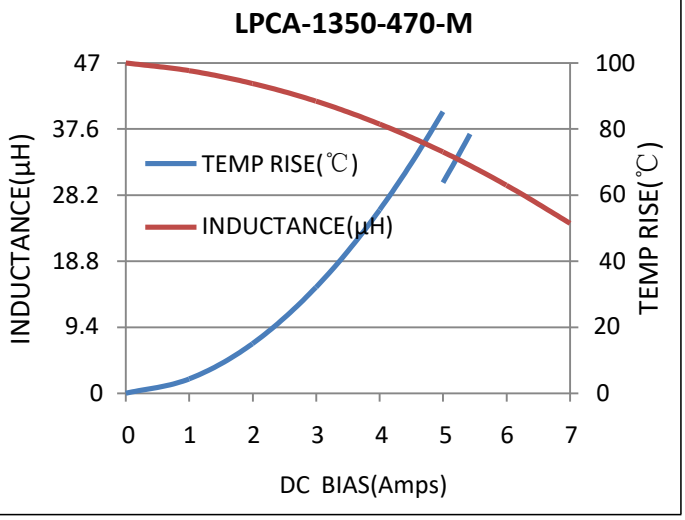



LPCA-1350-R82-M
INDUCTANCE(μH)
TEMP RISE(℃)
DC BIAS(Amps)
LPCA-1350-1R0-M
LPCA-1350-1R5-M
LPCA-1350-2R2-M
LPCA-1350-3R3-M
LPCA-1350-4R7-M
LPCA-1350-6R8-M
LPCA-1350-100-M


LPCA-1350-150-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
0 3 6 9 12 15
0 20 40 60 80 100
0 2 4 6 8 10 12 14 16


LPCA-1350-220-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
0 4.4 8.8 13.2 17.6 22
0 20 40 60 80 100
0 1 2 3 4 5 6 7 8 9 10


LPCA-1350-330-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
0 6.6 13.2 19.8 26.4 33
0 20 40 60 80 100
0 1 2 3 4 5 6 7 8 9 10


LPCA-1350-470-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)
0 9.4 18.8 28.2 37.6 47
0 20 40 60 80 100
0 1 2 3 4 5 6 7

High Current, Power Inductors

LPCA-1770-XXX-M Power Choke

Description

- Halogen Free
- 125°C maximum total temperature operation
- 17.45x17.15x 7.0mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 1MHz
- RoHS compliant

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

- Storage temperature range: -55℃ to +125 ℃
- Operating temperature range: -55℃ to +125℃ (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description		
LPCA-1770-1R0-M	1.0μH	±20 %
Model	Inductance Value	Inductance Tolerance

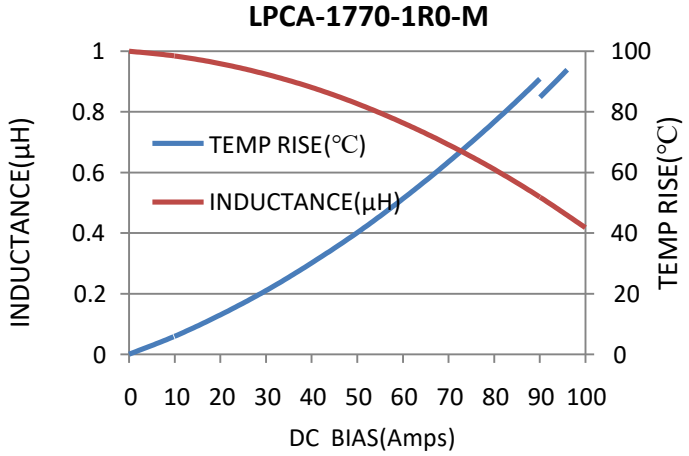
Global Part Number			
L P C A	1 7 7 0	1 R 0	M
Product Series	Dimensions	Inductance Value	Tol.

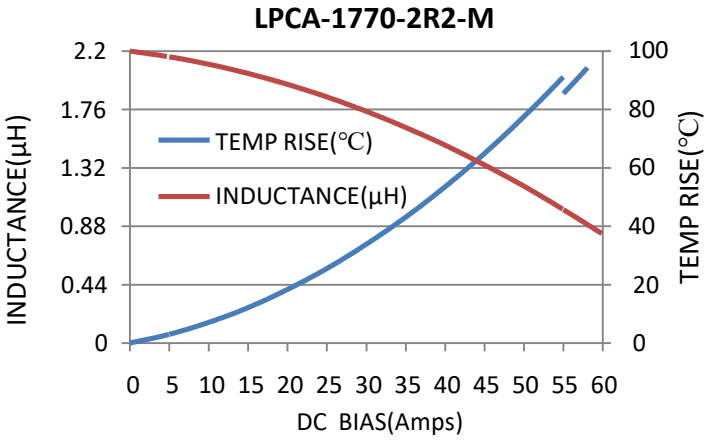
Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH) inductance@(0A)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 kHz, 1V	TYP.	MAX.	TYP.	TYP.
LPCA-1770-1R0-M	1.0	1.3	1.5	42.0	62.0
LPCA-1770-2R2-M	2.2	2.15	2.5	29.0	34.0
LPCA-1770-3R3-M	3.3	2.79	2.93	24.5	27.0
LPCA-1770-4R7-M	4.7	4.12	4.72	16.0	24.0
LPCA-1770-6R8-M	6.8	6.55	7.55	14.0	22.0
LPCA-1770-8R2-M	8.2	8.1	8.7	12.5	20.0
LPCA-1770-100-M	10.0	9.3	10.0	11.0	18.0
LPCA-1770-150-M	15.0	16.5	17.5	10.0	14.5
LPCA-1770-200-M	20.0	19.5	21.9	9.5	12.0
LPCA-1770-220-M	22.0	20.5	23.0	8.0	11.0
LPCA-1770-330-M	33.0	35.1	37.0	7.0	10.0
LPCA-1770-470-M	47.0	41.0	47.0	6.0	7.5
LPCA-1770-680-M	68.0	74.0	85.0	5.5	6.5
LPCA-1770-101-M	100.0	120.0	130.0	4.0	4.5

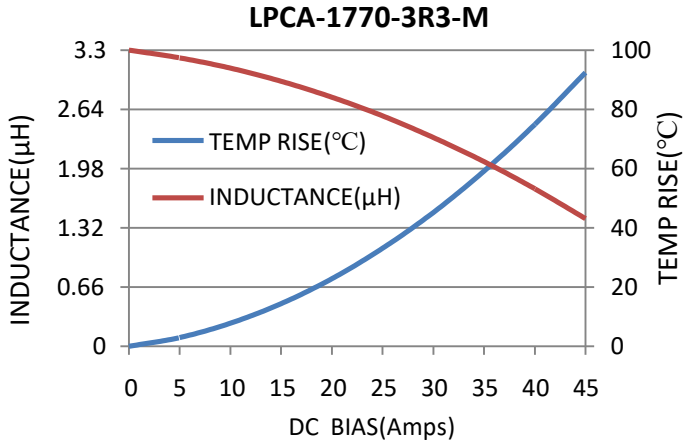
Notes

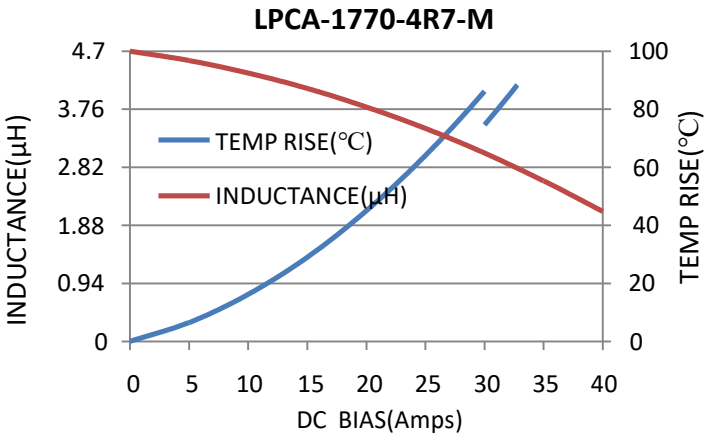
1. All test data is referenced to 25 ℃ ambient
2. Operating temperature range - 55 ℃ to + 125 ℃
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 ℃ (reference ambient temperature is 25 ℃)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

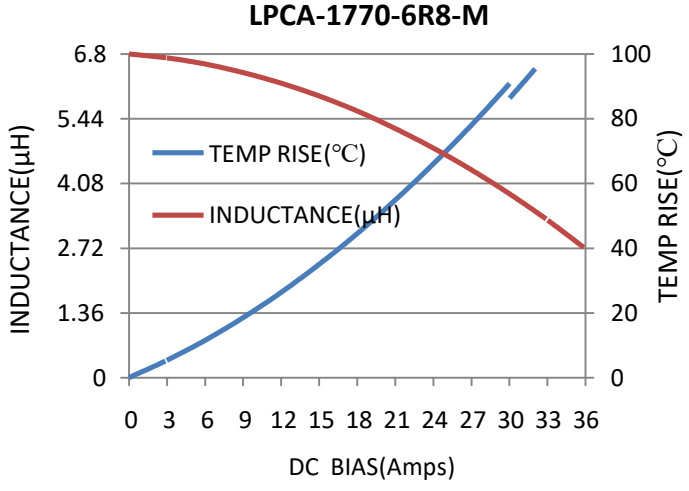
Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: 26 ±3℃ Humidity: < 70% RH Frequency: 100 KHz, 1.0V

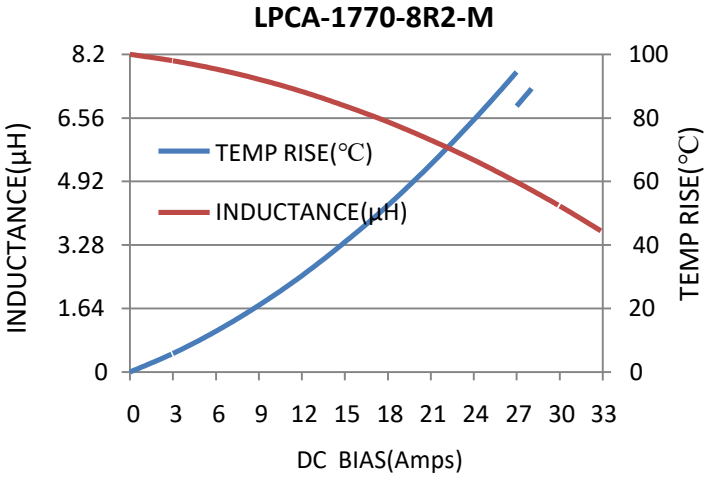


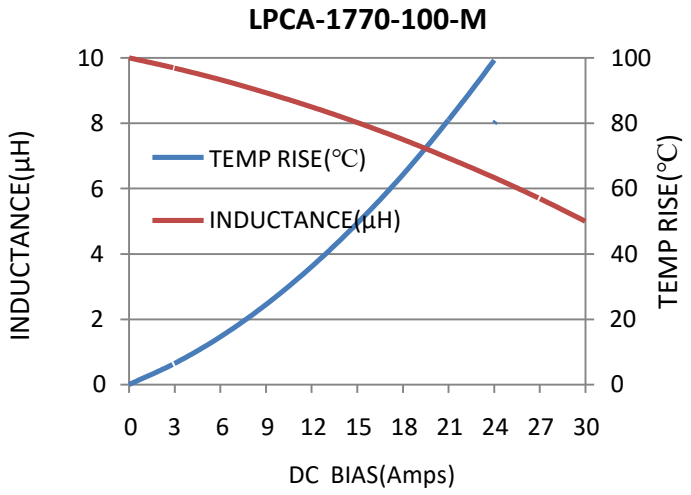


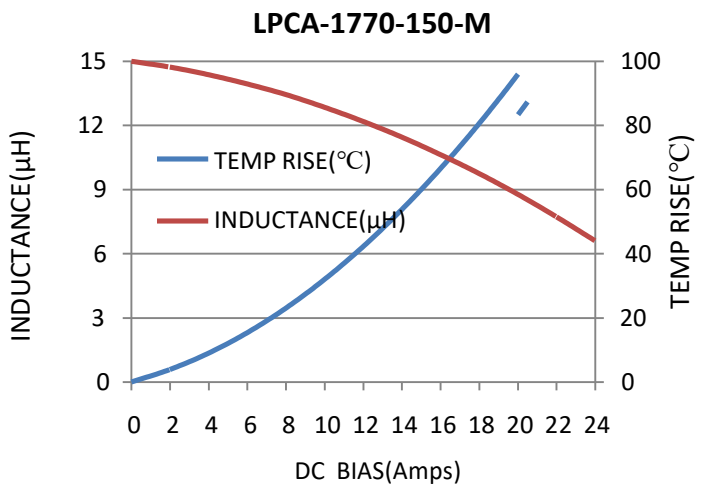


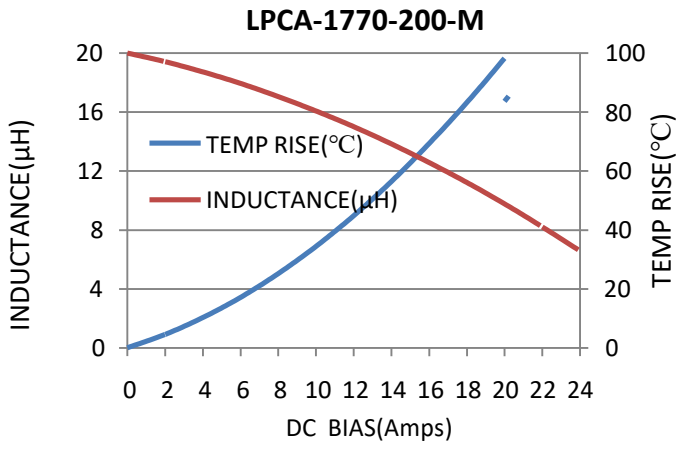


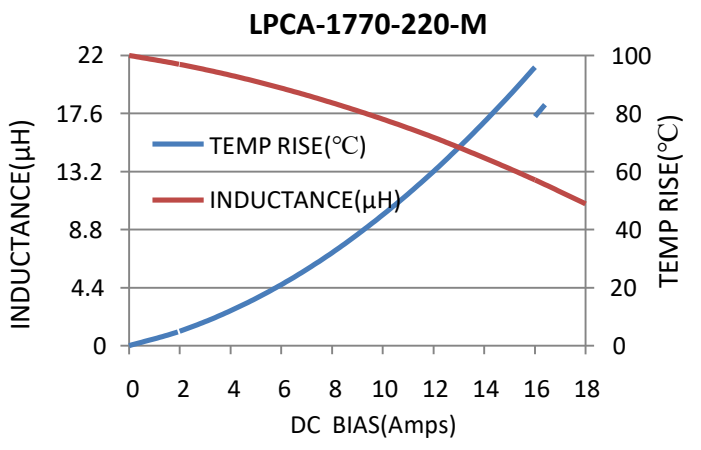


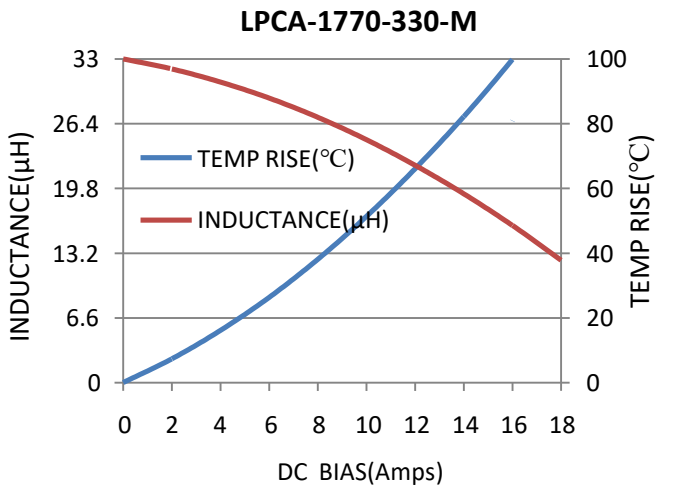


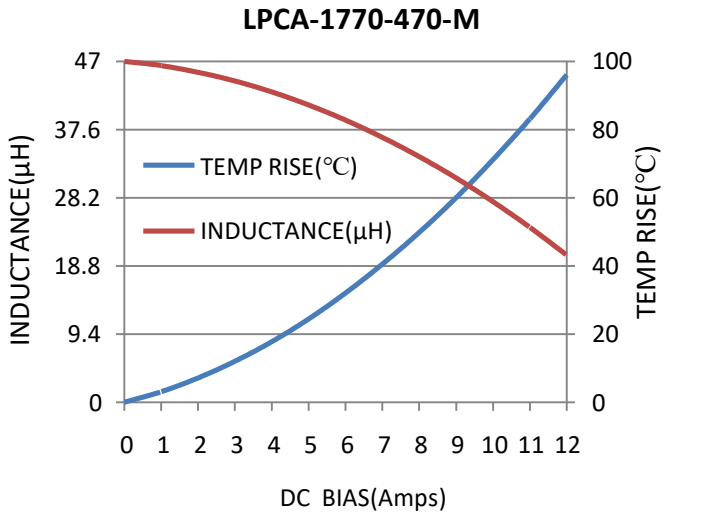

LPCA-1770-100-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

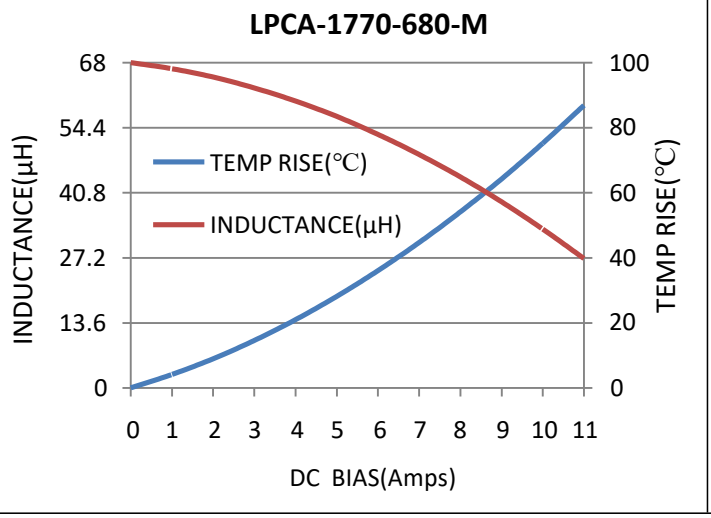

LPCA-1770-150-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)

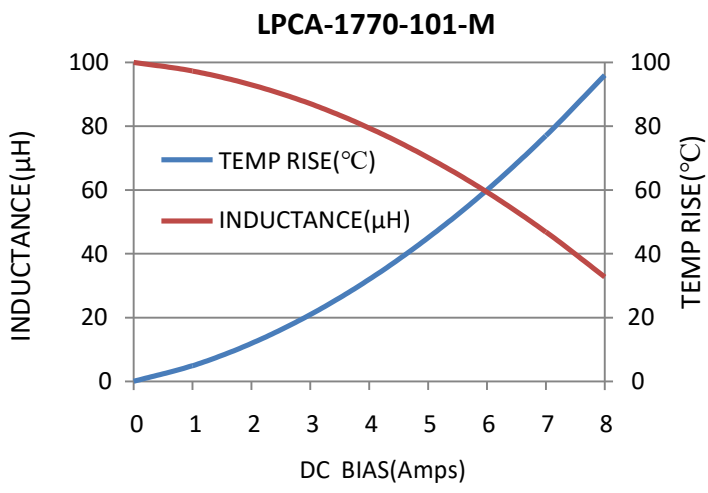

LPCA-1770-200-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


LPCA-1770-220-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


LPCA-1770-330-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


LPCA-1770-470-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
DC BIAS(Amps)


LPCA-1770-680-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
68
54.4
40.8
27.2
13.6
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10 11
DC BIAS(Amps)


LPCA-1770-101-M
INDUCTANCE(μH)
TEMP RISE(℃)
TEMP RISE(℃)
INDUCTANCE(μH)
100
80
60
40
20
0
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8
DC BIAS(Amps)

Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder heat proof: 1. Preheating: 160 ±10 ℃ 2. Retention time: 245 ±5 ℃ for 2 ±0.5 seconds
Vibration	Inductance change: Within ±10% Without mechanical damage such as break	1. Vibration frequency: (10 Hz to 55 Hz to 10Hz) in 60 seconds as a period 2. Vibration time: Period cycled for 2 hours in each of 3 mutual perpendicular directions. 3. Amplitude: 1.5 mm max.
Shock	Inductance change: Within ±10% Without mechanical damage such as break	1. Peak value: 100 G 2. Duration of pulse: 11ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions
Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within ±10% Without distinct damage in appearance	1. Repeat 100 cycles as follow: (-55 ±2 ℃; 30 ±3 min) →(Room temp., 5 min) → (+125 ±2 ℃, 30 ±3 min) → (Room temp., 5 min) 2. Recovery: 48 + 4 / -0 hours of recovery under the standard condition after the test.
High Temperature Resistance	Inductance change: Within ±10% Without distinct damage in appearance	1. Environment condition: 85 ±2 ℃ Applied Current: Rated current 2. Duration: 1000 + 4 / -0 hours
Humidity Resistance	Inductance change: Within ±10% Without distinct damage in appearance	1. Environment condition: 60 ±2 ℃ Humidity: 90–95% Applied Current: Rated current 2. Duration: 1000 + 4 / -0 hours
Low Temperature Store	Inductance change: Within ±10% Without distinct damage in appearance	Store temperature: -55 ±2 ℃,1000 + 4 / -0 hours
High Temperature Store	Inductance change: Within ±10% Without distinct damage in appearance	Store temperature: +125 ±2 ℃,1000 + 4 / -0 hours