

客户 CUSTOMER: _____

日期 DATE: 2014-11-10 _____

规格书

SPECIFICATION

产品名称 PRODUCT NAME: 一体成型功率电感

Molding Power Inductor

贵司料号 YOUR PART NO.: _____

敝司料号 OUR PART NO.: _____

版本号 VERSION.: V2.0 _____

接受 RECEPTION		
公司: COMPANY:		日期: DATE:
批准 CFMD	审核 CHKD	接收 RCVD

本规格书共10页

MANUFACTURING NAME

深圳市麦捷微电子科技股份有限公司
SHENZHEN MICROGATE TECHNOLOGY CO., LTD
TEL: 86-755-28085000
FAX: 86-755-28085605

CFMD. 批准	CHKD. 审核	DSGD. 担当
查尔斯	谢诏虹	刘维

深圳市麦捷微电子科技股份有限公司
地址: 深圳市宝安区观澜镇高尔夫大道裕兴路
电话(Tel): 0755-28085000 传真(Fax): 0755-28085605

邮编(Postcode): 518110

变更履历 MODIFY HISTORY OF SPECIFICATION

NO.	DATE	CONTENT	APPROVED
1.0	2012.10.10	初版发行	查尔斯
2.0	2013.05.12	增加系列型号	查尔斯

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SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列

FEATURES 特点

- Low profile, high current power supplies.
小造型, 大电流
- Low loss realized with low DCR.
低直流电阻, 低损耗
- Ultra low buzz noise.
低噪音



APPLICATIONS 应用

- Ideally used in NB/Desktop/server/Graphic card, LCD TV/Projector, etc as DC-DC Converter.
用于笔记本电脑、台式电脑、显卡、液晶电视、投影机、DC-DC 转换等。

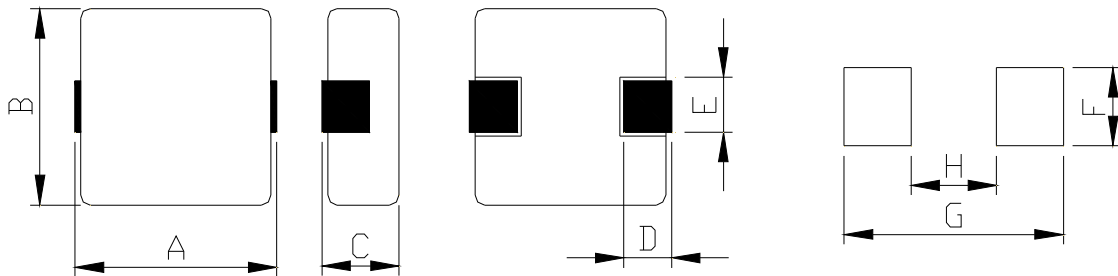
Product Identification 产品标识

MAPM **0630** **F** - **3R3** **M** : **LF**

① ② ③ ④ ⑤ ⑥

- ① Series name 系列名称
- ② Product dimensions 产品尺寸: (0630: 7.8*7.0*3.0 mm)
- ③ Structure code 产品结构代号
- ④ Inductance Value 电感量: (3R3:3.3uH 100: 10uH; 101:100uH)
- ⑤ Inductance Tolerance 电感量公差: (M:20% ; N:30%)
- ⑥ Lead free products 无铅产品

Shapes And Dimensions 外型及尺寸示意图



Series	Dimensions(mm)							
	A(max.)	B(max.)	C(max.)	D	E	F	G	H
MAPM0415F	4.9	4.4	1.5	1.0±0.3	1.5±0.5	2.3	5.0	2.2
MAPM0420F	4.9	4.4	2.0	1.0±0.3	1.5±0.5	2.3	5.0	2.2
MAPM0520F	5.9	5.2	2.0	1.0±0.3	2.0±0.5	2.5	7.0	3.0
MAPM0530F	5.9	5.2	3.0	1.0±0.3	2.0±0.5	2.5	7.0	3.0
MAPM0560F	5.9	5.2	6.0	1.2±0.5	2.0±0.5	2.5	7.0	3.0
MAPM0618F	7.8	7.0	1.8	1.5±0.5	3.0±0.3	3.5	8.4	3.7
MAPM0620F	7.8	7.0	2.0	1.5±0.5	3.0±0.3	3.5	8.4	3.7
MAPM0630F	7.8	7.0	3.0	1.5±0.5	3.0±0.3	3.5	8.4	3.7
MAPM0640F	7.8	7.0	4.0	1.5±0.5	3.0±0.3	3.5	8.4	3.7
MAPM0650F	7.8	7.0	5.0	1.5±0.5	3.0±0.3	3.5	8.4	3.7
MAPM1040F	11.8	10.8	4.0	2.0±0.5	3.0±0.5	4.1	13.6	6.0
MAPM1335F	14.5	13.0	3.5	2.5±0.5	3.5±0.5	4.5	14.5	8.0
MAPM1350F	14.5	13.0	5.0	2.5±0.5	3.5±0.5	4.5	14.5	8.0
MAPM1365F	14.5	13.0	6.5	2.5±0.5	3.5±0.5	4.5	14.5	8.0

SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列

Electrical Characteristics 电气性能

MAPM0415F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0415F-1R0M-LF	1.0	45.0	5.0	3.5
MAPM0415F-1R5M-LF	1.5	63.0	4.5	3.0
MAPM0415F-2R2M-LF	2.2	100.0	3.0	2.8

MAPM0420F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0420F-R22M-LF	0.22	8.0	12.0	9.0
MAPM0420F-R36M-LF	0.36	15.0	10.0	7.0
MAPM0420F-R47M-LF	0.47	14.0	9.0	6.0
MAPM0420F-R56M-LF	0.56	18.0	8.0	5.0
MAPM0420F-1R0M-LF	1.0	27.0	7.0	4.5
MAPM0420F-1R5M-LF	1.5	45.0	6.0	4.0
MAPM0420F-2R2M-LF	2.2	58.0	4.0	3.0
MAPM0420F-3R3M-LF	3.3	87.0	3.0	2.0
MAPM0420F-4R7M-LF	4.7	150.0	3.0	2.0
MAPM0420F-100M-LF	10.0	200.0	1.8	1.5

MAPM0520F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0520F-1R0M-LF	1.0	17.0	8.0	6.0
MAPM0520F-1R5M-LF	1.5	25.0	7.0	5.0
MAPM0520F-2R2M-LF	2.2	45.0	6.0	4.0
MAPM0520F-3R3M-LF	3.3	80.0	5.0	3.5
MAPM0520F-4R7M-LF	4.7	85.0	3.5	3.0
MAPM0520F-6R8M-LF	6.8	100.0	3.0	2.0
MAPM0520F-100M-LF	10.0	190.0	2.5	1.5

SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列

Electrical Characteristics 电气性能

MAPM0530F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0530F-1R0M-LF	1.0	16.0	8.0	6.0
MAPM0530F-1R5M-LF	1.5	22.0	7.0	4.5
MAPM0530F-2R2M-LF	2.2	35.0	6.5	4.0
MAPM0530F-3R3M-LF	3.3	38.0	6.0	3.5
MAPM0530F-4R7M-LF	4.7	85.0	4.5	3.0
MAPM0530F-100M-LF	10.0	100.0	2.8	2.0

MAPM0560F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0560F-220M-LF	22.0	140.0	2.0	1.5

MAPM0618F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0618F-1R0M-LF	1.0	22.0	14.0	7.0
MAPM0618F-2R2M-LF	2.2	35.0	9.0	4.0
MAPM0618F-3R3M-LF	3.3	68.0	8.0	3.5
MAPM0618F-4R7M-LF	4.7	78.0	5.0	3.5
MAPM0618F-5R6M-LF	5.6	137.0	3.8	2.8
MAPM0618F-6R8M-LF	6.8	137.0	3.5	2.8
MAPM0618F-100M-LF	10.0	137.0	3.0	2.0

MAPM0620F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0620F-1R0M-LF	1.0	20.0	14.0	7.0
MAPM0620F-2R2M-LF	2.2	37.0	10.0	6.0
MAPM0620F-3R3M-LF	3.3	64.0	7.0	3.3
MAPM0620F-4R7M-LF	4.7	70.0	5.0	3.0
MAPM0620F-6R8M-LF	6.8	115.0	4.0	3.0
MAPM0620F-100M-LF	10.0	120.0	3.5	2.8

SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列
Electrical Characteristics 电气性能
MAPM0630F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0630F-R22M-LF	0.22	3.5	40.0	20.0
MAPM0630F-R33M-LF	0.33	3.9	30.0	20.0
MAPM0630F-R47M-LF	0.47	4.5	25.0	17.5
MAPM0630F-R56M-LF	0.56	5.5	24.0	15.5
MAPM0630F-R68M-LF	0.68	5.5	23.0	15.5
MAPM0630F-R82M-LF	0.82	8.0	20.0	13.0
MAPM0630F-1R0M-LF	1.0	9.0	16.0	11.0
MAPM0630F-1R5M-LF	1.5	16.0	18.0	9.0
MAPM0630F-2R2M-LF	2.2	20.0	12.0	8.0
MAPM0630F-3R3M-LF	3.3	30.0	10.0	6.0
MAPM0630F-4R7M-LF	4.7	40.0	9.0	5.5
MAPM0630F-5R6M-LF	5.6	60.0	7.0	5.0
MAPM0630F-6R8M-LF	6.8	60.0	6.0	4.5
MAPM0630F-8R2M-LF	8.2	80.0	6.0	4.0
MAPM0630F-100M-LF	10.0	105.0	5.5	3.0
MAPM0630F-150M-LF	15.0	140.0	3.5	2.8
MAPM0630F-220M-LF	22.0	167.0	3.0	2.5

MAPM0640F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0640F-R33M-LF	0.33	3.8	30.0	20.0
MAPM0640F-R56M-LF	0.56	4.5	25.0	17.0
MAPM0640F-R68M-LF	0.68	5.5	20.0	13.0
MAPM0640F-1R0M-LF	1.0	8.5	19.0	12.0
MAPM0640F-1R5M-LF	1.5	15.0	16.0	10.0
MAPM0640F-2R2M-LF	2.2	18.0	14.0	8.5
MAPM0640F-3R3M-LF	3.3	20.0	13.0	7.0
MAPM0640F-4R7M-LF	4.7	28.0	8.0	6.0

SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列

Electrical Characteristics 电气性能

MAPM0650F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM0650F-R22M-LF	0.22	3.5	45.0	20.0
MAPM0650F-R47M-LF	0.47	4.5	21.0	18.0
MAPM0650F-R68M-LF	0.68	6.5	19.0	14.0
MAPM0650F-R82M-LF	0.82	7.5	18.0	14.0
MAPM0650F-1R0M-LF	1.0	8.5	18.0	13.0
MAPM0650F-1R5M-LF	1.5	9.0	15.0	10.0
MAPM0650F-2R2M-LF	2.2	12.5	12.0	8.0
MAPM0650F-3R3M-LF	3.3	20.9	9.0	7.0
MAPM0650F-4R7M-LF	4.7	25.0	6.5	5.5
MAPM0650F-6R8M-LF	6.8	38.0	6.0	5.0
MAPM0650F-100M-LF	10.0	60.0	5.3	4.5
MAPM0650F-150M-LF	15.0	85.0	4.0	2.5
MAPM0650F-220M-LF	22.0	85.0	3.0	2.0
MAPM0650F-330M-LF	33.0	237.0	2.5	2.0
MAPM0650F-470M-LF	47.0	280.0	2.5	1.9

MAPM1040F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM1040F-R33M-LF	0.33	1.4	50.0	30.0
MAPM1040F-R36M-LF	0.36	1.4	50.0	30.0
MAPM1040F-R47M-LF	0.47	1.8	38.0	26.0
MAPM1040F-R56M-LF	0.56	1.8	33.0	23.0
MAPM1040F-R68M-LF	0.68	3.0	32.0	23.0
MAPM1040F-1R0M-LF	1.0	4.1	28.0	18.0
MAPM1040F-1R5M-LF	1.5	5.8	27.0	16.0
MAPM1040F-2R2M-LF	2.2	9.0	24.0	12.0
MAPM1040F-3R3M-LF	3.3	13.5	16.0	10.0
MAPM1040F-4R7M-LF	4.7	16.5	13.0	8.0
MAPM1040F-5R6M-LF	5.6	25.0	12.0	8.0
MAPM1040F-6R8M-LF	6.8	28.0	9.0	6.5
MAPM1040F-8R2M-LF	8.2	30.0	9.0	5.5
MAPM1040F-100M-LF	10.0	36.5	9.0	5.0
MAPM1040F-150M-LF	15.0	48.0	7.0	4.0
MAPM1040F-220M-LF	22.0	60.0	5.0	3.5
MAPM1040F-330M-LF	33.0	155.0	4.5	3.0
MAPM1040F-470M-LF	47.0	155.0	3.0	3.0

SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列

Electrical Characteristics 电气性能

MAPM1335F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM1335F-R47M-LF	0.47	2.0	55.0	32.0
MAPM1335F-R68M-LF	0.68	2.5	49.0	28.0
MAPM1335F-1R0M-LF	1.0	3.5	40.0	23.0
MAPM1335F-1R5M-LF	1.5	5.5	35.0	19.0
MAPM1335F-2R2M-LF	2.2	8.0	29.0	16.0
MAPM1335F-3R3M-LF	3.3	12.0	27.0	12.0
MAPM1335F-4R7M-LF	4.7	15.0	24.0	10.0
MAPM1335F-6R8M-LF	6.8	22.0	18.0	9.0
MAPM1335F-8R2M-LF	8.2	28.0	16.0	8.5
MAPM1335F-100M-LF	10	34.0	14.0	7.0
MAPM1335F-220M-LF	22	90.0	4.5	3.0

MAPM1350F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM1350F-R47M-LF	0.47	1.5	40.0	25.0
MAPM1350F-R56M-LF	0.56	1.7	38.0	22.0
MAPM1350F-R68M-LF	0.68	1.8	36.0	20.0
MAPM1350F-R82M-LF	0.82	2.5	35.0	19.0
MAPM1350F-1R0M-LF	1.0	3.5	34.0	18.0
MAPM1350F-1R5M-LF	1.5	4.1	34.0	18.0
MAPM1350F-2R2M-LF	2.2	4.5	25.0	16.0
MAPM1350F-3R3M-LF	3.3	13.0	22.0	15.0
MAPM1350F-4R7M-LF	4.7	15.0	20.0	12.0
MAPM1350F-5R6M-LF	5.6	17.0	19.0	12.0
MAPM1350F-6R8M-LF	6.8	19.0	18.0	11.0
MAPM1350F-8R2M-LF	8.2	22.5	17.0	10.0
MAPM1350F-100M-LF	10.0	25.5	13.0	9.0
MAPM1350F-150M-LF	15.0	60.0	11.0	6.0
MAPM1350F-220M-LF	22.0	70.0	8.0	4.0
MAPM1350F-330M-LF	33.0	80.0	6.0	3.0
MAPM1350F-470M-LF	47.0	90.0	5.5	2.5
MAPM1350F-560M-LF	56.0	180.0	4.0	2.0
MAPM1350F-680M-LF	68.0	210.0	3.5	1.5

SMD Power Inductor (MAPM Series) 贴片功率电感 MAPM 系列

Electrical Characteristics 电气性能

MAPM1365F Series

Part Number	L (μH) $\pm 20\%$	DCR ($\text{m}\Omega$) max	Isat (A) Typ.	Irms (A) Typ.
MAPM1365F-R56M-LF	0.56	1.7	60.0	30.0
MAPM1365F-R68M-LF	0.68	1.8	54.0	28.0
MAPM1365F-R82M-LF	0.82	2.0	50.0	25.0
MAPM1365F-1R0M-LF	1.0	2.5	47.0	25.0
MAPM1365F-1R5M-LF	1.5	3.5	42.0	22.0
MAPM1365F-2R2M-LF	2.2	4.5	38.0	18.0
MAPM1365F-3R3M-LF	3.3	8.2	28.0	13.0
MAPM1365F-4R7M-LF	4.7	14.0	21.0	14.0
MAPM1365F-5R6M-LF	5.6	15.0	18.0	11.0
MAPM1365F-6R8M-LF	6.8	13.0	16.5	10.0
MAPM1365F-8R2M-LF	8.2	25.0	16.0	10.0
MAPM1365F-100M-LF	10.0	25.0	15.5	10.0
MAPM1365F-150M-LF	15.0	38.0	9.0	6.0
MAPM1365F-220M-LF	22.0	48.0	7.5	5.0
MAPM1365F-330M-LF	33.0	66.0	5.5	4.0
MAPM1365F-470M-LF	47.0	90.0	5.0	3.5
MAPM1365F-560M-LF	56.0	110.0	4.0	3.0
MAPM1365F-680M-LF	68.0	123.0	3.0	2.5

Note 1. : All test data is referenced to 25°C ambient.

Note 2. : Test Condition: 100KHz, 1.0Vrms

Note 3. : Irms : DC current (A) that will cause an approximate ΔT of 40°C

Note 4. : Isat : DC current (A) that will cause L0 to drop approximately 30%

Note 5 : Operating Temperature Range -55°C to + 125°C

Note 6 : The part temperature (ambient + temp rise) should not exceed 125°C under the worst case operating conditions. Circuit design , component placement, PWB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.

Note 7 : The rated current as listed is either the saturation current or the heating current depending on which value is lower.

Reliable Performance 信赖性试验

NO.	Item	Standard	Test Conditions
1	Terminal Strength	No removal or split of the termination or other defects shall occur.	①The test samples shall be soldered to the board ②Reflow:2times ③10N, 10s,X,Ydirect
2	Resistance to Flexure	No visible mechanical damage.	①The test samples shall be soldered to the board ②Bend the testing PCB at middle point, the deflection shall be 2mm. ③Speed: 0.5mm/sec,keep time 30 seconds
3	Solderability	No visible mechanical damage. Wetting shall be exceed 95% coverage.	245±5℃, 5±1sec, Solder:Sn/3.0Ag/0.5Cu
4	Temp. Characteristics		-40℃(15+3min)→+20℃(15+3min)→+125℃(15+3min)
5	Vibration		①The test samples shall be soldered to the board ②Reflow:2times ③Vibration 10~55Hz,1.5mm,1min,2 hours in each 3mutually perpendicular directions(total of 6 hours)
6	Thermal Shock	No visible mechanical damage. Inductance change: Within ±10%.	①The test samples shall be soldered to the board ②Reflow:2times ③-40℃(30±3min)→ +125℃(30±3min),transforming interval:Max.20s, 100cycles
7	High Temperature Resistance		①The test samples shall be soldered to the board ②Reflow:2times ③+125±3℃, 1000+4 hours

Reliable Performance 信赖性试验

NO.	Item	Standard	Test Conditions
8	Low Temperature Resistance	No visible mechanical damage. Inductance change: Within $\pm 10\%$.	①The test samples shall be soldered to the board ②Reflow:2times ③-40 \pm 3 $^{\circ}$ C, 1000+4 hours
9	Humidity Resistance		①The test samples shall be soldered to the board ②Reflow:2times ③60 \pm 2 $^{\circ}$ C, 90%-95%RH,1000+4hours
10	Drop Test		Packaged & drop down from 1m with 9.8m/s ² , attitude in 1 angle 1 ridges & 2surfaces orientations.
11	Heat endurance of reflow soldering		①Reflow:3times ②The peak temperature: 260+5/-0 $^{\circ}$ C
12	Loading at High Temperature (Life Test)		①The test samples shall be soldered to the board ②Reflow:2times ③85 \pm 2 $^{\circ}$ C, 1000+4hours, ④load rated current
13	Loading Under Damp Heat		①The test samples shall be soldered to the board②Reflow:2times ②60 \pm 2 $^{\circ}$ C, 90%-95%RH,1000+4hours, ③load rated current

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[MLZ1608M6R8WTD25](#) [MLZ1608N6R8LT000](#) [MLZ1608N3R3LTD25](#) [MLZ1608N3R3LT000](#) [MLZ1608N150LT000](#)

[MLZ1608M150WTD25](#) [MLZ1608M3R3WTD25](#) [MLZ1608M3R3WT000](#) [MLZ1608M150WT000](#) [MLZ1608A1R5WT000](#)

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[151KC](#) [CR32NP-180KC](#) [CR32NP-181KC](#) [CR32NP-1R5MC](#) [CR32NP-390KC](#) [CR32NP-3R9MC](#) [CR32NP-680KC](#) [CR32NP-820KC](#)

[CR32NP-8R2MC](#) [CR43NP-390KC](#) [CR43NP-560KC](#) [CR43NP-680KC](#) [CR54NP-181KC](#) [CR54NP-470LC](#) [CR54NP-820KC](#) [CR54NP-8R5MC](#)

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