

MULTILAYER FERRITE POWER CHIP INDUCTOR

片式铁氧体功率电感



PMP1 SERIES



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Multilayer Ferrite Power Chip Inductor-PMPI Series



片式铁氧体功率电感-PMPI 系列

INTRODUCTION AND CHARACTERISTICS 产品介绍及特性

INTRODUCTION

◆ Multilayer chip power inductors are SMD components that possess a ultraFlow DC resistance and low profile. This component can keep low inductance variation in high current application. Therefore, it is suitable in DC-DC converter.

产品介绍

◆ 片式功率电感是具有低直流电阻和小体积的片式元件。该元件能在通过大电流情况下保持较小的感量变化，因而适用于 DC-DC 转换器。

CHARACTERISTICS

◆ Monolith structure for high reliability
 ◆ Compact size inductor possible
 ◆ No cross coupling due to magnetic shield
 ◆ Very large rated current and low direct current resistance
 ◆ Excellent solderability and high heat resistance for reflow soldering or wave soldering

特性

◆ 积层独石结构、高可靠性
 ◆ 体积小
 ◆ 良好的磁屏蔽，无交叉耦合
 ◆ 超大额定电流，极低直流电阻
 ◆ 良好的焊接性，适合于回流焊或波峰焊

APPLICATIONS

◆ digital cameras personal computers etc
 ◆ DC-DC converters and power modules can be applied in the following products. for example, cellular phone, DSC, DVC, PDA, DVD and HDD

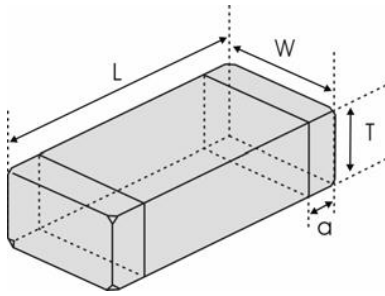
应用产品

◆ 数码相机、电脑、数字电视、机顶盒
 ◆ 适用于手机、DSC、DVC、PDA、DVD 及 HDD 等 DC-DC 转换器和电源模组

PRODUCT IDENTIFICATION 产品型号

PMPI 201210 F 2R2 M T
 ① ② ③ ④ ⑤ ⑥

①Product Series Code 产品系列码	PMPI	Multilayer Ferrite Power Chip Inductor 片式铁氧体功率电感
②Size Code 尺寸码	201210	长×宽×厚 (L×W×H) (mm) 2.0×1.25×1.0
③Material Code 材质代号	F	铁氧体材料
④Inductance Value Code 感量值	2R2	2.2uH
	R33	0.33uH
⑤Inductance Tolerance 电感值公差	M	±20%
	N	±30%
⑥Packing 包装形式	T	Tape and Reel 编带

SHAPE AND DIMENSIONS 外观尺寸


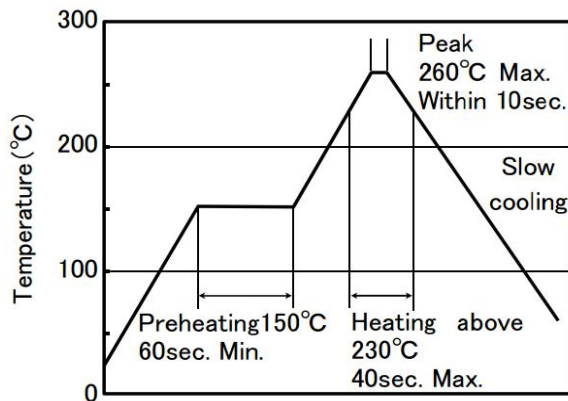
SIZE 尺寸	L 长 mm	W 宽 mm	T 厚 mm	a 银厚 mm
160805	1.6±0.15	0.8±0.15	0.5±0.05	0.1~0.5
160809	1.6±0.15	0.8±0.15	0.8±0.15	0.1~0.5
201205	2.0+0.3/-0.1	1.25±0.2	0.5±0.05	0.2~0.8
201206	2.0+0.3/-0.1	1.25±0.2	0.5±0.1	0.2~0.8
201210	2.0+0.3/-0.1	1.25±0.2	0.9±0.1	0.2~0.8
201214	2.0+0.3/-0.1	1.25±0.2	1.25±0.2	0.2~0.8
201610	2.0+0.3/-0.1	1.6±0.2	0.9±0.1	0.2~0.8
201612	2.0+0.3/-0.1	1.6±0.2	1.1±0.1	0.2~0.8
252010	2.5±0.2	2.0+0.3/-0.1	0.9±0.1	0.2~0.8
252012	2.5±0.2	2.0+0.3/-0.1	1.1±0.1	0.2~0.8

STORAGE AND OPERATING CONDITIONS 储存及操作条件

Operating Temperature Range	-40℃~+85℃
Storage Temperature and Humidity Range	-10℃~+40℃, 70%RH max.

RECOMMENDED SOLDERING CONDITION 建议焊锡方式

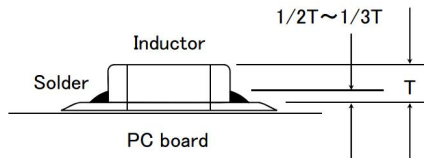
REFLOW SOLDERING 回流焊



- ① Ceramic chip components should be preheated to within 100 to 130°C of the soldering.
- ② Assured to be reflow soldering for 2 times.

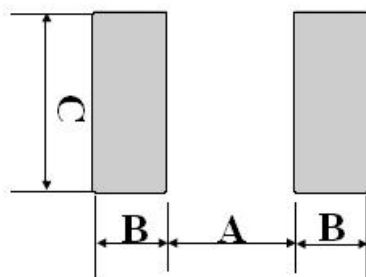
Caution:

1)The ideal condition is to have solder mass (fillet) controlled to 1/2 to 1/3 of the thickness of the inductor.



2)Because excessive dwell times can detrimentally affect solderability, soldering duration should be kept as close to recommended times as possible.

RECOMMENDED LAND PATTERN 推荐的焊盘尺寸

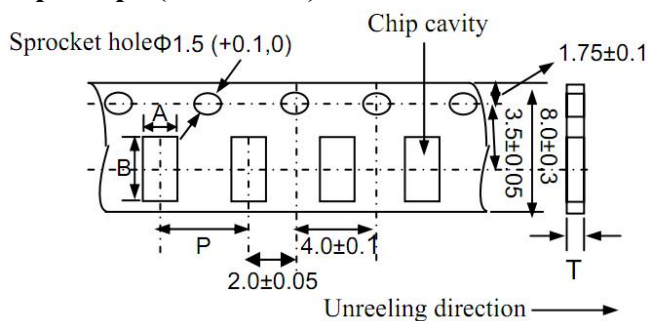


Dimension mm(inch)	A (mm)	B (mm)	C (mm)
1608(0603)	0.6~0.8	0.6~0.8	0.6~0.8
2012(0805)	0.8~1.2	0.8~1.2	0.9~1.6
2016(0806)	0.8~1.2	0.8~1.2	1.2~2.0
2520(1008)	1.0~1.4	0.6~1.0	1.8~2.2

PACKING STANDARD 包装标准

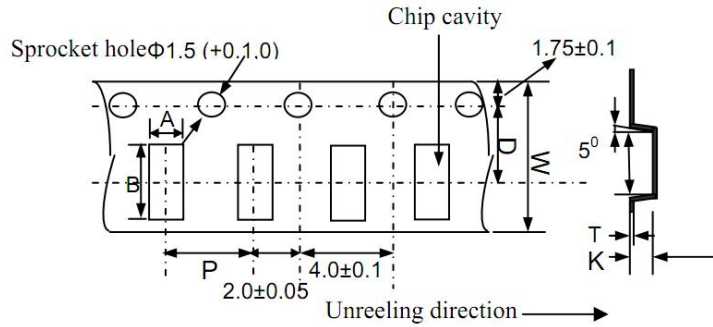
◆Taping Dimensions

Paper tape (8mm wide)



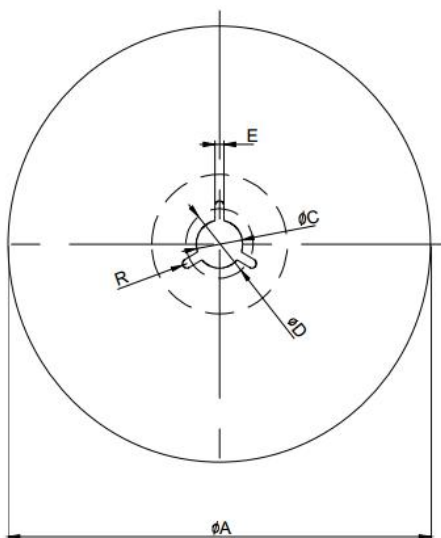
Type	Chip Thickness	A	B	P	T max.	Quantity (pcs/reel)
	(mm)					ø178mm Reel
PMPI160805	0.50	1.00	1.80	4.0	0.80	5000
PMPI160809	0.80	1.00	1.80	4.0	1.10	4000
PMPI201205/PMPI201206	0.55/0.60	1.55	2.30	4.0	0.80	5000

Embossed Tape



Type	Chip Thickness	W	A	B	D	P	K max.	T max.	Quantity (pcs/reel)
	(mm)								ø178mm
PMPI201210	0.90	8.0	1.55	2.30	3.50	4.0	1.45	0.30	3000
PMPI201214	1.25	8.0	1.55	2.30	3.50	4.0	1.75	0.30	3000
PMPI201610	0.90	8.0	1.90	2.30	3.50	4.0	1.45	0.30	3000
PMPI201612	1.10	8.0	1.90	2.30	3.50	4.0	1.45	0.30	3000
PMPI252010	0.90	8.0	2.30	2.80	3.50	4.0	1.45	0.30	3000
PMPI252012	1.10	8.0	2.30	2.80	3.50	4.0	1.75	0.30	3000

◆ Reel Dimensions



Symbol	ø178mm Reel	Ø330mm Reel
A	Ø178±2	Ø330±2
B	Ø60±2	Ø100±2
C	Ø13±0.8	Ø13±0.8
D	Ø21±0.8	Ø21±0.8
E	2	2
W8	10±1.5	10±1.5
W12	14.5±1.5	14.5±1.5
W16	--	17.4(Typ.)
W24	--	24.4(Typ.)
T	2±0.5	2±0.5
R	1	1

SPECIFICATIONS 规格特性
PMPI 1608(0603) TYPE

Part Number 型号	Inductance 电感量 L	L Test Freq 测试频率 Freq.	Self-resonant Freq 共振频率 S.R.F	DC Resistance 直流电阻 RDC	Saturation Current Typ. 饱和电流 Irat	Heat Rating Current max. 温升电流 Irms	Thickness 厚度
Units 单位	μ H	MHz	MHz	$\Omega \pm 25\%$	mA	mA	mm
PMPI160805FR22MT	0.22	1	180	0.12	1450	1200	0.5±0.05
PMPI160805FR33MT	0.33	1	140	0.16	1350	1100	
PMPI160805FR47MT	0.47	1	120	0.18	1050	1150	
PMPI160805FR68MT	0.68	1	100	0.22	800	900	
PMPI160805F1R0MT	1.0	1	90	0.32	700	800	
PMPI160809FR22MT	0.22	1	200	0.10	1600	1250	0.8±0.15
PMPI160809FR33MT	0.33	1	190	0.13	1500	1200	
PMPI160809FR47MT	0.47	1	180	0.15	1200	1100	
PMPI160809FR68MT	0.68	1	160	0.18	1100	1150	
PMPI160809F1R0MT	1.0	1	125	0.20	800	1000	
PMPI160809F1R5MT	1.5	1	100	0.23	500	900	
PMPI160809F2R2MT	2.2	1	80	0.30	300	850	
PMPI160809F2R7MT	2.7	1	90	0.34	220	180	
PMPI160809F3R3MT	3.3	1	100	0.40	150	125	
PMPI160809F4R7MT	4.7	1	65	0.40	80	65	

PMPI 2012(0805) TYPE

Part Number 型号	Inductance 电感量 L	L Test Freq 测试频率 Freq.	Self-resonant Freq 共振频率 S.R.F	DC Resistance 直流电阻 RDC	Saturation Current Typ. 饱和电流 Irat	Heat Rating Current max. 温升电流 Irms	Thickness 厚度
Units 单位	μ H	MHz	MHz	$\Omega \pm 25\%$	mA	mA	mm
PMPI201205FR54MT	0.54	1	120	0.12	1100	1200	0.5±0.05
PMPI201205F1R0MT	1.0	1	40	0.18	900	900	
PMPI201206FR22MT	0.22	1	100	0.07	1450	1600	0.5±0.1
PMPI201206FR33MT	0.33	1	90	0.10	1350	1200	
PMPI201206FR47MT	0.47	1	80	0.12	1300	1100	
PMPI201206F1R0MT	1.0	1	40	0.19	700	800	
PMPI201206F1R5MT	1.5	1	35	0.26	500	700	
PMPI201206F2R2MT	2.2	1	30	0.32	350	600	0.9±0.1
PMPI201210FR47MT	0.47	1	100	0.08	1200	1500	
PMPI201210FR56MT	0.56	1	70	0.11	1500	1300	
PMPI201210F1R0MT	1.0	1	60	0.11	1150	1300	

PMPI201210F1R5MT	1.5	1	50	0.16	800	1100
PMPI201210F2R2MT	2.2	1	40	0.20	500	900
PMPI201210F3R3MT	3.3	1	30	0.20	350	900
PMPI201210F4R7MT	4.7	1	30	0.25	280	800

SPECIFICATIONS 规格特性
PMPI 2012(0805) TYPE

Part Number 型号	Inductance 电感量 L	L Test Freq 测试频率 Freq.	Self-resonant Freq 共振频率 S.R.F	DC Resistance 直流电阻 RDC	Saturation Current Typ. 饱和电流 Irat	Heat Rating Current max. 温升电流 Irms	Thickness 厚度
Units 单位	μ H	MHz	MHz	$\Omega \pm 25\%$	mA	mA	mm
PMPI201214F4R7MT	4.7	1	20	0.40	630	750	1.25 \pm 0.2
PMPI201214F6R8MT	6.8	1	45	0.30	250	1000	
PMPI201214F100MT	10	1	35	0.30	130	1000	

PMPI 2016(0806) TYPE

Part Number 型号	Inductance 电感量 L	L Test Freq 测试频率 Freq.	Self-resonant Freq 共振频率 S.R.F	DC Resistance 直流电阻 RDC	Saturation Current Typ. 饱和电流 Irat	Heat Rating Current max. 温升电流 Irms	Thickness 厚度
Units 单位	μ H	MHz	MHz	$\Omega \pm 25\%$	mA	mA	mm
PMPI201610FR47MT	0.47	1	100	0.08	1600	1500	0.9 \pm 0.1
PMPI201610F1R0MT	1.0	1	70	0.09	1200	1400	
PMPI201610F1R5MT	1.5	1	60	0.11	700	1200	
PMPI201610F2R2MT	2.2	1	50	0.11	500	1200	
PMPI201610F3R3MT	3.3	1	40	0.12	330	1200	
PMPI201610F4R7MT	4.7	1	30	0.14	220	1100	
PMPI201612F6R8MT	6.8	1	40	0.17	220	1200	1.1 \pm 0.1
PMPI201612F100MT	10	1	35	0.25	200	1100	

PMPI 2520(1008) TYPE

Part Number 型号	Inductance 电感量 L	L Test Freq 测试频率 Freq.	Self-resonant Freq 共振频率 S.R.F	DC Resistance 直流电阻 RDC	Saturation Current Typ. 饱和电流 Irat	Heat Rating Current max. 温升电流 Irms	Thickness 厚度
Units 单位	μ H	MHz	MHz	$\Omega \pm 25\%$	mA	mA	mm
PMPI252010FR47MT	0.47	1	105	0.04	1500	1800	0.9 \pm 0.1
PMPI252010F1R0MT	1.0	1	70	0.06	1400	1600	
PMPI252010F1R5MT	1.5	1	65	0.07	1200	1500	

PMPI252010F2R2MT	2.2	1	55	0.08	850	1300
PMPI252010F3R3MT	3.3	1	30	0.10	450	1200
PMPI252010F4R7MT	4.7	1	25	0.11	320	1100

SPECIFICATIONS 规格特性

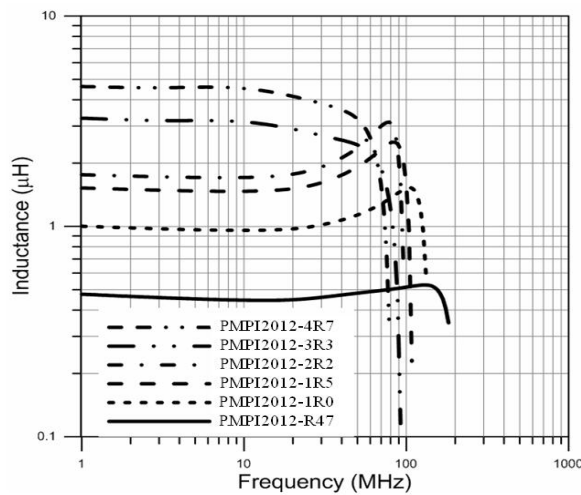
PMPI 2520(1008) TYPE

Part Number 型号	Inductance 电感量 L	L Test Freq 测试频率 Freq.	Self-resonant Freq 共振频率 S.R.F	DC Resistance 直流电阻 RDC	Saturation Current Typ. 饱和电流 Irat	Heat Rating Current max. 温升电流 Irms	Thickness 厚度
Units 单位	μ H	MHz	MHz	$\Omega \pm 25\%$	mA	mA	mm
PMPI252012F1R0MT	1.0	1	85	0.085	2100	2100	1.1±0.1
PMPI252012F2R2MT	2.2	1	50	0.25	1600	1100	
PMPI252012F3R3MT	3.3	1	50	0.25	1250	1100	
PMPI252012F4R7MT	4.7	1	35	0.40	800	900	
PMPI252012F6R8MT	6.8	1	30	0.50	750	800	
PMPI252012F100MT	10	1	25	0.50	500	800	

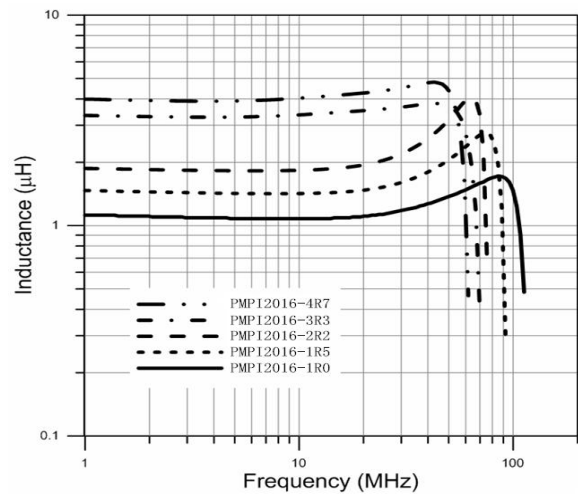
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

INDUCTANCE vs. FREQUENCY

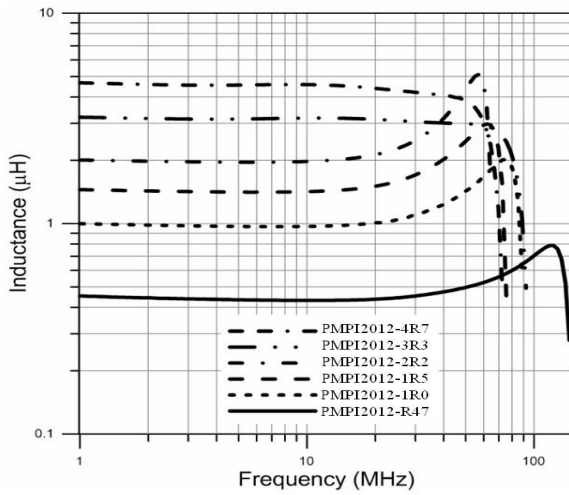
PMPI 2012(0805) TYPE



PMPI 2016(0806) TYPE



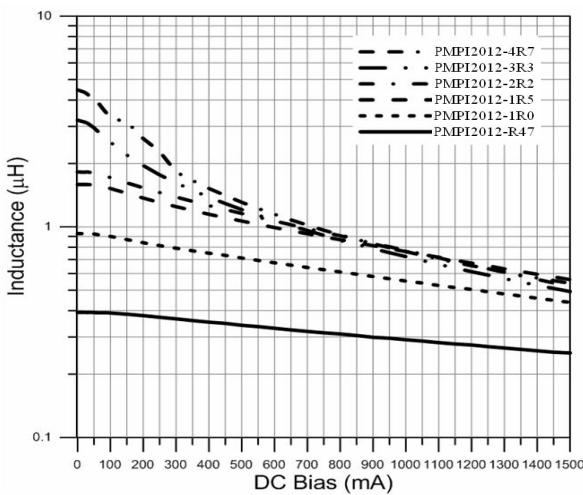
PMPI 2520(1008) TYPE



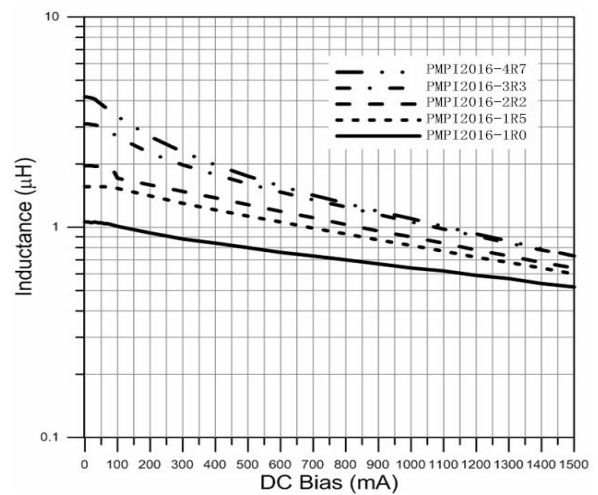
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

INDUCTANCE vs. DC BIAS CURRENT

PMPI 2012(0805) TYPE



PMPI 2016(0806) TYPE



PMPI 2520(1008) TYPE

