

產品編碼 P/N	PSPQAA-series	測試設備 TEST INSTRUMENT	Chroma:3302 16502
產品系列 Series	扁平线大电流电感	測試頻率 TEST FREQUENCY	100KHZ / 1V

客戶名稱

Customer

客戶編碼

Customer P/N

產品系列

Series

扁平线大电流电感

SMD Power Inductor

產品編碼

Supply P/N

PSPQAA-series

發版號

Version

A2.0

承認日期

Endorsement Date

2025-5-26

備註

Note

譜羅德電子科技（深圳）有限公司

PuLuoDe Electronic Technology (Shenzhen) Co. LTD

製作

APPROVED

Ben

審查

CHECKED

Yuki

確認

PREPARED

Peter

客戶承認

Customer Approval

客戶簽章



修訂記錄

REVISION RECORD



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[illegible]

譜羅德電子科技（深圳）有限公司
PuLuoDe Electronic Technology (Shenzhen) Co. LTD
深圳市寶安區石岩三聯工業區B棟311

更多规格请访问谱罗德官方网站
下载或者扫描二维码通过微信小程序获取

<http://www.prodtech.cn/>



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产品特点

Features

- ❑ 极低的DCR，高额定电流
Low DCR High rated current
- ❑ 铁氧体磁芯拥有更好的抗机械冲击能力和抗老化能力
Metallization on ferrite core results in excellent shock resistance and damage-free durability
- ❑ 转化效率高，DC-DC转换的理想型电感
High power, Ideal inductors for DC-DC conversion
- ❑ SMD结构适用于SMT生产过程的自动贴片
SMD structure is suitable for automatic placement of SMT production process



編碼解釋

Code interpretation

P S P Q A A	2 6 1 7	4 R 7	M	P
<u>類別碼</u>	<u>尺寸系列</u>	<u>系列碼</u>	<u>公差</u>	<u>帶PROD印字</u>
Category code	Dimension	Inductance	Tolerance	PROD

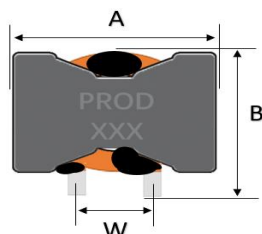
- ◎ 規格參數基於環境溫度25℃取得
All test Data is referenced to 25℃ ambient
- ◎ 電感工作環境溫度：-40℃ ~ 125℃
Operating temperature range -40 °C to +125 °C
- ◎ 加載溫升電流（I_{rms}）會使電感溫度上升大約 40℃（電感初始溫度+上升溫度=電感最終溫度）
Typical I_{rms} would cause an approximately ΔT of 40℃
- ◎ 加載飽和電流（I_{SAT}）會使感量下降大約30%
Typical I_{SAT} would cause L_o to drop approximately 30%.
- ◎ 請從溫升電流（I_{RMS}）和飽和電流（I_{SAT}）中選取一個最小值作為額定電流
Choose a minimum of I_{RMS} and I_{SAT} as the rated current
- ◎ 務必考慮最終的產品設計，元器件佈局，線路板走線，以及使用環境過程中，電感最終溫度不得超過125℃
The operating temperature of inductance do not exceed 125℃
- ◎ 使用電感時，請查閱第8頁注意事項
The announcements is on page 9



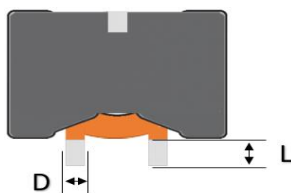
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封装尺寸 (mm)

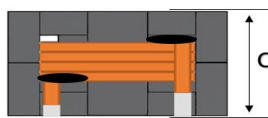
俯视图
Top view



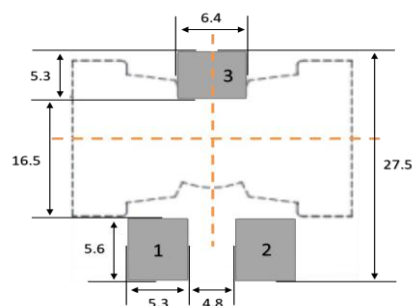
底视图
bottom view



侧视图
Side view



焊盘尺寸 Recommened Land Pattern



系列 series	封装尺寸 Dimension						最小包装 MPQ
	A	B	C	D	L	W	pcs/吸塑盒
2614	27.9 Max	27.9 Max	15.5 Max	3.8 Ref	4.6 Ref	10.2 Ref	50
2617	27.9 Max	27.9 Max	19 Max	3.8 Ref	4.6 Ref	10.2 Ref	50

編碼解釋

Code interpretation

PSPQAA	2614	-	220	M	P
類別碼	尺寸系列		感值	精度	带PROD印字
Category code	Dimension		Inductance	Tolerance	PROD

電氣參數

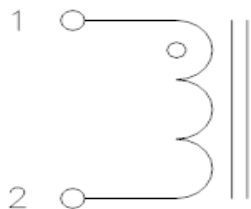
Electrical Characteristics

產品編碼 P/N	@ 25 °C Ambient Temperture					
	感值 Inductance	精度 Tolerance	DCR		温升电流 IRMS	饱和电流 ISAT
			mΩ		A	A
			Typ	Max	ΔT≈40°C	L0drop≈30%
PSPQAA2614-220MP	22	20%	1.6	2	30	13
PSPQAA2617-3R3MP	3.3	20%	1.2	1.4	36	95
PSPQAA2617-4R7MP	4.7	20%	2.3	2.5	31	65
PSPQAA2617-6R8MP	6.8	20%	2.3	2.5	31	52
PSPQAA2617-100MP	10	20%	2.3	2.5	31	34.5
PSPQAA2617-150MP	15	20%	2.3	2.5	31	23.5
PSPQAA2617-220MP	22	20%	2.3	2.5	31	16
PSPQAA2617-330MP	33	20%	2.3	2.5	31	10

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原理图

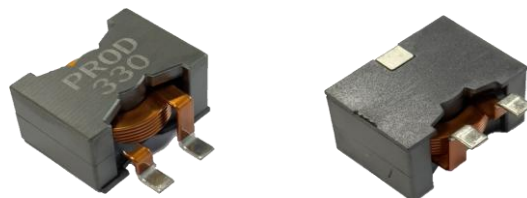
Schematic



- ◎ 電感內置一組線圈
Inductor Contents one (1) Set(s) of Coil

印字方式

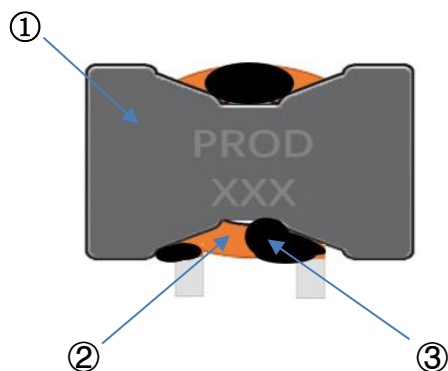
Marking



- ◎ 电感顶部丝印“PROD+感值代码”
Marking: "PROD+Inductance Code" in Top

产品结构

Product Structure

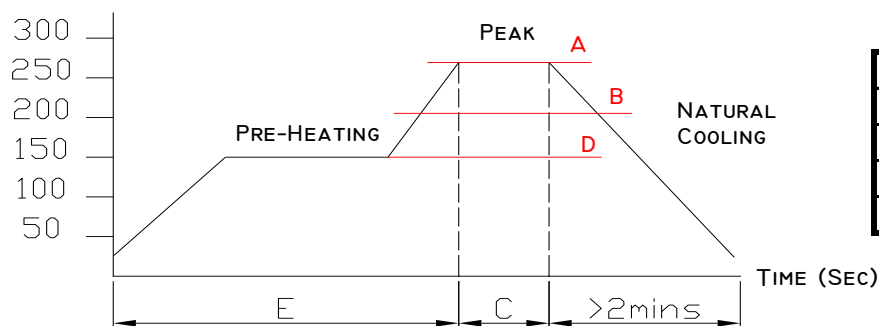


- ① 磁芯/core
② 线圈/wire
③ 胶水/Glue

焊接溫度（推荐）

Recommended Soldering Temperature Graph

TEMPERATURE (°C)



A	260°C
B	230°C
C	10 Sec
D	150°C
E	60~240 Sec



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机械可靠性测试

Mechanical Reliability

實驗名稱 ITEM	試驗要求 Specification & Requirement	試驗方法 Method Used
可焊性實驗 Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof: Preheating: 180 ±10℃ 90 seconds Soldering: 255 ±5℃ for 3 ±1 sec
機械衝擊 Shock	Inductance change within ± 5% Without mechanical damage SMD Molding Ind	Drop down with 981m/s ² (100G) shock Attitude upon a rubber block method shock testing machinem, 3 tests.
振動實驗 Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz 60 seconds cycle Vibration time: 2 hours

老化测试

Aging Reliability

實驗名稱 ITEM	試驗要求 Specification & Requirement	試驗方法 Method Used
冷熱衝擊 Thermal Shock	Inductance change within ± 5% Without mechanical damage	-40℃, (30 mins) -> room temp. (5 mins) -> 125℃, (30 mins) -> room temp. (5 mins) 100 cycles
耐熱性 Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85℃ ambient Duration: 1000 hrs
耐濕性 Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60℃ ambient Humidity: 90~95% Duration: 1000 hrs
低溫存儲實驗 Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. -40 ±2 °C for total 1,000 +4/-0 hours
高溫存儲實驗 High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. 125 ±2 °C for total 1,000 +4/-0 hours



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内盒包装

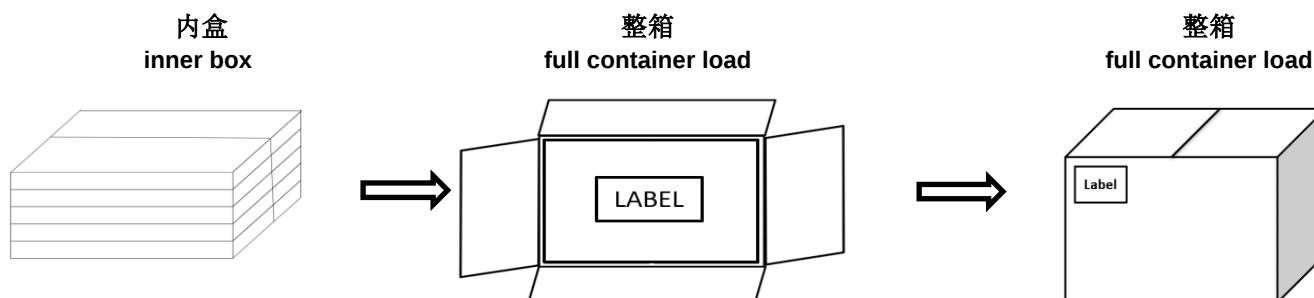
MPQ packaging



使用珍珠棉包装，顶部覆盖一张纸板，每盒48pcs
MPQ=48pcs, Inductor with pearl cotton packaging, Place a piece of cardboard on top

外箱

full container load



每箱内装5小盒，每箱数量240pcs
5 little boxes fill a whole case, 240pcs/full container load

尺寸与重量

Size and Weight

	单颗产品 single	内盒 inner box	整箱 full container load
尺寸 Size	详细重量信息请联系谱罗德索取单颗规格书/For product weight information, please contact PROD for a single datasheet		
净重 net weight			
毛重 gross weight			



注意事項

使用本產品時，請注意以下事項

- ◎ 產品保存期限為12個月，保存條件：溫度5~40℃，濕度10~75%RH以內，超過保存期限可能會使產品端子電極發生氧化。
- ◎ 請勿在極端環境下使用和保存（高鹽，強酸，強鹼，強輻射等）。
- ◎ 產品焊接前，請進行預熱；預熱溫度與焊接溫度之間溫差建議控制在150℃以內。
- ◎ 產品焊接後需重新拆卸焊接修正時，請遵循規格書規定的條件範圍；過高的加熱溫度以及反復的拆卸可能會導致產品失效。
- ◎ 產品請勿接觸清洗劑，酒精等液體，這會侵蝕產品本體，從而導致產品失效。
- ◎ 產品焊接到線路板後，請注意不可因線路板整體變形或局部變形而施加給電感剩餘應力，這可能會導致電感發生破裂，脫落，以致失效。
- ◎ 產品通電後溫度會隨電流的增大而上升，設計時請務必考慮留有餘量。
- ◎ 過高的靜電會對產品產生永久性損害，請注意靜電防護。
- ◎ 產品通電過程請勿觸摸產品任何部位，防止觸電。
- ◎ 本產品作為磁性產品，設計時請務必考慮周邊元器件與本產品可能產生的相互影響。
- ◎ 本產品適用於一般電子設備，如：AV設備，通信設備，家電產品，娛樂設備，電腦設備，個人設備，辦公設備，計測設備，工業機器人等。且該一般電子設備需在常規的操作和使用方法環境下使用。
對於需要高度安全性和可靠性的，或者因本產品失效造成設備故障，誤操作，運轉不良等危及到人的生命身體及財產安全，以及對社會產生較大不良影響的特殊用途，設計使用前務必同本公司溝通，設計使用者如未取得我司書面同意狀況下使用造成任何後果，我司不予承擔。特殊用途包含但不限定如下清單：
 - 1 軍用設備
 - 2 運輸設備（汽車，軌道交通產品，船舶等）
 - 3 航空，航太設備
 - 4 發電控制設備
 - 5 核動力相關設備
 - 6 爆炸引燃控制設備
 - 7 交通控制設備
 - 8 關係到國防安全的設備
 - 9 其他被認定為特殊用途的設備

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PuLuoDe Electronic Technology (Shenzhen) Co. LTD
深圳市寶安區石岩三聯工業區B棟311

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ANNOUNCEMENTS

Please read this before using the product.

- © The product storage life is 12 months, Storage Temperature: TEMP.5~40℃; RH10%~75%. Please use the product within the warranty period
- © Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, radiation etc.) .
- © Before soldering, be sure to preheat components:The preheating temperature should be set so that The temperature difference between the solder temperature and chip temperature does not exceed 150° C.
- © Soldering corrections after mounting should be within the range of the conditions determined in the specifications.If overheated, a short circuit, performance deterioration, or lifespan shortening may occur. Repeated disassembly may invalidate the inductance
- © The cleaning agent can not be used for these products. This may corrode the inductor
- © When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- © Self heating (Rated Current or Irms) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- © Too high static electricity will cause permanent damage to the product, please pay attention to electrostatic protection.
- © As a magnetic product, the design must consider the possible interaction between peripheral components and the product.
- © The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us. Otherwise, our company will not bear the serious consequences caused by product quality problems

1 Military equipment

8 Medical equipment

2 Transportation equipment (cars, trains, ships, etc.)

9 Other applications that are not considered general-purpose applications

3 Aerospace/aviation equipment

4 Power-generation control equipment

5 Atomic energy-related equipment

6 Explosive ignition control equipment

7 Transportation control equipment

