

產品編碼 P/N	PSEFCI5025~5045 Series	測試設備 TEST INSTRUMENT	Keysight:E4991B Chroma:16502 3302
產品系列 Series	EMI 共模濾波器	測試頻率 TEST FREQUENCY	100MHZ / 0.1V

客戶名稱

Customer

客戶編碼

Customer P/N

產品系列

Series

EMI 共模濾波器

EMI Suppression Filters

產品編碼

Supply P/N

PSEFCI5025~5045 Series

發版號

Version

A2.1

承認日期

Endorsement Date

2022-9-16

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



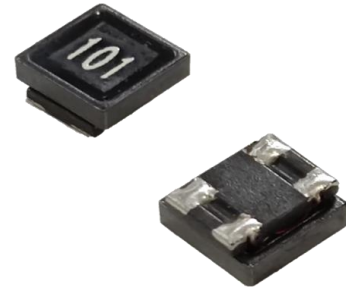


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## 产品特点

## Features

- ☐ 产品薄，尺寸小，额定电流大  
Low profile, Small size (5.0x5.0mm) and high rated current
- ☐ SMD 结构便于SMT生产自动化贴片  
SMD structure is convenient for SMT production automation patch
- ☐ 超小超薄的结构减少PCB的占用面积  
Takes up less PCB real estate and save more power



## 編碼解釋

## Code interpretation

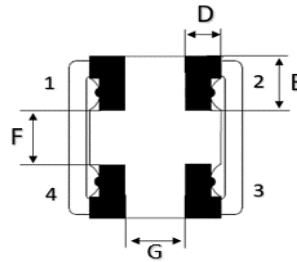
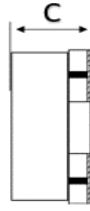
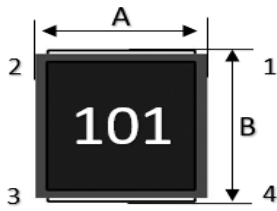
<b>PSEFCI</b>	<b>5025</b>	-	<b>501</b>
<u>類別碼</u>	<u>尺寸系列</u>		<u>阻抗值</u>
Category code	Dimension		Impedance

- ◎ 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
- ◎ 加載額定電流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 rated current would cause an approximately  $\Delta T$  of 40°C
- ◎ 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105℃  
The operating temperature of inductance do not exceed 105°C
- ◎ 使用電感時，請查閱第10頁注意事項  
The announcements is on page 11

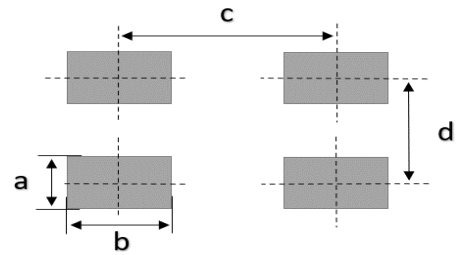


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封裝尺寸  
Dimension (mm)



推薦的焊盤尺寸  
Recommended Land Pattern



系列 Series	封裝尺寸 Dimension							焊盤尺寸 Land Pattern			
	A	B	C	D	E	F	G	a	b	c	d
5025	4.8±0.3	5.0±0.3	2.5MAX	1.25Ref	1.7Ref	1.6Ref	1.0Ref	1.5 Typ	2.0 Typ	3.3 Typ	2.4 Typ
5045	4.8±0.3	5.0±0.3	4.5MAX	1.25Ref	1.7Ref	1.6Ref	1.0Ref	1.5 Typ	2.0 Typ	3.3 Typ	2.4 Typ

### 電氣參數

#### Electrical Characteristics

產品編碼 P/N	@ 25 °C Ambient Temperature						
	阻抗值 (Z)	DCR		額定電流 Rated Current	絕緣性 IR	額定電壓 Rated Voltage	耐電壓 Withstand Voltage
	Ω	mΩ		mA	MΩ	V	V
	Typ	Typ	Max	ΔT≈40°C	Min		
PSEFCI5025-101	100	9	13	6500	10	50	125
PSEFCI5025-251	250	14	20	5000	10	50	125
PSEFCI5025-351	350	28	40	4000	10	50	125
PSEFCI5025-501	500	19	27	4000	10	50	125
PSEFCI5025-102	1000	24	30	2000	10	50	125
PSEFCI5025-142	1400	40	56	1500	10	50	125
PSEFCI5045-191	190	15	20	5000	10	50	125
PSEFCI5045-351	350	32	40	2000	10	50	125
PSEFCI5045-501	500	38	50	1800	10	50	125
PSEFCI5045-801	800	38	50	1500	10	50	125
PSEFCI5045-102	1000	54	60	1500	10	50	125
PSEFCI5045-152	1500	80	100	1000	10	50	125
PSEFCI5045-302	3000	165	200	500	10	50	125
PSEFCI5045-402	4000	268	300	200	10	50	125

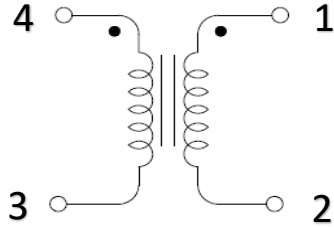


# 特性 CHARACTERISTICS



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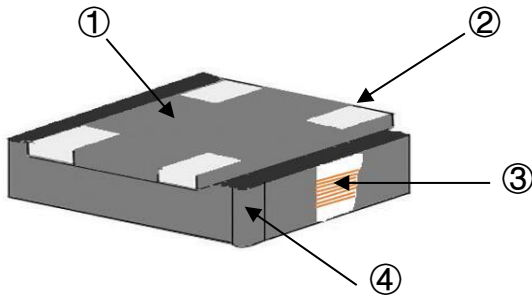
## 電路結構 Connections



◎ 電感內置兩組線圈  
Inductor Contents Two (2) Set(s) of Coil

◎ 電感頂部白色噴碼印字  
Marking Color:white "XXX"

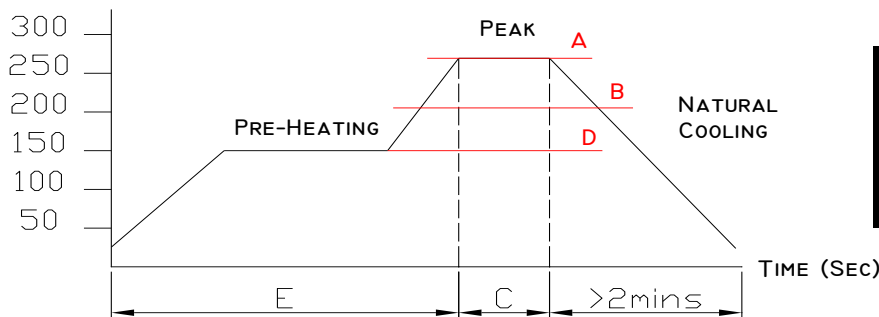
## 內部構造 Internal Structure



- ①：磁芯 / Core
- ②：電極 / Electrode
- ③：線圈 / coil
- ④：磁罩 / Magnetic cover

## 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

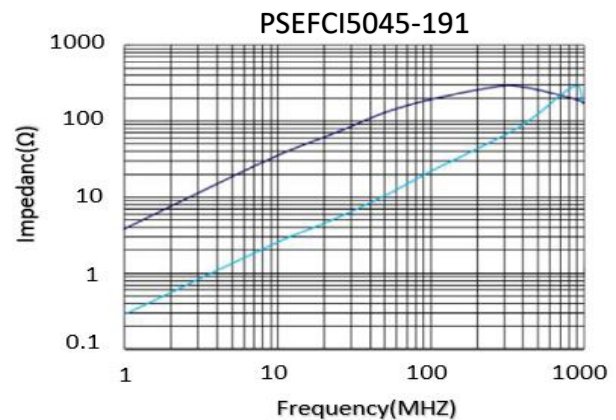
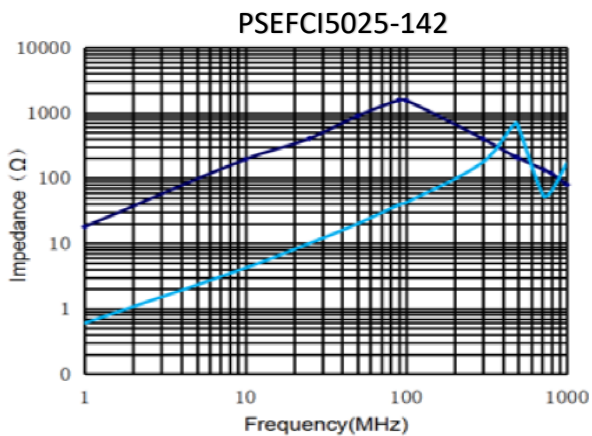
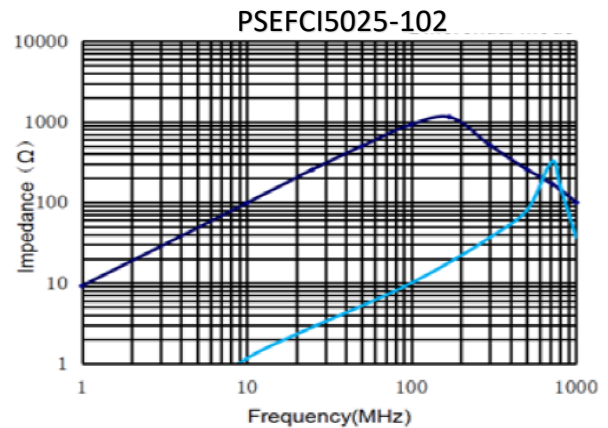
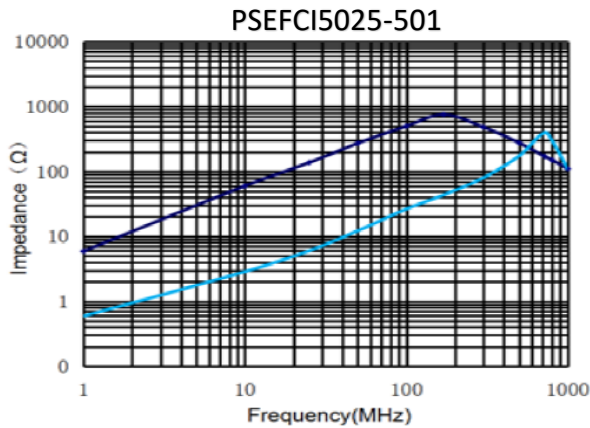
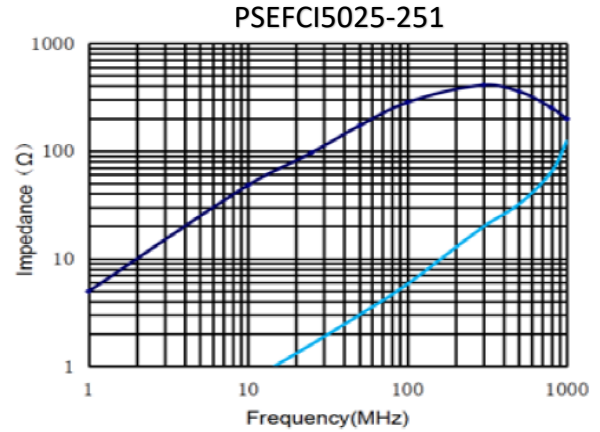
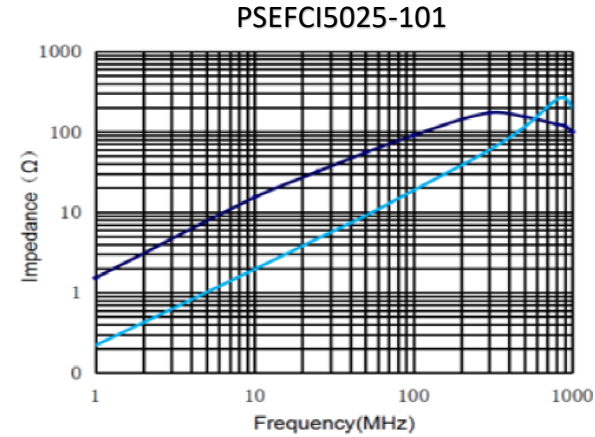


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## 特性曲線

## Performance Curves

—— 差模特性 (Differential Mode)      —— 共模特性 (Common Mode)



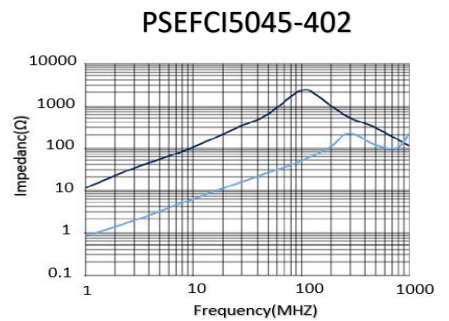
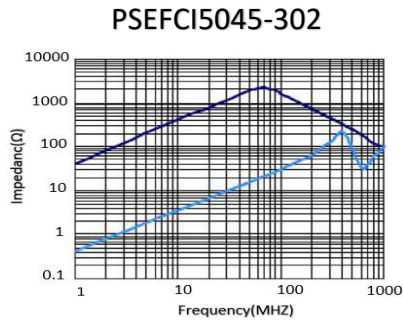
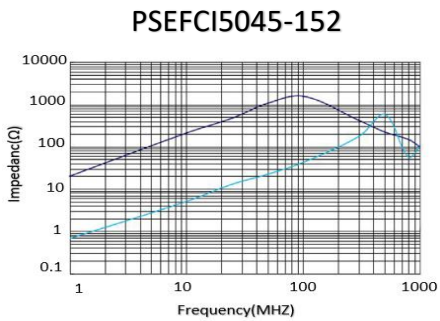
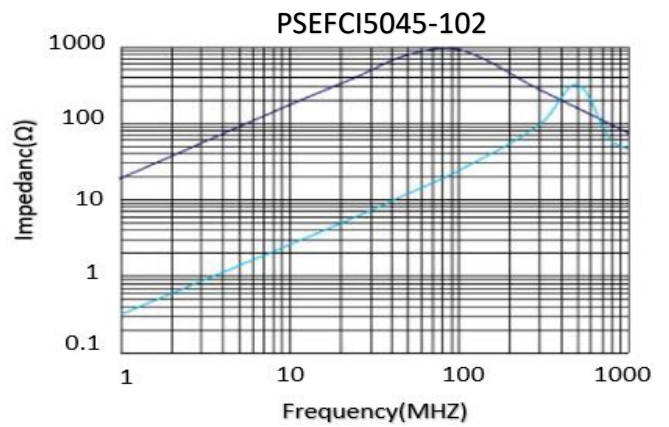
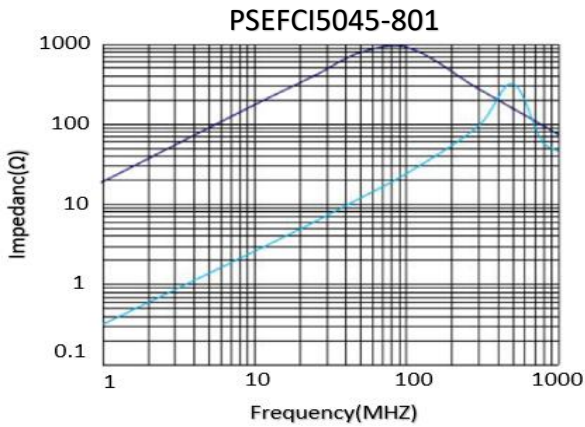
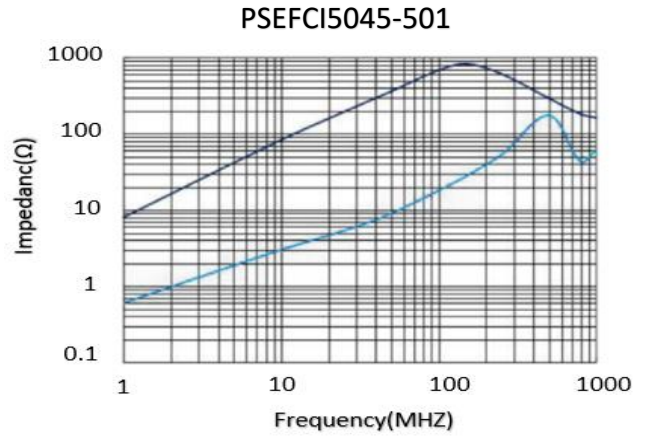
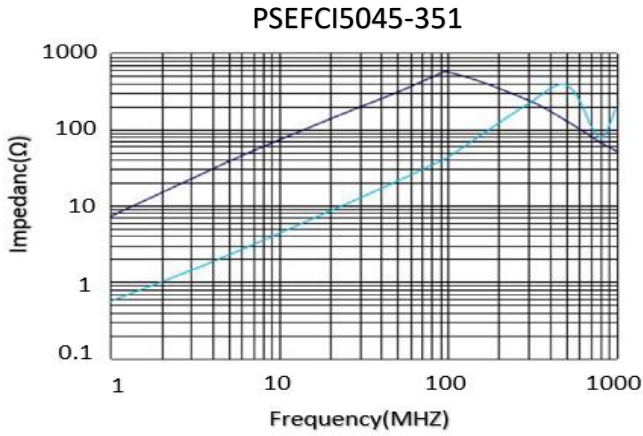


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Performance Curves

差模特性 (Differential Mode)      共模特性 (Common Mode)



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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°C 90 seconds Soldering: 255 ±5°C for 3 ±1 sec
機械衝擊 Shock	Inductance change within ± 5% Without mechanical damage	Drop down with 981m/s <sup>2</sup> (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	-25°C, (30 mins) -> room temp. (5 mins) -> 125°C, (30 mins) -> room temp. (5 mins) 100 cycles
耐熱性 Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85°C ambient Duration: 500 hrs
耐濕性 Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60°C ambient Humidity: 90~95% Duration: 500 hrs
低溫存儲實驗 Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. -25 ±2 °C for total 500 +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 500 +4/-0 hours





# 包裝方式

## PACKING FOR SMD

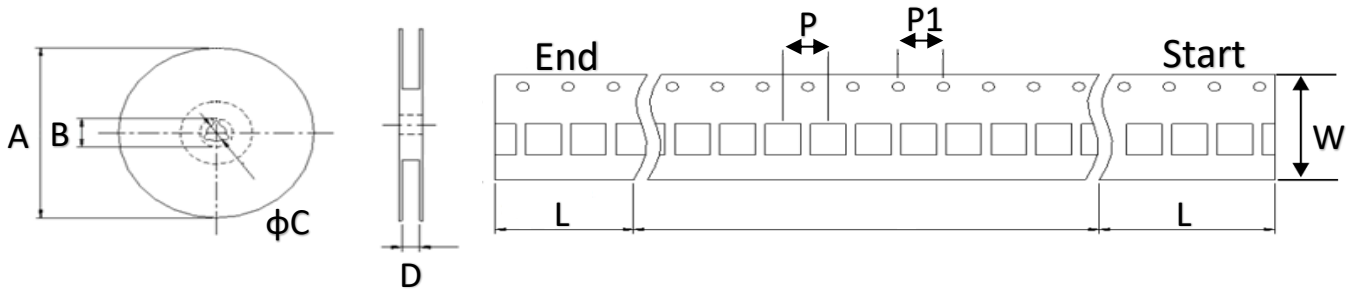


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載帶卷盤尺寸 : (mm)

**Packing Dimension**

MPQ	A	B	C	D	P	P1	W	L
2500pcs/卷盤	330 Typ	21 Ref	13 Ref	12.5 Ref	8 Ref	4 Ref	12 Ref	前後預留約30空格
1000pcs/卷盤	330 Typ	21 Ref	13 Ref	16.5 Ref	12 Ref	4 Ref	16 Ref	前後預留約30空格

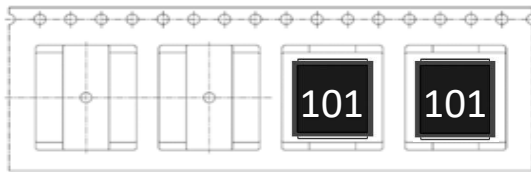


**載帶內產品排列方式:**

Inductance Packing Method

電感平行擺放在齒輪孔一側

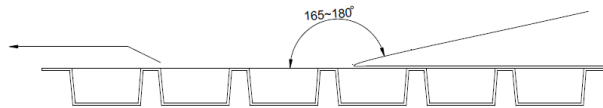
The Inductor are placed parallel to one side of the gear hole



**載帶剝離力:**

Typical Pulling Force

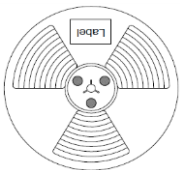
20~120 gf



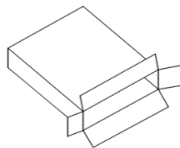
**裝箱數量:**

Package Quantity

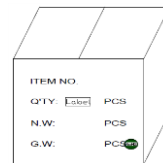
最小包裝  
MPQ



內盒  
Inner box



整箱  
full container load



系列	最小包裝 MPQ	內盒 Inner box	整箱 full container load
5025	2500	7500	22500
5045	1000	3000	9000

© 實際出貨過程，依據客戶需求狀況的不同，包裝數量會有變化，最終的包裝數量請參照實際出貨包裝  
In the actual delivery process, the package quantity will change according to the different customer demands.  
Please refer to the actual shipment quantity for the final package quantity





## 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，設計使用者如在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：
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  - 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





## ANNOUNCEMENTS

Please read this before using the product.

- © The product storage life is 12 months, Storage Temperature: TEMP.5~40°C; 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.  
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- |  |   |
|--|---|
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| 3 Aerospace/aviation equipment                         | 9 Other applications that are not considered general-purpose applications |
| 4 Power-generation control equipment                   |   |
| 5 Atomic energy-related equipment                      |   |
| 6 Explosive ignition control equipment                 |   |

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PuLuoDe Electronic Technology (Shenzhen) Co., LTD

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