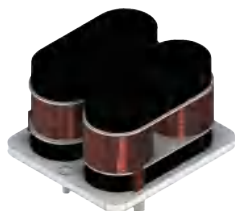
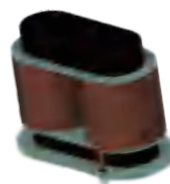
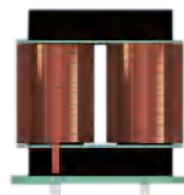
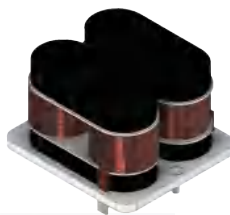
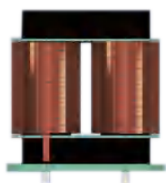


# 平头哥系列

## 新一代自动化制造 组合电感

A new generation of automated manufacturing  
Combined inductance



- 矮小精悍、高储能密度  
Small, lean, high energy storage density

- 智能制造、扁线立绕  
Intelligent manufacturing, flat wire vertical winding

- 超高性价比、超低损耗  
Ultra-high cost performance, ultra-low loss

- 适配各种电源U型结构  
Suitable for various power supply U-shaped structure

唐山尚新融大电子产品有限公司

TANGSHAN CREATIVEMIX ELECTRONICS CO.LTD



## 公司简介

COMPANY INTRODUCTION

唐山尚新融大电子产品有限公司成立于2008年，是一家专注于磁性元器件开发、生产和销售的民营高新技术企业。尚新融大致力于为特种电源电路、智能电网、新能源汽车、轨道交通、云计算AI、石油勘探、5G通信等行业提供磁性元器件系统化解决方案及高可靠性、高品质产品。公司具备金属磁粉心、非晶纳米晶磁芯、平面变压器、电感器、高频电抗器、MIL-STD-1553B总线变压器、网络变压器、平面磁集成滤波器的研制、生产能力。公司通过ISO9001:2015标准质量管理体系认证及GJB9001C-2017武器装备质量管理体系认证等资质。

公司总部位于唐山市滦南县，具备两个自有土地加工基地、两个市级研发中心，拥有满足国军标要求的可靠性实验中心，先进的磁性元器件自动化设备、SMT电装生产线。公司在北京、天津、合肥设有研发中心及客户服务中心，以便于为不同地域的客户就近提供高效、优质服务！



# 生产环境、设备

PRODUCTION ENVIRONMENT, EQUIPMENT



SMT生产线



生产车间



自动化车间



扁平线圈绕线机



套管机



全自动套管机



多轴绕线机



环形自动绕线机

# 试验设备

TEST EQUIPMENT



温度冲击箱



稳态湿热箱



盐雾试验箱



高低温老化箱



拉力试验机



机械冲击台



机械振动台



低气压试验箱

平头哥系列电感器与传统系列电感器对比表

Comparison Table of Flat Head Series Inductors and Traditional Series Inductors

|                                       |                                                                                                                                   |                                                                                          |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 对比项目Contrast items                    | 平头哥系列电感器<br>Flat head brother series inductors                                                                                    | 传统系列电感器<br>Traditional series inductors                                                  |
| 图片<br>Picture                         |                                                  |       |
| 绕线方式<br>Winding mode                  | 扁平线单层立绕<br>Flat wire vertical winding<br>Flat wire vertical win                                                                   | 传统漆包线叠绕<br>Traditional enamelled wire is folded                                          |
| 产品尺寸<br>Product size                  | 18mm*18mm                                                                                                                         | 20mm*20mm                                                                                |
| 优劣势<br>Strengths and weaknesses       | 扁平线立绕，散热快，低损耗。高功率密度，低直流电阻。<br>Flat wire vertical winding, fast heat dissipation, low loss. High power density, low DC resistance. | 漆包线叠绕，散热慢，损耗大，效率低。<br>Enameled wire winding, slow heat dissipation, loss, low efficiency |
| 产品一致性<br>Product consistency          | 产品一致性高<br>High product consistency                                                                                                | 产品一致性低<br>High product consistency                                                       |
| 是否适合自动化<br>Is suitable for automation | 适合自动化生产<br>所用人工工时少<br>Suitable for fully automated production of less manual hours                                                | 不适合自动化生产<br>所用人工工时多<br>Semi-automatic production uses more man-hours                     |
| 成本<br>Cost                            | 自动化生产，成本低<br>Automated production, low cost                                                                                       | 人工制作，成本高<br>Manual production, high cost                                                 |

## 特点

### Characteristics

□ 组装式设计, 结构坚固

Assemtblage design.sturdy structure

□ 高电感、高电流、低磁损, 低ERS, 寄生电容小

High inductance, high current, low magnetic loss

□ 扁平线立绕, 散热快, 实现低DCR

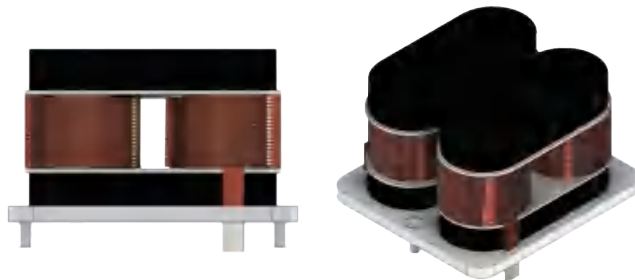
Flat wirewinding, achieve alow DCR

□ 温升电流高、饱和电流大, 抗电磁干扰特性

High temperature rise current, large saturation current and good anti-electromagnetic interference characteristics

□ 工作温度:-25°C~125°C

Operoling temperature:-25°C~125°C



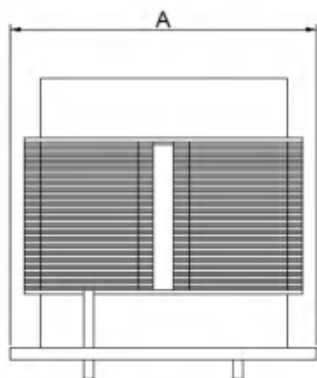
## U系列产品参数

### U Series product parameters

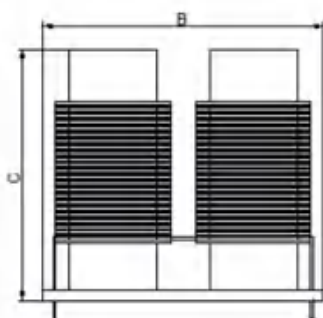
| 序号 | 型号            | 封装尺寸  |       |       |       | 电参数   |       |           |            | 介质耐压                       |
|----|---------------|-------|-------|-------|-------|-------|-------|-----------|------------|----------------------------|
|    |               | A(mm) | B(mm) | C(mm) | D(mm) | 初级电感量 | 电流(A) | 工作频率(KHZ) | 功率(W)      |                            |
| 1  | RDHYPFC1010UL | 30max | 30max | 20max | 26    | 580uH | 6     | 100-200   | 2000-3500  | 绕组对磁芯<br>DC1KV,5mA<br>5Sec |
| 2  | RDHYPFC1616UL | 42max | 42max | 30max | 38    | 460uH | 12    | 100-200   | 3000-4500  |                            |
| 3  | RDHYPFC2020UL | 50max | 50max | 50max | 45    | 370uH | 15    | 100-200   | 4000-5500  |                            |
| 4  | RDHYPFC2520UL | 60max | 50max | 50max | 55    | 290uH | 15    | 100-200   | 5000-6500  |                            |
| 5  | RDHYPFC3020UL | 70max | 50max | 50max | 65    | 240uH | 18    | 100-200   | 6000-7500  |                            |
| 6  | RDHYPFC3520UL | 80max | 50max | 50max | 75    | 190uH | 20    | 100-200   | 7000-8500  |                            |
| 7  | RDHYPFC4030UL | 90max | 70max | 65max | 85    | 150uH | 30    | 100-200   | 8000-10000 |                            |

## 封装图

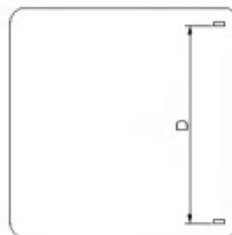
### Package drawing



正视图



侧视图



底板图

## 特点

### Characteristics

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Assemtblage design.sturdy structure

□ 高电感、高电流、低磁损, 低ERS, 寄生电容小

High inductance, high current, low magnetic loss

□ 扁平线立绕, 散热快, 实现低DCR

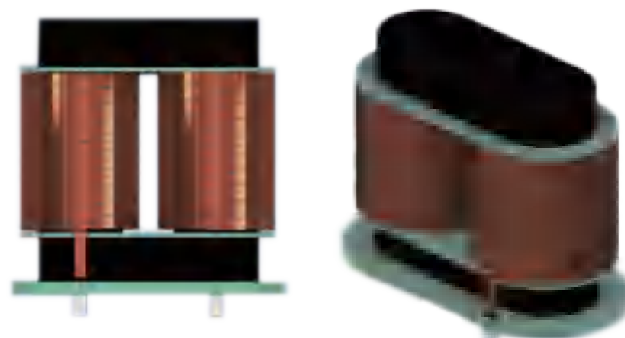
Flat wirewinding, achieve alow DCR

□ 温升电流高、饱和电流大, 抗电磁干扰特性

High temperature rise current, large saturation current and good anti-electromagnetic interference characteristics

□ 工作温度:-25°C~125°C

Operaling temperature:-25°C~125°C



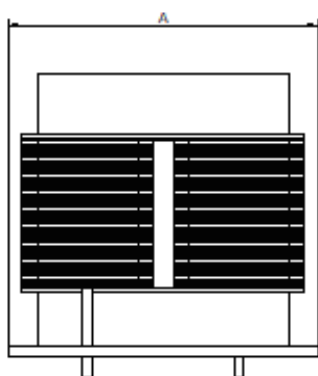
## L系列产品参数

### L Series product parameters

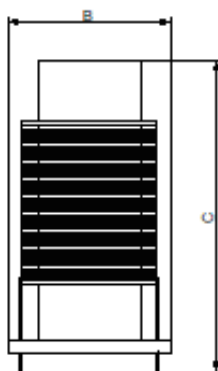
| 序号 | 型号           | 封装尺寸   |       |          |        |        | 电参数 |       |               | 介质耐压                        |
|----|--------------|--------|-------|----------|--------|--------|-----|-------|---------------|-----------------------------|
|    |              | A(mm)  | B(mm) | C(mm)    | D (mm) | E (mm) | 匝比  | 初级电感量 | 功率            |                             |
| 1  | RDHYPFC0610L | 30max  | 15max | 20max    | 14     | 12.5   | 19  | 800uH | 1500W-2500W   | 绕组对磁芯<br>DC1KV,5mA,<br>5Sec |
| 2  | RDHYPFC1320L | 52max  | 27max | 34max    | 25     | 21.9   | 35  | 720uH | 3500W-5500W   |                             |
| 3  | RDHYPFC1620L | 56max  | 28max | 40max    | 28     | 25.1   | 35  | 580uH | 3500W-5500W   |                             |
| 4  | RDHYPFC2020L | 67max  | 35max | 50.5max  | 32     | 29.5   | 26  | 500uH | 5000W-6500W   |                             |
| 5  | RDHYPFC2520L | 78max  | 40max | 56.5max  | 38     | 34.5   | 26  | 450uH | 5000W-6500W   |                             |
| 6  | RDHYPFC3040L | 91max  | 46max | 82.5max  | 45     | 40.5   | 55  | 410uH | 6000W-8500W   |                             |
| 7  | RDHYPFC3540L | 100max | 50max | 88.5max  | 50     | 44.5   | 40  | 360uH | 6000W-8500W   |                             |
| 8  | RDHYPFC4040L | 111max | 57max | 94.5max  | 54     | 51     | 35  | 300uH | 10000W-15000W |                             |
| 9  | RDHYPFC5040L | 132max | 68max | 116.5max | 64     | 61.23  | 22  | 270uH | 15000W-20000W |                             |

## 封装图

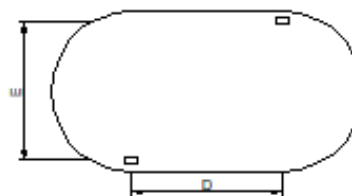
### Package drawing



正视图



侧视图



底视图

## ■ 产品特性

### Product characteristics

#### 1.效率高 Efficient

目前，所有用户对用电电子设备的效率越来越重视，尤其大功率电子设备方面，如光伏发电逆变器最高效率要求达99% 以上，电感设计思路、方法必须创新，组合磁芯电感基于此理念的新型设计，电感的设计不再是由单一的一种材料组成，为了提升效率，发挥各种材料的优异性能，采用两种不同的材料组合在一起设计，从而提升整机的设备效率。

At present, all users pay more and more attention to the efficiency of electrical equipment, especially high power electric electronic equipment, such as photovoltaic inverter maximum efficiency requirements above 99%, inductance design idea, method must be innovative, combination of magnetic core inductance based on the concept of new design, the design of inductance is no longer composed of single-a kind of material, in order to improve efficiency, play the excellent performance of all kinds of materials, using two different materials combined design together, so as to improve the efficiency of the whole equipment.

#### 2.成本低 Low cost

性价比始终是客户的追求。为满足客户高性能的要求，若采某一种价格便宜的材料设计可能难于满足客户性能的要求采用高性能的材料设计则价格昂贵；

对此，采用多种材料(如：超级铁芯、铁氧体非晶、铁铝、铁硅等)的合理搭配，发挥各种材料的优点得以满足客性能要求同时大大降低成本。

同时，也可采用一个或多个电感组合在一起，通过局部磁路共用减少材料的使用，从而降低成本。

Cost performance is always the pursuit of customers. In order to meet the requirements of customer high performance, if a certain kind of cheap material design may be difficult to meet the requirements of customer performance using high performance material design is expensive; In this regard, the use of a variety of materials (such as: super core, ferrite amorphous, iron aluminum, iron silicon, etc.) reasonable collocation, to play the advantages of various materials to meet the customer performance requirements and greatly reduce the cost. At the same time, one or more inductors can also be combined together to reduce the use of materials through the local magnetic circuit together, so as to reduce the cost.

#### 3.温升小 Wen Sheng small

组合磁芯设计采用立绕设计，大大减少了绝缘材料的使用，提升了散热性，减少了绕线层数，降低了磁场和电流邻近效应的影响大大降低了产品温升。

The combined magnetic core design adopts vertical winding design, which greatly reduces the use of insulation materials, improves the heat dissipation, reduces the number of winding layers, reduces the influence of magnetic field and current proximity effect and greatly reduces the product temperature rise.

#### 4.体积小 Small in size

基于铁芯的合理搭配，有效的发挥各种铁芯的特性提高了铁芯内使用磁通密度范围磁路的共用使电感体积大大减小。

组合磁芯电感的设计大大提高了应用开关频率，也是减小电感体积的关键所在。

Based on the reasonable collocation of iron core, the characteristics of various iron core are effectively used to improve the sharing of magnetic flux density range in the iron core, so that the inductive volume is greatly reduced. The design of combined magnetic core inductor greatly improves the application switch frequency, which is also the key to reduce the recognition of inductor.

#### 5.噪音低 Strong poin

新型电感采用不同材料组合设计，大大减小了漏磁，有效地降低了噪音。

The new inductor uses different materials combination design, which greatly reduces the magnetic leakage and effectively reduces the noise.

#### 6.适应模块化、高频化发展趋势

Adapt to the development trend of modular and high-frequency development

## 7. EMI、EMC 适应性强 EMI and EMC are highly adaptable

组合磁芯电感采用扁线立绕方式绕线，绕组只有一层。大大降低了产品的分布电容，减小了邻近效应、减小电感漏磁，降低了温升，从而使产品获得了优异的 EMI、EMC 效果。

The inductor of the combined magnetic core is wound by vertical flat wire winding, and the winding has only one layer. The distributed capacitance of the product is greatly reduced, the proximity effect is reduced, the inductance magnetic leakage is reduced, and the temperature rise is reduced, so that the product has excellent EMI and EMC effects.

## 8. 可靠性高 High reliability

组合磁芯电感结构简单利于操作、生产、安装简洁，绕线采用专用设备，可一次完成，无需额外连接整个设计思路达到零故障设计，从而具备极高的可靠性。

The combined magnetic core inductor structure is simple and conducive to operation and production. The installation of simple winding is made of professional equipment, which can be completed at one time, without any additional connection to the whole design idea to reach zero fault set ten, so as to have extremely high reliability.



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