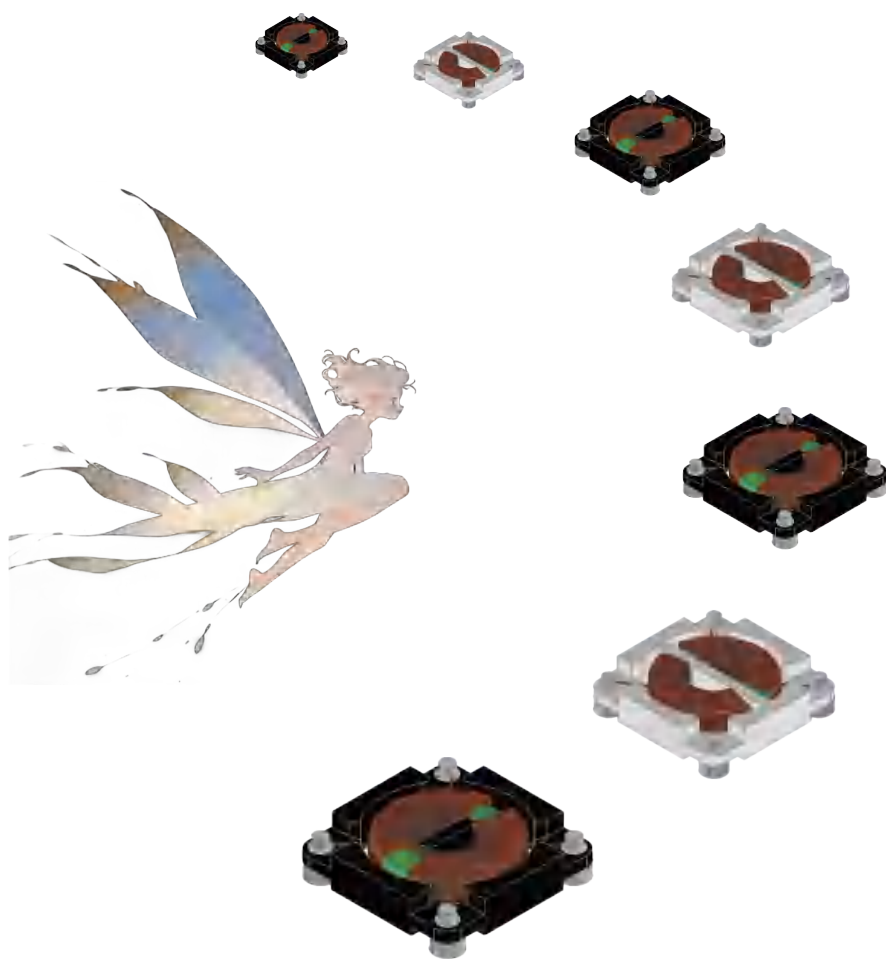




精灵系列

新一代自动化制造 微型变压器、电感器

A new generation of automated manufacturing
microtransformer



- 超薄、自动化生产结构设计

Ultra-thin, automated production structure design

- 高应用频率、高阻抗

High application frequency, high impedance

- 满足芯片磁集成封装要求

Meet the requirements of magnetic chip integrated package

- 性能稳定质量可靠

Stable performance and reliable quality

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

特点

Characteristics

□圆环式、体积小、个头微小

Circular, small size, low posture

□高频共模噪声抑制

Suppression of high frequency common-mode noise

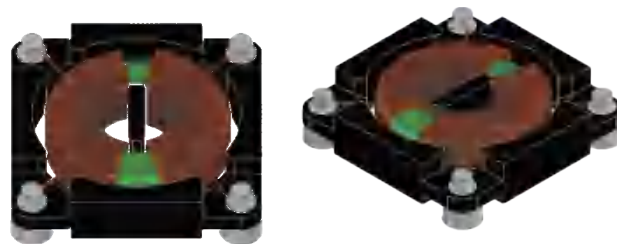
□优异的机械性能

Excellent mechanical properties

□工作温度:工业级: -40°C~85°C 国军标级: -55°C~125°C

Operating temperature: industrial-grade: -40°C~85°C

National military standard: -55°C~125°C



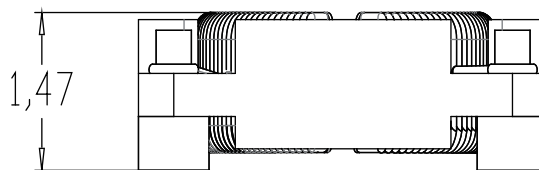
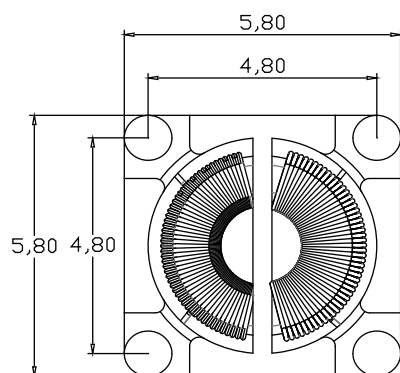
系列产品参数

Series product parameters

序号	产品型号	电感量 (uH) 100KHz/0.1mA	漏感 (nH) 100KHz/5mA	直流电阻 (Ω)	最大额定电 流 (mA)	介质耐压 (VDC/2S)	电感量公差
1	RDJLD5848C050NT	5	40	0.06	1200	1000	±30%
2	RDJLD5848C060NT	6	250	0.02	2000	1000	±30%
3	RDJLD5848C110NT	11	50	0.08	800	1000	±30%
4	RDJLD5848C250NT	25	60	0.11	800	1000	±30%
5	RDJLD5848C250NT	25	1400	0.11	800	1000	±30%
6	RDJLD5848C510NT	51	70	0.14	800	1000	±30%
7	RDJLD5848C510NT	51	2300	0.14	800	1000	±30%
8	RDJLD5848C101NT	100	100	0.18	500	1000	±30%
9	RDJLD5848C471NT	470	100	0.17	700	1000	-0.6
10	RDJLD5848C102NT	1000	70	0.2	700	1000	-0.6
11	RDJLD5848C222NT	2200	120	0.4	500	1000	-0.6
12	RDJLD5848C472NT	4700	250	0.55	400	1000	-0.6

封装图

Package drawing



■ 产品特性

Product characteristics

共模电感器的主要作用是抑制共模电磁干扰信号，提高电路的稳定性和信号传输质量。

The main function of a common mode inductor is to suppress common mode electromagnetic interference signals, improve circuit stability and signal transmission quality.

1.抑制电磁干扰 Suppression of electromagnetic interference

共模电感能够有效地减少外界电磁波对电路的干扰以及电路对外界的电磁辐射，确保数据传输的完整性和设备运行的稳定性。它特别在开关电源领域中体现其重要性，能有效抑制因开关工作产生的高频噪音，防止其通过电源线扩散到其他设备上。

Common mode inductance can effectively reduce the interference of external electromagnetic waves on the circuit and the electromagnetic radiation of the circuit to the outside world, ensuring the integrity of data transmission and the stability of equipment operation. It is particularly important in the field of switching power supplies, as it can effectively suppress high-frequency noise generated by switch operation and prevent it from spreading to other devices through power lines

2.双向滤波器 Bidirectional filter

共模电感本质上是一个双向滤波器，一方面需要滤除信号线上的共模电磁干扰，另一方面需要抑制自身发射的电磁干扰，以免影响同一区域内其他电子设备的正常工作电磁环境。

The common mode inductor is essentially a bidirectional filter. On the one hand, it needs to filter out common mode electromagnetic interference on the signal line, and on the other hand, it needs to suppress the electromagnetic interference emitted by itself to avoid affecting the normal working electromagnetic environment of other electronic devices in the same area.

3.工作原理 Working principle

共模电感通过铁氧体磁芯上的两个尺寸和匝数相同的线圈对称绕制来实现对共模信号的大电感量，而对差模信号则几乎不起作用。这种设计使得共模电流在流过时，磁环中的磁通相互叠加，从而具有相当大的电感量，对共模电流起到抑制作用。

The common mode inductor achieves a large inductance to the common mode signal by symmetrically winding two coils with the same size and number of turns on the ferrite core, while it has almost no effect on the differential mode signal. This design allows the magnetic flux in the magnetic ring to overlap with each other when the common mode current flows through, resulting in a significant inductance that suppresses the common mode current.

综上所述，共模电感器通过其独特的设计和工作原理，在电子电路中扮演着关键角色，保护电路免受共模电磁干扰的影响，同时维持电路的稳定运行和信号的清晰传输。

In summary, common mode inductors play a crucial role in electronic circuits through their unique design and working principles, protecting the circuit from common mode electromagnetic interference while maintaining stable operation and clear signal transmission.

特点

Characteristics

□超薄、自动化生产结构设计

Structural design of ultra-thin and automatic production

□满足芯片磁集成封装要求

Meet the requirements of chip magnetic integration package

□宽频率、高阻抗、低损耗

High application frequency, high impedance

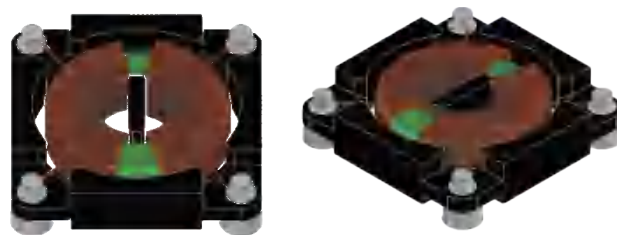
□性能稳定质量可靠

Stable performance and reliable quality

□工作温度:工业级: -40°C~85°C 国军标级: -55°C~125°C

Operating temperature: industrial-grade: -40°C~85°C

National military standard: -55°C~125°C



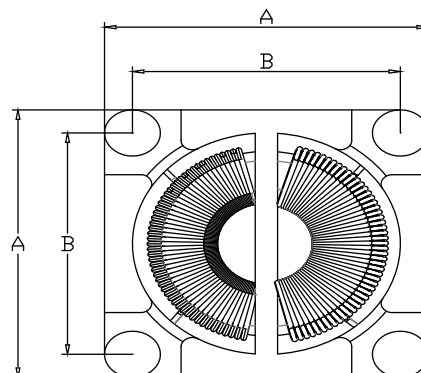
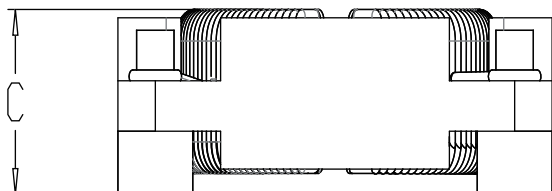
系列产品参数

Series product parameters

		封装尺寸			电参数				绕组间，绕组与磁材 DC2KV,5mA 5Sec
序号	产品型号	A(mm)	B (mm)	C (mm)	工作频率(KHz)	匝 比	电感量	电压(V)	
1	RDJLD7632	7.64	6.64	3.2	200	33:43	1.175±20%mH	5	
2	RDJLD7632-2	7.64	6.64	3.2	200	33:43:43	1.175±20%mH	5	
3	RDJLD5827	5.8	4.8	2.7	300	33:43	875±20%μH	5	
4	RDJLD5827-2	5.8	4.8	2.7	500	8:13	51.4±20%μH	3.3	
5	RDJLD5815	5.8	4.8	1.5	800	17:28	92.9±20%μH	3.3	
6	RDJLD6827	6.8	5.8	2.7	500	30:38	754±20%μH	5	
7	RDJLD7822	7.8	6.8	2.2	800	30:38	686±20%μH	5	
8	RDJLD5823	5.8	4.8	2.3	1000	28:36	573±20%μH	3.3	
9	RDJLD6319	6.3	5.3	1.9	800	24:34	546±20%μH	3.3	
10	RDJLD7819	7.8	6.8	1.9	1000	18:26	197±20%μH	3.3	

封装图

Package drawing



■ 产品特性

Product characteristics

一、驱动变压器的基本概念和应用场景

Basic concepts and application scenarios of the drive transformer

驱动变压器是一种常用于电力电子转换器中的电子元器件，用于隔离、升降压和普通变压器相同的功能，同时还具有能够承受高频脉冲的特点。驱动变压器主要应用于开关电源、DC/AC逆变器、磁化逆变器、电池充电器等电源设备中。

Drive transformer is a kind of electronic components commonly used in power electronic converter, which is used for isolation, lifting and lowering of the same function as ordinary transformer, but also can withstand high frequency pulse characteristics. Drive transformer is mainly used in switching power supply, DC / AC inverter, magnetized inverter, battery charger and other power supply equipment.

二、驱动变压器的作用

The role of the drive transformer

驱动变压器是一种特殊的变压器，它的主要作用是将较大的电流转化成较小的电流，在通信、自动化、电力控制系统等领域中得到广泛应用。驱动变压器可以将输入信号转换成输出信号，它对信号进行隔离，并可以通过信号负载的变化来实现一些特殊控制。

Drive transformer is a special transformer, its main function is to convert a large current into a small current, which is widely used in communication, automation, power control system and other fields. The drive transformer can convert the input signal into the output signal, which isolates the signal and can realize some special control through the change of signal load.

三、驱动变压器的应用场景

Application scenarios of the drive transformer

1. 电力系统

Electric Power system

驱动变压器是电力系统中的重要部件之一，它常被用于输电线路和变电站的保护与控制。例如，在超高压输电线路路上，保护系统需要对线路上的故障进行监测，在这个过程中需要使用驱动变压器来进行信号的传递和转换，从而实现对故障的检测和定位。

Drive transformer is one of the important components in the power system, which is often used in the protection and control of transmission lines and substations. For example, on the ultra-high voltage transmission line, the protection system needs to monitor the faults on the line, and in this process, the drive transformer is used to conduct signal transmission and conversion, so as to realize the detection and positioning of the faults.

2. 工业自动化领域

Industrial automation field

在工业自动化控制系统中，驱动变压器同样扮演着重要的角色。例如，在PLC控制系统中，驱动变压器一般被用来将输入信号转换成PLC能够读取的信号，同时还可以将PLC的输出信号进行放大，以实现对一些重要设备的精确控制。

In the industrial automation control system, the drive transformer also plays an important role. For example, in a PLC control system, the drive transformer is generally used to convert the input signal into a signal that the PLC can read, while the PLC output signal can also be amplified to achieve precise control of some important equipment.

3. 通信系统

Communication system

在通信系统中，驱动变压器可以用来隔离输入和输出信号，防止噪声和干扰影响通信质量。它可以把低电平信号转化成高电平信号，从而提高信号质量和传输效率。

In a communication system, drive transformers can be used to isolate input and output signals to prevent noise and interference from affecting the communication quality. It can convert the low level signal into the high level signal, thus improving the signal quality and transmission efficiency.

综上所述，驱动变压器在现代工业中得到广泛应用，它的功能和应用场景非常多样化，在电力、工业自动化和通信系统等领域都具有非常重要的作用。

To sum up, the drive transformer has been widely used in modern industry, and its functions and application scenarios are very diversified, and it plays a very important role in the fields of electric power, industrial automation and communication systems.



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