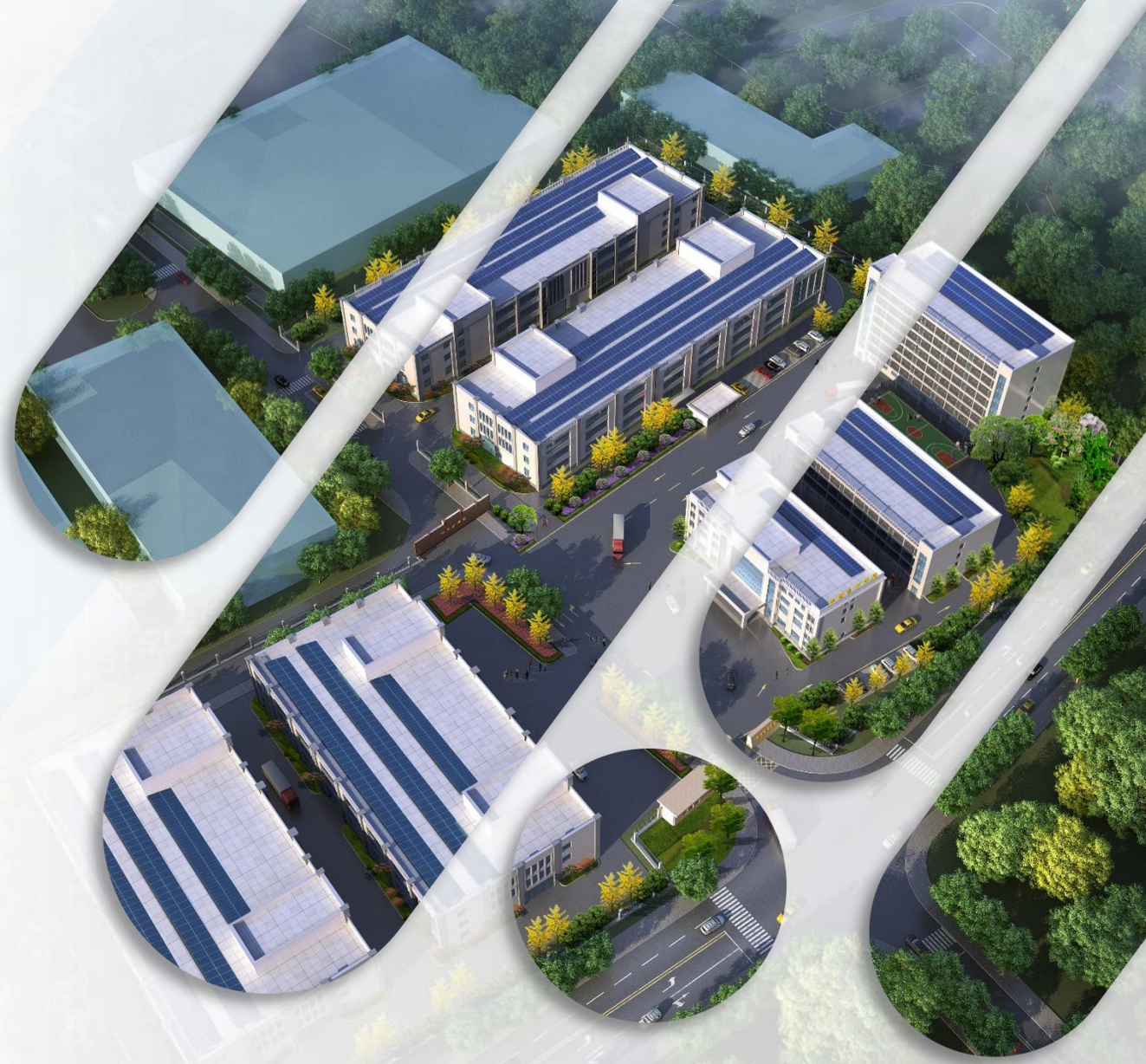
HUASUNtech

湖南华晟电通科技有限公司

HUNAN HUASUN M AND E TECHNOLOGY CO., LTD



About Us

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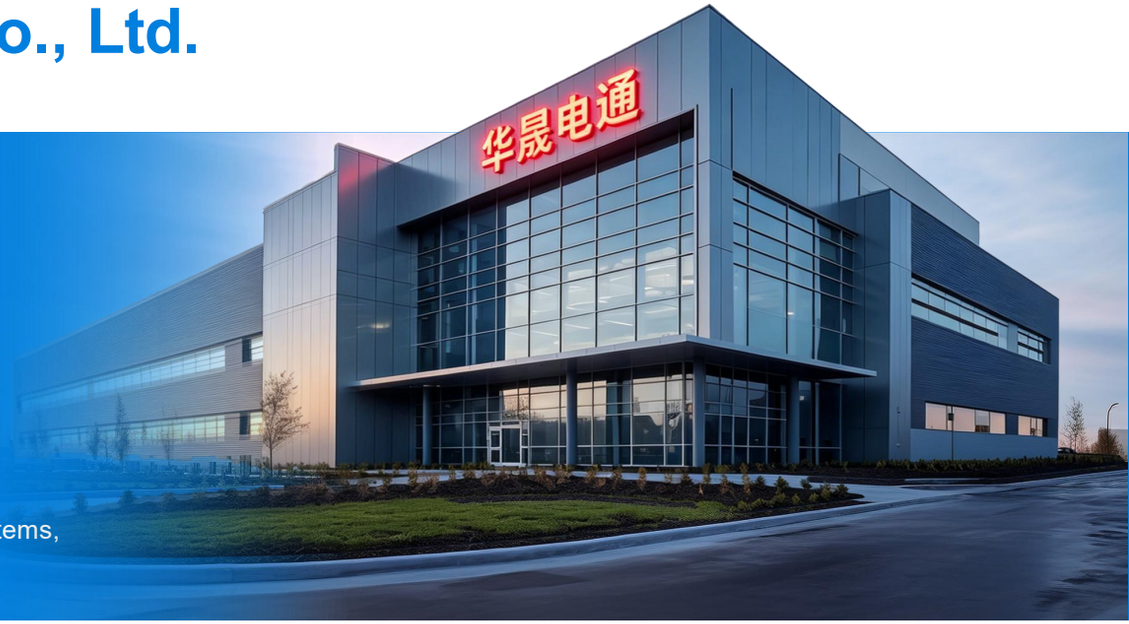
Hunan Huasun M AND E Technology Co., Ltd.



Main Products

Flat-Wire Molding Inductors , Dual-Coil Integrated Molding Inductors , Transfer Molding Inductors ,
High-Frequency Wire-Wound Inductors , SMD Common Mode Inductors ,
Magnetic Encapsulated Power Inductors， plug-in inductors, and high-frequency transformers, etc.

Application Industry

Automotive electronics, AI servers, industrial power supplies, robotics, industrial automation control systems, smart wearable devices, mobile communications, etc.

HUASUN offers a full range of products including Flat-Wire Molding Inductors, Dual-Coil Integrated Molding Inductors, Transfer Molding Inductors, High-Frequency Wire-Wound Inductors, SMD Common Mode Inductors, Magnetic Encapsulated Power Inductors, etc.

Company products: R&D and production of a full range of high-frequency low-power magnetic materials, SMD inductors, Molding, power magneto electric components, opto electronic application magneto electric components, high frequency transformers, differential common mode inductors, EMI filters, inverters, dimming transformers, opto electronic modules
Applied to: automotive electronics, AI servers, industrial power supplies, robotics, industrial automation control systems.smart wearable devices.and mopile communications.. etc.



Sphere of Business

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Production Base

Huaihua, Hunan

Customer Center

Suzhou, Dongguan, Shenzhen

R&D Center

Huaihua, Changsha

Product Center

Suzhou



Development History

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2006
Set Sail

Ms.Yang Xiaoying, the founder, establi shed her first company in Dongguan, Guangdong, specializing in products such as plug-in inductors and power inductors.

2013
Development

Through targeted investment attraction initiatives, the company completed its strategic relocation to Huaihua City, Hunan Province, and further expanded its product portfolio with a full range of high-performance inductors, including CD, NR and RI series.

2018
Renewal

The company established Huaihua Huachen Electronic Technology Co., Ltd., and vigorously developed a full range of serialized SMD inductors covering molded inductors, high-frequency inductors and common-mode inductors; it was accredited as an Engineering Technology Research Center by the Science and Technology Bureau of Huaihua City.

2019
Transformation

The company has obtained certifications for the ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and IATF 16949 Automotive Industry Quality Manag- ement System. It has established a deep strategic partnership with Central South University, enabling resource sharing and complementary advantages among industry, academia, and research entities.

2020
Empowerment

The company has been certified as a National High-Tech Enterprise; recognized as the Hunan Provincial Enterprise Tec- hnology Center by the Hunan Provincial Development and Reform Commission; and awarded the honorary title of "Hunan Provincial Women's Civilized Post" by the Hunan Provincial Women's Federation.

2021
Leap

Recognized as a Hunan Province Specialized, Refined, Unique and Innovative "Little Giant" Enterprise by the Hunan Provincial Department of Industry and Information Technology; awarded the title of Advanced Collective at the First New Hunan Contribution Award by the Hunan Provincial Committee of the Communist Party of China and the Provincial Government.

2022
Inspiration

The company has been recognized by the Ministry of Industry and Information Technology as a national Specialized and Sophisticated "Little Giant" Enterprise. It has also been accredited by the Hunan Provincial Development and Reform Commission as the Hunan Provincial Engineering Research Center for New Generation Mobile Communication RF Inductor Components. Besides, the company has joined the Chamber of Commerce for Science, Technology and Equipment Industry of the All-China Federation of Industry and Commerce, and has been listed on the Science and Technology Innovation Special Board of Hunan Equity Exchange.

2023
Metamorphosis

Renamed Hunan Huasun M And E Technology Co., Ltd., and launched the Huasheng Diantong Industrial Park project; recognized as a Hunan Provincial Enterprise Technology Center by the Hunan Provincial Department of Industry and Information Technology; awarded the Outstanding Enterprise Award at the 12th China Innovation and Entrepreneurship Competition (Growth Group) and the Second Prize at the Hunan Provincial Innovation and Entrepreneurship Competition (Growth Enterpr- ise Group); obtained the certification for the Integration of Informatization and Industrialization Management System.

2024
Enhance

CNAS Laboratory Accreditation

HCUN's monolithic inductor has received Qualcomm certification

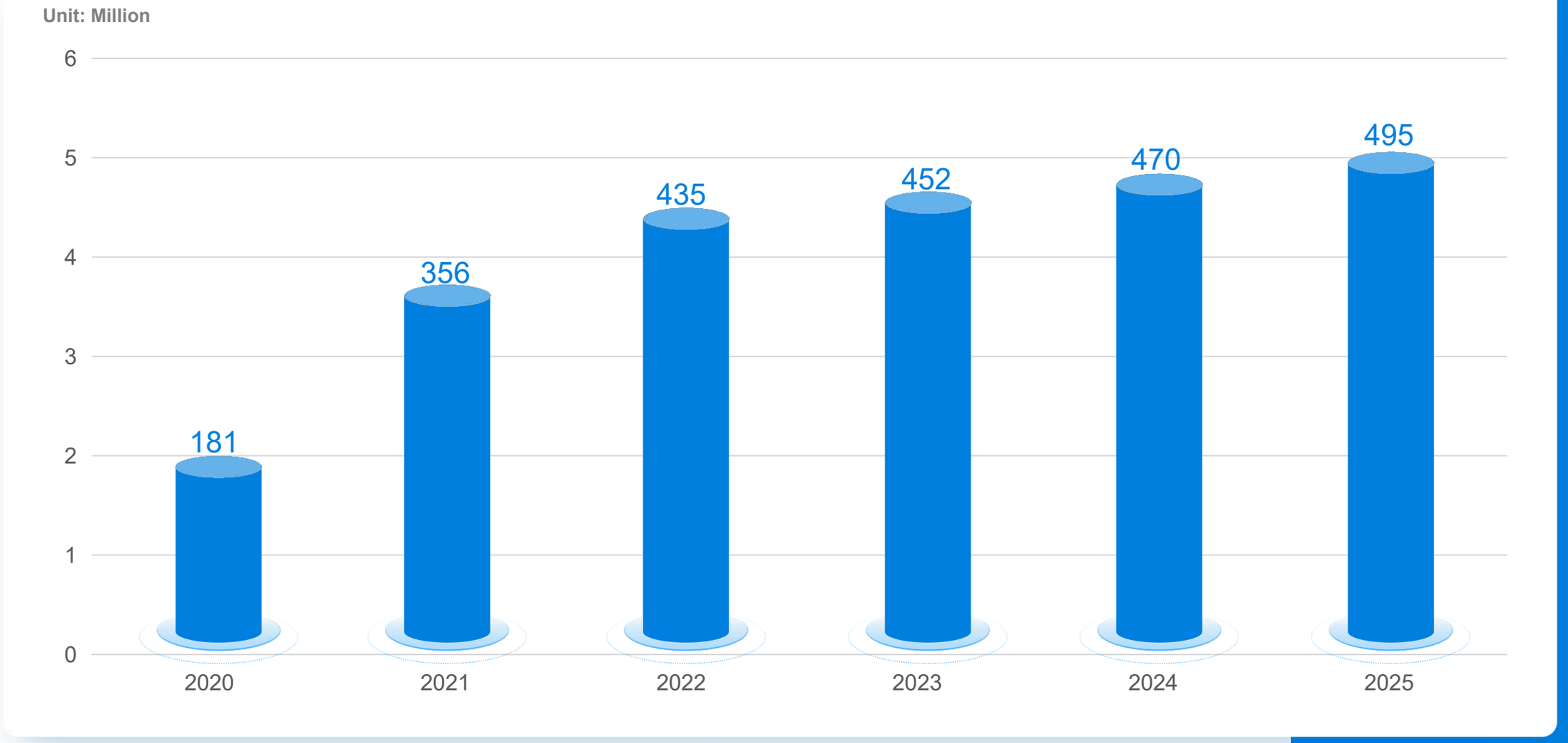
Hunan Province's Scientific and Technological Innovation "Leading Plan"

Hunan Province: Key Enterprises in the Electronic Information Manufacturing Industry for 2024; Hunan Province's Single Champion Enterprises in Manufacturing.

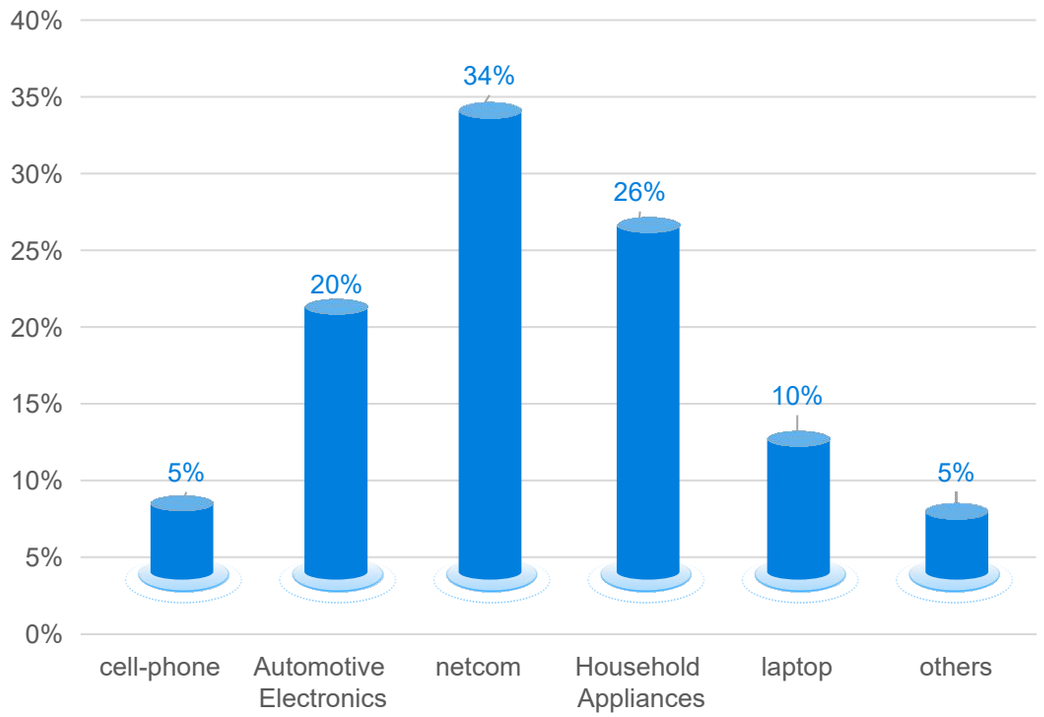
2025
Gather strength

In collaboration with Rongyi Investment and Shanghai Zihuaguang Electronic Technology Co., Ltd., we have secured strategic investment to jointly pioneer new frontiers in the domestic production of high-end electronic components.

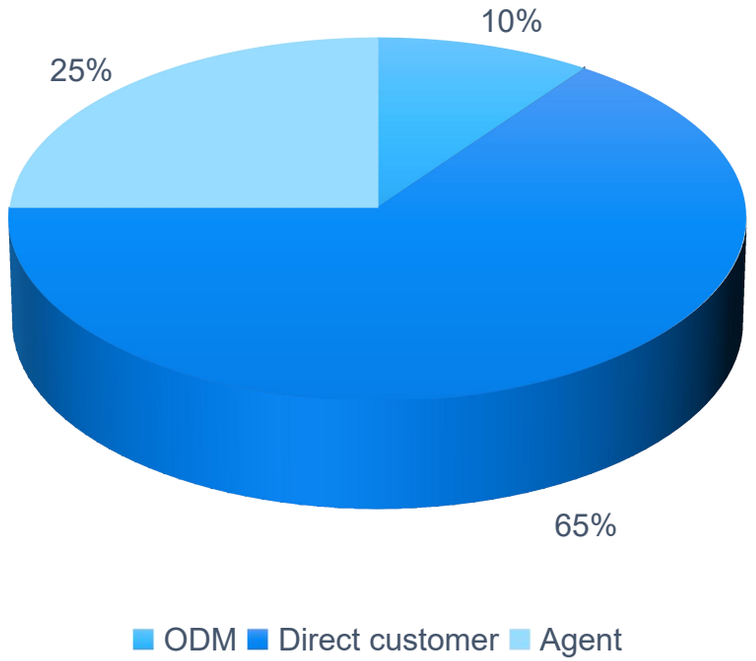
Company Revenue



Company Revenue



Industry Classification / Revenue Share



Customer Type

PRODUCT INTRODUCTION

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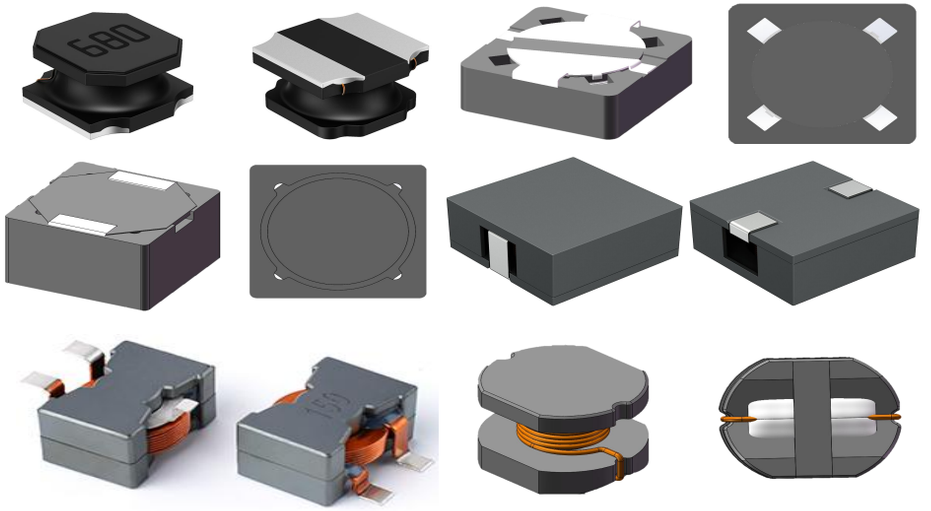
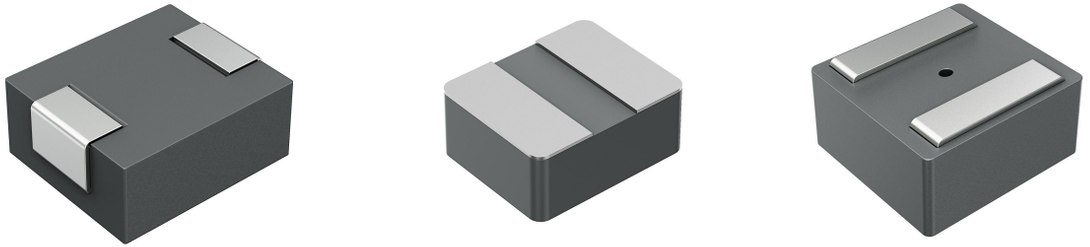
SMD Power Inductors



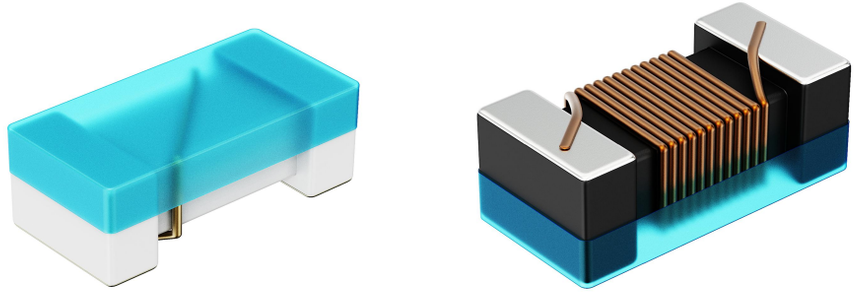
Integrated Molding for High Current



High Frequency Trans former



High-Frequency Inductor



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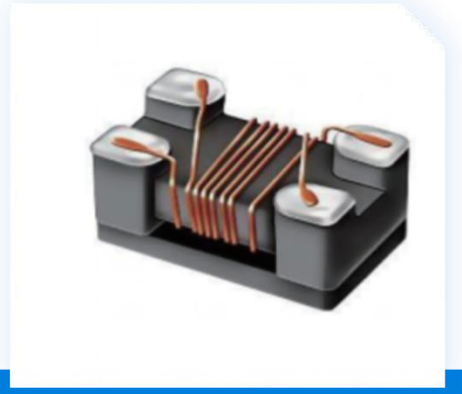
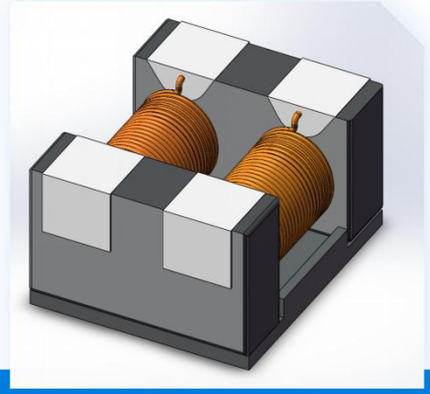
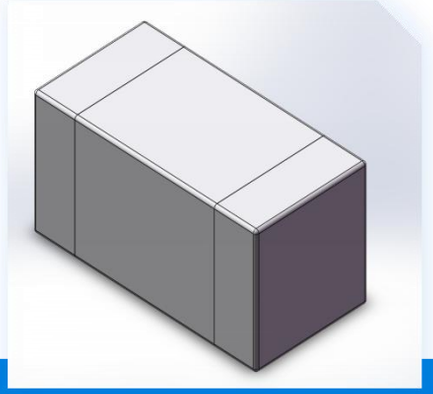
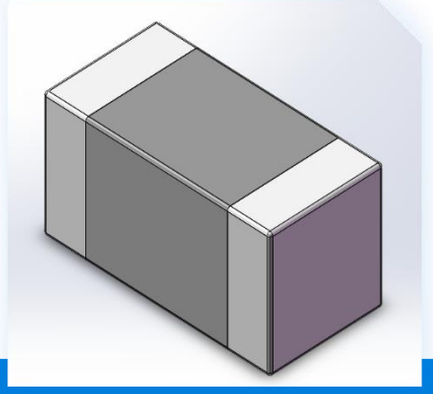
Wire-Wound Inductor Ferrite Bead





SMD Common-Mode Inductor





Multilayer inductor， ferrite bead

INDUCTOR FOR AUTOMOTIVE APPLICATIONS

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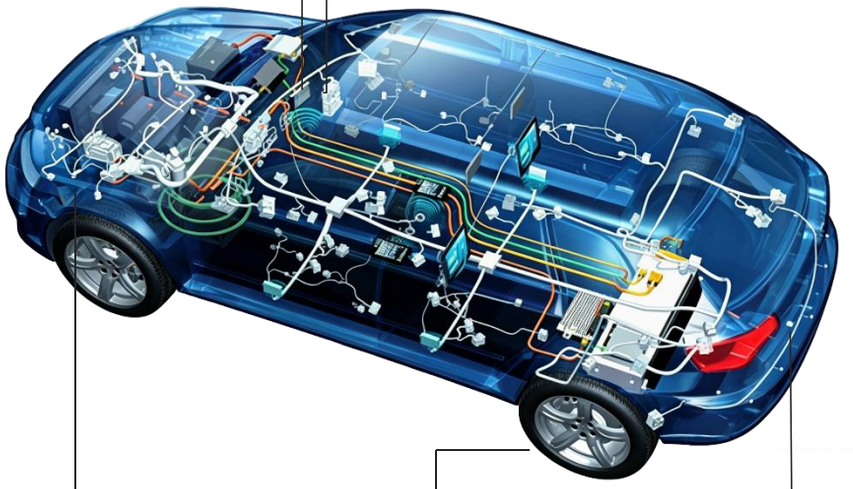
Audio and Entertainment T-Box

Multilayer(HFF/HMB)

Wire-winding(HDR/HBF/HFC)

HMG

Molding(HRB/HFB)



ADAS

Multilayer(HFC/HFF/HMB)

Wire-winding(HDR/HBF)

HMG

Molding(HRB/HFB)



Power-assisted Steering

Multilayer(HFF/HMB)

Wire-winding(HDR/HBF/HMG)

Tire Pressure

Multilayer(HFC/HFF/HMB))

Vehicle lamps

Wire-winding(HDR/HBF/HMG)

Multilayer(HFF/HMB))

Flagship Product-Large-size Flat Wire MOLDING

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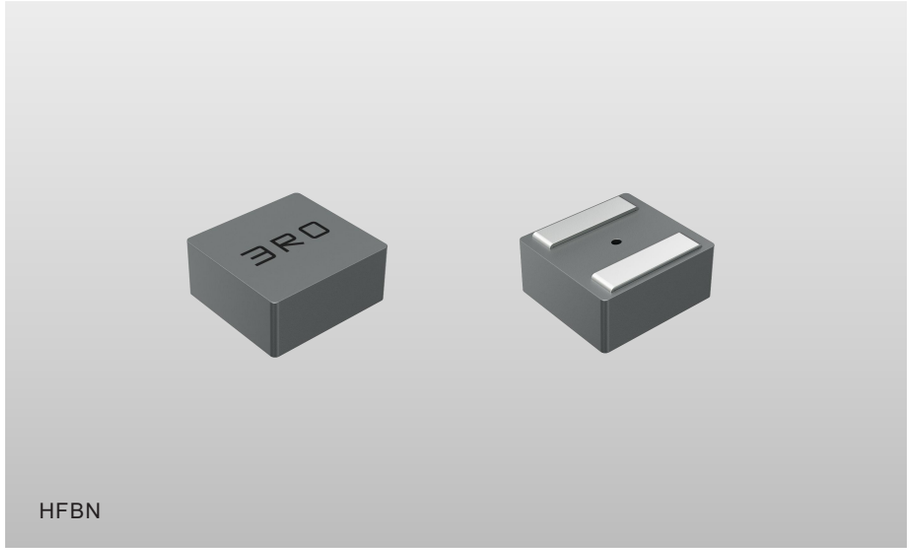
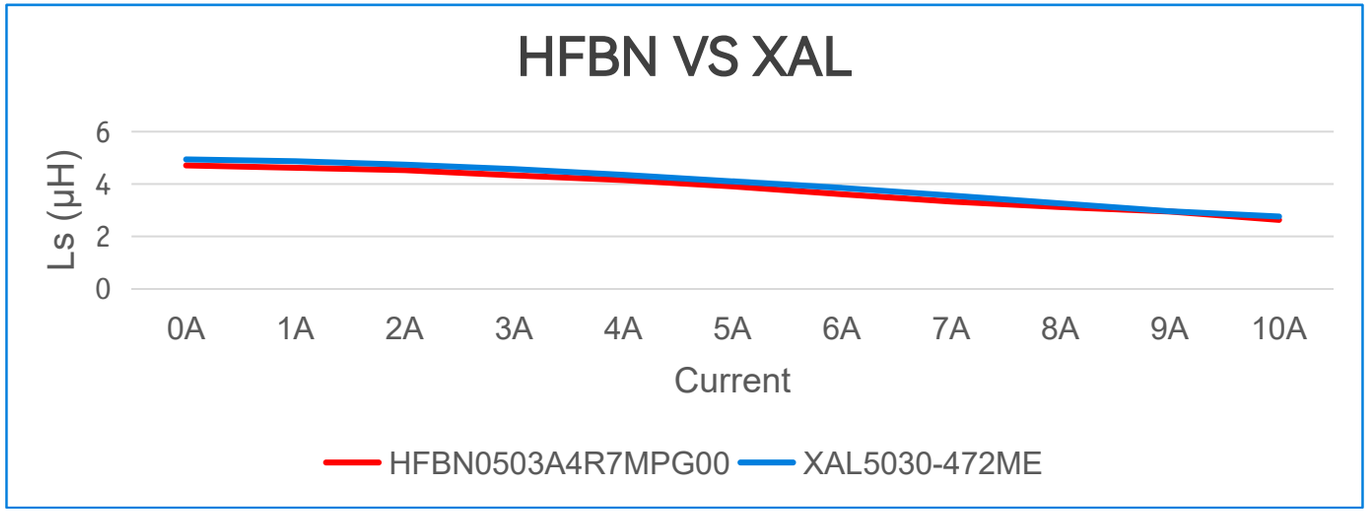
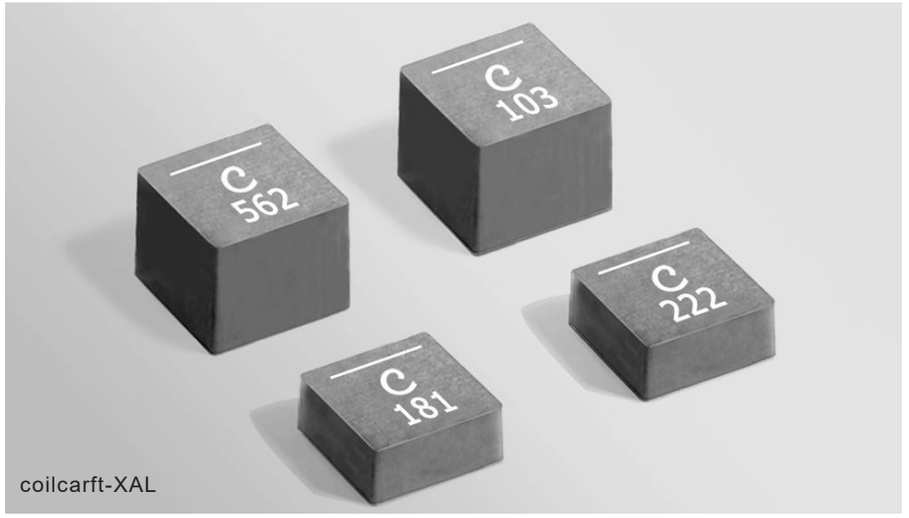
Taking the HFBN0503A4R7MPG00 as an example, compare it with the XAL5030-472ME.

Maker	Part Number	L (μH)	DCR (mΩ)		Isat (A)	Irms (A)
		±20%	max	typ	typ	typ
HUASUN	HFBN0503A 4R7MPG00	4.7	36.3	33	7	5.9
Coilcraft	XAL5030-472ME	4.7	40	36	6.7	5.9



HFBN





coilcarft-XAL

Flagship Product-Large-size Flat-wire MOLDING

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Large-sized flat-wire hot-press molding inductor: Product iteration and upgrade

First-Generation HFBN-PN



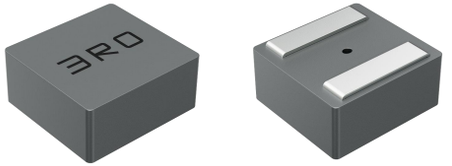
Regular

Second-Generation HFBN-PG



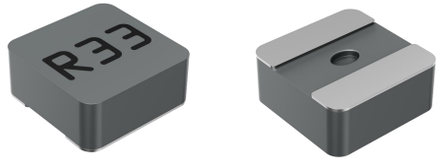
1.The coating enhances rust resistance.
2.Electroplated terminals, optimized flatness

Third-Generation HFBN-PG



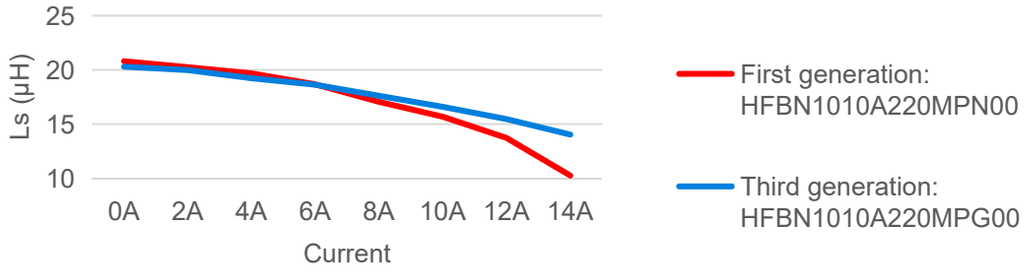
Current increased by 20%

Fourth-Generation HFSN-PG

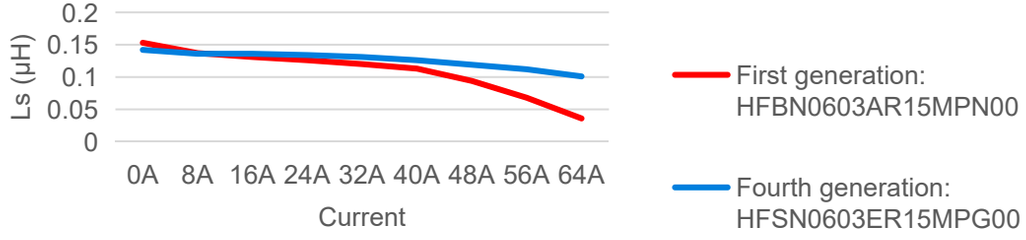


1. Current increased by 40%
2. Thinning
3. Low DCR

Generation 1 Vs. Generation 3



Generation 1 Vs. Generation 4



Flagship Product-Small-sized Flat Wire MOLDING

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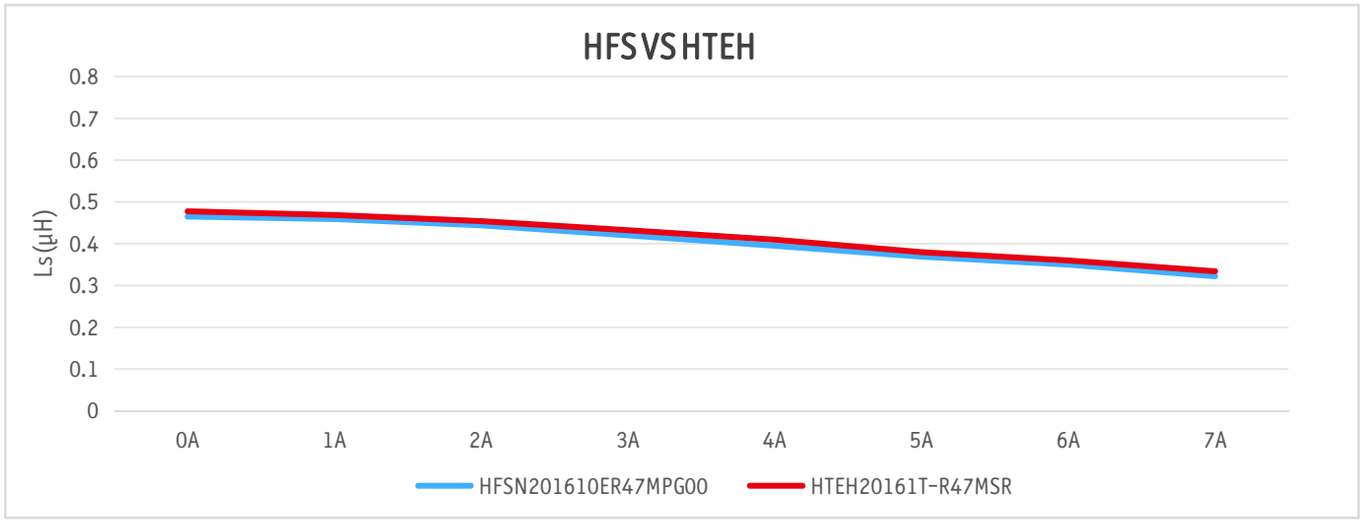
Taking HFSN201610MR47MPG00 as an example, compare it with HTEH20161T-R47MSR.

Maker	Part Number	Inductance(μH)	DCR（mΩ）		Isat(A)		Irms(A)	
			Max	Typ	Max	Typ	Max	Typ
HUASUN	HFSN201610MR47MPG00	0.47	22	17	5.8	6.3	4.8	5.4
Cyntec	HTEH20161T-R47MSR	0.47	22	18	5.8	6.3	4.8	5.4





Dual-Coil Integrated Molding Inductors, HUMC series

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I. Product Overview

- To meet the automotive-grade digital amplifier's requirements for low inductor losses, high efficiency, and compact size—particularly ensuring excellent electrical performance under high-frequency operating conditions—Huasun has recently launched the HUMC series, a two-in-one automotive-grade digital amplifier inductor.
- The HUMC series employs low-loss core materials to achieve minimal distortion and superior sound quality, featuring low core loss, low DC resistance, and high saturation current. Its magnetic shielding structure enhances electromagnetic interference resistance, while the two-in-one design significantly reduces PCB footprint, meeting the demands of compact automotive electronics solutions.
- Dual-Coil Integrated Molding Inductors currently offer three series: HUMC0677, HUMC0809, and HUMC1010. The inductance values range from 1.0 to 22.0 μH, with temperature rise currents of 2.2 A to 13.0 A and saturation currents from 4.3 A to 50.0 A.

II. Product Features

1.The 2-in-1 structure saves installation space and meets the requirements for compact design.

2.Magnetic shielding structure with strong electromagnetic interference (EMI) resistance.

3.Optimal design achieves high sound quality and low distortion.

4.Operating temperature: -55°C to +155°C (including coil heating).

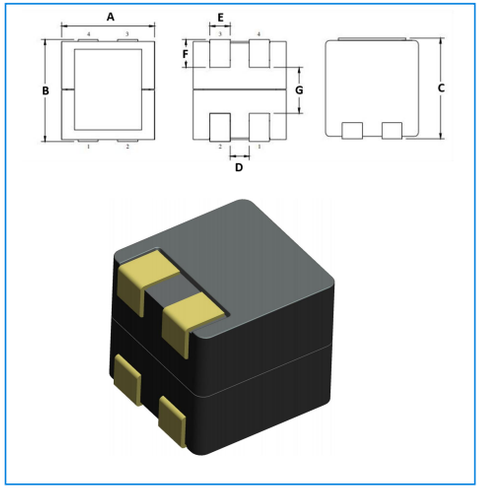
5.Dealing with high transient current peaks without saturation.

6.Complies with the AEC-Q200 standard.

三、产品应用



IV. External dimensions (Unit: mm)



TYPE	A	B	C	D	E	F	G
HUMC0677	6.9+0.4	7.6+0.4	7.3+0.3	1.6+0.3	1.65+0.3	2.0+0.5	3.4TyP
HUMC1010	10.2+0.4	9.2+0.4	10.85+03	2.4+0.3	2.5+0.3	2.65+0.5	4.3TyP

PoC Inductor for Automotive Digital Communication

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Development Background and Objectives

- In traditional vehicle camera systems, power and signal cables operate independently. With the advancement and optimization of ADAS systems, the number of devices in sensor and camera systems has increased significantly—particularly within the vehicle's multimedia and information communication LAN. Multiple camera modules can now be deployed not only at the rear but also on the sides and front, directly leading to an increase in the number of cable harnesses. Since the weight of these harnesses directly impacts fuel consumption, the technical solution to reduce cable count—Power over Coaxial (PoC)—has emerged.
- PoC is a coaxial control technology that integrates video and power signals while superimposing the power signal, enabling simultaneous transmission of both during cable routing and fuel consumption reduction. To ensure high-quality and efficient transmission, PoC inductors must possess broadband high impedance, high saturation current, and low DCR characteristics to filter out video noise across the MHz to GHz frequency range.



Product Features

1. Broadband with high impedance, high saturation current, and low DCR.
2. High reliability and stability, compliant with AEC-Q200 certification.
3. The unique winding method enables compact surface mounting.
4. The range for video noise filtering spans from MHz to GHz.
5. Excellent DC superimposition performance.

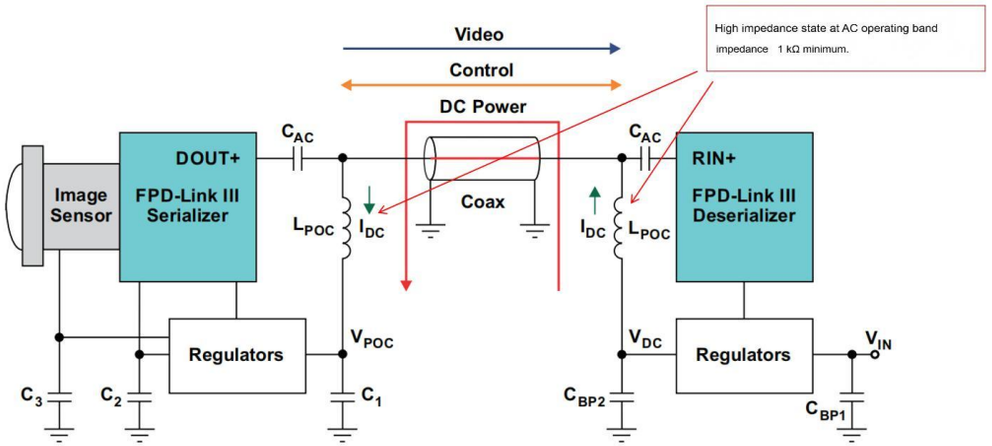
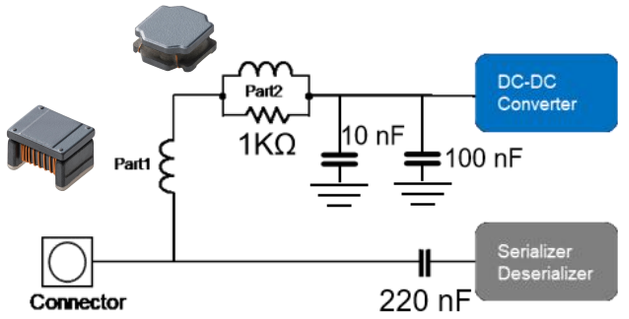
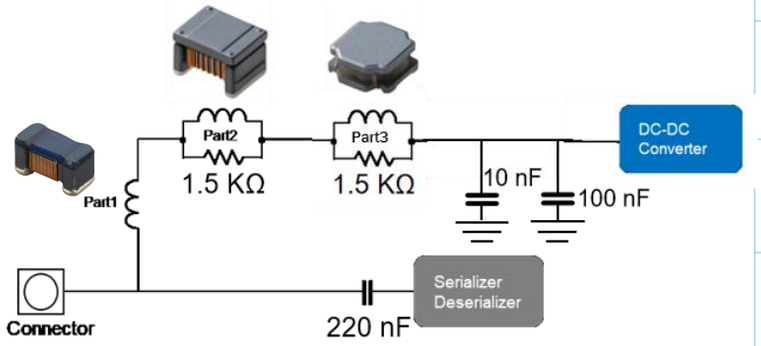


Figure 2. Block Diagram for Sharing Signal and DC Power on One Cable

Huasun PoC Solution

Solutions	Combination Schematic Diagram	Recommended Inductor Models	
Order 2		L1	HBWC2012N2R2MP00
		L2	HMGC4015S2101M00
		Others	C1(220 nF), C2(10nF), C3(100nF), R(1KΩ)
Order 3		L1	HNWC1608NR65JP00
		L2	HBWC3225N470MP00
		L3	HMGC4018S4101M00
		Others	C1(220 nF), C2(10 nF), C3(100 nF), R1(1.5 KΩ), R2(1.5 KΩ)

Magnetic shielding high-frequency inductor

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I. Development Background and Objectives

Currently, due to spatial constraints and the effects of strong magnetic fields, smart wearable devices such as TWS earphones and watches are increasingly concerned about magnetic interference. To enhance the inductors EMI resistance and reduce magnetic interference with surrounding components, Huasun has developed the HMWN series of fully magnetically shielded wound-in-slice inductors using a two-stage dispensing coating process, significantly improving the products' EMC performance.

II. Product Features

1. Magnetic shielding enhances EMC performance.
2. Low DCR and ACR, low power consumption, and extended battery life.
3. High magnetic permeability, high saturation current.
4. Miniaturized design saves space.

III. Product Applications

1.Smartwatches,TWS earphones, wristbands, etc.

2.High-end smartphones,tablets, etc.

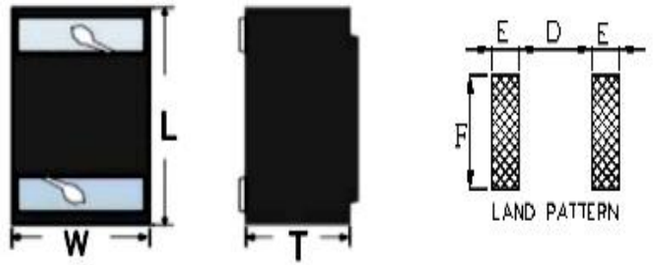
3.Small portable medical device.



IV. Product Appearance & Dimensions



1. Product 3D Appearance View



2. Product Dimension View

TYPE	L	W	T	D	E1	E2	F
HMWN1608N	1.6±0.2	0.9±0.3	0.9±0.2	0.64Typ	0.64Typ	0.64Typ	1.2Typ
HMWA1608A	1.6±0.2	0.9±0.3	0.9±0.2	0.64Typ	0.64Typ	0.64Typ	1.2Typ

Transfer injection molding inductor

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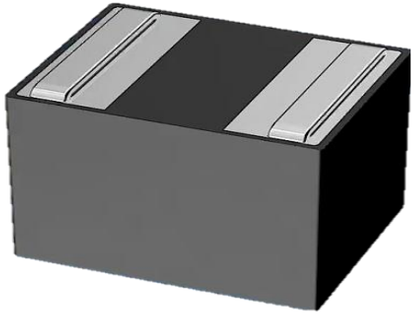
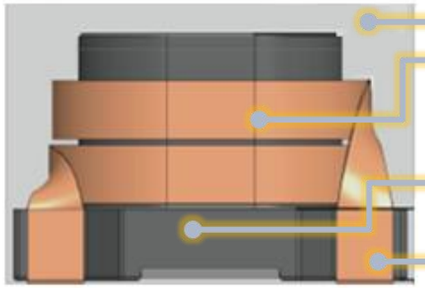
The transfer molding inductor, also known as the pressure-free molding inductor, is a novel inductor device fabricated using semiconductor packaging and testing processes (transfer molding). It integrates the coil and T-core outer layer directly into a single unit with magnetic plastic encapsulant without applying external pressure.





Transfer injection molding material

(Metal alloy powder + low-temperature epoxy resin)

Flat copper wire

(Horizontal + Vertical Winding)

Sintered T-Core

Ui: 85-100

(Ultra-high hardness & ultra-high permeability (μi) of core body)

Bs:1.40T

Wire-as-Pad

(High reliability)

Key Property

- Alloy Soft Magnetic Material Packaging Structure
- Temperature range: -55°C to 165°C
- Frequency range: 100 kHz–10 MHz
- Complies with AEC-Q200
- High application voltage (> 70 V), ESD> 2 kV
- Ultra-low resistance(over 40% lower than the traditional T-core flat-line hot-and-cold pressing process)
- Ultra-wide L value range

Winding Method



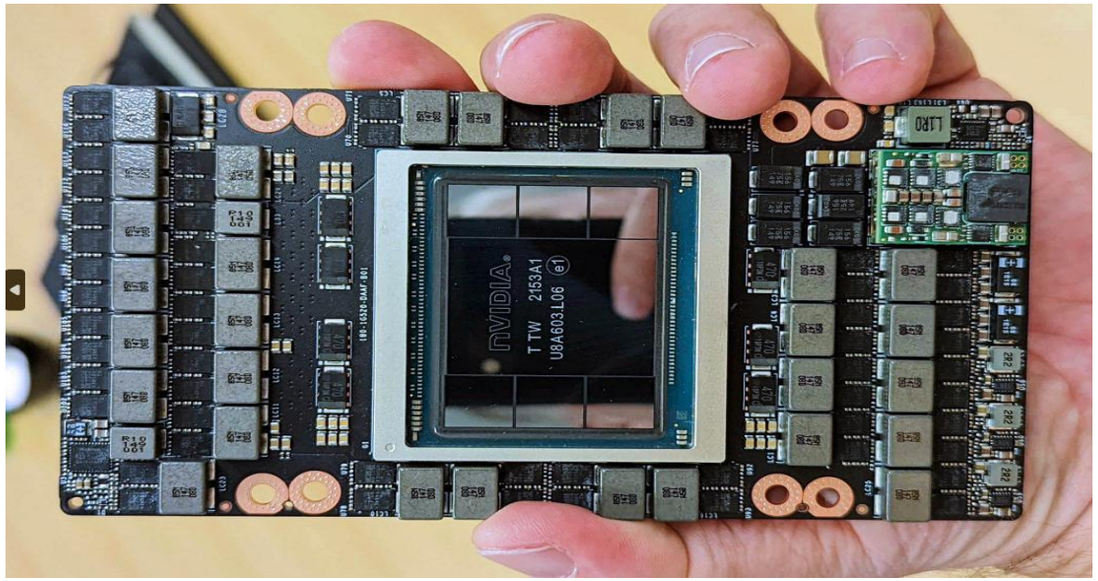
1. Horizontal Winding (Ultra-low DCR + Ultra-high Current)

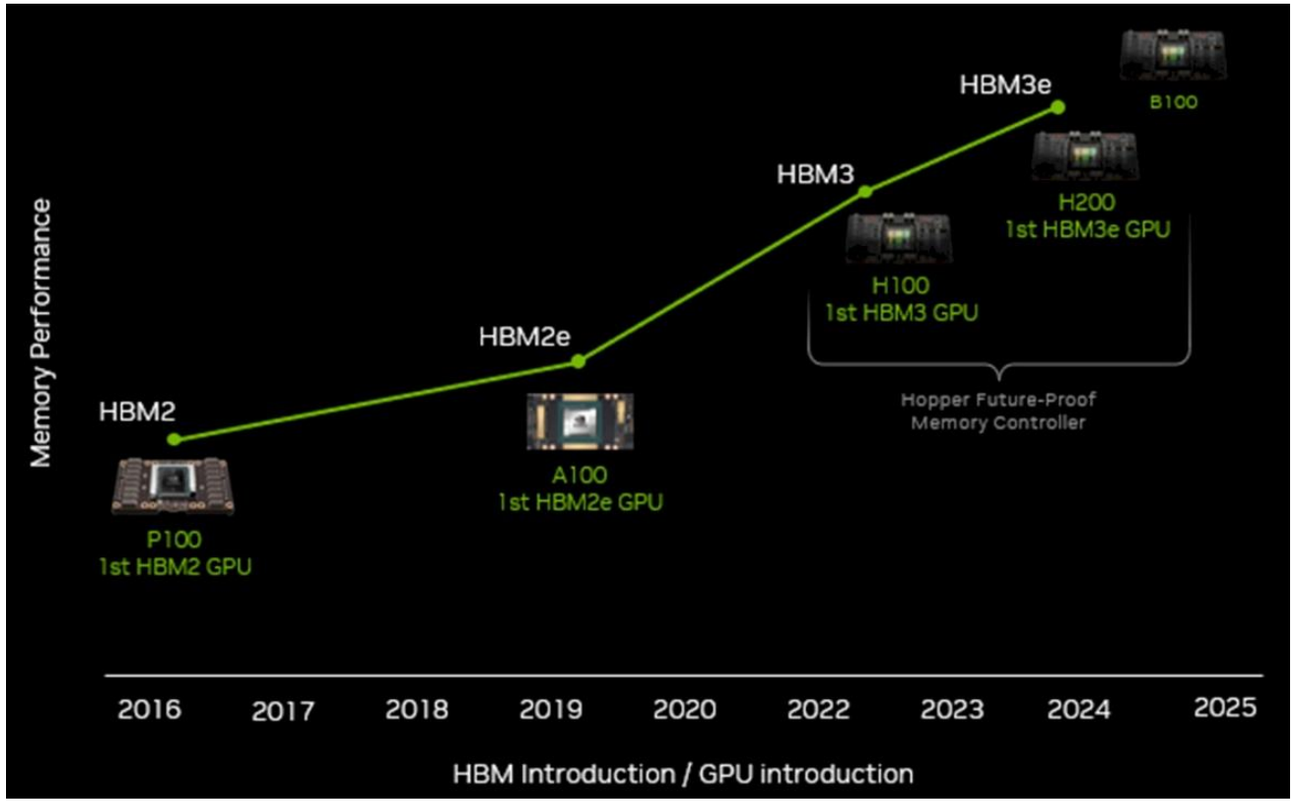


2. Vertical Winding (Ultra-high Inductance)

I. Product Introduction

II. Product Application – Serve





In recent years, with the rise of AI, various large-scale model training applications have required massive amounts of high-performance GPUs, driving up the demand for chips and passive components compatible with artificial intelligence algorithms.

Taking NVIDIA's H100 GPU chip as an example, its official selling price per chip reaches $35,000 (approximately RMB 250,000), and in the China market, prices have surged to over RMB 300,000 per chip despite persistent supply shortages. Calculated by weight, the unit price of the H100 chip is now comparable to that of gold.

Each H100 chip incorporates 31 combined high-current inductors, with each inductor priced at approxim- ately USD 0.7 (about RMB 5 per unit). Market analysts predict that NVIDIA's H100 chips alone will require 620,000 units in 2024, generating a market value of RMB 310 million.

The transfer injection molding process offers distinct technical advantages in producing such inductors due to its pressure-free forming technology.

NVIDIA's High-end GPU Plans from 2021 to 2025

Product	2021	2023E	2024F		2025F
GPU (x86)	A100	H100	H200	B100	X100
CPU+GPU (Arm)	--	--	GH200	GB200	GX200

Source: TrendForce, Nov., 2023

III. Product Applications – Automotive Electronics



Smart Seat



Smart Cockpit



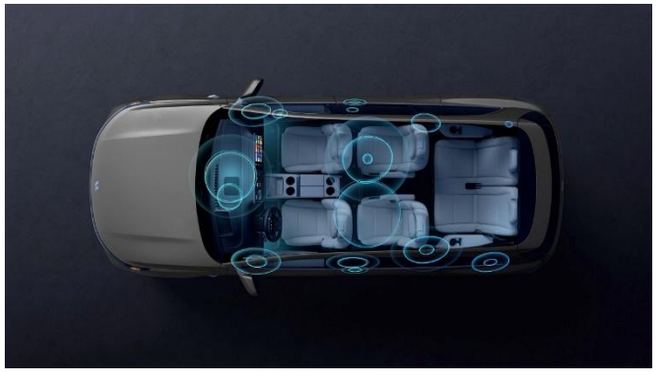
Intelligent Driving



Car Headlights



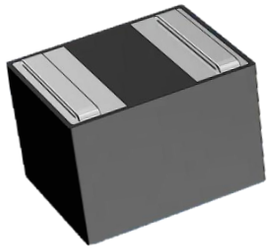
In-vehicle interactive entertainment system



Car Audio

IV. Product Comparison – Characteristics and Advantages of Transfer Molding Products

Automotive ADAS (Advanced Driver Assistance Systems) Platform Testing

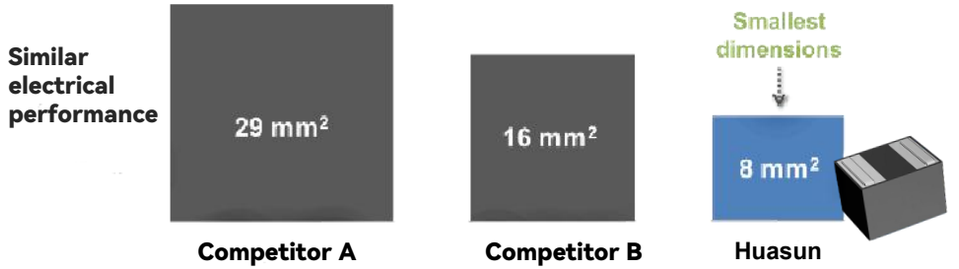


Huasun 3225 Series Products

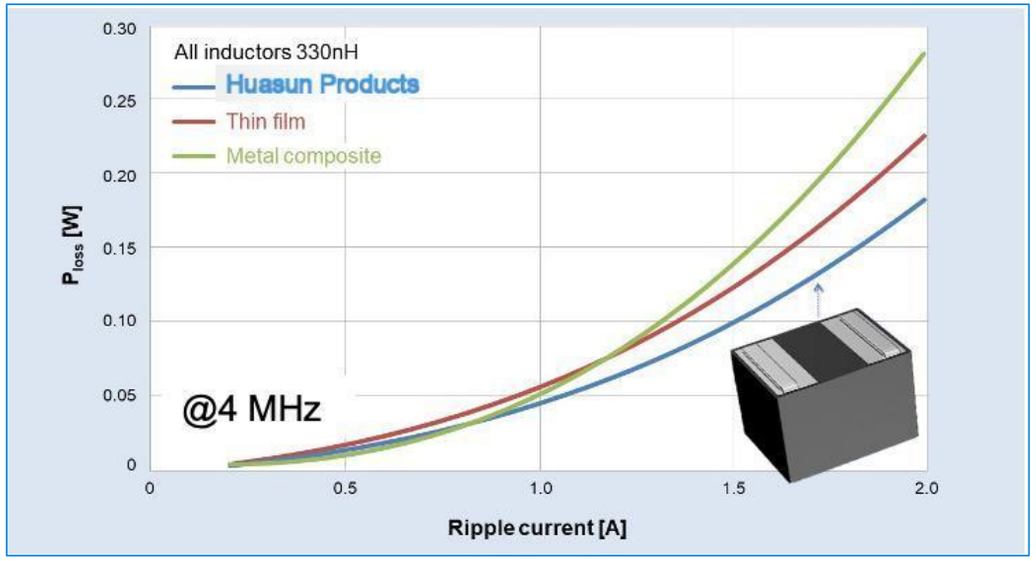
Minimum product size **Ultra-high conversion efficiency**

In efficiency tests compared with products from the world's top inductor supplier (Coil*****), Huasun's products demonstrated clear advantages, featuring significantly smaller dimensions.

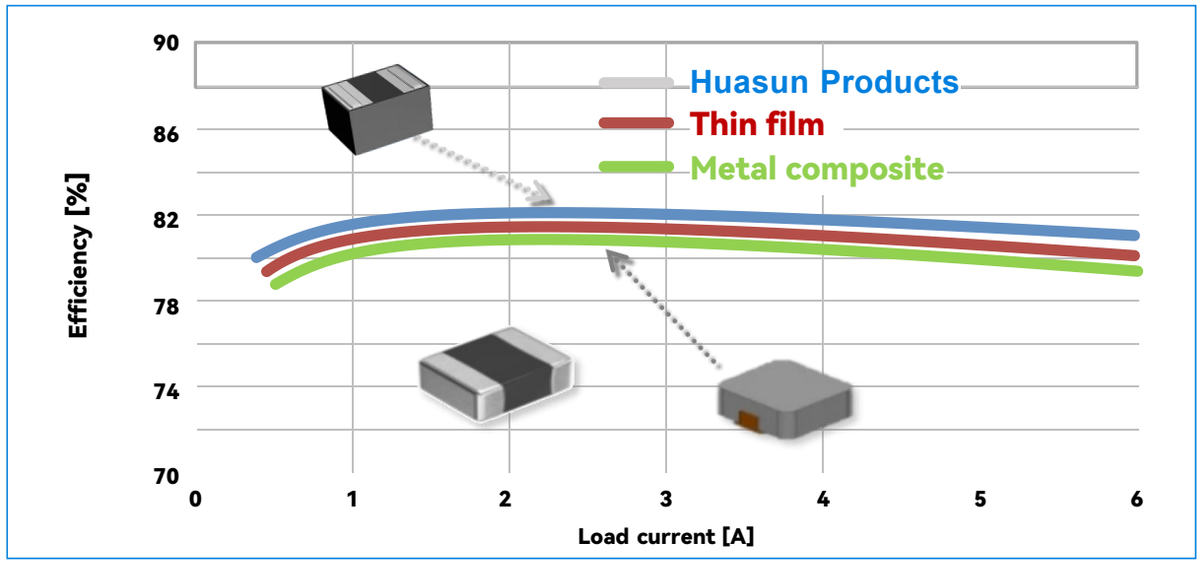
Optimal Energy Density



Lower AC losses vs conventional metal composite

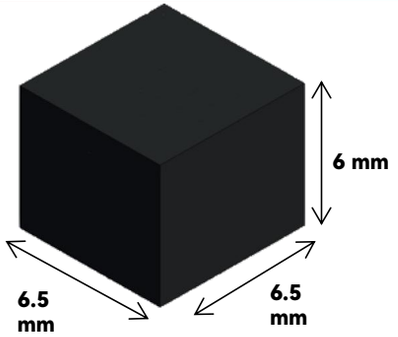


Lower losses vs competition



V. Product Comparison-Characteristics and Advantages of Transfer Injection Molding Products—Loss Comparison Test

Competing product (254mm³/42mm²)

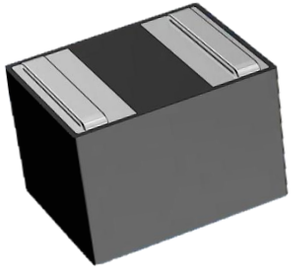


Coilcraft➔ (XGL6060-220nH)
(254mm³/42mm²)

RDC~1.22 mOhms

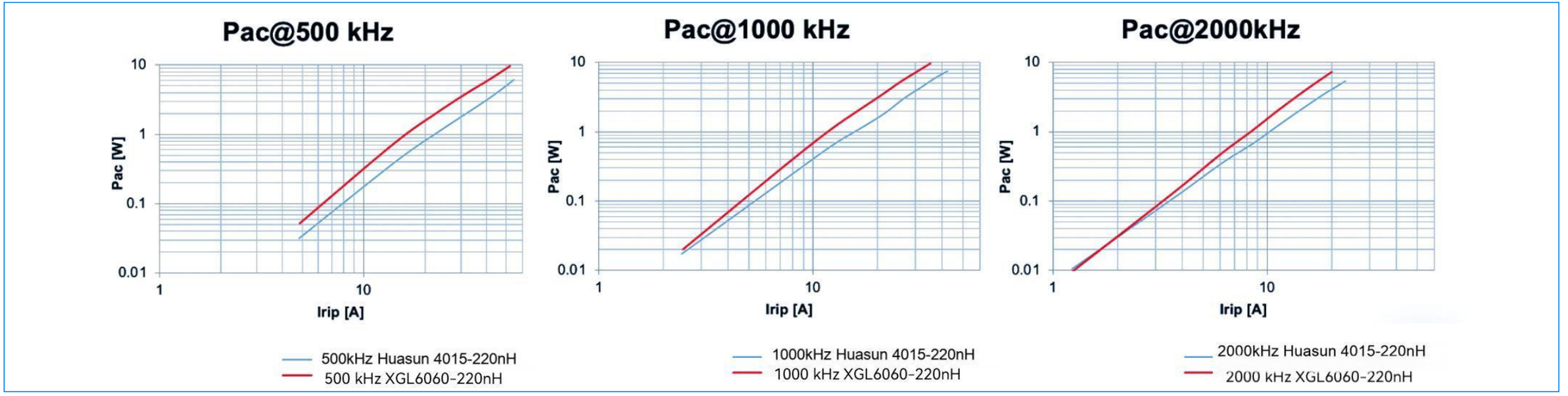
VS

Huasun (24mm³/16mm²)



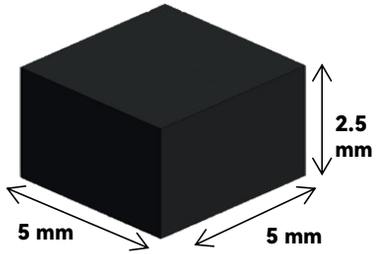
Huasun 4015-220nH
24mm³/16mm²

RDC~1.61 mOhms

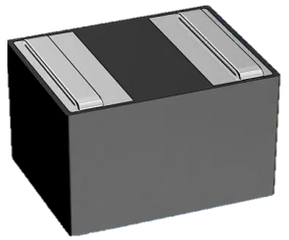


VI. Product Comparison-Characteristics and Advantages of Transfer Injection Molding Products-Loss Comparison Test

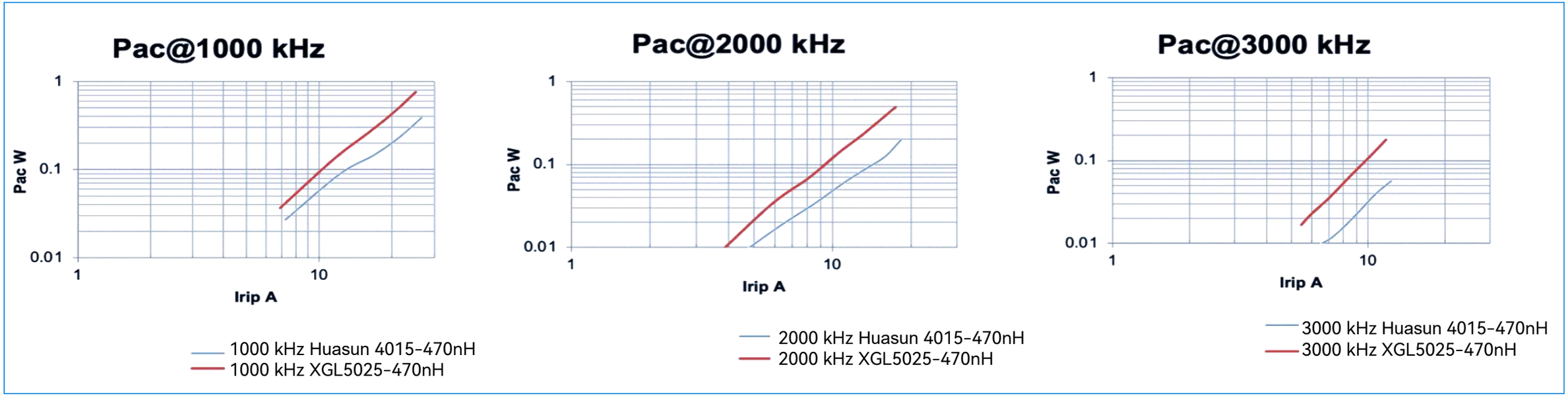
Competing product（63mm³/25mm²） VS **Huasun（24mm³/16mm²）**



Coilcraft➔ (XGL5025-470nH)
(63mm³/36mm²)



Huasun 4015-470nH
24mm³/16mm²



Partner Clients

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AI Server	inspur 浪潮 · 中科曙光 Sugon · MEGMEET · 金升阳 MORNSUN®
Semiconductor	Ambarella™ · AMD · Texas Instruments · 地平线 Horizon Robotics
Network Eqpt.	ARRIS · CISCO · T&W · USI · PEGATRON · COMMSCOPE · SERCOMM · FOXCONN · RUCKUS an ARRIS company
Home TV	Hisense · CVTE Dream·Future 视源股份 · SKYWORTH 创维 · PHILIPS · BOSCH · Midea TCL · AAC Technologies
PC	AiSTONE 智通国际 · wistron® · Quanta Computer · hp · BITLAND · ASUS
Mobile Device	天珑 TIAN LONG · 龙旗控股 · HUAQIN 华勤技术 · WINGTECH 闻泰科技
CAR	JOYNEXT 均联智行 · 长安汽车 CHANGAN AUTO · 诺博汽车 NOBO AUTO · 理想 · ZEEKR · HARMAN A SAMSUNG COMPANY · SVOLT 蜂巢能源 · 赣锋锂业 GanfengLithium

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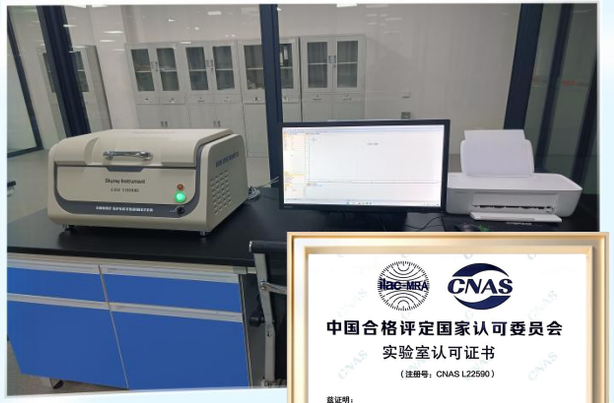







中国合格评定国家认可委员会

实验室认可证书

（注册号：CNAS L22590）

兹证明：

湖南华晟电通科技有限公司检测中心

（法人：湖南华晟电通科技有限公司）

湖南省怀化市芷江侗族自治县罗旧镇（县工业集中区）E 栋

1 楼，419102

符合 ISO/IEC 17025：2017《检测和校准实验室能力的通用要求》（CNAS-CL01《检测和校准实验室能力认可准则》）的要求，具备承担本证书附件所列服务能力，予以认可。

获认可的能力范围见标有相同认可注册号的证书附件，证书附件是本证书组成部分。

生效日期：2025-02-24

截止日期：2031-02-23

中国合格评定国家认可委员会授权人 张朝华

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China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L22590)

Hunan HuaSun M&E Technology Co., Ltd. Testing Center.

(Legal Entity: Hunan HuaSun M&E Technology Co., Ltd.)

1/F., Building E, Luojiu (Industrial Concentration Area), Zhijiang, Huaihua, Hunan, China

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Effective Date: 2025-02-24

Expiry Date: 2031-02-23

Signed on behalf of China National Accreditation Service for Conformity Assessment 张朝华

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PRODUCTION EQUIPMENT

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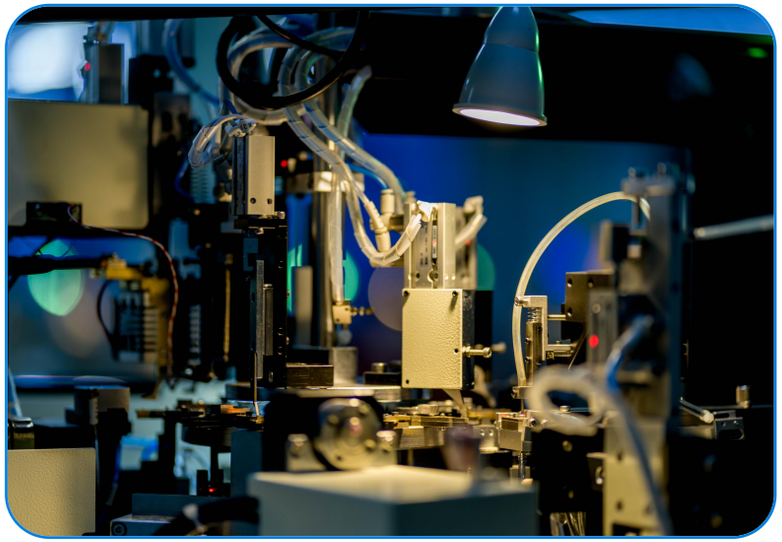







PRODUCTION EQUIPMENT

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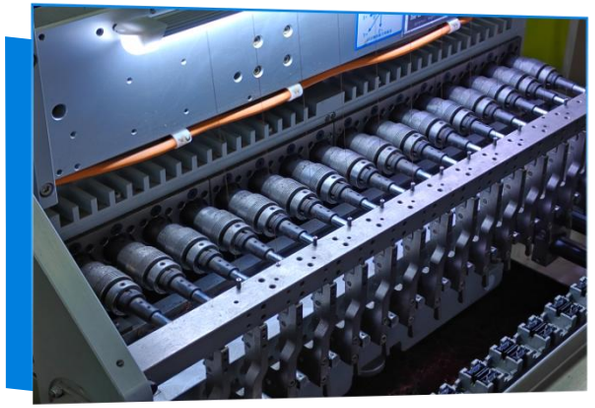

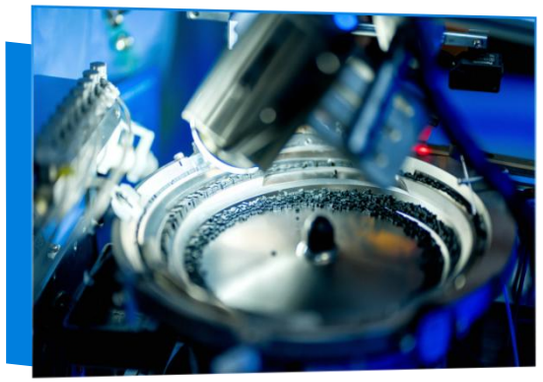





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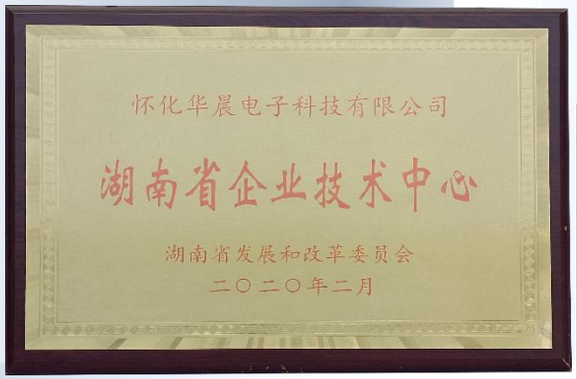





Qualification Certificate

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PATENT CERTIFICATE

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A total of 41 patents were disclosed, including one PCT patent from the United States and Europe.



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TO SUPPLY FIRST CLASS PRODUCTS

THANK YOU!

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