



# King Magnetics

**High Performance  
Amorphous and Nanocrystalline Cores**  
高性能非晶、纳米晶磁芯



珠海市兴磁科技有限公司  
Zhuhai King Magnetics Technology Co., Ltd.

## 公司简介 Company Profile

珠海市兴磁科技有限公司成立于 2014 年，位于珠海市高新区，主要从事非晶、纳米晶磁芯及磁性元器件的设计、开发、生产和销售。

公司拥有先进的生产设备和测试仪器，不断探索先进的生产技术，我们生产的磁芯性能高，一致性好以及稳定性高，达到行业领先水平。

我们专注于非晶、纳米晶磁性材料的创新研发，可以为客户设计特殊的磁芯及元器件，为客户提供最佳的应用方案，可以按照客户图纸及要求进行产品定制。我们的产品经过 100%测试后再出货，持续为客户提供优质可靠的非晶、纳米晶磁芯产品。

Zhuhai King Magnetics Technology Co., Ltd. locates at Zhuhai High Technology Zone, mainly engaged in development, production and sales of nanocrystalline and amorphous materials, ribbons, cores and components.

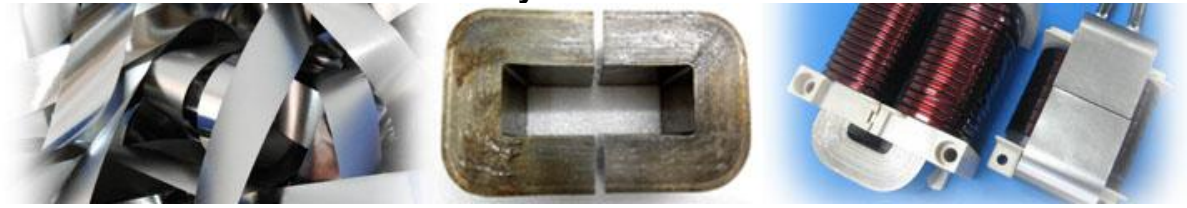
Our company has advanced production equipments and precision test instruments. We have annual production capacity of ten million pieces of nanocrystalline and amorphous cores. Thanks to advanced production technology and production management system, our nanocrystalline and amorphous cores are high quality, high performance, good consistency and high stability.

We specialize in research of innovative nanocrystalline and amorphous magnetic materials. We can design special nanocrystalline and amorphous cores and components for customers, and help customers develop the best application solutions. Our cores are 100% tested before shipping.

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## 纳米晶材料 Nanocrystalline Material



铁基纳米晶材料主要成份为铁、硅、硼、铜、铌，首先通过快速急冷技术，使高温熔融的钢水快速冷却，由于急速冷却使得晶粒来不及形成，从而形成非晶态的带材。随后通过纳米晶化热处理技术获得纳米晶磁芯。由于这个革命性的工艺，我们生产的纳米晶磁芯导磁性能优越，具备高饱和磁感应强度，极高的初始导磁率，低矫顽力，低铁损。纳米晶材料是一种绿色环保、低碳、高效、节能的新磁性材料。

纳米晶材料可以应用于共模电感，高频变压器，电流互感器，驱动变压器，网络变压器，磁珠，磁放大器，滤波电感，电抗器，PFC 电感等各种电子电力领域，现在广泛用于高频开关电源，家用电器，工业电气设备，通信电源，网络电源，光伏能源系统，风力发电，IGBT 逆变器，激光电源，医疗电源等产品。

Fe-based nanocrystalline material with composition of mostly Fe with Cu,Nb,Si,B, which first by rapid quenching technology to form amorphous ribbon, then by crystalline heat treatment to gain fine grains with nano scale. Through this revolutionary process, we can get superior magnetic properties with high saturation flux density, high initial permeability, low coercivity, low core loss. Nanocrystalline material is an environmental protection, green, low carbon, high efficiency new magnetic material.

Fe-based nanocrystalline material can be applied to cores for common mode chokes, high frequency transformers, current transformers, driver transformers, network transformers, bead cores, magnetic amplifiers, filter inductors, reactors, PFC chokes in various electrical and electronic area, now have been widely used in switched mode power supply, household electrical appliance, industrial electrical equipment, communication power supply, network power supply, solar energy equipment, wind power generator, IGBT inverter power supply, laser power supply and medical equipment power supply.

### 特性 Characteristics:

- > 高导磁率 - 提高电感量，减少绕线匝数  
High permeability -- increasing inductance and reducing winding turns
- > 高饱和磁感应强度 - 缩减器件的体积  
High saturation induction -- minimizing size of component
- > 高频应用 - 适用于频率范围 50Hz 至 100KHz  
High frequency -- suitable used in frequency range from 50Hz up to 100KHz
- > 高居里温度 - 更高的工作温度，可连续工作于高达 120℃  
High curie temperature -- higher working temperature, continuous working at up to 120℃
- > 低矫顽力 - 提高效率，减少磁滞损耗  
Low coercivity -- increasing the efficiency and reducing hysteresis loss
- > 低损耗 - 节能，低温升  
Low core loss -- reducing energy consumed and minimizing temperature rise
- > 低磁致伸缩系数 - 相关传统材料，具有更低噪声  
Low magnetostriction -- low audible noise compared to traditional magnetic materials
- > 优秀的温度稳定性 - 性能变化随温度变化小，在-20℃至 120℃温度范围内稳定性佳  
Excellent thermal stability -- extremely small deviations from -20℃ to 120℃
- > 低成本 - 替代传统坡莫合金，性能好，成本低  
Low cost -- good choice to replace traditional materials like permalloy

### 磁性能参数 Magnetic Properties:

- > 饱和磁感应强度 Saturation induction  $B_s$  -- 1.25 T
- > 饱和磁致伸缩系数 Saturation magnetostriction  $\lambda_s$  --  $2 \times 10^{-6}$
- > 居里温度 Curie temperature  $T_c$  -- 560 °C
- > 晶化温度 Crystallization temperature  $T_x$  -- 510 °C
- > 带材厚度 Ribbon thickness -- 18~25  $\mu\text{m}$
- > 密度 Density  $d$  -- 7.25  $\text{g/cm}^3$
- > 电阻率 Resistivity  $\rho$  -- 115  $\mu\Omega\cdot\text{cm}$
- > 维氏硬度 Vicker's Hardness  $H_v$  -- 880  $\text{kg/mm}^2$

非晶纳米晶磁芯与传统磁性材料的比较

**Magnetic Properties Comparison: Amorphous and Nanocrystalline VS Traditional Soft Magnetic Materials:**

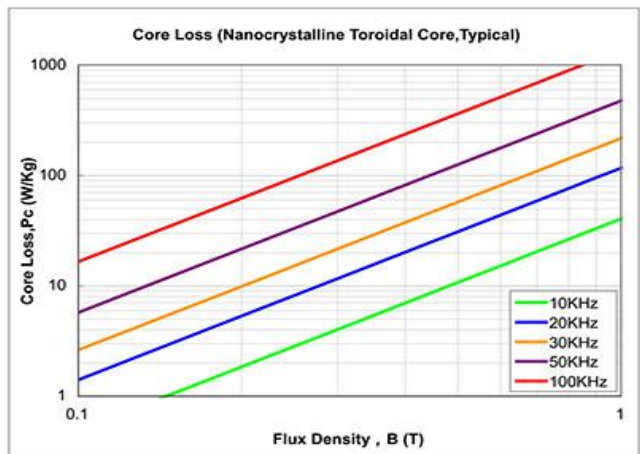
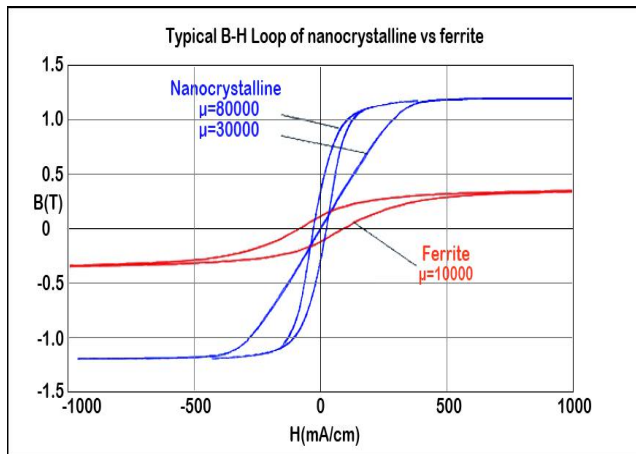
磁性能 Magnetic Properties	硅钢片 Fe-Si Steel	铁氧体 Mn-Zn Ferrite	坡莫合金 50Ni Permalloy	坡莫合金 80Ni Permalloy	钴基非晶 Cobalt-based Amorphous	铁基非晶 Fe-based Amorphous	铁基纳米晶 Fe-based Nanocrystalline
饱和磁感应强度 Saturation Flux Density Bs(T)	2.03	0.5	1.55	0.74	0.58	1.56	1.25
矫顽力 Coercivity Hc (A/m)	40	8	12	2.4	0.4	2.4	1.2
初始导磁率 Initial Permeability $\mu_i$	1500	3000	6000	40000	100000	5000	80000
最大导磁率 Max Permeability $\mu_m$	20000	6000	60000	200000	1000000	50000	400000
电阻率 Electrical Resistivity ( $\mu\Omega.cm$ )	50	$5 \times 10^7$	30	60	140	130	115
居里温度 Curie Temperature Tc(°C)	750	220	500	450	250	399	570

非晶纳米晶磁芯的应用

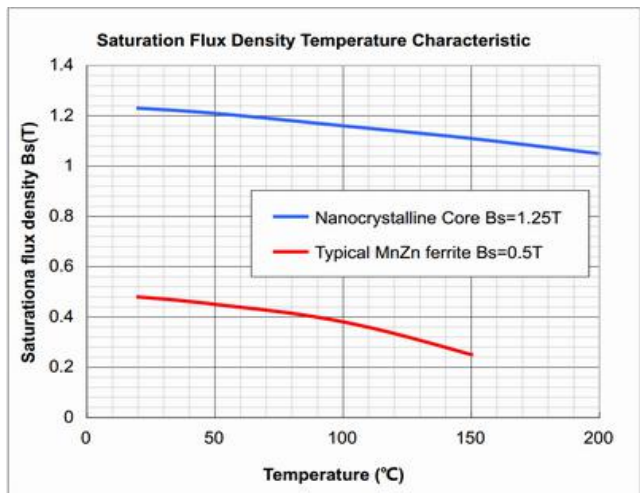
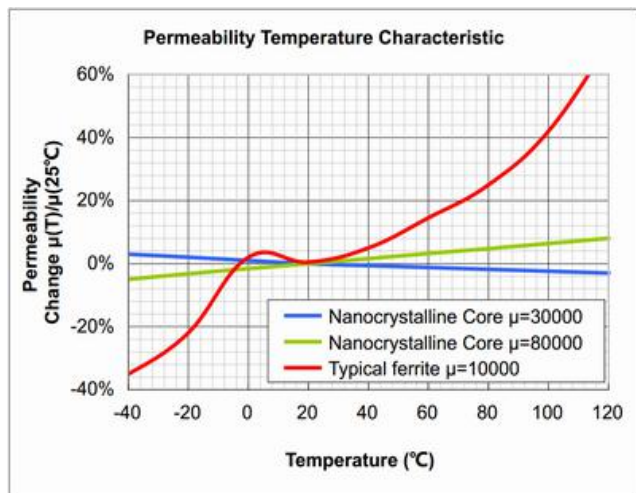
**Applications of Amorphous and Nanocrystalline Cores:**

应用 Application	铁基非晶 Fe-based Amorphous	钴基非晶 Co-based Amorphous	铁基纳米晶 Fe-based Nanocrystalline
EMC 共模电感, EMI 滤波器 EMC Common Mode Choke, EMI Filter			√
高频变压器 High Frequency Transformer			√
电流互感器 Current Transformer		√	√
磁放大器 Magnetic Amplifier		√	√
网络变压器, 驱动变压器 Network transformer, driver transformer		√	√
太阳能逆变电抗器 Solar Inverter Reactor	√		
汽车音响输出电感 Car Audio output inductor	√		
PFC 电感, 输出滤波电感 PFC choke, Out filter inductor	√		√

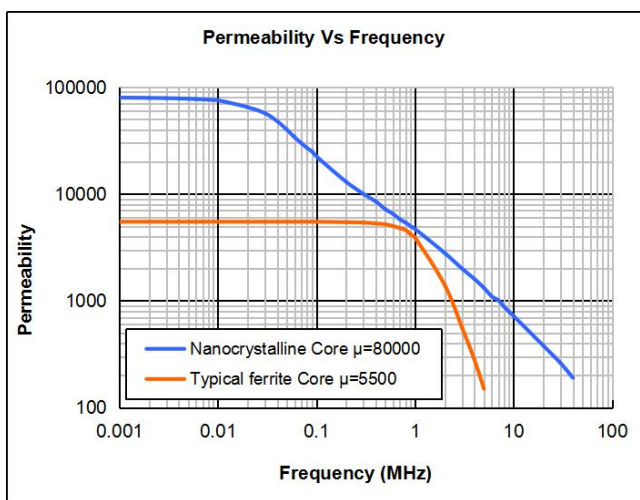
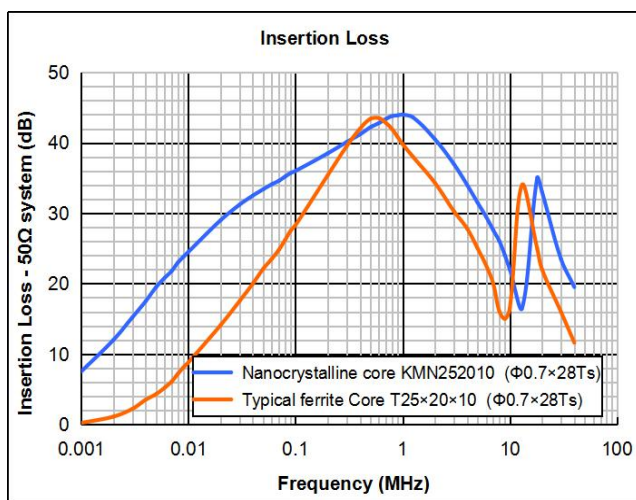
**典型磁滞回线及损耗特性 Typical hysteresis loop and core loss characteristics:**



**典型温度特性 Typical temperature characteristics:**



**典型频率特性 Typical frequency characteristics: Nanocrystalline core vs. Ferrite**



## EMC 共模电感用纳米晶磁芯 Nanocrystalline Cores for EMC Common Mode Chokes



非晶纳米晶技术是现代磁性材料的一项重要技术，兴磁科技通过这项技术的研发，已开发出了共模电感用的优质纳米晶磁芯系列产品。

纳米晶磁芯具有极高的导磁率，频宽特性好，非常适用于低频至 30MHz 的传导干扰噪声滤波。相比传统铁氧体，纳米晶具备以下优点：高电感量，良好滤波特性，体积小，绕线圈数少，高效节能。

纳米晶磁芯居里温度高达 560℃，而铁氧体只有约 200℃。高的居里温度使得纳米晶磁芯具有极好的温度稳定性，可以连续工作于 120℃ 环境。纳米晶磁芯是共模电感的首选材质。

Amorphous and nanocrystalline technologies are very important technology in modern magnetic materials, cores and inductive components. After long term experiment and development, King Magnetics has developed series of high quality nanocrystalline cores for common mode chokes.

Nanocrystalline cores have very high permeability over low frequency to high frequency. They are very suitable for common mode chokes used as EMC filters to suppress conducted common mode noise. Compared to traditional ferrite cores, nanocrystalline cores have a lot of advantages as high inductance, good filter effective, small size and volume, lower turns of copper wire, lower power consumption and high efficiency.

Nanocrystalline cores have very high curie temperature about 560℃, much higher than traditional ferrite core about 200℃. High curie temperature make nanocrystalline core excellent thermal stability, and can continuous working at up to 120℃ environment. Nanocrystalline cores is the best choice for application of common mode choke.

### 应用 Applications:

- > EMC 共模电感、滤波器 EMC common mode choke, EMI Filter
- > 开关电源 Switched mode power supply
- > 计算机及服务器电源 Computer power supply, server power supply
- > 通信及网络电源 Communication and network power supply
- > 激光及 X 光电源 Laser and X-ray power supply
- > 逆变焊机及电镀电源 Welding equipment and Electrical plating power supply
- > 光伏能源系统及风力发电 Solar energy equipment and Wind power generator
- > 家用电器，如空调 Household electrical appliance, like air conditioner
- > 不间断电源 (UPS) Uninterruptable power supply (UPS)
- > 变频器及伺服电机 Variable Frequency Device (VFD) and servo motor
- > 感应加热设备 Inducted heating equipment
- > 高铁电源 High-speed railway power supplies
- > 电动车及充电桩 Electric vehicles and charger devices

### 特性 Characteristics:

- > 高导磁率 - 提高电感量，减小器件体积和绕线匝数  
High permeability -- increasing inductance and reducing size and winding turns
- > 高饱和磁感应强度 - 不易饱和  
High saturation flux density -- not easy to saturation
- > 低损耗 - 提高效率，节能  
Low loss -- increasing efficiency and reducing power consumption
- > 耐大不平衡电流 - 适用于大不平衡电流的应用  
High unbalance current withstand -- suitable for high unbalance current application

## 规格表 Specifications:

**EMC 共模电感用纳米晶磁芯**  
**Nanocrystalline cores for EMC common mode chokes**

Part No.	Core dimension (mm)			Case dimension (mm)			Eff. cross area (cm <sup>2</sup> )	Mean path length (cm)	A <sub>L</sub> (μH) 10KHz,0.25V	A <sub>L</sub> (μH) 100KHz,0.25V	Equivalent to VAC part no.
	od	id	h	OD	ID	H	Ae	Lm	Typical A <sub>L</sub> **	Typical A <sub>L</sub> **	
KMN986545	9.8	6.5	4.5	11.3	5	6.1	0.06	2.6	25.5	6.4	W914
KMN120805	12	8	5	14.4	6.5	7.0	0.08	3.1	28.0	6.8	W902
KMN151005	15	10	4.5	17.1	8.3	7.1	0.09	3.9	27.0	6.7	W865
KMN161006	16	10	6	17.9	8.1	8.1	0.14	4.1	43.0	10.1	W403
KMN161008	16	10	8	17.8	8.4	9.9	0.19	4.1	46.1	11.5	-
KMN171206	17.5	12.6	6	19.2	10.9	8.1	0.11	4.7	30.0	6.9	W515
KMN191510	19	15	10	21.2	13.5	12.3	0.16	5.3	36.1	8.8	W838
KMN201208	20	12	8	21.7	10.8	9.9	0.25	5.0	55.2	13.6	W409
KMN201210	20	12	10	22.6	10.5	12.5	0.31	5.0	62.4	15.6	-
KMN211510	21	15	10	23.6	12.8	12.7	0.23	5.7	41.6	10.4	-
KMN211308E*	21.3	13.6	8	22	13	8.8	0.24	5.5	44.1	11.0	-
KMN252010	25	20	10	28	17.2	13.2	0.20	7.1	28.4	7.3	W523
KMN251610	25	16	10	28	14.0	13.1	0.35	6.4	67.0	15.5	W380
KMN261610	25.5	16	10	28.4	13.9	13	0.39	6.6	57.1	14.3	-
KMN302010	30	20	10	33.2	17.8	13.3	0.39	7.9	59.3	14.0	W423
KMN302015	30	20	15	33.6	17.8	17.8	0.59	7.9	88.0	20.0	W514
KMN322010	32	20	10	34.4	18.0	13.1	0.47	8.2	57.6	14.4	-
KMN322015	32	20	15	34.6	17.9	18.2	0.70	8.2	86.4	21.6	-
KMN322115Y	32	21	15	35.5	18.5	19	0.64	8.3	77.7	19.4	3-Phase
KMN382415	37.8	24.2	15	40.8	21.6	18.3	0.80	9.7	82.1	20.5	
KMN402515	40	25	15	43.8	21.6	18.8	0.88	10.2	99.0	23.1	W424
KMN402520	40	25	20	45	21.5	24.7	1.17	10.2	115.2	28.8	
KMN403215	40	32	15	44.9	28.8	18.8	0.47	11.3	48.0	11.3	W422
KMN453015	45	30	15	48.3	26.4	18.2	0.88	11.8	87.6	20.0	V102
KMN462725	46	27	25	48.8	24.6	27.8	1.85	11.5	162.4	40.6	
KMN503220	50	32	20	53.8	28.5	23.8	1.40	12.9	109.6	27.4	-
KMN504020	50	40	20	53.6	37.1	23	0.78	14.1	45.0	13.5	W565
KMN635025	63	50	25	69	46	29	1.27	17.7	59.0	17.5	W517
KMN644020	64	40	20	68.2	37	23.5	1.87	16.3	115.2	28.8	-
KMN644025	64	40	25	67.4	37	29.2	2.34	16.3	144.0	36.0	-
KMN805020	80	50	20	83.8	46.6	25.0	2.34	20.4	94.0	28.0	V140
KMN805025	80	50	25	84.0	47.0	29.0	2.93	20.4	144.0	36.0	-
KMN906020	90	60	20	95.4	54.7	24.7	2.34	23.6	81.0	25.1	W518
KMN1008020	100	80	20	105	75	25	1.56	28.3	55.5	13.9	-
KMN1027625	102	76	25	108.1	70.0	30.3	2.54	27.9	91.1	22.8	W468
KMN1108025	110	80	25	116.6	73.8	31.4	2.93	29.8	98.5	24.6	-
KMN1309030	130	90	30	135.3	84.9	36.5	4.68	34.5	136.1	34.0	-
KMN14010025	140	100	25	145	95	30	3.90	37.7	104	26	-
KMN16013025	160	130	25	165	125	30	2.93	45.5	64.6	16.1	-
KMN17012025	170	120	25	175	115	30	4.88	45.5	107.6	26.9	-
KMN20016030	200	160	30	207	153	37	4.50	56.5	83.2	20.8	-

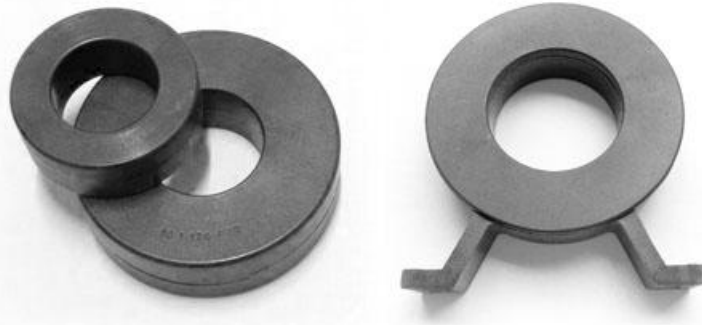
本规格表为带外壳的标准系列，其它规格可以根据客户要求定做。

These cores are our standard cores in plastic case, custom sizes are available.

\* 环氧涂层 Epoxy coated.

\*\* AL 值公差范围 AL value tolerance: +50%/-30%

## 高频大功率变压器用纳米晶磁芯 Nanocrystalline cores for High Frequency Power Transformers



高频大功率变压器用纳米晶磁芯具有高磁感应强度，高导磁率，低损耗，低磁致伸缩系数以及良好的温度稳定性等优点。广泛应用于高频大功率开关电源主变压器，适于用单极，推挽，半桥，全桥等多种电路形式，推荐使用半桥及全桥电路，以发挥纳米晶磁芯的最佳能。

变压器的主要要求磁芯材料高饱和磁感应强度及低损耗，纳米晶磁芯具备这两种优点，使用纳米晶磁芯的变压器体积小，高效率，低损耗，低温升及具有良好的温度稳定性。

Nanocrystalline cores for high frequency and high power transformers have high saturation flux density, high permeability, low core loss, low saturation magnetostriction and good temperature stability. Widely used as main transformer cores for uni-polar, push-pull or bi-polar type high frequency and high power switched mode power supply.

High saturation flux density and low core loss are the primary demands of a transformer, and nanocrystalline core has the both properties. Transformers with nanocrystalline cores have features of small size, high efficiency, low loss, low temperature rise and excellent temperature stability.

### 应用 Applications:

- > 高频大功率开关电源 High frequency and high power switched mode power supply
- > 激光电源 Laser power supply
- > 逆变焊机 Inverter welding machine
- > 电镀电源 Electrical plating power supply
- > 中频及高频感应加热设备 Medium and high frequency heating power supply
- > X 光电源 X-ray power supply
- > IGBT 逆变器 IGBT Inverter
- > 通信电源 Communication power supplies

### 特性 Characteristics:

- > 高饱和磁感应强度 - 减小变压器体积  
High saturation flux density - reducing volume of transformer
- > 高导磁率及低矫顽力- 提高效率，减小磁化电流，减少铜损  
High permeability and low coercivity -- improving efficiency and reducing magnetized current and reducing copper loss
- > 低损耗 - 提高效率，节能  
Low core loss - increasing efficiency and reducing power consumption
- > 温度稳定性好 - 可连续工作于 120℃  
Excellent thermal stability - continuous working at up to 120℃
- > 低磁致伸缩系数 - 低噪声  
Low magnetostriction - low audible noise compared to other materials



纳米晶磁芯与铁氧体磁芯的对比

**Comparison: nanocrystalline cores vs. ferrite cores**

Properties 磁性能	Nanocrystalline cores 纳米晶磁芯	Ferrite cores 铁氧体磁芯
Saturate Flux Density 饱和磁感应强度 (T)	1.25	0.5
Remanence 剩磁 (T) (20 kHz)	< 0.3	0.2
Core loss 铁损 (20 kHz/0.2T) (W/Kg)	< 3.4	7.5
Core loss 铁损 (20 kHz/0.5T) (W/Kg)	< 30	Can not use 不能使用
Core loss 铁损 (50 kHz/0.3T) (W/Kg)	< 40	Can not use 不能使用
Permeability 导磁率 (20 kHz) (Gs/Oe)	> 20,000	2,000
Static Coercivity 静态矫顽力 (A/m)	< 2	6
Saturation magnetostriction 饱和磁致伸缩系数(10 <sup>-6</sup> )	< 2	4
Electrical Resistivity 电阻率 (μΩ.cm)	90	10 <sup>6</sup>
Curie temperature 居里温度 (°C)	560	< 200
Stacking factor 叠片系数	> 0.75	N/A





**Specifications 规格表:**

高频大功率变压器用纳米晶磁芯  
**Nanocrystalline Cores for High Frequency Power Transformers**

Part No. 型号	Core dimension 磁芯尺寸 (mm)			Case dimension 外壳尺寸 (mm)			Eff. Cross area (cm <sup>2</sup> ) 有效截面积	Mean path length (cm) 平均磁路长度	Weight 重量 (g)	Power @ 20KHz (Kw) 参考功率	Case Type * 外形
	od	id	h	OD	ID	H	Ae	Lm	Wt	P	
KMN503220T	50	32	20	53.8	28.5	24	1.40	12.9	131	0.5-1	O
KMN644020T	64	40	20	68.2	37	23.5	1.87	16.3	222	1-3	O
KMN805025T	80	50	25	83.5	47.2	28.8	2.93	20.4	433	3-5	O
KMN805025S	80	50	25	83.5	47.2	28.8	2.93	20.4	433	3-5	Ω
KMN1006020T	100	60	20	106	55	25	3.12	25.1	568	5-7	O
KMN1006020S	100	60	20	106	55	25	3.12	25.1	568	5-7	Ω
KMN1207020T	120	70	20	125	65	26	3.90	29.8	843	7-10	O
KMN1207020S	120	70	20	125	65	26	3.90	29.8	843	7-10	Π
KMN1207030T	120	70	30	125	65	36	5.85	29.8	1265	10-15	O
KMN1207030S	120	70	30	125	65	36	5.85	29.8	1265	10-15	Π
KMN1308040T	130	80	40	136	75	46	7.80	33.0	1864	15-20	O
KMN1308040S	130	80	40	136	75	46	7.80	33.0	1864	15-20	H
KMN1308050T	130	80	50	136	75	56	9.75	33.0	2331	20-25	O
KMN1308050S	130	80	50	136	75	56	9.75	33.0	2331	20-25	H

Other specifications are available according to customer's requirements.  
其它规格可根据客户要求订做。

\* 外形 Case Type:

O - 环型磁芯 Toroidal core	Ω and Π - 环型磁芯带两脚 Toroidal core with two legs		H - 环型磁芯带四脚 Toroidal core with 4 legs
O 	Ω 	Π 	H 

## 非晶 C 型磁芯 Amorphous C Cores

非晶 C 型磁芯具有高饱和磁感应强度，低铁损，高导磁率。适用于 PFC 电感，输出滤波电感，太阳能逆变器电感，大电流电抗器，音频变压器，可以用于较高频率。

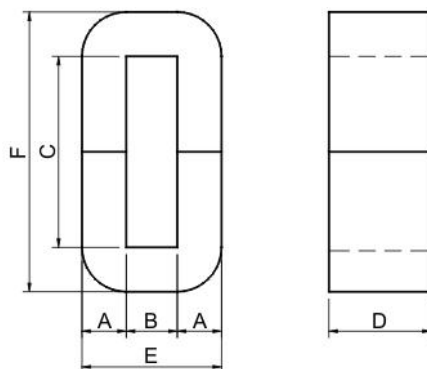
Amorphous C cores have high saturation flux density, low core loss, high permeability. They are suitable for PFC choke, output filter inductor, solar inverter inductor, large current reactor, audio transformer and can be used under high frequency.

### 应用 Applications:

- > 太阳能逆变器 Solar inverter
- > 大功率输出滤波电感 Large power output filter inductor
- > 大电流电抗器 Large current reactor
- > 音频变压器 Audio transformer

### 特性 Characteristics:

- > 高饱和磁感应强度 - 直流饱和点高  
High saturation flux density - Large DC bias
- > 低铁损 - 低温升  
Low core loss - Low temperature rise



### 规格表 Specifications:

Part No.	Core dimension (mm)						Mean path length (cm)	Eff. cross area (cm <sup>2</sup> )	Weight (g)
	A	B	C	D	E	F	Lm	Ae	Wt
KMAC-20	11	13	50	30	35	72	15.7	2.94	331
KMAC-32	13	15	56	30	41	82	17.9	3.47	447
KMAC-40	13	15	56	35	41	82	17.9	4.05	522
KMAC-50	16	20	70	25	52	102	22.7	3.56	580
KMAC-63	16	20	70	30	52	102	22.7	4.27	696
KMAC-80	16	20	70	40	52	102	22.7	5.70	928
KMAC-100	16	20	70	45	52	102	22.7	6.41	1043
KMAC-125	19	25	83	35	63	121	27.2	5.92	1157
KMAC-160	19	25	83	40	63	121	27.2	6.76	1322
KMAC-200	19	25	83	50	63	121	27.2	8.46	1653
KMAC-250	19	25	90	60	63	128	28.6	10.15	2085
KMAC-320	22	35	85	50	79	129	30.6	9.79	2148
KMAC-400	22	35	85	65	79	129	30.6	12.73	2793
KMAC-500	25	40	85	55	90	135	32.5	12.24	2856
KMAC-630	25	40	85	70	90	135	32.5	15.58	3635
KMAC-800A	25	40	85	85	90	135	32.5	18.91	4414
KMAC-800B	30	40	95	85	100	155	36.1	22.70	5879
KMAC-1000	33	40	105	85	106	171	39.0	24.96	6994

其它规格可以根据客户要求定做。

Customers made and customers design are available.

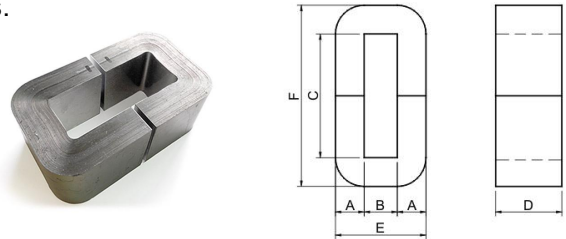
纳米晶 C 型磁芯  
Nanocrystalline C Cores

纳米晶 C 型磁芯采用高导磁率低损耗的纳米晶带材制作而成，性能比非晶 C 型磁芯更加优越。适用于高频功率变压器，高级音频变压器，PFC 电感，输出电感。

Nanocrystalline c cores are made of high permeability and low core loss nanocrystalline ribbon. Nanocrystalline c cores perform better than amorphous c cores. Suitable for high frequency transformer, high class audio transformer, PFC choke, output inductors.

**应用 Applications:**

- > 高频变压器 High frequency transformer
- > 音频变压器 Audio transformer
- > PFC/输出电感 PFC/output choke



**特性 Characteristics:**

- > 低铁损 - 能在 20KHz - 30KHz 频率下使用 Low core loss - can be used at frequency 20KHz - 30KHz
- > 高饱和磁通 - 1.25T, 远高于铁氧体 High saturation induction - 1.25T, much higher than ferrite core
- > 低磁致伸缩系数 - 低噪音 Low magnetostriction - low noise

**规格表 Specifications:**

Part No.	Core dimension (mm)						Mean path length (cm)	Eff. cross area (cm <sup>2</sup> )	Weight (g)
	A	B	C	D	E	F	Lm	Ae	Wt
KMNC-6.3	10	11	33	20	31	53	11.6	1.56	141
KMNC-8	11	13	30	20	35	52	11.7	1.72	157
KMNC-10	11	13	40	20	35	62	13.7	1.72	184
KMNC-16A	11	13	40	25	35	62	13.7	2.15	230
KMNC-16B	11	13	50	25	35	72	15.7	2.15	263
KMNC-20	11	13	50	30	35	72	15.7	2.57	316
KMNC-25	13	15	56	25	41	82	17.9	2.54	355
KMNC-32	13	15	56	30	41	82	17.9	3.04	426
KMNC-40	13	15	56	35	41	82	17.9	3.55	497
KMNC-50	16	20	70	25	52	102	22.7	3.12	552
KMNC-63	16	20	70	30	52	102	22.7	3.74	663
KMNC-80	16	20	70	40	52	102	22.7	4.99	884
KMNC-100	16	20	70	45	52	102	22.7	5.62	994
KMNC-125	19	25	83	35	63	121	27.2	5.19	1102
KMNC-160	19	25	83	40	63	121	27.2	5.93	1260
KMNC-200	19	25	83	50	63	121	27.2	7.41	1575
KMNC-250	19	25	90	60	63	128	28.6	8.89	1987
KMNC-320	22	35	85	50	79	129	30.6	8.58	2047
KMNC-400	22	35	85	65	79	129	30.6	11.15	2662
KMNC-500	25	40	85	55	90	135	32.5	10.73	2722
KMNC-630	25	40	85	70	90	135	32.5	13.65	3464
KMNC-800A	25	40	85	85	90	135	32.5	16.58	4207
KMNC-800B	30	40	95	85	100	155	36.1	19.89	5602
KMNC-1000	33	40	105	85	106	171	39.0	21.88	6665

其它尺寸可定制 Customers made and design are available.

## 环氧涂层纳米晶磁芯及磁珠 Epoxy Coated Nanocrystalline Cores and Bead Cores



环氧涂层纳米晶磁芯在缩小体积的同时能保持极佳的磁性能。方便工程师较随意去设计磁芯尺寸，无需开模费用。有利于减小器件的体积，降低铜损，同时也降低器件整体成本。

Epoxy coated nanocrystalline cores enable reducing core volume and keeping excellent magnetic performance. It is convenience for engineer to design various dimensions of nanocrystalline cores. This kind of cores also reduce copper wires due to core volume reduced, reduce cost as well.

### 应用 Applications:

- > 尖峰抑制器用纳米晶磁珠 (如 Mos 管)  
Nanocrystalline bead core for noise suppressor for semiconductor components (e.g. Mosfet)
- > IGBT 驱动变压器 IGBT Driver transformer
- > 电流互感器 Current transformer
- > 高频功率变压器 High Frequency Power transformer
- > ISDN 网络变压器 ISDN Network transformer
- > EMI/EMC 共模滤波器 EMI/EMC Filter Common mode choke
- > 高清摄像头信号传输变压器 HD camera signal transformer

### 特性 Characteristics:

- > 体积小 Small size - 减少器件体积 Reducing volume of component
  - 减少铜线用量 Reducing copper wires
  - 降低器件总成本 Reducing total cost
- > 尺寸可定制 - 有利于客户快速设计，无需开模费  
Size can be custom made - Help customers quick design and mold cost free
- > 高绝缘强度 - 适合 1000V 耐压要求  
High insulation strength - Withstand voltage meets 1000V requirement
- > 高导磁率 - 电感量比传统铁氧体高出 3 倍以上  
High permeability - 3X higher inductance value than ferrite core

### 规格表 Specifications:

型号 Part No.	磁芯尺寸 Core dimension (mm)			成品尺寸 Finished dimension (mm)			有效截面积 Eff. cross area (cm <sup>2</sup> )	平均磁路长度 Mean path length (cm)	单匝电感量 A <sub>L</sub> (μH) 10KHz,0.25V
	od	id	h	OD	ID	H	A <sub>e</sub>	L <sub>m</sub>	A <sub>L</sub> (Min)
KMN040203E	4	2.2	3.2	4.5	1.7	3.8	0.021	0.97	10.0
KMN060303E	6	3	3.2	7.0	2.0	4.2	0.037	1.41	16.6
KMN060403E	6	4	3.2	7.0	3.0	4.2	0.025	1.57	10.0
KMN090503E	9	5	3.2	10.0	4.0	4.2	0.050	2.20	15.0
KMN120910E	11.8	8.7	10	12.8	7.7	11	0.121	3.22	25.0
KMN140905E	14	9	4.5	15	8	5.5	0.088	3.61	16.0
KMN211308E	21.3	13.6	8	22.3	12.6	9.0	0.240	5.48	33.0

其它尺寸可根据客户要求定制。

Customers made and customers design are available.

## 开关电源磁放大器用纳米晶磁芯

## Nanocrystalline Cores for Magnetic Amplifiers for Switched Mode Power Supplies



磁放大器用纳米晶磁芯, 使用纵向磁场热处理工艺处理, 具有高饱和磁感应强度(Bs), 高矩形比(Br/Bm), 低矫顽力和高居里温度。

Nanocrystalline cores for magnetic amplifiers(Mag-Amp), are heat treated by longitudinal magnetic field, have high saturation flux density(Bs), high rectangle ratio(Br/Bm), low coercivity(Hc) and high curie temperature.

**应用 Applications:**

- > 计算机电源 Desktop personal computer power supply
- > 服务器电源 Server computer power supply
- > 开关电源 Switched mode power supply

**特性 Characteristics:**

- > 高磁感应强度  $B_s=1.25T$  - 体积小, 绕线圈数少  
High saturation flux density  $B_s=1.25T$  - Small size, lower turns
- > 高矩形比  $Br/B_m \geq 94\%$  - 低死角电压, 适用于大电流  
High rectangle ratio  $Br/B_m \geq 94\%$  - Low dead angle voltage, large working current
- > 低矫顽力  $H_c \leq 36A/M @ 100KHz, 80A/M$  - 低复位电流, 效率高  
Low coercivity  $H_c \leq 36A/M @ 100KHz, 80A/M$  - Low reset current, high efficiency

**规格表 Specifications:**

Part No.	Core dimension (mm)			Finished dimension (mm)			Eff. cross area (cm <sup>2</sup> )	Mean path length (cm)	Saturation Flux (μWb)
	od	id	h	OD	ID	H	Ae	Lm	2Φm
KMN100705Z	10	7	4.5	12	5	6.8	0.053	2.67	12.4
KMN120803Z	12	8.4	3.2	14.7	5.9	5.4	0.045	3.20	10.6
KMN120804Z	11.8	8.7	4.2	13.9	6.8	6.0	0.051	3.22	11.9
KMN120805Z	12	8	4.5	14.7	6.2	6.8	0.070	3.14	16.5
KMN151005Z	15	10	4.5	17	8	7.1	0.088	3.93	20.6
KMN191505Z	19	15	5	21	13	6.6	0.078	5.34	18.3

其它规格可根据客户要求定做。

Customers made and customers design are available.

我们同时可以定做钴基非晶磁芯。钴基非晶具有更低的矫顽力, 更低的损耗, 效率高, 适用于高端电源。  
We can also custom made **Co-based amorphous cores** for magnetic amplifier. Co-base mag-amp core has more lower coercivity and higher efficiency, suitable for high-end computer power supplies.

## 非晶、纳米晶切口磁芯 Amorphous and Nanocrystalline Gap Cores



非晶、纳米晶切口磁芯具有高饱和磁感应强度，低铁损，高导磁率，适用于大电流场合。常用于 PFC 电感，输出滤波电感，光伏逆变电感。

Amorphous and nanocrystalline gap cores have high saturation flux density, low core loss, high permeability, can withstand large working current. They are suitable for PFC choke, output filter inductor, solar inverter inductor, hall effect transducer.

### 应用 Applications:

- > PFC 电感 PFC choke
- > 输出滤波电感 Output filter inductor
- > 太阳能逆变器 Solar inverter
- > 霍尔电流传感器 Hall effect transducer

### 特性 Characteristics:

- > 高饱和磁感应强度 - 不容易饱和，能耐更大的 DC 偏流  
High saturation flux density -- Not easy to saturate, Large DC bias
- > 切口磁芯 - 适合较大的工作电流  
Gap core - Withstand large working current
- > 低铁损 - 温升高  
Low core loss - Low temperature rise

### 规格表 Specifications:

Part No.	Core dimension (mm)			Finished dimension (mm)			Eff. cross area (cm <sup>2</sup> )	Mean path length (cm)	Gap (mm)	AL Value*
	od	id	h	OD	ID	H	Ae	Lm	Lg	AL
KMAG201208	20	12	8	21.7	10.8	9.9	0.28	5.0	0.5	0.125
KMAG261610	26	16	10	28.3	14.0	12.8	0.44	6.6	0.5	0.165
KMAG402515	40	25	15	44.4	22.0	18.8	0.99	10.2	0.8	0.240
KMAG603525	60	35	25	64.0	31.0	29.0	2.75	14.9	5.0	0.148

其它规格可根据客户要求定做。

Customers made and customers design are available.

\* AL 值测试条件 1KHz, 0.25V, 仅作参考。AL 值会随气隙而变，我们可以根据电感要求改变气隙大小。

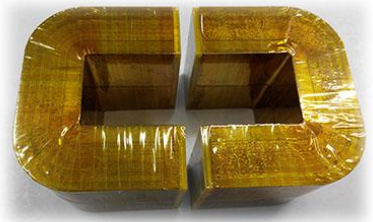
\* AL Value is tested @ 1KHz, 0.25V, the value is only for reference. AL value is gap dependent, we can make different gap according to the inductance needed.

## 定制产品 Custom-made Products

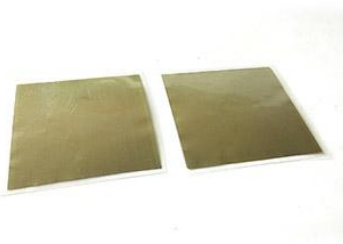
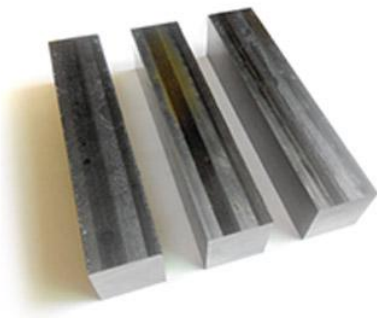
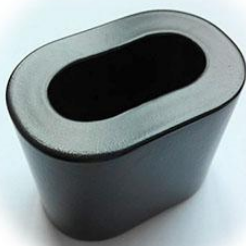
我们定制各种纳米晶磁芯、非晶磁芯以及磁性元器件。我们常年为世界各地的大学、研究所、实验室、企业研发中心定制高性能的产品，我们致力开发更高质量的磁芯及元件。

We can custom-made all kinds of nanocrystalline cores, amorphous cores and components. We work with worldwide universities, research institutes, laboratories, company R&D departments. Our cores are of the best quality.

- > 环氧涂层纳米晶磁芯  
Nanocrystalline cores with epoxy coated
- > 纳米晶矩形磁芯  
Nanocrystalline rectangular core
- > 椭圆形纳米晶磁芯  
Oval shape nanocrystalline core
- > 纳米晶 C 型磁芯  
Nanocrystalline C core
- > 非晶多段切割 C 型磁芯  
Amorphous multi-cut core
- > 非晶、纳米晶磁条  
Amorphous and nanocrystalline block cores
- > 非晶、纳米晶气隙磁芯  
Amorphous and nanocrystalline gapped core
- > 纳米晶共模电感  
Nanocrystalline common mode choke
- > 非晶、纳米晶电感  
Amorphous and nanocrystalline inductor
- > 非晶、纳米晶磁片  
Amorphous and nanocrystalline sheet.



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Protect forest resources,

Before printing this catalog, think again the forest.

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