



▶ 产品手册

**POWER INDUCTORS, FILTER INDUCTORS,
COMMON MODE INDUCTORS**

CUSTOMIZED WINDINGS/INDUCTORS



目 录

TABLE OF CONTENTA

- 1 适用范围 Scope
- 2 产品命名方式 Product naming convention
- 3 产品系列及编带包装规格数量 Product model and packaging specifications and quantity
- 4 参数说明 Electrical Characteristics
- 5 产品规格说明书 Product specification manual
- 6 可靠性测试 Reliability test
- 7 参考标准 Reference Standards
- 8 注意事项 Precautions

1. 适应范围 Scope

本规格书适用于LSK和LMS系列贴片功率电感器。

This specification applies to the LSK/LMS series of SMD power inductors.

2. 产品命名方式 Product naming convention

L S K 1278 -XXX M B

① ② ③ ④ ⑤

①产品代码：LCL表面贴装电感。

②产品代码：SK-塑料基座屏蔽电感；MS-金属基座屏蔽电感。

③电感量标称值：尺寸AABB：AA-长或宽；B—高

④电感值：XX—电感量；Y—数量级；单位—uH

误差：N—30%；M—20%；K—10%；J—5%；H—3%；G—2%；F—1%

⑤包装方式：B—散料盘装；C—7”载盘；D—13”载盘；E—散料袋装；F—客户要求其他方式

3. 产品型号及编带包装规格数量 Product model and packaging specifications and quantity

产品型号 Product model	编带方式 Encoding method	规格 specifications	数量/盘 quantity/tray	赠送数量 Gift quantity
LSK1278	D	13"	500	1
LSK1260	D	13"	500	1
LMS127	D	13"	500	1
LMS125	D	13"	500	1
LMS074	B	7"	CR	1
	D	13"	1000	3

4. 参数说明

Electrical Characteristics

注： 加载温升电流（Irms）会使电感温度上升 40℃(电感初始温度+上升温度 = 电感最终温度)。

Typical Irms would cause an approximately ΔT of 40℃.

电感工作环境温度： -40℃ ~ 125℃。

Operating temperature range -40℃ ~ +125℃.

加载饱和电流（ISAT）会使电感量下降大约30%.

Typical ISAT would cause Lo to drop approximately 30%.

额定电流取温升电流与饱和电流二者最小值。

The rated current is determined by the minimum value between IRWS and ISAT.

5. 产品规格说明书

PRODUCT SPECIFICATION MANUAL

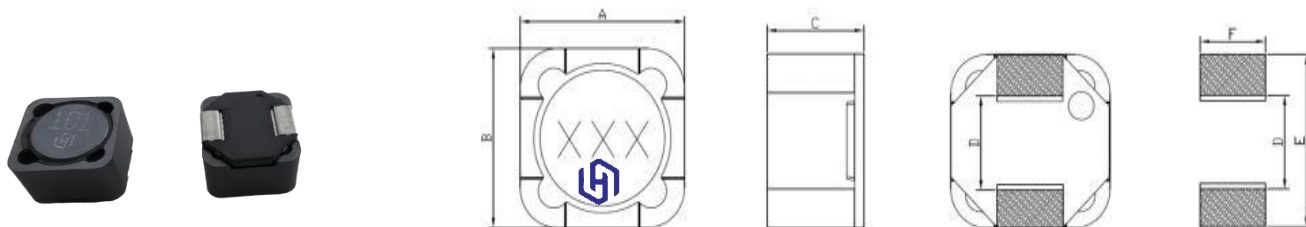
5.1 LSK1278系列

产品编号 P/N	LSK1278系列	测试设备 TEST INSTRUMENT	UC2858A HG2817
产品系列 Series	贴片电感 SMD INDUCTOR	测试频率 TEST FREQUENCY	100KHz/0.1V

5.1.1 LSK1278系列参数表

LSK1278	L (uH)	L Tol.	DCR (mΩ) max	I _{rat} (A)
1R4	1.4	±20%	9.8	10.0
4R7	4.7	±20%	15.5	6.2
5R6	5.6	±20%	17.5	6.2
6R8	6.8	±20%	21.3	6.0
8R2	8.2	±20%	22.6	5.9
100	10	±20%	24.2	5.7
150	15	±20%	30.8	4.9
180	18	±20%	34.4	4.5
220	22	±20%	39.2	4.0
330	33	±20%	68.5	3.1
390	39	±20%	77.0	3.0
470	47	±20%	78.5	2.9
680	68	±20%	100.8	2.6
101	100	±20%	148.8	2.2
121	120	±10%	202.7	1.9
181	180	±10%	253.2	1.7
221	220	±10%	357.4	1.6
331	330	±10%	538.6	1.0
391	390	±10%	585.8	1.0
471	470	±10%	784.2	0.9
561	560	±10%	857.8	0.8
681	680	±10%	1158	0.7
102	1000	±10%	1458	0.7

5.1.2 LSK1278系列封装及焊盘尺寸



系列 Series	封装尺寸 (mm) Dimension			焊盘尺寸 (mm) Land Pattern		
LSK1278	A	B	C	D	E	F
	12.3 MAX	12.3 MAX	7.8 MAX	5±0.2	12±0.3	5±0.2

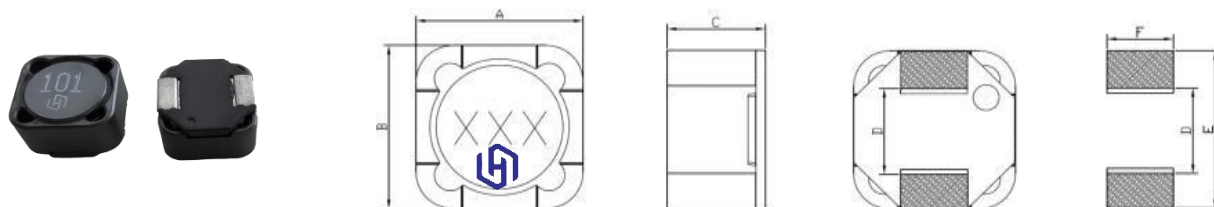
5.2 LSK1260系列

产品编号 P/N	LSK1260系列	测试设备 TEST INSTRUMENT	UC2858A HG2817
产品系列 Series	贴片电感 SMD INDUCTOR	测试频率 TEST FREQUENCY	100KHz/0.1V

5.2.1 LSK1260系列参数表

LSK1260	L (uH)	L Tol.	DCR (mΩ) max	I _{rat} (A)
1R0	1.0	±30%	6.5	8.0
1R5	1.5	±30%	9.8	7.5
2R2	2.2	±30%	12.8	7.0
3R3	3.3	±30%	13.8	7.0
4R7	4.7	±20%	15.5	7.0
6R8	6.8	±20%	18.6	5.9
100	10	±20%	23.8	4.0
150	15	±20%	32.0	3.5
180	18	±20%	33.0	3.3
220	22	±20%	40.6	3.1
330	33	±20%	56.8	2.7
390	39	±20%	64.3	2.6
470	47	±20%	81.5	2.5
680	68	±20%	104.5	2.3
101	100	±20%	145.6	2.1
121	120	±10%	196.6	1.8
181	180	±10%	244	1.5
221	220	±10%	330	1.4
331	330	±10%	496	1.1
391	390	±10%	535	1.0
471	470	±10%	733	1.0
561	560	±10%	795	0.9
681	680	±10%	910	0.8
102	1000	±10%	1330	0.7

5.2.2 LSK1260系列封装及焊盘尺寸



系列 Series	封装尺寸 (mm) Dimension			焊盘尺寸 (mm) Land Pattern		
LSK1260	A	B	C	D	E	F
	12.3MAX	12.3MAX	6.2MAX	5±0.4	12±0.3	5±0.2

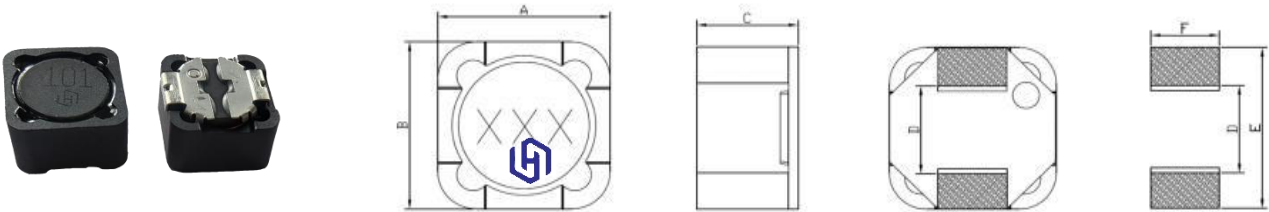
5.3 LMS127 系列

产品编号 P/N	LMS127系列	测试设备 TEST INSTRUMENT	UC2858A HG2817
产品系列 Series	贴片电感 SMD INDUCTOR	测试频率 TEST FREQUENCY	0~10uH:100KHz/0.25V 10uH~1mH:1KHz/0.25V

5.3.1 LMS127 参数表

LMS127	L (uH)	L Tol.	DCR(mΩ) max	I _{rat} (A)
1R0	1.0	±30%	7.0	9.8
2R2	2.2	±30%	11.5	7.5
3R3	3.3	±30%	13.5	7.5
4R7	4.7	±30%	15.8	6.8
6R8	6.8	±20%	19.5	6.6
8R2	8.2	±20%	20.5	5.9
100	10	±20%	21.8	5.4
150	15	±20%	27.0	4.5
180	18	±20%	39.2	3.9
220	22	±20%	42.5	3.6
330	33	±20%	68.5	3.0
470	47	±20%	100	2.5
680	68	±20%	140	2.1
101	100	±20%	220	1.7
151	150	±20%	280	1.4
221	220	±10%	390	1.1
331	330	±10%	640	0.9
391	390	±10%	700	0.9
471	470	±10%	980	0.8
561	560	±10%	1070	0.7
681	680	±10%	1460	0.7
102	1000	±10%	1820	0.6

5.3.2 LMS127 系列封装及焊盘尺寸



系列 Series	封装尺寸 (mm) Dimension			焊盘尺寸 (mm) Land Pattern		
	A	B	C	D	E	F
LMS127	12.3 MAX	12.3 MAX	7.8 MAX	5±0.2	12±0.3	5±0.2

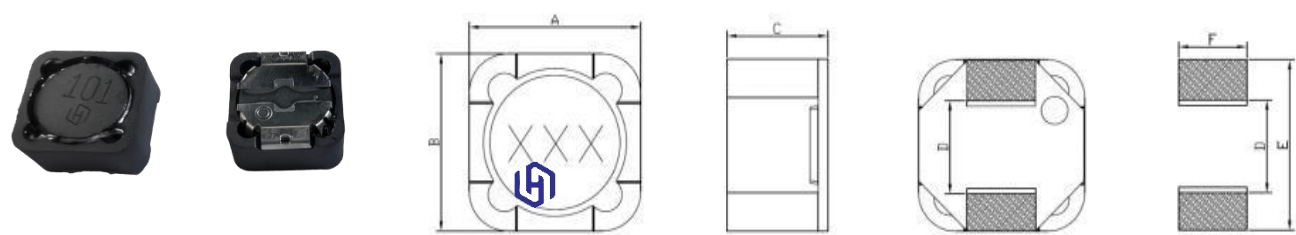
5.4 LMS125 系列

产品编号 P/N	LMS125系列	测试设备 TEST INSTRUMENT	UC2858A HG2817
产品系列 Series	贴片电感 SMD INDUCTOR	测试频率 TEST FREQUENCY	<10uH:100KHz/0.1V ≥10uH:1KHz/0.25V

5.4.1 LMS125参数表

LMS125	L (uH)	L Tol.	DCR(mΩ) max	I _{rat} (A)
2R2	2.2	±30%	13.5	7.0
4R7	4.7	±30%	19.5	5.0
6R8	6.8	±30%	21.5	3.0
100	10	±20%	25.0	4.0
150	15	±20%	30.0	3.3
180	18	±20%	34.0	3.0
220	22	±20%	42.0	2.8
330	33	±20%	65.0	2.1
390	39	±20%	68.0	2.0
470	47	±20%	75.0	1.8
680	68	±20%	120	1.5
101	100	±20%	198	1.3
121	120	±10%	220	1.1
181	180	±10%	290	0.9
221	220	±10%	400	0.8
331	330	±10%	510	0.7
391	390	±10%	690	0.65
471	470	±10%	770	0.58
561	560	±10%	860	0.54
681	680	±10%	1200	0.48
102	1000	±10%	1900	0.4

5. 4. 2 LMS125系列封装及焊盘尺寸



系列 Series	封装尺寸 (mm) Dimension			焊盘尺寸 (mm) Land Pattern		
LMS125	A	B	C	D	E	F
	12.3MAX	12.3MAX	6.2MAX	5±0.4	12±0.3	5±0.2

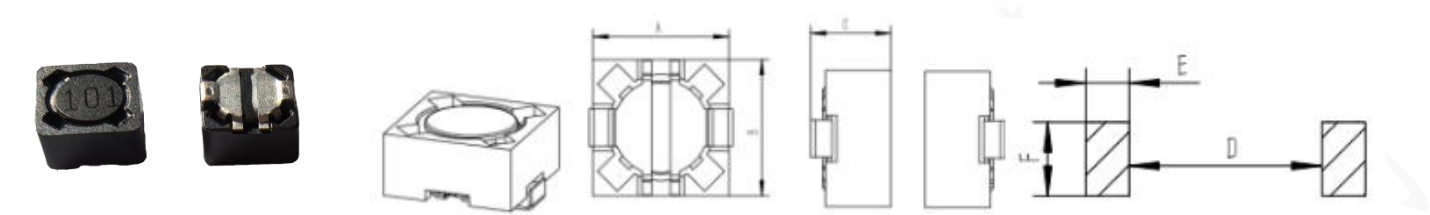
5.5 LMS074 系列

产品编号 P/N	LMS074系列	测试设备 TEST INSTRUMENT	UC2858A HG2817
产品系列 Series	贴片电感 SMD INDUCTOR	测试频率 TEST FREQUENCY	1KHz/0.25V

5.5.1 LMS074参数表

LMS074	L (uH)	L Tol.	DCR max	I _{rat} (A)
820M	82.0	±20%	43	0.61
470M	47.0	±20%	260	0.88
560M	56.0	±20%	350	0.75
680M	68.0	±20%	380	0.69
390M	39.0	±20%	230	0.91
330M	33.0	±20%	170	0.96
220M	22.0	±20%	110	1.23
180M	18.0	±20%	91	1.31
150M	15.0	±20%	81	1.47
120M	12.0	±20%	58	1.71
100M	10.0	±20%	49	1.84
101M	100.0	±20%	61	0.60
121M	120.0	±20%	66	0.52
151M	150.0	±20%	88	0.46
181M	180.0	±20%	98	0.42
221M	220.0	±20%	117	0.36
271M	270.0	±20%	164	0.34
331M	330.0	±20%	186	0.32
391M	390.0	±20%	285	0.29
471M	470.0	±20%	301	0.26
561M	560.0	±20%	362	0.23
681M	680.0	±20%	463	0.22
821M	820.0	±20%	520	0.2
102M	1.0mh	±20%	600	0.18

5. 5. 2 LMS074系列封装及焊盘尺寸



系列 Series	封装尺寸 (mm) Dimension			焊盘尺寸 (mm) Land Pattern		
	A	B	C	D	E	F
LMS074	7.3±0.3	7.3±0.3	4.2±0.3	4.5 Ref	1.4±0.2	2

可靠性测试 RELIABILITY TEST

6. 机械可靠性测试 Mechanical Reliability

测试项目	测试条件	测试方法
可焊性 Solderability	产品焊盘上锡面积大于等于焊盘面积95% The surface of terminal/pin tested shall be covered with new solder by 95%	180 ±10℃预热90秒, 255 ±5℃浸锡 焊接 3 ±1秒 Preheating 180 ±10℃ 90 seconds, Soldering: 255 ±5℃ for 3 ±1 sec
跌落测试 Shock	外观无异常, 电感值变化在5%以内 Inductance change within ± 5% Without mechanical damage	橡胶块法冲击试验机上981m/s (100G) 的姿态下降, 试验3次. Drop down with 981m/s ² (100G) shock Attitude upon a rubber block method shock testing machine 3 tests
振动测试	外观无异常, 电感值变化在5%以内	震动频率10Hz到55Hz到10Hz, 震动 周期60秒, 连续震动2小时
Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz 60 seconds cycle, Vibration time: 2 hours
绝缘电阻	≥100MΩ	在电感器线圈和磁芯之间加100V直流电压保持60S
Insulation Resistance		100V DC between inductor coil and core for 60 seconds.
耐焊接热	外观无可见机械损伤; 电感量变化率: ±10%以内	在260℃±5℃熔融的焊锡 (96.5Sn/3.0Ag/0.5Cu) 中浸 5s±1s
Resistance to Soldering Heat	No visible mechanical damage Inductance change: Within ±10%	Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at 260℃±5℃ for (10±1) seconds
端子强度	元件的端子与本体结合无松动、无脱落。	将电感器用260℃±5℃, 20s±5s焊在带有0.3mm后锡膏的基板上, 然后用治具垂直电极面方向加压10N, 10s±1s.
Adhesion of terminal electrode	Strong bond between the pad and the core, without come off PC board.	Inductors shall be subjected to 260℃±5℃ for 20s±5s Soldering in the base with 0.3mm solder. And then apply electrode way plus tax 10N for 10s±1s seconds.
耐高温	外观无可见机械损伤; 电感量变化率: ±10%以内	温度+85℃±2℃, 时间1000 ⁺²⁴ ₀ h, 在室温下放置2小时后、48小时内测试。
High temperature	NO visible mechanical damage Inductance change: Within ±10%	Temperature 85℃±2℃, time 1000 ⁺²⁴ ₀ h, Test within 48 hours after 2 hours of placement at room temperature

7. 参考标准 Reference Standards

❶ EIA481-D

❷ GB/T 40853.2-2023/IEC 62024-2:2020 高频感性元件 电特性及其测量方法。

GB/T 40853.2-2023/IEC 62024-2:2020 high-frequency inductive elements Electrical properties and their measurement methods.

❸ GB/T 11441.2-2011 通信和电子设备用变压器和电感器铁心片。

GB/T 11441.2-2011 Transformers and inductors for communication and electronic equipment.

❹ GB/T 8554-1998 idt IEC 1007:1994 电子和通信设备用变压器和电感器测量方法及试验程序。

GB/T 8554-1998 idt IEC 1007:1994 Measurement methods and test procedures for transformers and inductors used in electronic and communication equipment.

❺ GB/T 40852.1-2021/IEC 62025-1:2007 高频感性元件 非电特性及其测量方法。

GB/T 40852.1-2021/IEC 62025-1:2007 High-frequency inductive components -- Non-electrical characteristics and their measurement method.

❻ GB/T 11441.2-2012/IEC 60740-1:2005 通信和电子设备用变压器和电感器铁心片。

GB/T 11441.2-2012/IEC 60740-1:2005 Transformers and inductor cores for communication and electronic equipment.

❼ GB/T 40853.1-2021 高频感性元件 电特性及其测量方法。

GB/T 40853.1-2021 High-frequency inductive components -- Electrical characteristics and measurement methods thereof.



注意事项

使用本产品时，请注意以下事项

- ◎ 产品保存期限为12个月，保存条件：温度5~40℃，湿度10~75%RH以内，超过保存期限可能会使产品端子电极发生氧化。
- ◎ 请勿在极端环境下使用和保存（高盐，强酸，强碱，强辐射等）。
- ◎ 产品焊接前，请进行预热；预热温度与焊接温度之间温差建议控制在150℃以内。
- ◎ 产品焊接后需重新拆卸焊接修正时，请遵循规格书规定的条件范围：过高的加热温度以及反复的拆卸可能会导致产品失效。
- ◎ 产品请勿接触清洗剂，酒精等液体，这样会侵蚀产品本体，后而导致产品失效。
- ◎ 产品焊接到线路板后，请注意不可因线路板整体变形或局部变形而施加给电感剩余应力，这可能会导致电感发生破裂，脱落，以致失效。
- ◎ 产品通电后温度会随电流的增大而上升，设计时请务必考虑留有余量。
- ◎ 过高的静电会对产品产生永久性损害，请注意静电防护。
- ◎ 产品通电过程请勿触摸产品任何部位，防止触电。
- ◎ 本产品作为磁性产品，设计时请务必考虑周边元器件与本产品可能产生的相互影响，
- ◎ 本产品适用于一般电子设备，如：AV设备，通信设备，家电产品，娱乐设备，电脑设备，个人设备，办公设备，计测设备，工业机器人等，且该一般电子设备需在常规的操作和使用方法环境下使用。对于需要高度安全性和可靠性的，或者因本产品失效造成设备故障，误操作，运转不良等危及到人的生命身体及财产安全，以及对社会产生较大不良影响的特殊用途，设计使用前务必同本公司沟通，设计使用者如未取得我司书面同意状况下使用造成任何后果，我司不予承担。
特殊用途包含但不限于如下清单：
 - 1 军用设备
 - 2 运输设备（汽车，轨道交通产品，船舶等）
 - 3 航空，航大设备
 - 4 发电控制设备
 - 5 核动力相关设备
 - 6 爆炸引燃控制设备
 - 7 交通控制设备
 - 8 关系到国防安全的设备
 - 9 其他被认定为特殊用途的设备



Precautions

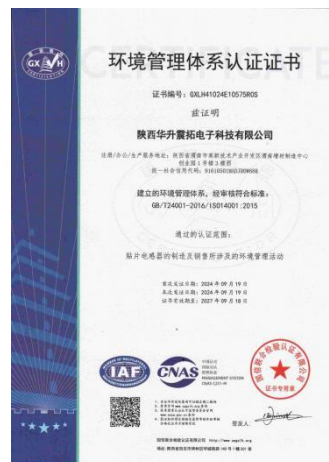
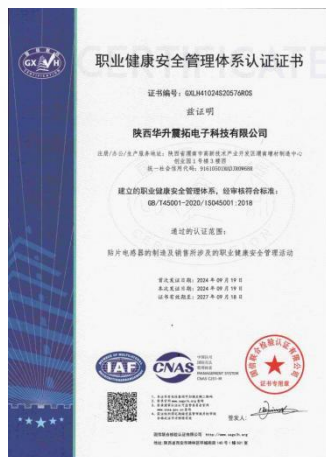
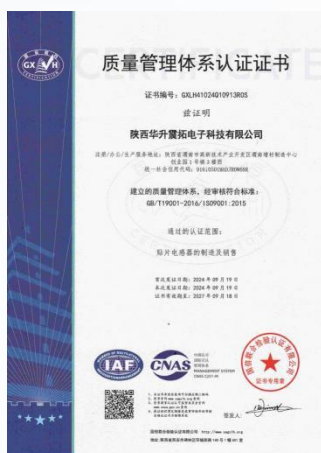
Please note the following when using this product

- © The shelf life of the product is 12 months, and the storage conditions are: temperature 5~40° C, temperature within 10~75%RH, and the shelf life can be exceeded it can cause oxidation of the terminal electrode of the product.
 - © Do not use and store in extreme environments (high salt, strong acid, strong mole, strong radiation, etc.).
 - © Before soldering, please preheat the product; It is recommended that the temperature difference between the preheating temperature and the welding temperature be controlled within 150° C.
 - © If the product needs to be disassembled and corrected after welding, please follow the conditions specified in the specification: excessive heating temperature and reverse Disassembly of the complex may result in product failure.
 - © Do not contact the product with liquids such as cleaning agents and alcohol, as this will erode the product body and cause the product to fail.
 - © After the product is soldered to the circuit board, please note that the residual stress on the inductor should not be applied due to the whole deformation or partial deformation of the circuit board It can cause the inductor to rupture, fall off, and fail.
 - © After the product is energized, the temperature will rise with the increase of the current, so please consider leaving a margin when designing.
 - © Excessive static electricity will produce a permanent effect on the product Persistent loss Please pay attention to static protection.
 - © Do not touch any part of the product during the energizing process to prevent electric shock.
 - © As a magnetic product, please be sure to consider the possible interaction between the surrounding components and this product when designing.
 - © This product is suitable for general electronic equipment, such as: AV equipment, communication equipment, home appliances, entertainment equipment, computer equipment, etc Human equipment, office equipment, measurement equipment, industrial robots, etc., and the general electronic equipment needs to be in the conventional operation and use method ring Contextual use. For those who require a high level of safety and reliability, or for equipment failure, misoperation, or operation due to the failure of this product Good and other special purposes that endanger the safety of human life, body and property, as well as special purposes that have a greater adverse impact on society, are designed and used We must communicate with our company, and our company will not be responsible for any consequences caused by the use of design users without our written consent.
- Special uses include, but are not limited to, the following list:
1. Military equipment
 2. Transportation equipment (automobiles, rail transit products, ships, etc.)
 3. Aviation, aviation equipment
 4. Power generation control equipment
 5. Nuclear power-related equipment
 6. Explosion ignition control equipment
 7. Traffic control equipment
 8. Equipment related to national defense and security
 9. Other equipment that is recognized as special-purpose



华升震拓电子科技 HUASHENGZHENTUODIANZIKEJI

专业生产贴片电感
根据客户要求定制各种非标绕线电感。



郭亚锋 总经理



联系电话: 15202979766; 13572722102

邮箱: hsadm@hsztdz.com

地址: 渭南市高新技术产业开发区增材制造中心创业园1号楼3楼西

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