



# 上海立凯电控科技有限公司

Shanghai LineKey Technology Co., Ltd.

RoHS

## Specification For Approval 规格书

SFA NO.: LK-0592-16

DATE: 2022-11-07

客户名称: \_\_\_\_\_

部件名称: 功率变压器

客户料号: \_\_\_\_\_

公司料号: LT31-120

供方确认			客户确认
制作	审核	核准	
吴子晗	薄双燕	陈余想	

### SPEC/更改记录

版本	序号	更改描述	更改原因	备注
A 0				

ADD (地址): 上海市浦东新区商城路 800 号斯米克大厦1102室  
Room 1102, CIMIC Tower, No.800, ShangCheng Road, Pudong, Shanghai, China

TEL (电话): 021-61993616

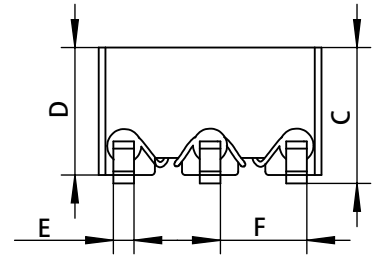
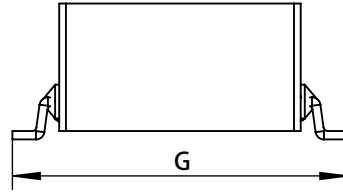
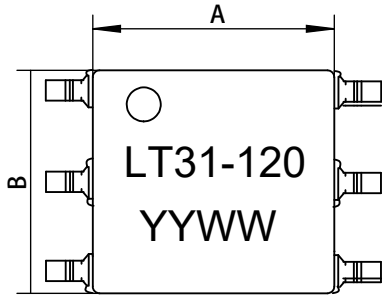
FAX (传真): 021-61993616

Web (网址): [www.linekey.cn](http://www.linekey.cn)

E-mail (邮箱): [sales@linekey.cn](mailto:sales@linekey.cn)

Zip Code (邮编): 200120

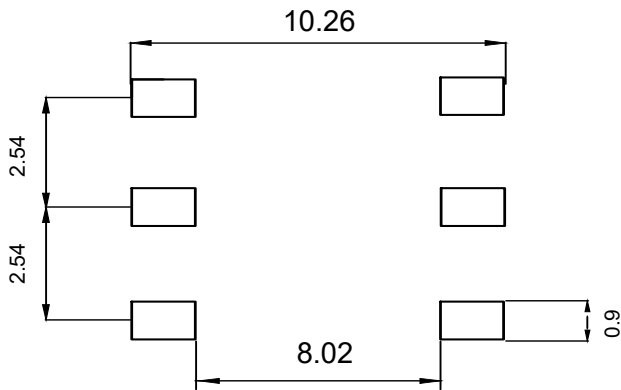
1. 机械轮廓/ (Mechanical figure & Dimensions) UNIT:mm



顶视图/Top View

侧视图/Side View

A	B	C	D	E	F	G	H	I	J	K
7.10±0.2	6.55±0.2	4.2Max.	3.75±0.2	0.60	2.54	10.2 Max				



推荐焊盘/ Pad

拟制/PREPARED BY:

吴子晗

审核/CHECKED BY:

薄双燕

批准/RATIFYIED BY:

陈余想

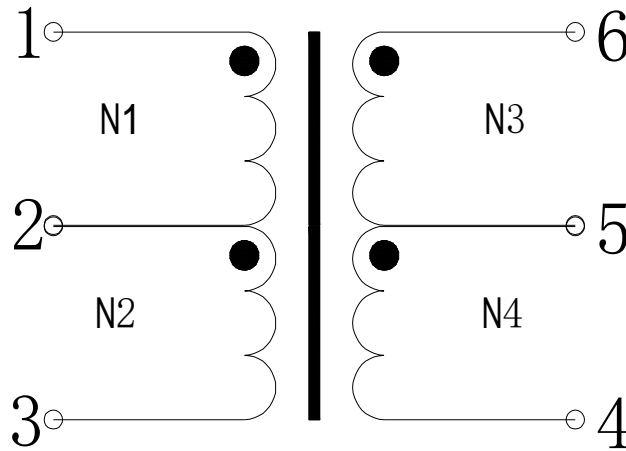
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型号/MODEL : LT31-120

版本/REV : A 0 页数: 3 of 8

2. 电气原理图/ (WINDING CONNECTION)



3. 工艺要求/ (TECHNICAL REQUIREMENT)

序号 NO.	端子/PIN		线材 Wire	圈数 Turns	胶带 (turns) Tape	挡墙宽度 (mm) Margin Tape	备注 Remark
	入/In	出/Out					
N1	1	2	FIW4 - $\Phi 0.12$ (mm)	12(ref)			
N2	2	3	FIW4 - $\Phi 0.12$ (mm)	12(ref)			
N1	6	5	FIW4 - $\Phi 0.12$ (mm)	24(ref)			
N2	5	4	FIW4 - $\Phi 0.12$ (mm)	24(ref)			

拟制/PREPARED BY:

吴子晗

审核/CHECKED BY:

薄双燕

批准/RATIFIED BY:

陈余想

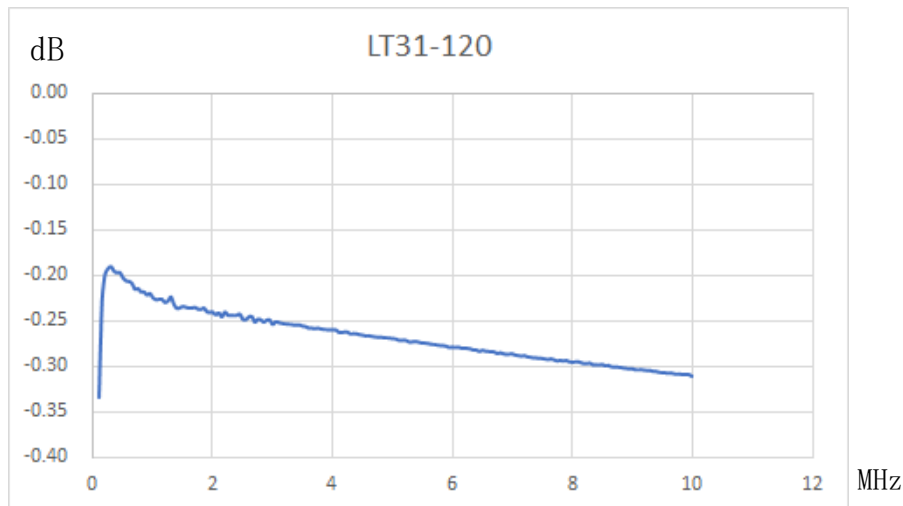
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#### 4. 电气参数/ ( ELECTRICAL SPECIFICATION )

序号 NO.	项目 ITEMS	测量端 MEASURING POINT	规格参数 SPECIFICATION	测量条件(AT 25°C) TEST CONDITION	测试仪器 APPARATUS
1	电感量 Inductance	1-3	475uH Min.	10KHz/0.1V 串联测试	TH8300
2	漏感 Leakage Inductance	1-3(6-4 短接)	1.0uH Max.	10KHz/0.1V 串联测试	
3	耦合电容 Coupling Capacitance	1-6	17.5pF Typ.	100KHz/0.01V 串联测试	
4	伏秒积 Voltage-Time		11 Vus	N1/双极性波形	
5	直流电阻 DC Resistacne	1-3	0.35Ω Max.		TH2516A
		6-4	0.57Ω Max.		
6	匝比 Turns Ratio	(1-3):(6-4)	1:2	10KHz/0.1V	GKT3259
7	绝缘耐压 Insulation Voltage	(1-3) to (6-4)	2.5KV(AC)/60S/1mA		CS9912B

#### 5. 插入损耗曲线/ ( INSERTION LOSS VS FREQ. )



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6. 推荐回流焊曲线/ (CLASSIFICATION REFLOW PROFILES)

Profiles are based on the IPC/JEDEC J-STD-020D standard\*Figure 1 shows a typical profile and Table 1 lists the "reflow requirements"associated with this profile. Small volume SMD packages are typically classified at higher peak temperatures(**typical value is highlighted in bold,see Table 2**). Exceeding these conditions may lower product reliability.

Figure 1 – Reflow Profile for Solderability Testing

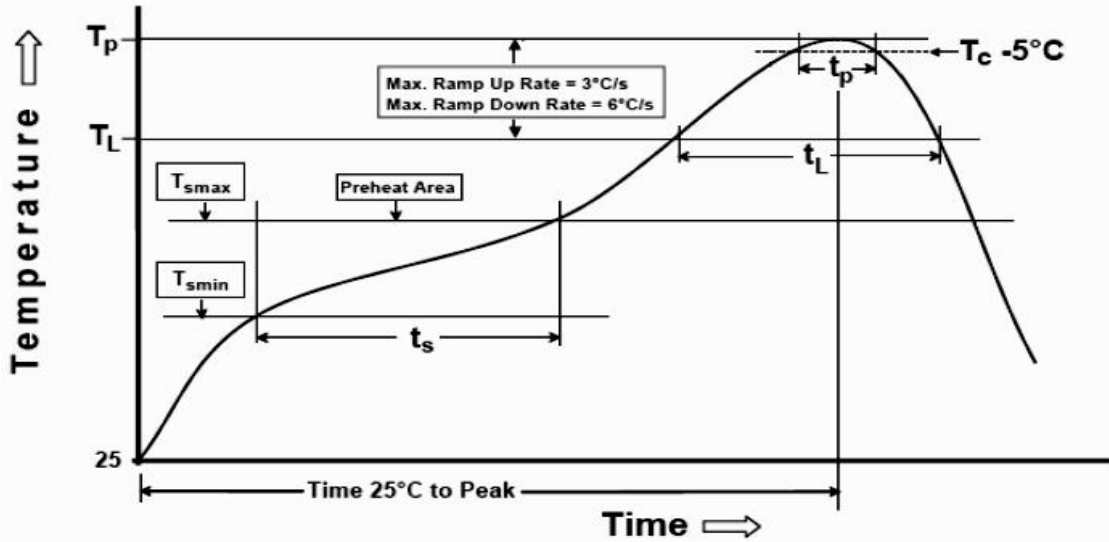


Table 1-Reflow Requirements for Solderability Testing

Reflow Parameter	Specification
Preheat temperature(Tsmin-Tsmax)	150°C-200°C
Preheat Time(ts)	60-180 seconds
Ramp-up Rate(TL-Tp)	3°C/second maximum
Time Above 217°C(TL)	60-150 seconds
Peak Temperature(Tp)	see Table 2
Time Within 5°C of Peak(Tp)	20-40 seconds
Ramp-down Rate(Tp-TL)	6°C/second maximum
25°C to Peak Temperature(T to Tp)	8minutes maximum

\*Table adapted from JEDEC Standard IPC/JEDEC J-STD-020D.

Table 2-Peak Temperatures for Lead Free Components

Package Thickness	Volume mm3	Volume mm3	Volume mm3
	<350	350-2000	>2000
<1.6mm	260+0-5°C	260+0-5°C	260+0-5°C
1.6-2.5mm	260+0-5°C	250+0-5°C	245+0-5°C
>2.5mm	<b>250+0-5°C</b>	245+0-5°C	245+0-5°C

拟制/PREPARED BY:  
 吴子晗

审核/CHECKED BY:  
 薄双燕

批准/RATIFYIED BY:  
 陈余想

客户/CLIENT :

型号/MODEL : LT31-120

承制方/MANUFACTURER: 上海立凯电控科技有限公司

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## 电子样品检验报告

客户名称		部件名称	耦合变压器
客户料号		公司料号	LT31-120

一、电气性能                      环境温度 : 25                      湿度 : 75%

测试项目	测试标准&要求		测试数据									
			1	2	3	4	5	6	7	8	9	10
电感量	1-3 (475uH Min.)	10KHz/0.1V 串联测试	595	560	539	592	579	572	545	550	559	603
漏感	1-3(6-4短接) (1.0uH Max.)	10KHz/0.1V 串联测试	0.21	0.20	0.21	0.26	0.25	0.27	0.21	0.26	0.27	0.27
耦合电容	1-6 (17.5pF Typ.)	100KHz/0.01V 并联测试	14.1	16.7	18.1	15.9	15.1	14.9	16.7	18.3	16.2	16.1
匝比	(1-3) : (6-4) = 1:2		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
直流电阻	1-3(0.35Ω Max.)		0.25	0.25	0.25	0.26	0.26	0.25	0.25	0.25	0.24	0.25
	6-4(0.57Ω Max.)		0.48	0.46	0.46	0.48	0.46	0.47	0.48	0.46	0.45	0.47
绝缘耐压	(1-3) to (6-4)	2.5KV(AC) / 60S / 1mA	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

测试仪器 :

1.TH2827C    2.TH2516A    3.GKT3259    4.CS9912B

备注 :

拟制/PREPARED BY: <div style="text-align: center;">吴子晗</div>	审核/CHECKED BY: <div style="text-align: center;">薄双燕</div>	批准/RATIFIED BY: <div style="text-align: center;">陈余想</div>
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型号/MODEL : LT31-120

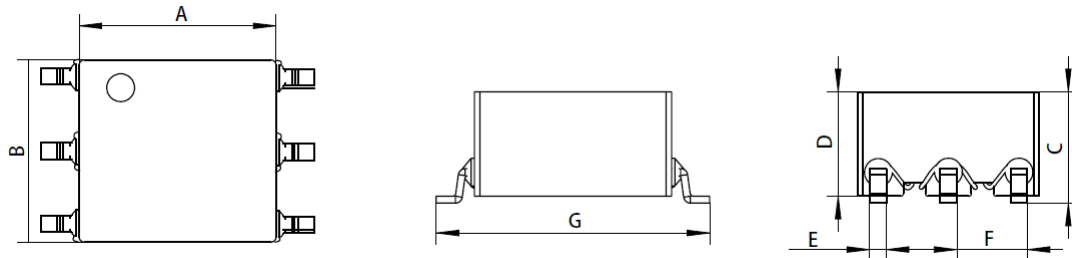
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### 电子样品检验报告

客户名称		部件名称	耦合变压器
客户料号		公司料号	LT31-120

产品图纸



#### 产品尺寸

编号	A	B	C	D	E	F	G
	7.1±0.2	6.55±0.2	4.2 Max	3.75±0.2	0.6 Ref	2.54 Ref	10.2 Max
1	7.14	6.55	4.04	3.83	0.60	2.48	9.71
2	7.14	6.55	4.05	3.83	0.59	2.48	9.72
3	7.16	6.57	4.05	3.83	0.60	2.49	9.69
4	7.15	6.56	4.04	3.82	0.60	2.48	9.70
5	7.16	6.57	4.05	3.84	0.60	2.48	9.72
6	7.14	6.57	4.05	3.81	0.59	2.50	9.70
7	7.14	6.55	4.05	3.79	0.60	2.48	9.70
8	7.15	6.54	4.06	3.80	0.61	2.49	9.71
9	7.15	6.54	4.06	3.78	0.61	2.48	9.69
10	7.15	6.57	4.06	3.80	0.61	2.47	9.70
平均值	7.14	6.55	4.05	3.82	0.60	2.48	9.70
结果	OK	OK	OK	OK	OK	OK	OK

测试仪器:

- 游标卡尺

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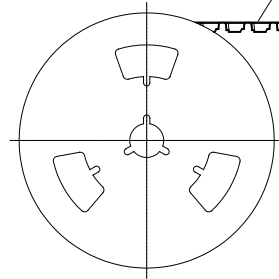
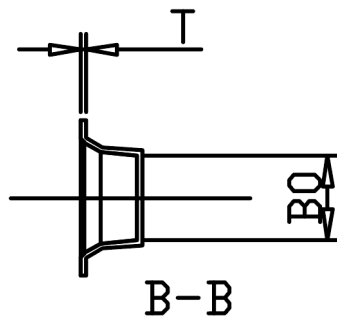
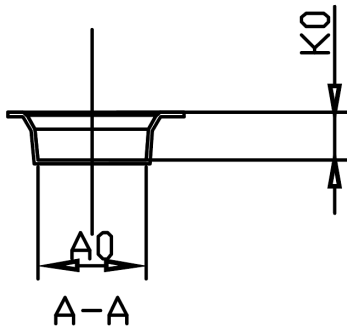
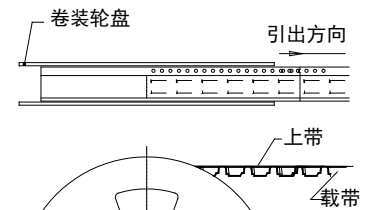
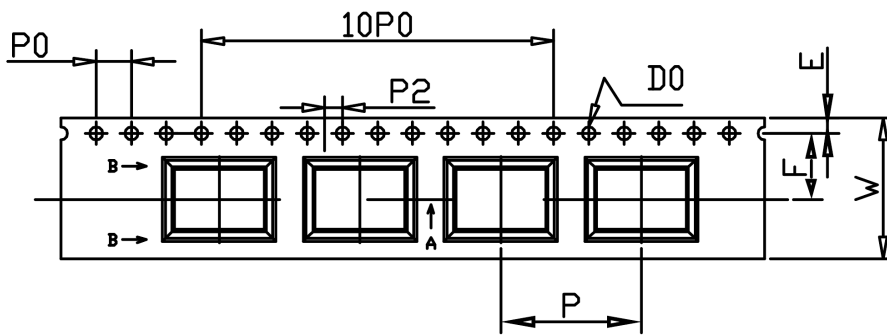
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### 包装信息



330x100x16

包装数 pcs.
900

	E(mm)	E2(mm)	F(mm)	P2(mm)	D0(mm)	P0(mm)	10P0(mm)	W(mm)	P(mm)	A0(mm)	B0(mm)	K0(mm)	T(mm)
公差	±0.1	Min.	±0.1	±0.15	+0.1-0.0	±0.1	±0.2	±0.3	±0.1	±0.1	±0.1	±0.1	±0.05
数量	1.75		7.5	2.0	1.5	4.0	40.0	16.0	16.0	10.2	6.85	4.50	0.4

### 外箱标签

**上海立凯电控科技有限公司**

Shanghai Linekey Technology Co., Ltd.

客户编码: xxxxxxxx      Order Number: xxxxxxxx

Quantity: xx PCS      Date Code: xxxx-xx-xx



xxxxxxx

拟制/PREPARED BY: 吴子哈	审核/CHECKED BY: 薄双燕	批准/RATIFYIED BY: 陈余想
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