

Customer:

Sample No.	YKDH20130982
Date	01-Jun-23

[☒ New Released, ☐ Revised]

SPECIFICATIONS

Product SMD Power Inductors

Name:

Yankeda

Part Number:

YKCD54-4R7MT(f)

Customer

171100010

Part Number:

【For Customer approval Only】

Date: _____

Approved By	Verified By	Re-checked By	Checked By

Shenzhen Yankeda Electronics Co., Ltd.

Approved By	Checked By	Issued By
		

SHENZHEN YANKEDA ELECTRONICS CO., LTD.

Yankeda

Tel:0086-755-28123990 Fax:0086-755-29734880

Shenzhen Yankeda Electronics Co., Ltd.

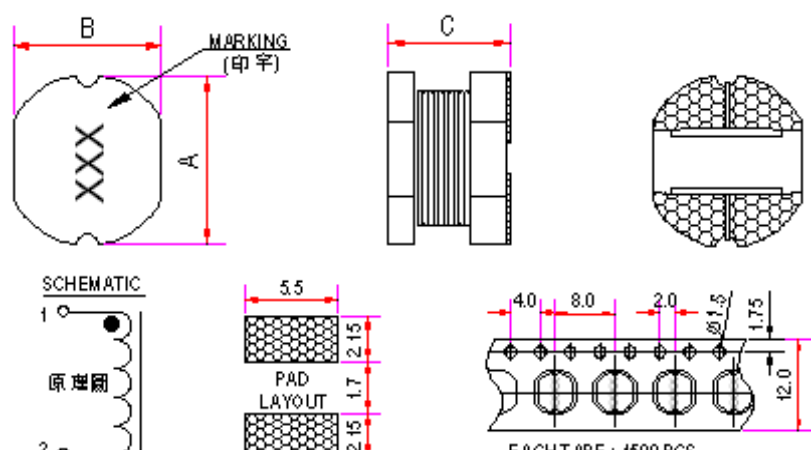
URL: <http://www.szykd.com> E-mail: market@szykd.com

TEL: 0755-28123990 FAX: 0755-29734880

SPECIFICATION

CUSTOMER:	Page 2 of 8
-----------	-------------

YKD P/N: YKCD54-4R7MT(f)	LOT NO : 20130982
--------------------------	-------------------

1.MECHANICAL DIMENSIONS DRAW NO:YKCD54	Item	Spec(mm)	Ref.
 SCHEMATIC 原理图 PAD LAYOUT EACH TAPE : 1500 PCS	A	5.8±0.3	
	B	5.2±0.3	
	C	4.5±0.35	
	D		
	E		
	F		
	G		
	H		
	I		
	Marking: Black Ink "4R7"		

2.ELECTRICAL CHARACTERISTICS:

Item	Spec	Ref.	Test Equipments
L	4.7uH ±20%	4.78uH	TH2819PRECISIONLCRMETER
Test Freq	L@100KHz/0.25V		
L load	L+3.2A:L DROP 20%Max	4.12uH	VR1153 & VR7210
Test Freq	L@100KHz/0.25V		
DCR	50mΩ Max	37.15mΩ	TH2819PRECISIONLCRMETER
Turn	13 (REF)		
Ope.Temp	-40 TO 85℃		

CUSTOMER APPROVED	APPROVED	CHECKED	DRAWN
			

ISSUE DATE 1-Jun-23	PRINT DATE: 1-Jun-23	REV:1.0
---------------------	----------------------	---------

FRM-ENGRD-007

As soon as this specification approved by your company,products will be provided as this specification.
A written notice is needed immediately,whenever there is a changing to product specification.We won't
answer for any consequences unless the written notice is received by our company before production.

Shenzhen Yankeda Electronics Co., Ltd.

URL: <http://www.szykd.com> E-mail: market@szykd.com

TEL: 0755-28123990 FAX: 0755-29734880

SPECIFICATION

CUSTOMER:	Page 3 of 8
-----------	-------------

YKD P/N: YKCD54-4R7MT(f)	LOT NO : 20130982
--------------------------	-------------------

3.MAIN MATERIALS & SUPPLIERS:

Item	Suppter	SGS No
1-CD5.8*5.2*4.5-2.5-WC	UNITED ELECTRONICS CO.,LTD	CANEC0900289101
2-2UEWH-0.35mm	SHENGAHG ELECTRICAL INDUSTRIAL CO.,LTD	GZ1002014638
3-SOLDERWIRE-Ag	SHEN ZHEN QIAN TIAN SOLDER CO.,LTD	GZ1002014172A

4.PACKAGING MATERIALS & SUPPLIERS:

5-REEL-13"xW12MM	CHI SHING(H.K) INDUSTRIAL CO.,LTD	CANEC0900349101
5-CARRIER-YKCD54	CHI SHING(H.K) INDUSTRIAL CO.,LTD	SH8175356-1/CHEM
5-COVER-9.3MM	CHI SHING(H.K) INDUSTRIAL CO.,LTD	SH8175366-1/CHEM

5.NOTES:

	APPROVED	CHECKED	DRAWN
			

ISSUE DATE: 1-Jun-23	PRINT DATE: 1-Jun-23	REV:1.0
----------------------	----------------------	---------

FRM-ENGRD-007

As soon as this specification approved by your company,products will be provided as this specification.
A written notice is needed immediately,whenever there is a changing to product specification.We won't
answer for any consequences unless the written notice is received by our company before production.

Shenzhen Yankeda Electronics Co., Ltd.

URL: <http://www.szykd.com> E-mail: market@szykd.com

TEL: 0755-28123990 FAX: 0755-29734880

TEST REPORT

CUSTOMER :		Page 4 of 8	
YKD P / N : YKCD54-4R7MT(f)		DATE : 01-Jun-23	
LOT NO : 20130982		SHAPE : 	
QUANTITY : 10			
TEST FREQ.: L@100KHz/0.25V			
COIL DESCRIPTION :			
WIRE : 0.35 mm	TURN : 13 Ts		
TEMP: 25 °C	HUMI: 60 %		

ELECTRICAL CHARACTERISTICS AND MECHANICAL DIMENSIONS (m/m) :

ITEM	L	L + 3.2A	DCR	A	B	C	D	E	F	G	H
SPEC	4.7uH	4.7uH	50	5.8	5.2	4.5					
TOL.	±20%	-20%	mΩ	±0.3	±0.3	±0.35					
1	4.72	4.02	37.15	5.71	5.22	4.61					
2	4.75	4.05	35.25	5.76	5.22	4.65					
3	4.71	4.03	36.11	5.74	5.23	4.62					
4	4.73	4.01	35.24	5.76	5.25	4.66					
5	4.72	4.05	34.52	5.77	5.24	4.63					
6	4.71	4.06	35.22	5.74	5.23	4.67					
7	4.77	4.11	36.11	5.73	5.26	4.66					
8	4.78	4.02	36.25	5.71	5.22	4.65					
9	4.75	4.12	34.15	5.75	5.25	4.66					
10	4.72	4.10	35.25	5.76	5.23	4.63					
Max	4.78	4.12	37.15	5.77	5.26	4.67					
Min	4.71	4.01	34.15	5.71	5.22	4.61					
$\bar{X}$	4.74	4.06	35.53	5.74	5.24	4.64					
JUDGE	OK	OK	OK	OK	OK	OK					

APPROVED	INSPECTED

FRM-ENGRD-007

As soon as this specification approved by your company, products will be provided as this specification. A written notice is needed immediately, whenever there is a changing to product specification. We won't answer for any consequences unless the written notice is received by our company before production.

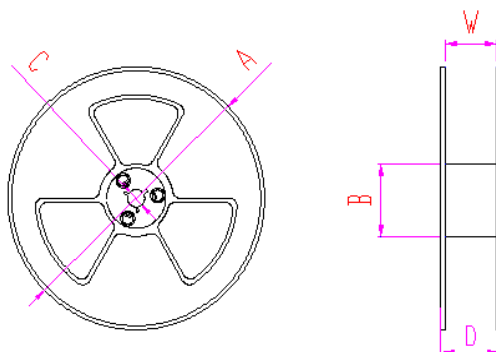
PACKAGE SPEC

CUSTOMER :

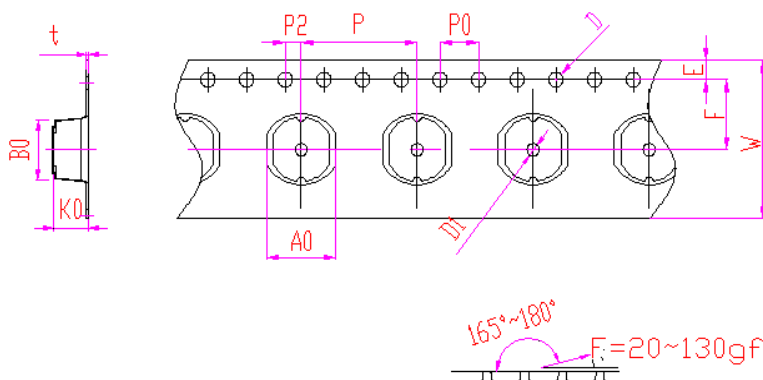
Page 5 of 8

DATE : 1-Jun-23

1. 每卷轴包装数量:1500PCS/R (开始与结尾留空30~40cm不装COIL), 贴上正确的标签,卷轴及载带尺寸.如图(一)

卷轮尺寸 (REEL DIMENSIONS) 一般公差 $\pm 0.5\text{mm}$

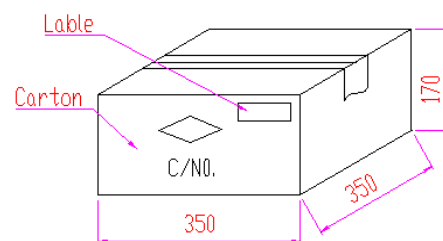
A	B	C	W	D
$\Phi 330$	$\Phi 100$	$\Phi 13.5$	12.5	18.5



载带尺寸 (TAPE DIMENSIONS):

W	A0	B0	K0	P	F	E	D	D1	P0	P2	t
12 ± 0.3	5.6 ± 0.1	6.2 ± 0.1	5.0 ± 0.1	8 ± 0.1	5.5 ± 0.1	1.75 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	4 ± 0.1	2 ± 0.1	0.4 ± 0.05

3. 每箱包装数量可依照客户要求。



FRM-ENGRD-007

As soon as this specification approved by your company, products will be provided as this specification. A written notice is needed immediately, whenever there is a changing to product specification. We won't answer for any consequences unless the written notice is received by our company before production.

Shenzhen Yankeda Electronics Co., Ltd.

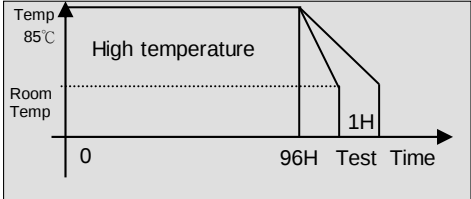
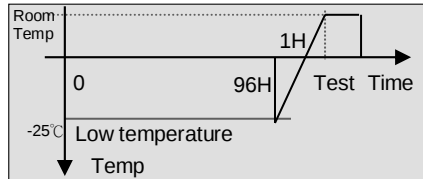
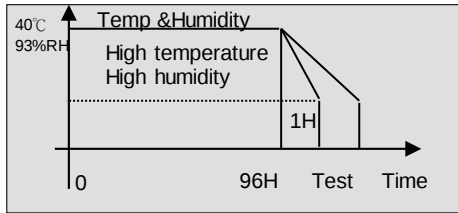
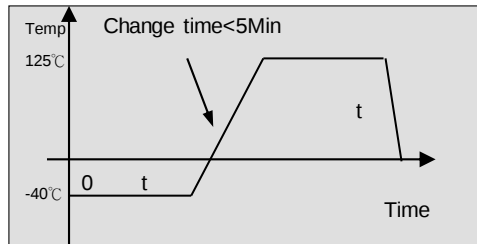
URL: <http://www.szykd.com> E-mail: market@szykd.com

TEL: 0755-28123990 FAX: 0755-29734880

RELIABILITY TEST CONDITIONS

FOR SMT/SMD PRODUCTS

Page 6 of 8

Environmental tests (环境试验)	Item(项目)	Required Characteristics(要求)	Test Method / Condition(测试方法)
	High temperature Storage test Reference documents: MIL-STD-202G Method 108A 高温储存试验	1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$ 1.无明显的外观缺陷 2.电感量变化不超过10% 3.直流电阻变化不超过10%	Temperature: $85 \pm 2^\circ\text{C}$ Time : 96 ± 2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.  温度: $85 \pm 2^\circ\text{C}$ 时间: 96 ± 2 小时 样品在室温下放置1小时,不超过2小时内进行测试.
	Low temperature Storage test Reference documents: IEC 68-2-1A 6.1 6.2 低温储存试验	1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$ 1.无明显的外观缺陷 2.电感量变化不超过10% 3.直流电阻变化不超过10%	Temperature: $-25 \pm 2^\circ\text{C}$ Time : 96 ± 2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.  温度: $-25 \pm 2^\circ\text{C}$ 时间: 96 ± 2 小时 样品在室温下放置1小时,不超过2小时内进行测试.
	Humidity test Reference documents: MIL-STD-202G Method 湿度测试	1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$ 1.无明显的外观缺陷 2.电感量变化不超过10% 3.直流电阻变化不超过10%	1. Dry oven at a temperature of $40^\circ \pm 5^\circ\text{C}$ for 24 hours. 2. Measurements At the end of this period 3. Exposure: Temperature: $40 \pm 2^\circ\text{C}$, Humidity: $93 \pm 3\% \text{RH}$ Time : 96 ± 2 hours 4. Tested while the specimens are still in the chamber 5. Tested not less than 1 hour, nor more than 2 hours at room temperature.  1.样品必须先在$40 \pm 5^\circ\text{C}$条件下干燥24小时 2.干燥后测试 3.试验条件: 温度:$40 \pm 2^\circ\text{C}$, 湿度: $93 \pm 3\% \text{RH}$ 时间 : 96 ± 2 hours 4.试验结束后,在试验箱中进行测试. 5.样品在室温下放置1小时,不超过2小时内进行测试.
	Thermal shock test Reference documents: MIL-STD-202G Method 107G 热冲击测试	1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$ For T: weight $\leq 28\text{g}$: 15Min; $28\text{g} \leq \text{weight} \leq 136\text{g}$: 30Min 1.无明显的外观缺陷 2.电感量变化不超过10% 3.直流电阻变化不超过10%	First -40°C for T time, last 125°C T time as 1 cycle. Go through 20 cycles.  从-40°C作用T分钟,然后温度冲击到125°C作用T分钟,作为一个循环,共作用20次.

Shenzhen Yankeda Electronics Co., Ltd.

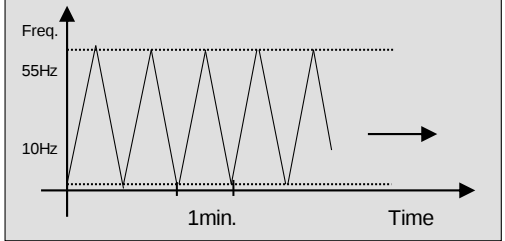
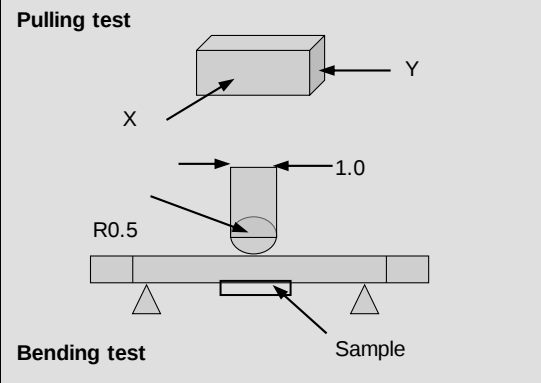
URL: http://www.szykd.com E-mail: market@szykd.com

TEL: 0755-28123990 FAX: 0755-29734880

RELIABILITY TEST CONDITIONS

FOR SMT/SMD PRODUCTS

Page 7 of 8

Physical characteristic tests (物理特性试验)	Item(项目)	Required Characteristics(要求)	Test Method / Condition(测试方法)
	Solderability test Reference documents: MIL-STD-202G Method 208H IPC J-STD-002B 可焊性测试	Terminals area must have 95% min. solder coverage 端子上锡率95%以上	1. Dip pads in flux then dip in solder pot at 245±5℃ for 5 seconds. 2. Solder: Sn(63)/Pb(37) 3. Flux: rosin flux 1. 端子浸入助焊剂, 然后浸入245±5℃锡炉中5秒钟 2. 焊料: Sn(63)/Pb(37) 3. 助焊剂: 松香助焊剂
	Heat endurance of Reflow soldering Reference documents: IPC J-STD-020B 回流焊测试	1. No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$ 1. 无明显的外观缺陷 2. 电感量变化不超过10% 3. 直流电阻变化不超过10%	1. Refer to the next page reflow curve Go through 3 times 2. The peak temperature : 245±5℃ 1. 参照下页回流焊曲线过三次 2. 峰值温度为: 245±5℃
	Vibration test Reference documents: MIL-STD-202G Method 201A 振动测试	1. No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$ 1. 无明显的外观缺陷 2. 电感量变化不超过10% 3. 直流电阻变化不超过10%	Apply frequency 10~55Hz. 0.75mm amplitude in each of perpendicular direction for 2 hours. (total 6 hours)  振动频率: 10~55Hz, 振幅: 0.75mm, 沿X, Y, Z方向各振动2小时.(共6小时)
	Drop test Reference documents: MIL-STD-202G Method 跌落试验	1. No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$ 1. 无明显的外观缺陷 2. 电感量变化不超过10% 3. 直流电阻变化不超过10%	Packaged & Drop down from 1m with 981m/s ² (100G) attitude In 1 angle 1 ridges & 2 surfaces orientations. 将产品包装后从1米高度自然落下至试验板上 跌落方向为两个表面方向的一个棱面的一个棱角
	Terminal strength push test Reference documents: JIS C 5321 :1997 端子强度试验	Pulling test: Define: A: sectional area of terminal A ≤ 8mm ² force ≥ 5N time: 30sec 8mm ² < A ≤ 20mm ² force ≥ 10N time: 10sec 20mm ² < A force ≥ 20N time: 10sec Bending test: Soldering the products on PCB, after the pulling test and bending test, terminal should not pull off 推力测试: 定义: A: 焊接端子截面积 A ≤ 8mm ² 推力 ≥ 5牛顿 时间: 30秒钟 8mm ² < A ≤ 20mm ² 推力 ≥ 10牛顿 时间: 10秒钟 20mm ² < A 推力 ≥ 20牛顿 时间: 10秒钟 弯折测试: 将产品焊接在PCB上, 分别经过推力测试和弯折测试后, 端子不会发生松脱	Bend the testing PCB at middle point, the deflection shall be 2mm  将PCB对重弯折, 到达扰度2mm.
	Resistance to solvent test Reference documents: IEC 68-2-45:1993 耐溶剂性试验	No case deformation or change in appearance, or obliteration of marking 无外观破坏及标记破损	To dip parts into IPA solvent for 5±0.5Min, then drying them at room temp for 5Min, at last, to brushing making 10 times. 在IPA溶剂中浸泡5±0.5分钟, 室温下干燥5分钟, 然后擦拭10次.

Shenzhen Yankeda Electronics Co., Ltd.

URL: <http://www.szykd.com> E-mail: market@szykd.com

TEL: 0755-28123990 FAX: 0755-29734880

RELIABILITY TEST CONDITIONS

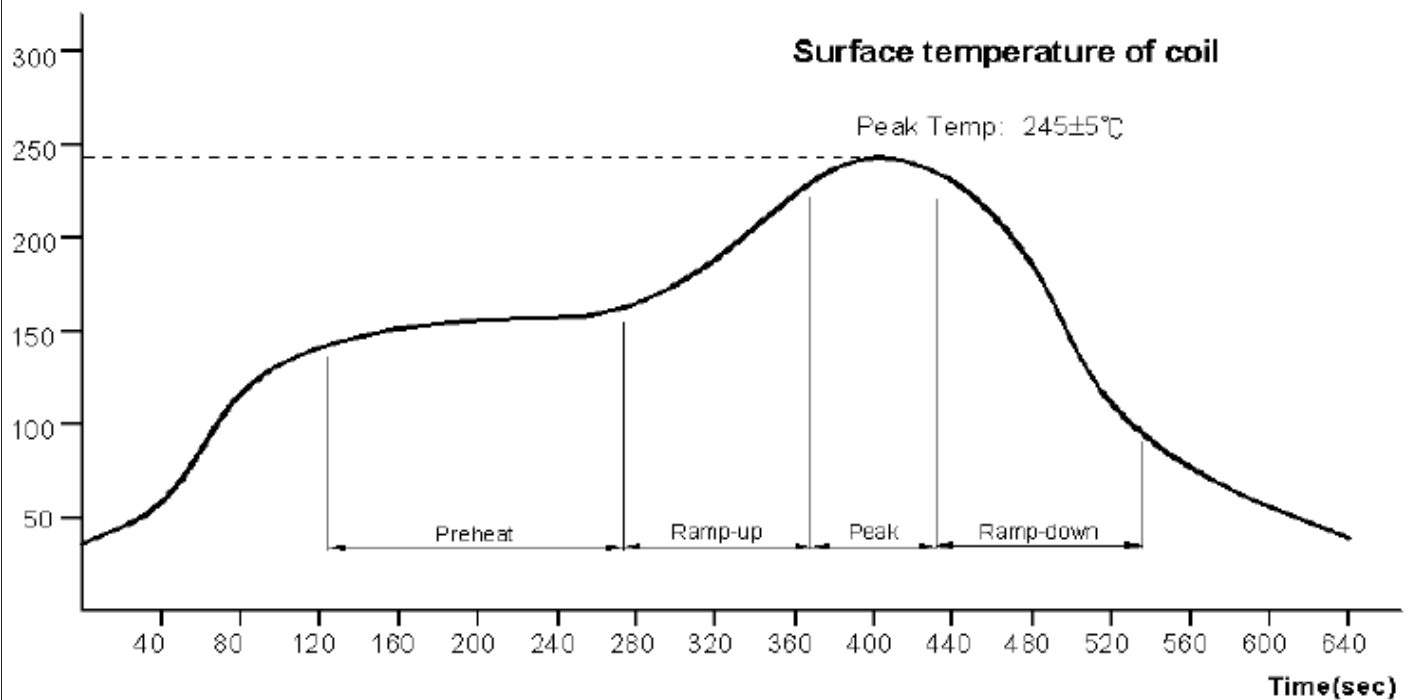
FOR SMT/SMD PRODUCTS

Page 8 of 8

Electrical Characteristic tests (电特性试验)	Item(项目)	Required Characteristics(要求)	Test Method / Condition(测试方法)
	Electronic characteristic test of major products 主要产品电特性测试	Refer to catalogue of specific products 参照具体产品目录页	Refer to catalogue of specific products 参照具体产品目录页
	Overload test Reference documents: JIS C5311-6.13 过负荷试验	1. During the test no smoke, no peculiar, smell, no fire 2. The characteristic is normal after test 1. 试验过程中无冒烟、异味、着火等; 2. 试验后产品特性正常.	Apply twice as rated current for 5 minutes. 通过两倍额定电流5分钟
	voltage resistance test Reference documents: MIL-STD-202G Mthod 301 绝缘耐压测试	1. During the test no breakdown 2. The characteristic is normal after test 1. 实验过程中无击穿 2. 试验后产品特性正常	1. For parts with two coils 2. DC1000V, Current: 1mA, Time: 1Min. 1. 只针对SMT二绕组以上 2. 电压DC1000V, 电流1mA, 时间1分钟.

Curve of Heat endurance of Reflow soldering test

Temp.(°C)



A test is made under the conditions mentioned above. And it is left 1 hours in the normal temperature and humidity. After that, no mechanical and electrical defeat should be found out.

The reflow condition is according to the machine used by our company.