客户 Customer: 日期 DATE:

纳入仕样书
SPECIFICATION

产 品 名 称 PRODUCT NAME: 声表滤波器

SAW Filter

贵 司 料 号 YOUR PART NO.:
敝 司 料 号 OUR PART NO.: MS15U1G90-DI3439C
版 本 号 VERSION.: V1.2

接受 RECEPTION THE SPECIFICATION HAS BEEN ACCEPTED. 该纳入仕样书已被我司接受 日期： DATE： 公司： COMPANY：		
批准 CFMD	审核 CHKD	接收 RCVD

深圳市麦捷微电子科技股份有限公司
SHENZHEN MICROGATE TECHNOLOGY CO.，LTD
TEL：86-755-28085000
FAX：86-755-28085605

CFMD. 批准	CHKD. 审核	DSGD. 担当
赵拥军	赖定权	吴继航

纳入仕样书改定履历

MODIFY HISTORY OF SPECIFICATION

NO.	修改日期/DATE	修改内容/CONTENT	批准/APPROVED
1.0	2019.12.10	初稿 /New Released	赵拥军
1.1	2021.5.28	版本升级/Version Upgrade	赵拥军
1.2	2021.6.8	增加 RoHS compliance 说明， 增加回流焊曲线	赵拥军

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1 适用范围 Scope

麦捷声表滤波器系列产品设计用于 WIFI、GPS、移动电话和无绳电话机等相关市场中。
Microgate SAW Component is applicable for WIFI/GPS/Mobile phone/Cordless phone relevant market.

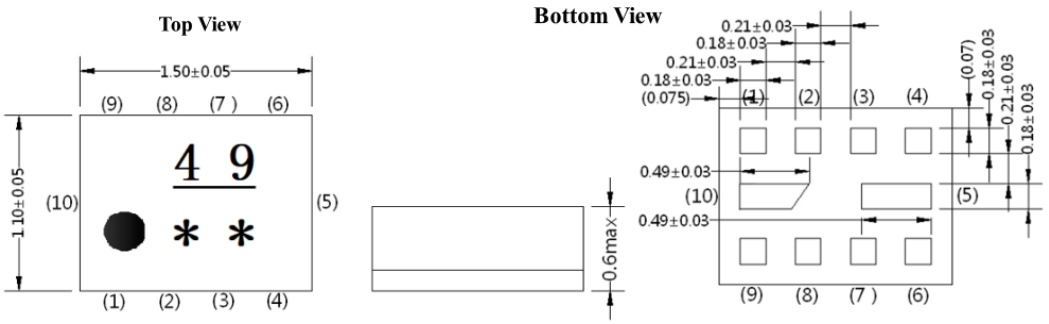
2 品名构成 Product Identification

MS 15 U 1G90 – DI 3439 C
① ② ③ ④ ⑤ ⑥ ⑦

① 麦捷声表滤波器/Microgate SAW
② 尺寸/Size：(20-2016, 18-1814,15-1511,14-1411, 11-1109)
③ 输出/Output：(B-Balance out, U-Unbalance out)
④ 频率/Frequency：（1G90-1.90GHz)
⑤ 型号/Type：(QP-QPX,DU-Duplexer, DI-Diplexer, TX-TX SAW, RX-RX SAW)
⑥ 频段/Band：34-Band34,39-Band39
⑦ 流水号/Serial number

3 尺寸和管脚定义 Dimensions and PIN Configurations

Unit:mm

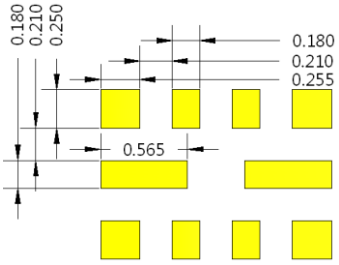


PIN NO.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
PIN Name	Input	GND	GND	GND	GND	High Freq. Port	GND	GND	Low Freq. Port	GND

4 推荐焊盘与测试电路 Recommended Land Pattern and Test Circuit

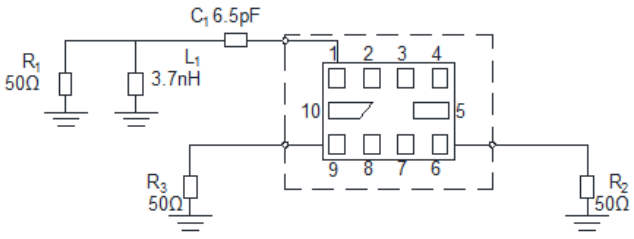
Land Pattern

Unit:mm



Test Circuit

Bottom View



5 电气性能 Electrical Characteristics

操作温度范围 Operating Temperature Range : -20 to +85℃

保存温度范围 Storage Temperature Range : -40 to +85℃

测试温度范围 Test Temperature: 25℃±2℃

湿度敏感等级 Moisture Sensitivity Level: MSL 2a

静电敏感等级 Electrostatic Discharge(ESD) Sensitivity: 250V (Human Body Model)

端口电压 D.C. Volatage between the terminals: 3V (25℃±2℃)

RoHS compliance ： Yes

Table1. Electrical Specification

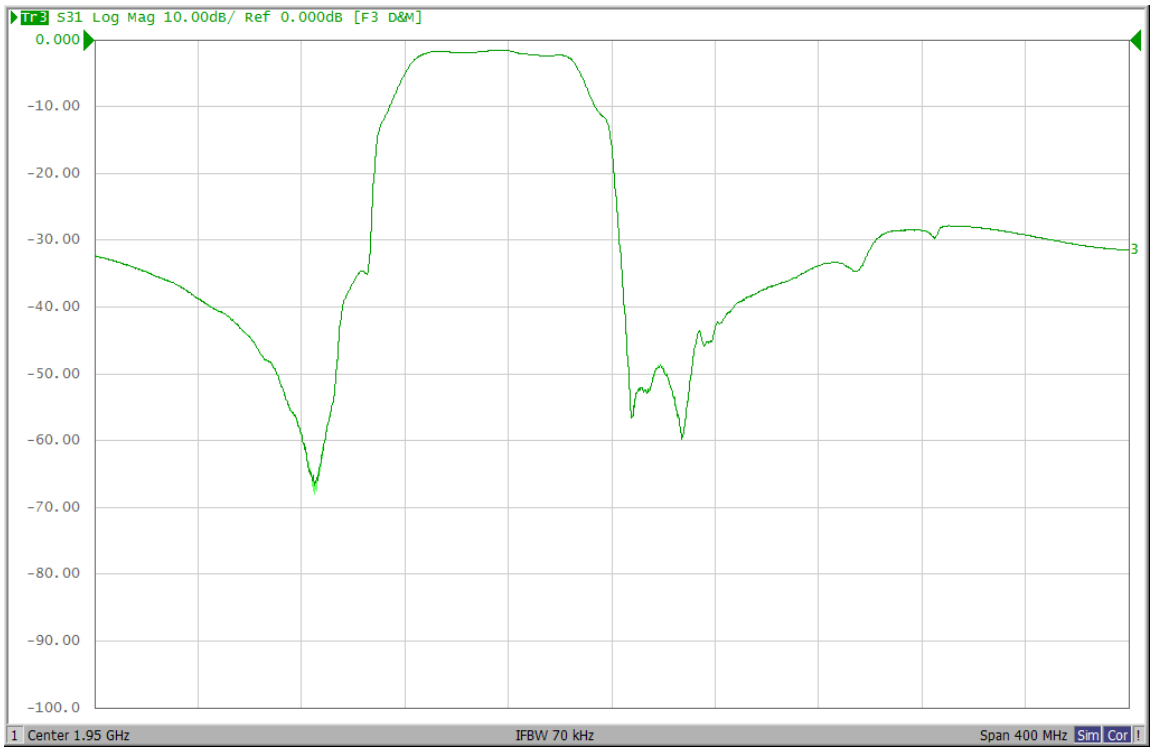
No.	Item		Frequency (MHz)	Specification		
				Min (dB)	Typ. (dB)	Max (dB)
1	Low Freq.	Insertion Loss	1880 ~1920		1.8	2.5
2		Ripple Deviation	1880 ~1920		0.5	1.2
3		Absolute Attenuation	10~1710	27	33	
4			1710~1785	35	40	
5			1795~1820	30	35	
6			1820~1850	30	35	
7			1980~2025	30	36	
9			2400~2500	37	43	
10			4900~5950	21	26	
11			5640~5760	21	26	
12		VSWR	1880 ~1920		1.5	2.0
13	Input Signal Level		Max：13 dBm			

Table2. Electrical Specification

No.	Item		Frequency (MHz)	Specification		
				Min (dB)	Typ. (dB)	Max (dB)
1	High Freq.	Insertion Loss	2010 ~2025		1.6	2.6
2		Ripple Deviation	2010 ~2025		0.5	0.8
3		Absolute Attenuation	10~1925	32	37	
4			1710~1785	36	41	
5			1950~1980	7	15	
7			2075~2110	27	34	
9			2400~2500	42	46	
11			4900~5950	27	33	
12		VSWR	2010 ~2025		1.5	2.0
13	Input Signal Level		Max：13dBm			

Frequency Performance

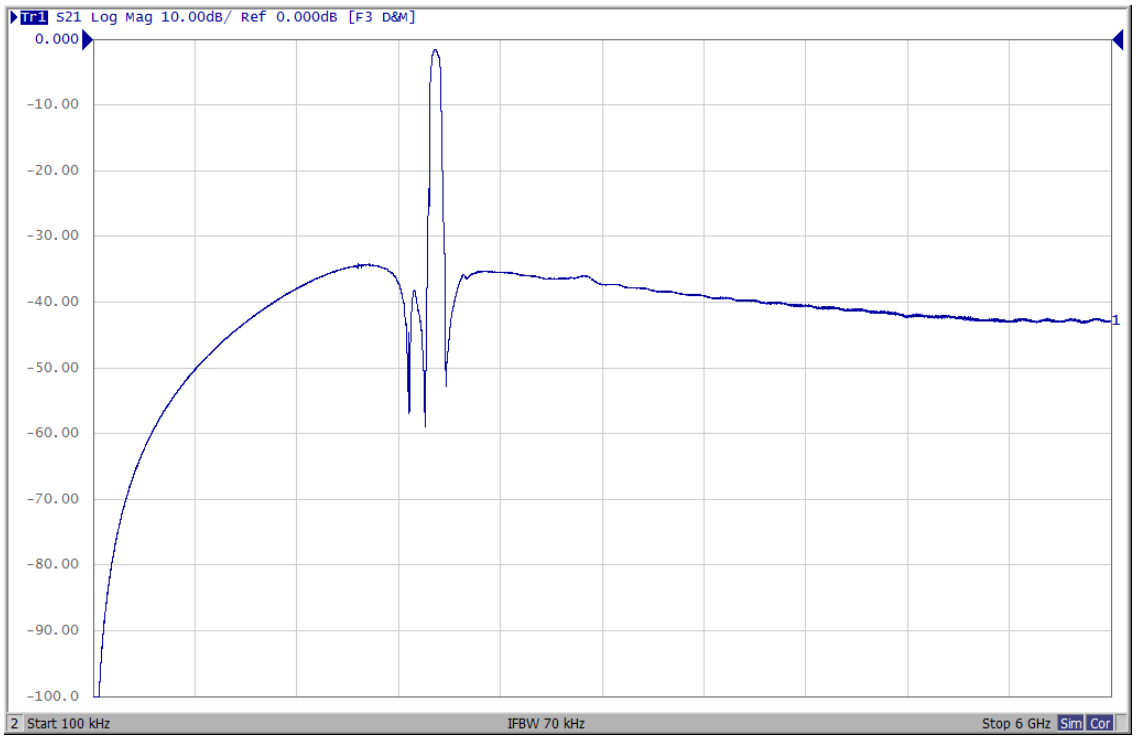
Low Frequency Response



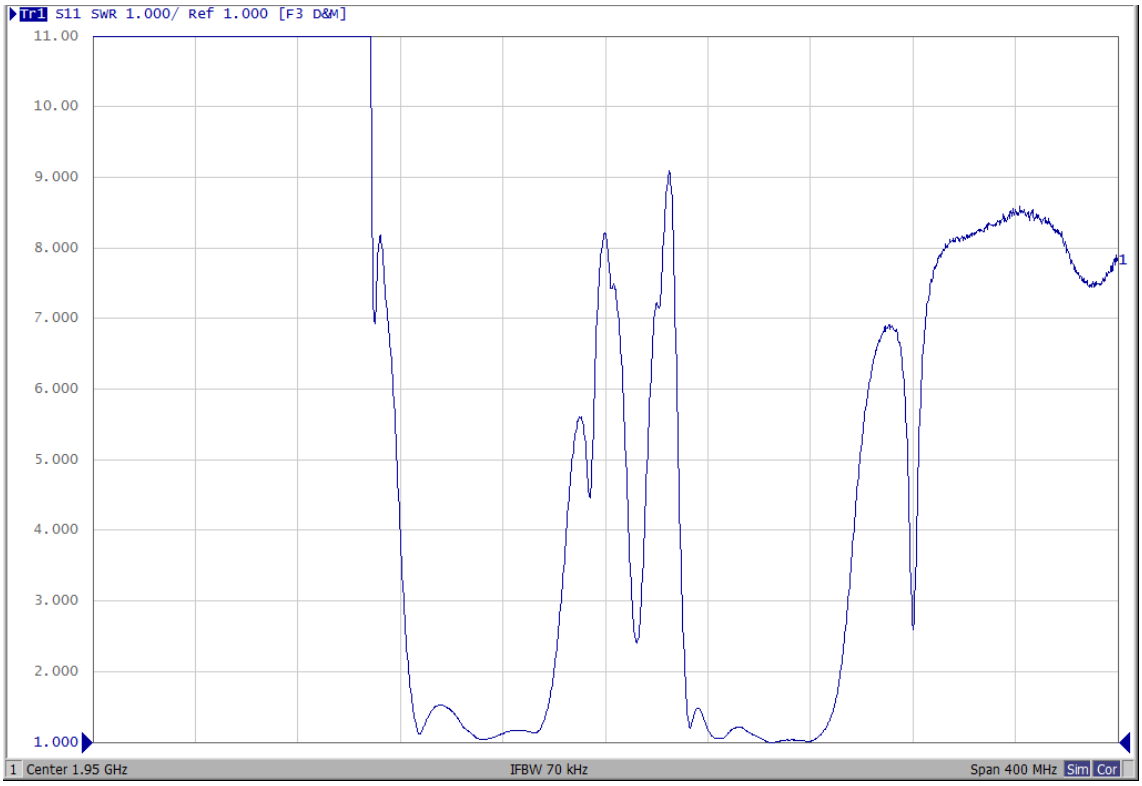


High Frequency Response



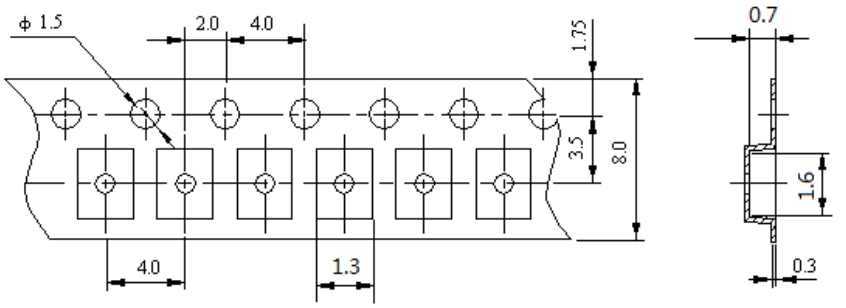


VSWR


Tr1 S11 SWR 1.000/ Ref 1.000 [F3 D&M]
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1
1 Center 1.95 GHz
IFBW 70 kHz
Span 400 MHz
Sim
Cor

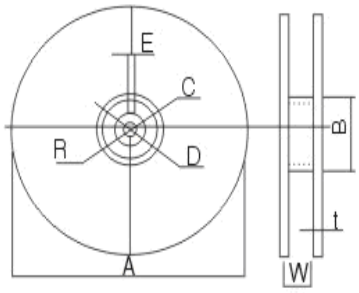
6 包装 Packaging

①编带尺寸 Dimensions of Tape:



②带轮尺寸 Dimensions of Reel

Unit: mm



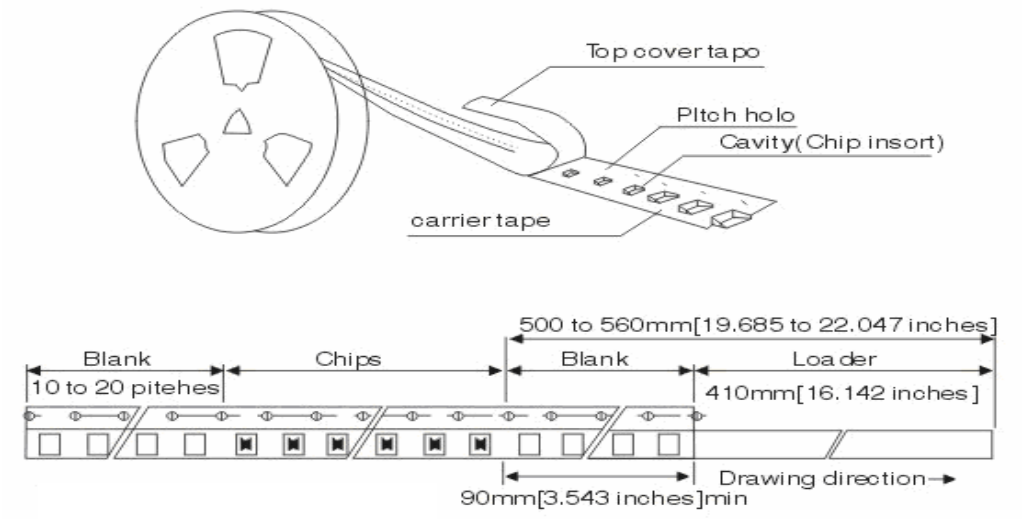
Reel material: PS (Polystyrene)

A	178±2
B	60±2
C	13.0±0.5
D	21.0±0.8
E	2.0±0.5
W	8.5±1.0
t	1.2±0.2
R	1.0±0.25

③编带抗拉强度 Pulling strength of tapes:

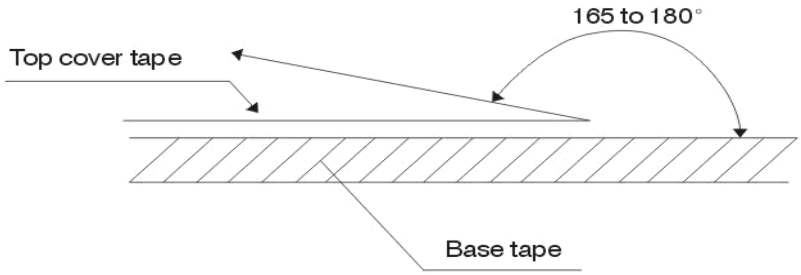
载带 Carrier tape	10N or more (1kgf or more)
上盖带 Cover tape	5N or more (1kgf or more)

④编带简图及拉伸方向 Taping figure and drawing direction:



⑤ 盖带的剥离强度 Peeling strength of cover tape:

盖带 Cover tape	0.3~0.7N (30gf~70gf)

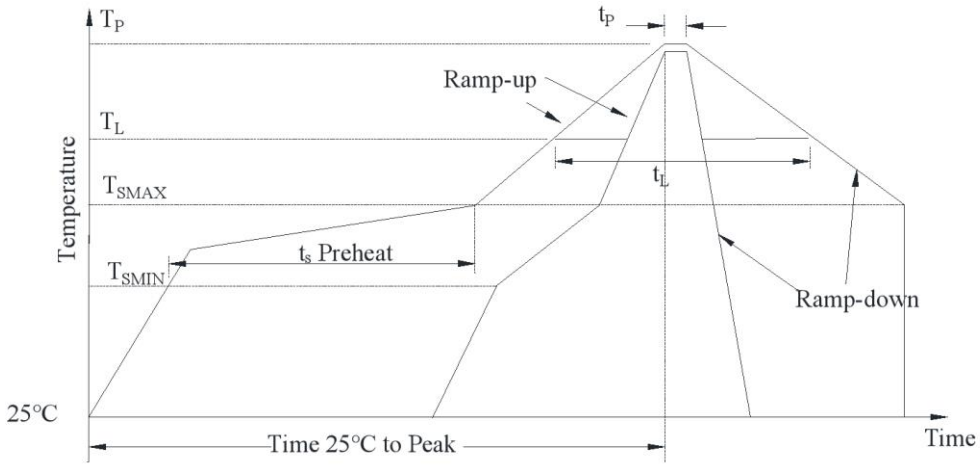


测试条件 Test condition:

1) 剥离角度 peel angle: 165°~180° vs. carrier tape.
2) 剥离速度 peel speed: 300mm/min±10%.

⑥ 包装数量 Packaging quantities: 3000 PCS / Reel

7 推荐回流焊曲线 Recommended Reflow Profile



Profile Feature	Pb-Free
Average Ramp-up rate (TSMAX to TP)	3 ℃/second max.
Preheat - Temperature Min (TSMIN) - Temperature Max (TSMAX) - Time (TSMIN to TSMAX) (ts)	 150 ℃ 200 ℃ 60-180 seconds
Time maintained above: - Temperature (TL) - Time (tL)	 217 ℃ 60-150 seconds
Peak Temperature (TP)	260 ℃
Time within 5 ℃ of actual Peak Temperature (tP)	20-40 seconds
Ramp-down rate (TP to TSMAX)	6 ℃/second max
Time 25 ℃ to Peak Temperature	8 minutes max

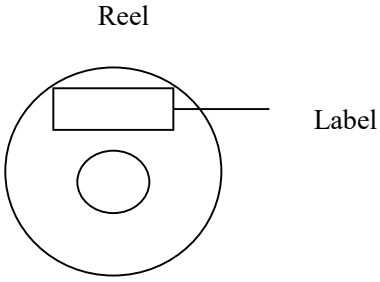
8 装箱清单及标志 Packing documents and marking

① 包装文件 Packing documents

a.装箱清单 Packing list.

b.合格证书 Certificate of compliance.

② 盘上标记 Marking on reels:



a. 麦捷料号 MICROGATE Part No.

b. 生产批号 Lot number

c. 盘装数量 Quantity per reel

d. 检验员号 Inspector No.

以上内容必须在标签上注明.All above shall be shown on marking label

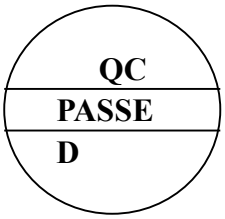
麦捷公司标签如下所示：MICROGATE marking label will be as following:

MICROGATE

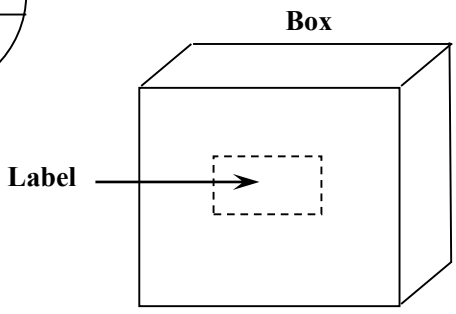
CUSTOMER:	P. O. NO	
CUSTOMER PART NO:	DATE CODE	LOT NO
MG PART NO:	QUANTITY	INSP. NO

MG PART NO

检验合格后，检验员在标签上盖上合格章。合格章如下所示：The eligible reels will be pressed a mark onto the surface. The mark will be as following:



③ 内包装盒标记:Marking on inner box



a.型号 MICROGATE part No.

b.每盒数量 Quantity per box

c. 包装日期 Date

以上内容必须在标签上注明（标签见 7.2 所示）。Above shall be shown on marking label (The marking label is shown in item 7.2).

④外包装箱标记 Marking on outer case:

1) 制造商 Manufacturer: “MICROGATE” □

“中国深圳制造” “Made in Shenzhen CHINA”□

2) 发运标记 Ship marking:

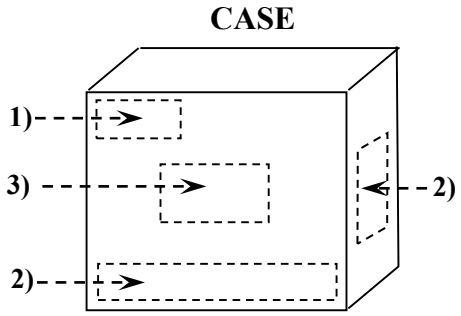
“向上” “UP”, “小心轻放”“HAND CARE”, “防潮”“MOISTURE-PROOF”.

3) 包装标签包括以下内容 Packing label include the following:

a.型号 MICROGATE Part No

b.总数量 Total quantity per case

c.包装日期 Date;



以上内容必须在标签上注明。(参见 7.2 所示)

All above shall be shown on marking label. (The marking label is shown in item 7.2)

9 保管 Storage

保存条件 Storage conditions

●存放货物的库房应满足以下条件 Products should be storage in the warehouse on the following conditions

温度 Temperature: ≤40℃

湿度 Humidity : ≤70% relative humidity

不允许温、湿度有极剧变化。No rapid change on temperature and humidity

●禁止将产品保管在腐蚀性物质中，例如硫磺、氯气或者酸，否则将引起端头氧化，导致降低焊接性。Don’t keep products in corrosive gases such as sulfur, chlorine gas or acid, or it may cause oxidization of electrode, resulting in poor solder ability.

●为了避免受潮气、灰尘等物质的影响，产品应保管于货架上。Products should be storage on the palette for the prevention of the influence from humidity, dust and so on.

●产品保管在库房中时，应避免热冲击，振动以及直接光照等等。Products should be storage in the warehouse without heat shock, vibration, and direct sunlight and so on.

●产品应密封包装 Products should be storage under the airtight packaged condition.