

客户 Customer: \_\_\_\_\_

日期 DATE: \_\_\_\_\_

# 纳入仕様书 SPECIFICATION

产品名称 PRODUCT NAME: 声表双工器

SAW Duplexer

贵司料号 YOUR PART NO.:

敝司料号 OUR PART NO.: MS18U836M-DU05C

版本号 VERSION.: V1.4

接受 RECEPTION

THE SPECIFICATION HAS BEEN ACCEPTED.

该纳入仕様书已被我司接受

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  
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CFMD. 批准	CHKD. 审核	DSGD. 担当
姚艳龙	赖定权	赵新佳

## 纳入仕様书改定履历

### MODIFY HISTORY OF SPECIFICATION

NO.	修改日期/DATE	修改内容/CONTENT	批准/APPROVED
1.0	2016.12.20	初稿 /New Released	梁启新
1.1	2017.4.21	更新规格及数据/Update Specifications and Data	梁启新
1.2	2018.10.10	版本升级/Version Upgrade	姚艳龙
1.3	2018.12.16	版本升级/Version Upgrade	姚艳龙
1.4	2019.05.08	版本升级/Version Upgrade	姚艳龙

## 目录 CATALOG

1 适用范围 Scope.....	4
2 品名构成 Product Identification.....	4
3 尺寸和管脚定义 Dimensions and PIN Configurations.....	4
4 推荐焊盘与测试电路 Recommended Land Pattern and Test Circuit.....	4
5 电气性能 Electrical Characteristics.....	5
6 包装 Packaging.....	11
7 装箱清单及标志 Packing documents and marking.....	12
8 保管 Storage.....	14

## 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。

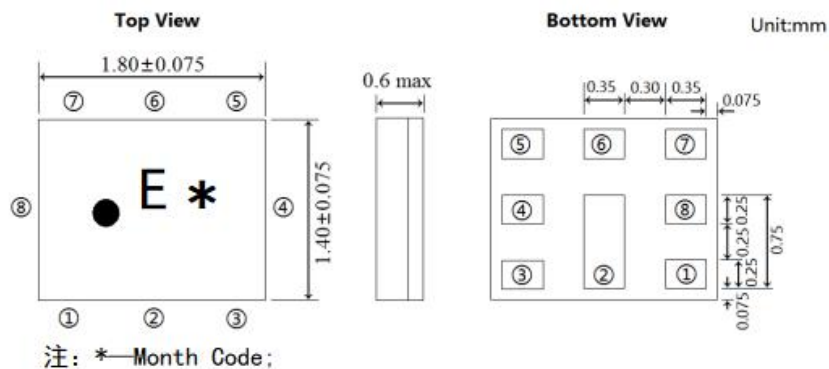
Microgate SAW Component is applicable for WIFI/GPS/Mobile phone/Cordless phone relevant market.

## 2 品名构成 Product Identification

MS 18 U 836M - DU 05 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: (836M-836MHz)
- ⑤ 型号/Type: (QP-QPX, DU-Duplexer, DI-Diplexer, Tx-Tx SAW, Rx-Rx SAW)
- ⑥ 频段/Band: 05-Band5
- ⑦ 流水号/Serial number

## 3 尺寸和管脚定义 Dimensions and PIN Configurations

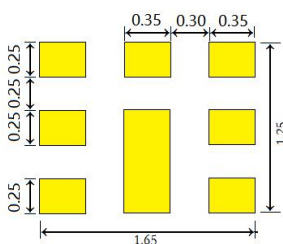


PIN NO.	①	②	③	④	⑤	⑥	⑦	⑧
PIN Name	Rx	GND	Tx	GND	GND	ANT	GND	GND

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

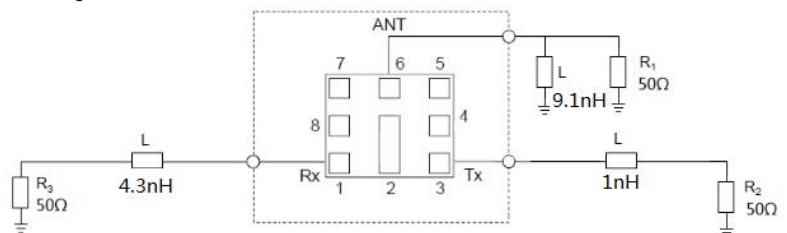
### Land Pattern

Unit:mm



### Test Circuit

Top View



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4

## 5 电气性能 Electrical Characteristics

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

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

测试温度范围 Test Temperature: 25°C±2°C

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°C±2°C)

Table1. Electrical Specification

No.	Item	Frequency (MHz)	Specification				
			Min	Max	Typ.	Unit	
1	Tx to ANT	Insertion Loss	824~849		2.2	1.6	dB
2		Ripple Deviation	824~849		1.3	0.8	dB
3	Absolute Attenuation		10~420	30		39	dB
4			420~494	33		37	dB
5			494~701	30		34	dB
6			699~716	30		33	dB
7			701~728	30		32	dB
8			728~764	30		33	dB
9			764~804	30		37	dB
10			860~869	5		10	dB
11			869~894	44		52	dB
12			1559~1563	30		33	dB
13			1565.42~1573.37	30		33	dB
14			1573.37~1577.47	30		33	dB
15			1577.47~1585.42	30		33	dB
16			1597.55~1605.89	30		33	dB
17			1638~1708	27		32	dB
18			1710~1785	27		31	dB
19			1850~1880	27		31	dB
20			1885~1920	25		30	dB
21			1920~1980	25		30	dB
22			2110~2170	23		27	dB
23			2400~2494	18		21	dB
24			3286~3406	5		12	dB
25			4110~4255	5		10	dB
26			4900~5950	3		10	dB
27		VSWR	824~849(Tx)		2	1.6	
28			824~849(ANT)		2	1.6	
29	Input Signal Level	+30dBm, 5000h(55°C)					

Table2. Electrical Specification

No.	Item		Frequency (MHz)	Specification				
				Min	Max	Typ.	Unit	
1	ANT to Rx	Insertion Loss	869~894		2.5	1.9	dB	
2		Ripple Deviation	869~894		1.2	0.5	dB	
3		Absolute Attenuation		10~447	45		60	dB
4				447~824	40		51	dB
5				824~849	45		55	dB
6				849~854	30		56	dB
7				909~979	10		17	dB
8				1693~1743	40		63	dB
9				1710~1785	50		62	dB
10				1850~1920	40		66	dB
11				1920~1980	40		69	dB
12				1980~2400	35		70	dB
13				2305~2315	40		73	dB
14				2400~2500	40		67	dB
15				2517~2592	40		64	dB
16				2607~2682	40		63	dB
17				3476~3576	38		46	dB
18				4345~4470	23		33	dB
19				4900~5950	20		27	dB
20			VSWR		869~894(ANT)		2.2	1.8
21				869~894(Rx)		2.2	1.8	

Table3. Electrical Specification

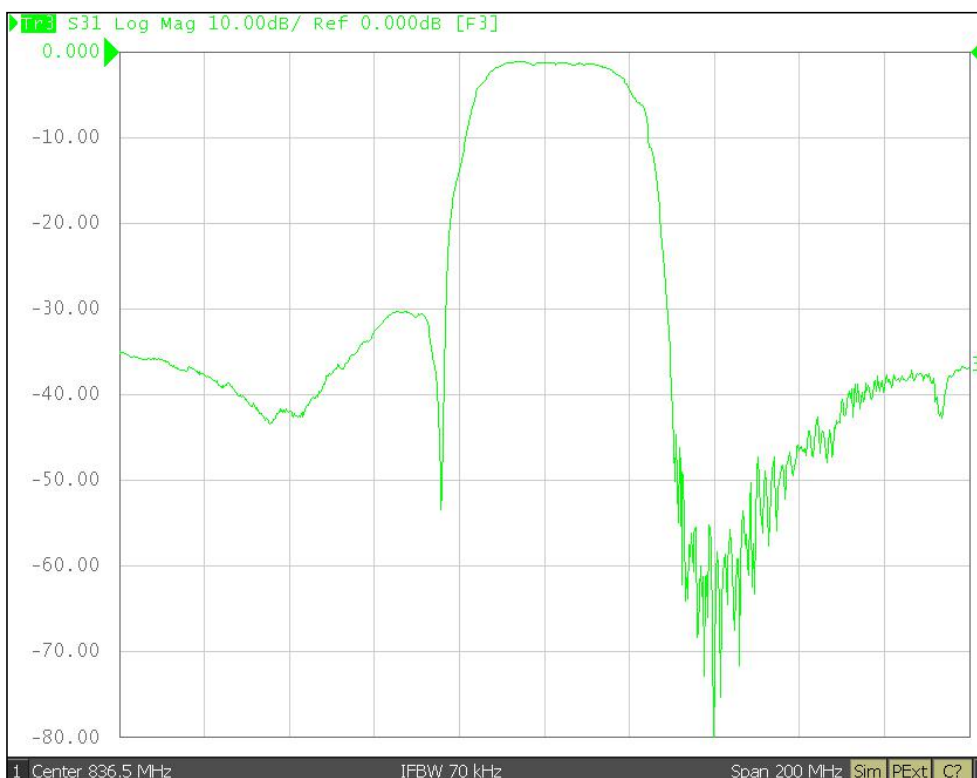
No.	Item		Frequency (MHz)	Specification			
				Min	Max	Typ.	Unit
1	Tx to Rx	Isolation	824~849	52		55	dB
2			869~894	49		51	dB

Table4. Electrical Specification

No.	Item		Specification			
1	Terminating Match Impedance	ANT Port	50Ω/9.1nH		Single-ended	
2		Tx Port	50Ω +4.3nH		Single-ended	
3		Rx Port	50Ω +1nH		Single-ended	

## Frequency Performance

Tx to ANT



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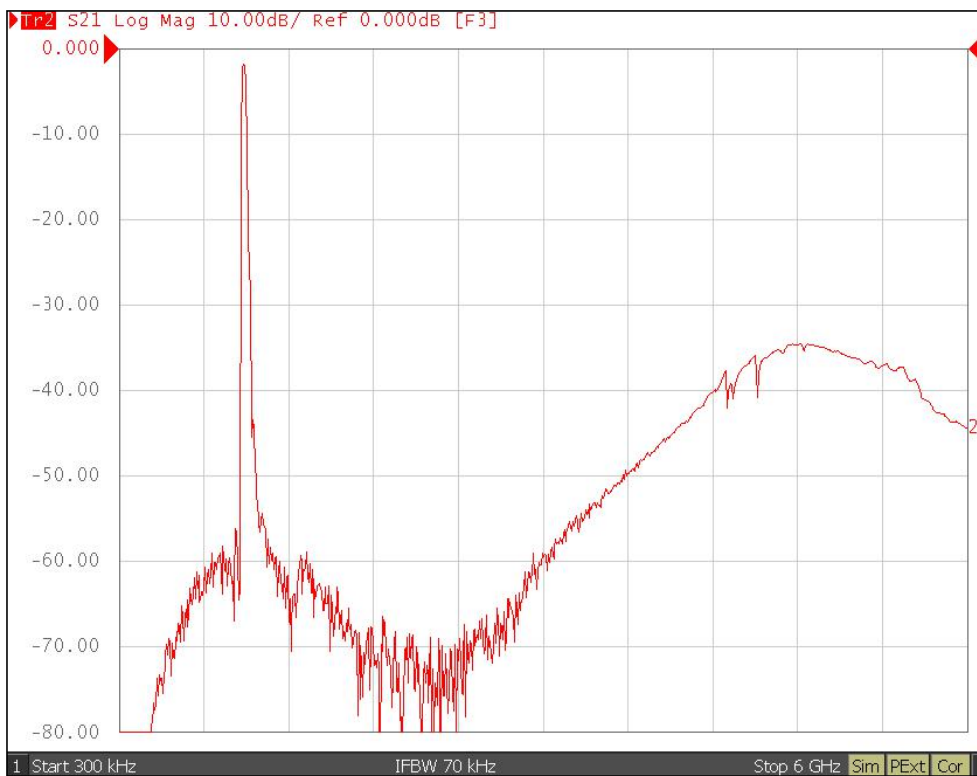
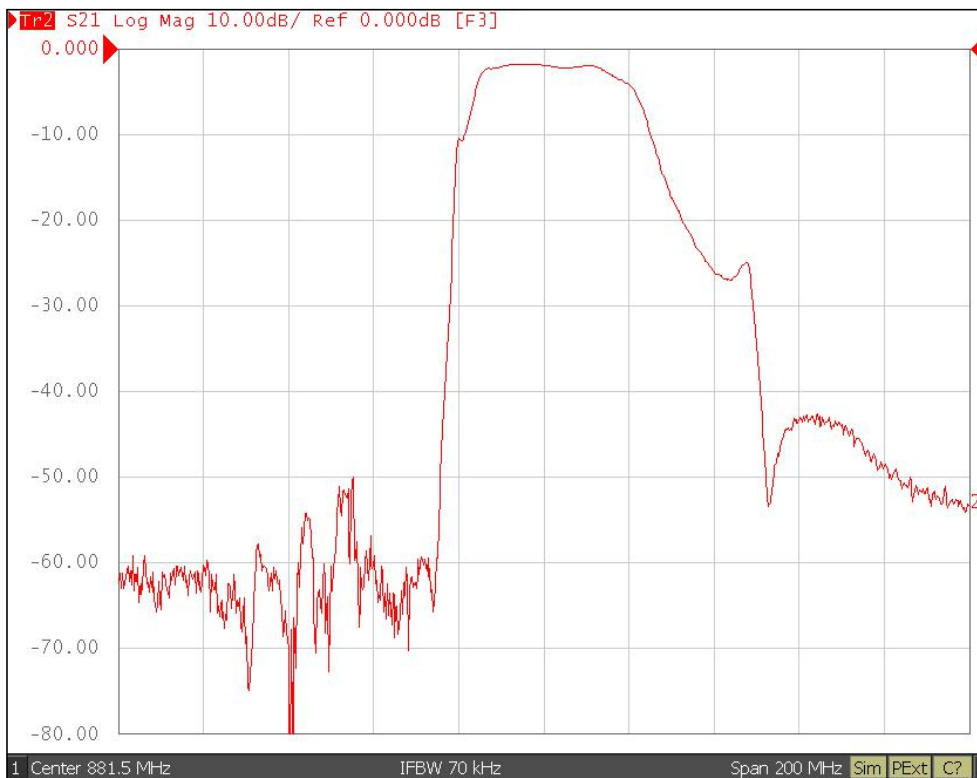
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ANT to Rx



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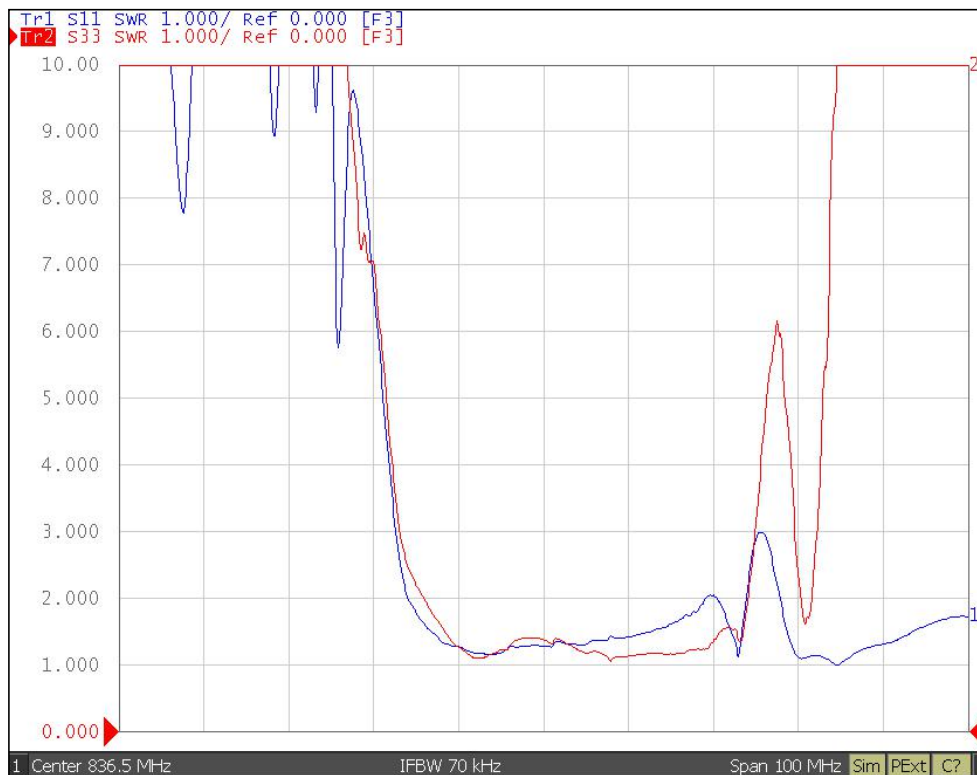
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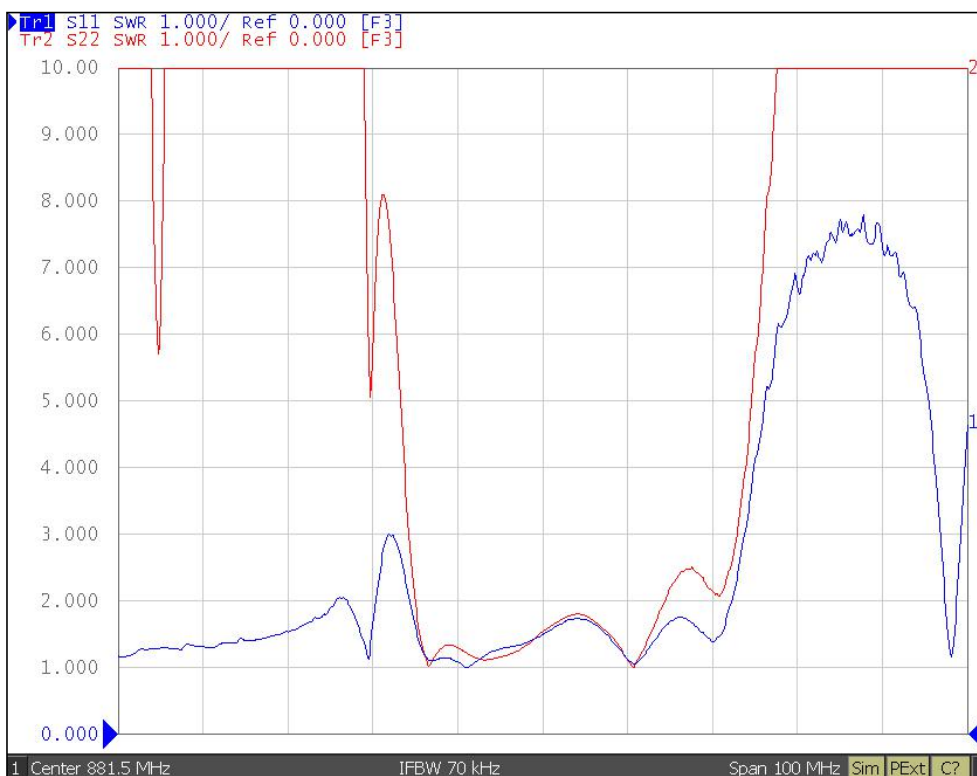
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VSWR Tx to ANT



VSWR ANT to Rx



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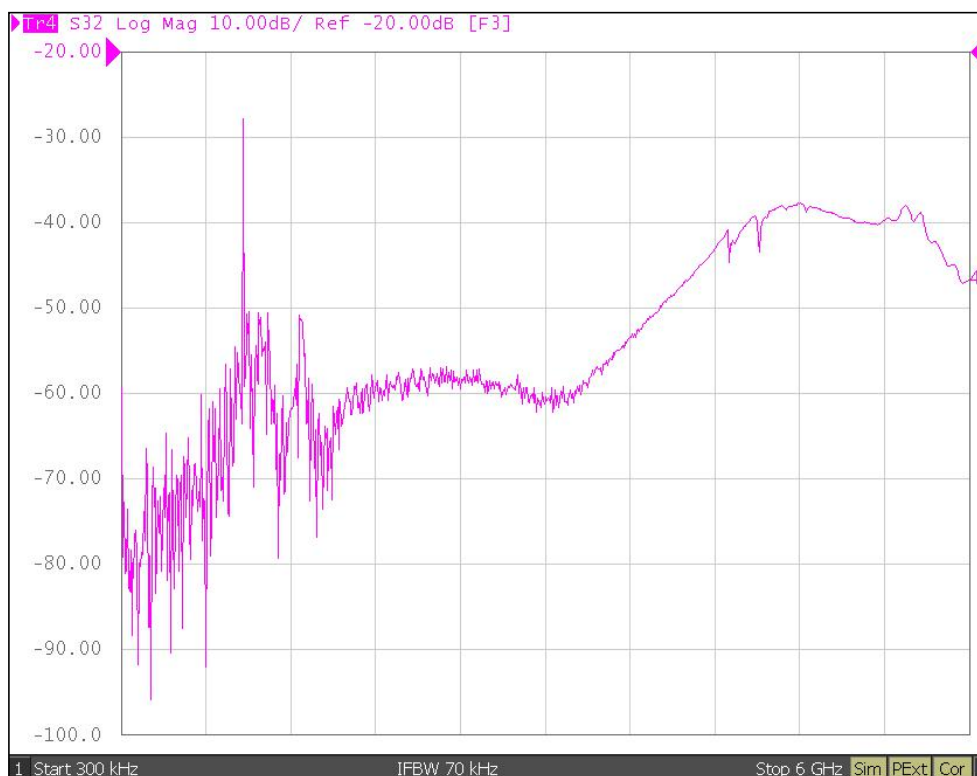
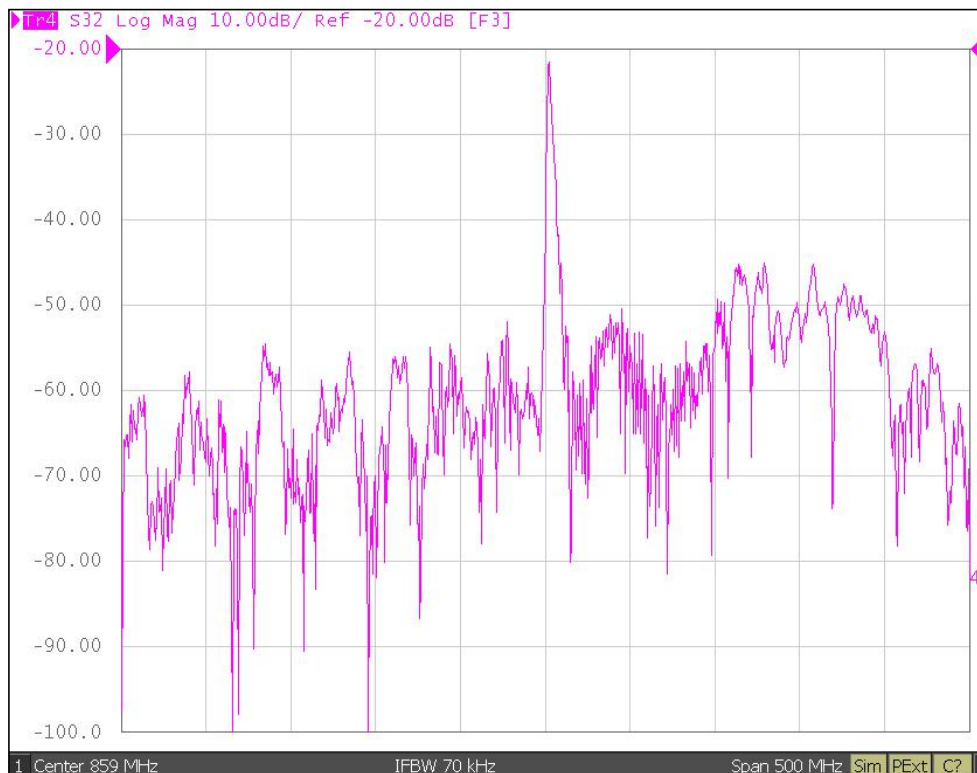
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Isolation Tx to Rx



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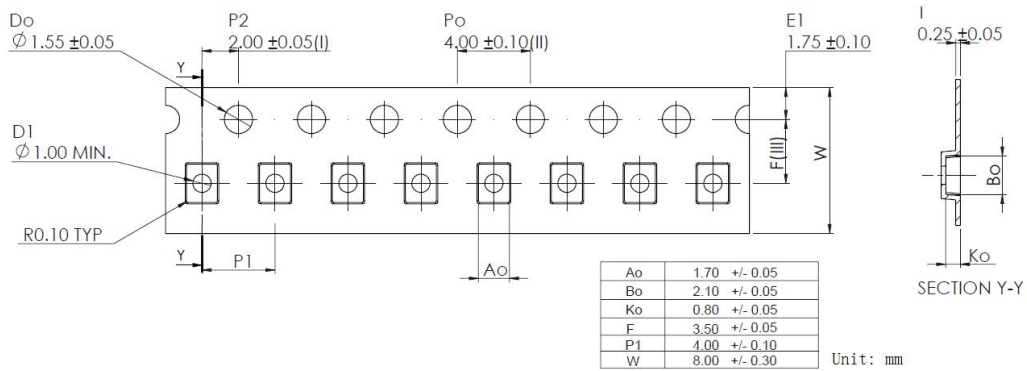
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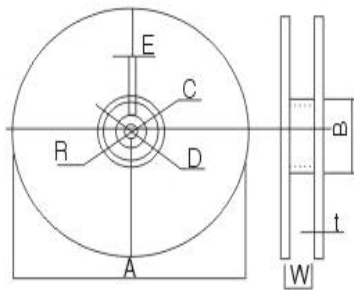
## 6 包装 Packaging

### ① 编带尺寸 Dimensions of Tape:



### ② 带轮尺寸 Dimensions of Reel

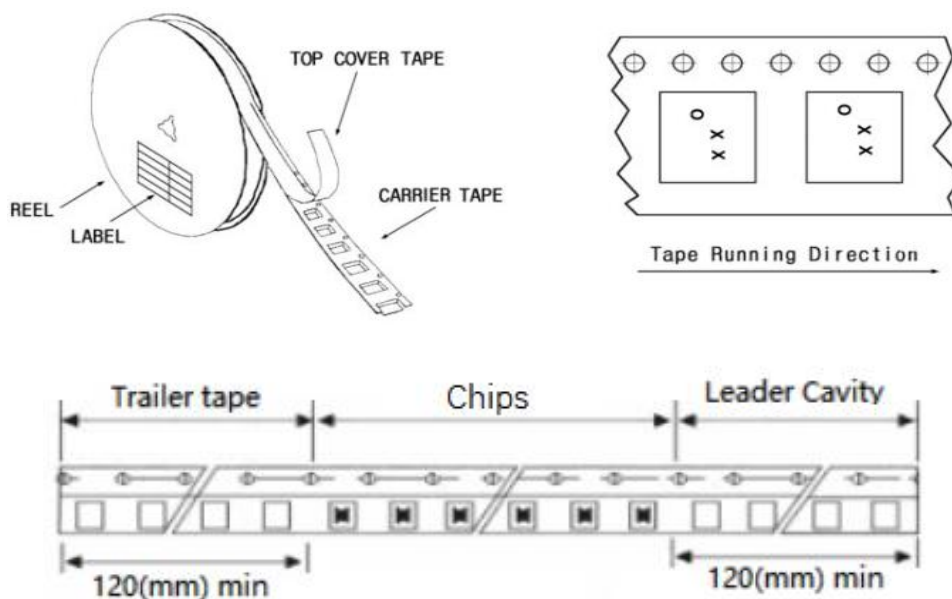
Unit: mm



Reel material: PS (Polystyrene)

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

### ③ 编带简图及拉伸方向 Taping figure and drawing direction:



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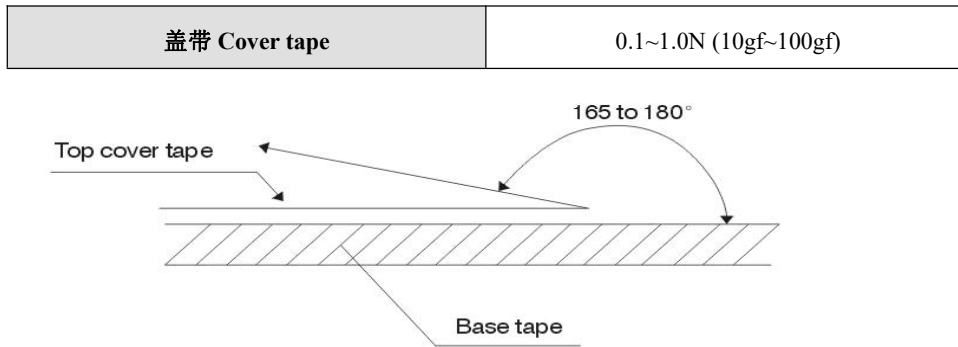
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11

④ 盖带的剥离强度 Peeling strength of cover tape:



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%.

⑤ 包装数量 Packaging quantities: 3000 PCS / Reel

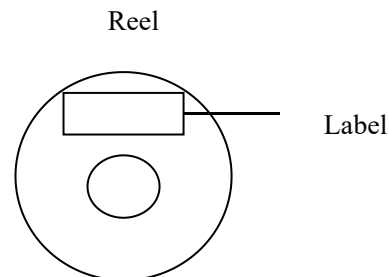
## 7 装箱清单及标志 Packing documents and marking

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.



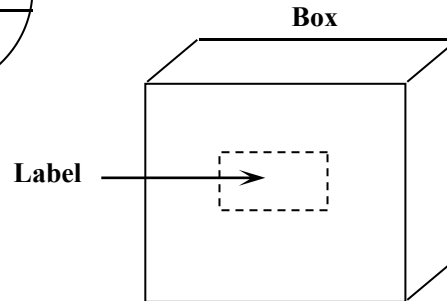
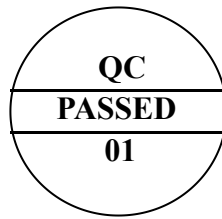
以上内容必须在标签上注明.All above shall be shown on marking label

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

<b>MICROGATE</b>		
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:



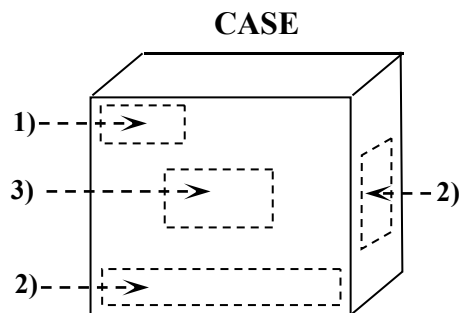
③ 内包装盒标记: Marking on inner box

- 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" ①
- "中国深圳制造" "Made in Shenzhen CHINA" ②
- 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)

## 8 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:  $\leq 40^{\circ}\text{C}$

湿度 Humidity :  $\leq 70\%$  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.

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