

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.: V1.5

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

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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	赵拥军
1.3	2018.12.16	版本升级/Version Upgrade	赵拥军
1.4	2019.05.08	版本升级/Version Upgrade	赵拥军
1.5	2020.02.18	版本升级/Version Upgrade	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。

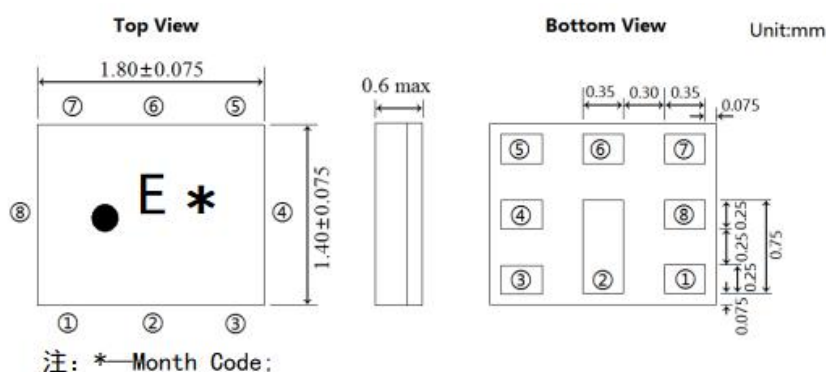
Microgate SAW Component is applicable for WIFI/GPS/Mobile phone/Cordless phone relevant market.

2 品名构成 Product Identification

MS 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

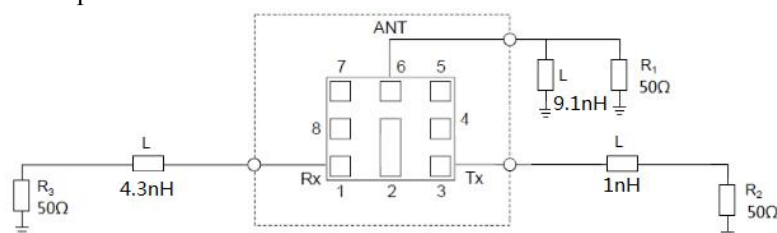
4 推荐焊盘与测试电路 Recommended Land Pattern and Test Circuit

Land Pattern

Unit:mm

Test Circuit

Top View



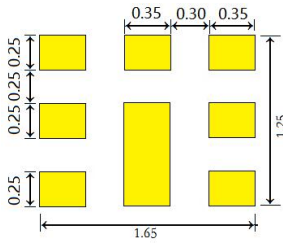
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5 电气性能 Electrical Characteristics

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℃)

Table1. Electrical Specification

No.	Item		Frequency (MHz)	Specification			
				Min	Max	Typ.	Unit
1	Tx to ANT	Insertion Loss	824~849		2	1.4	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
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

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26			4900~5950	3		10	dB
27		VSWR	824~849(Tx)		2	1.5	
28			824~849(ANT)		2	1.5	
29	Input Signal Level		+30dBm, 5000h(55℃)				

Table2. Electrical Specification

No.	Item		Frequency (MHz)	Specification			
				Min	Max	Typ.	Unit
1	ANT to Rx	Insertion Loss	869~894		2.1	1.6	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	50		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	55		69	dB
12			1980~2400	35		70	dB
13			2305~2315	40		73	dB
14			2400~2500	52		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	1.5	
21			869~894(Rx)		2	1.5	

Table3. Electrical Specification

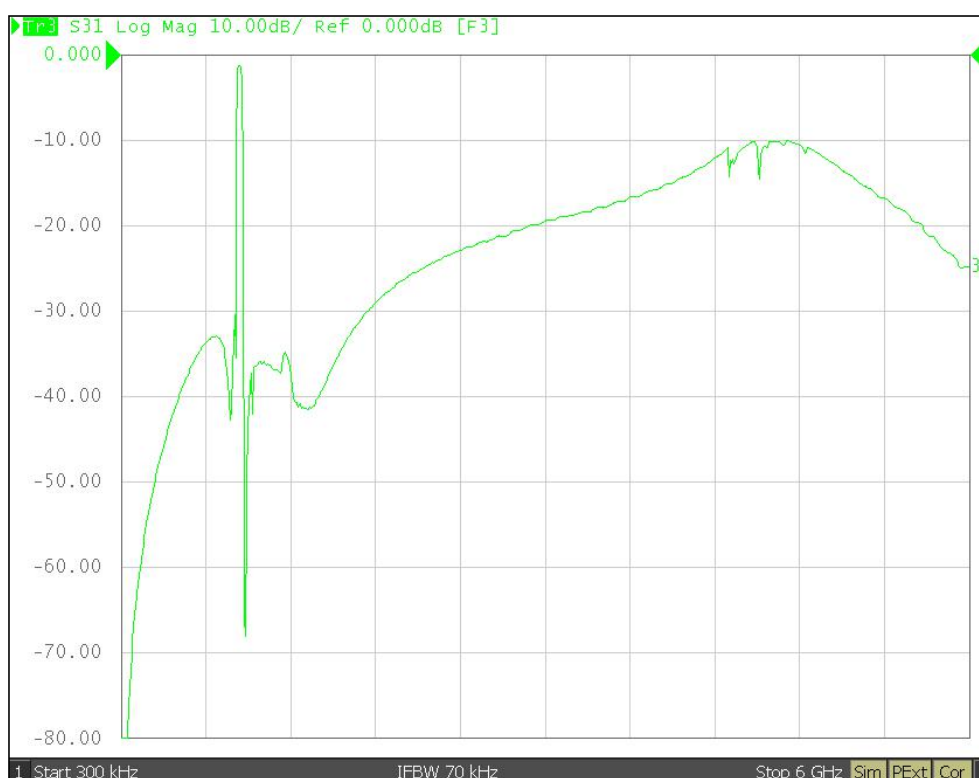
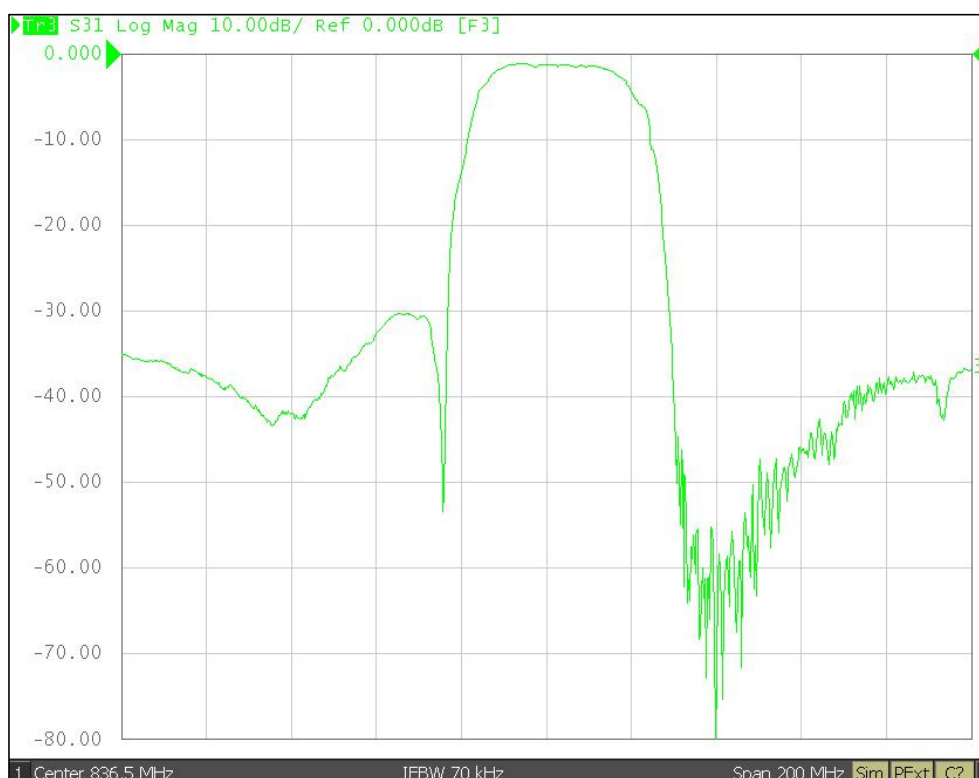
No.	Item		Frequency (MHz)	Specification			
				Min	Max	Typ.	Unit
1	Tx to Rx	Isolation	824~849	55		63	dB
2			869~894	53		59	dB

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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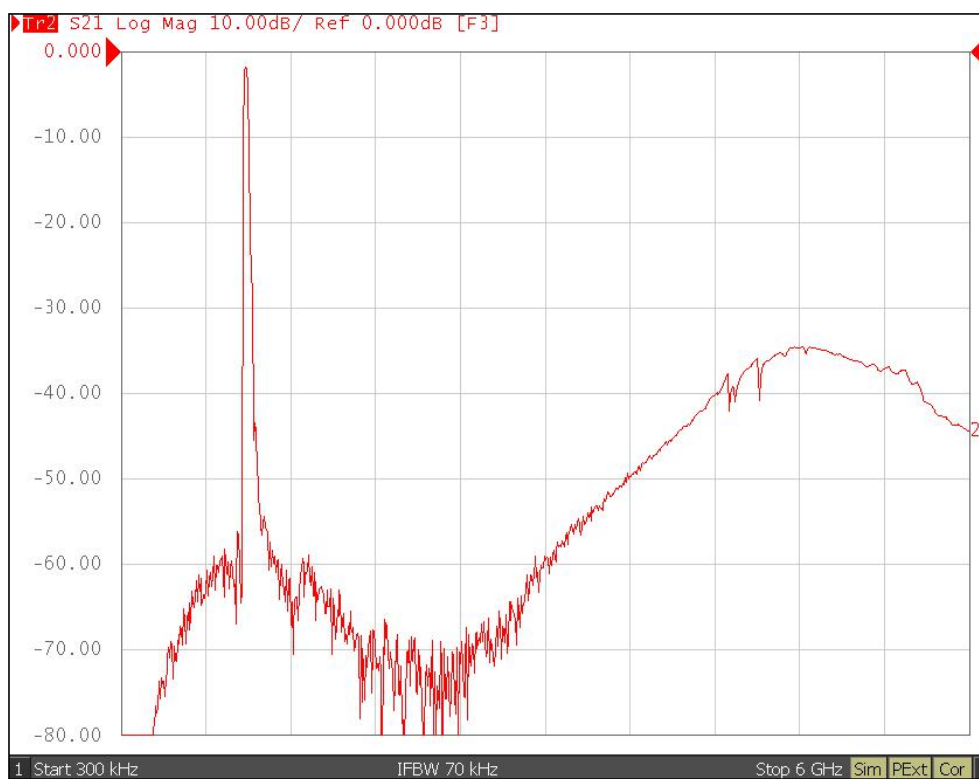
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ANT to Rx



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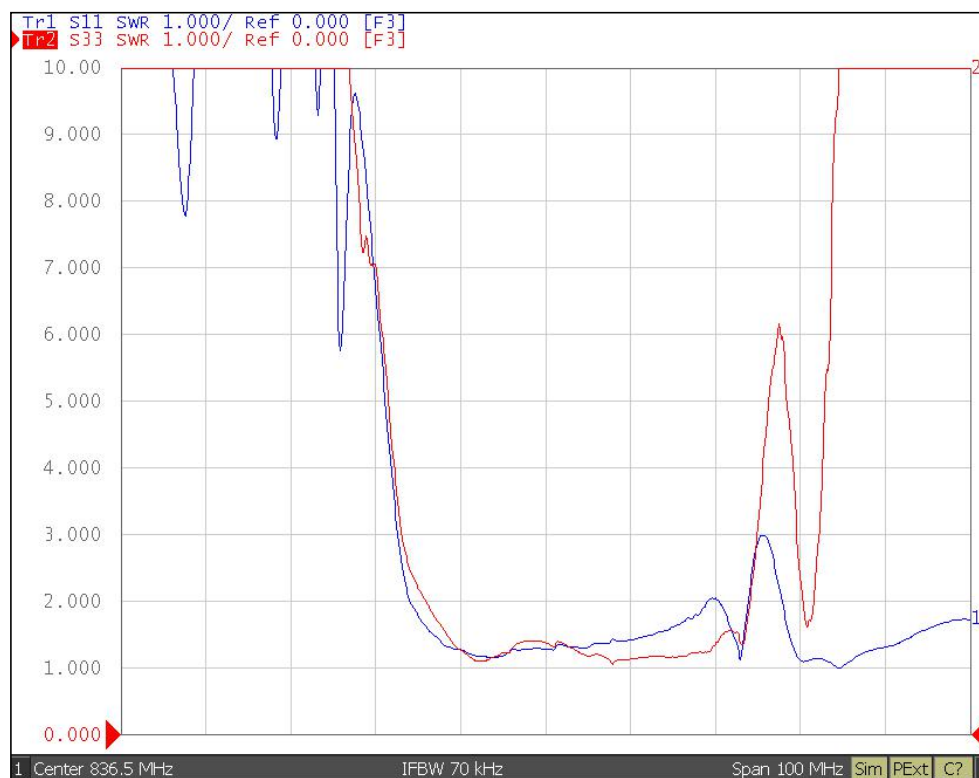
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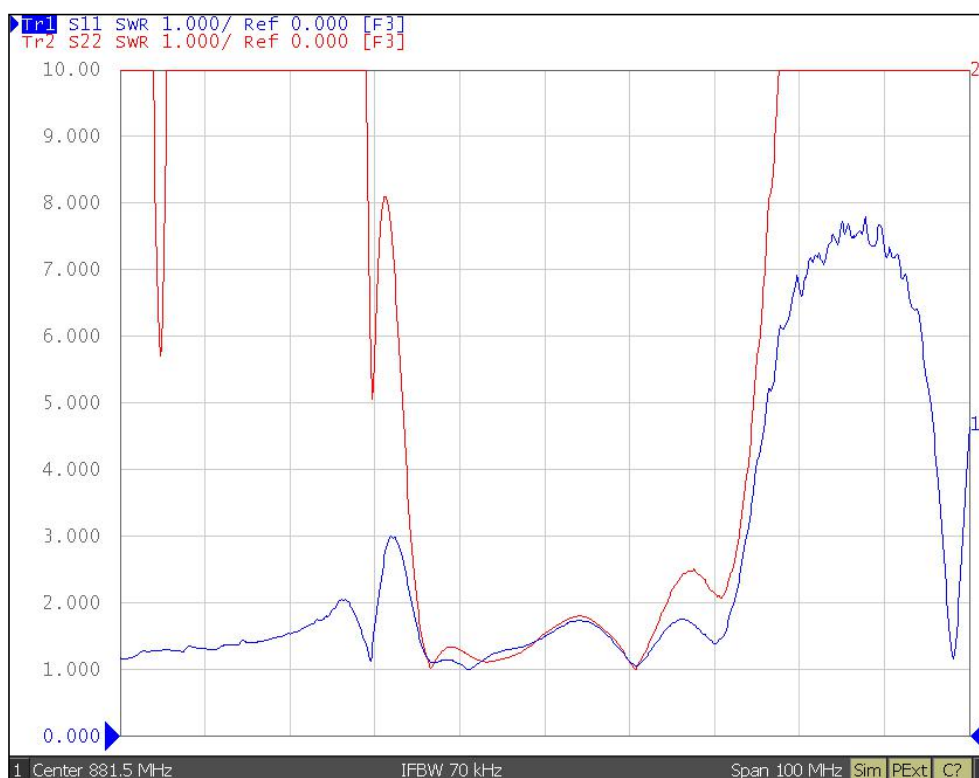
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VSWR Tx to ANT



VSWR ANT to Rx



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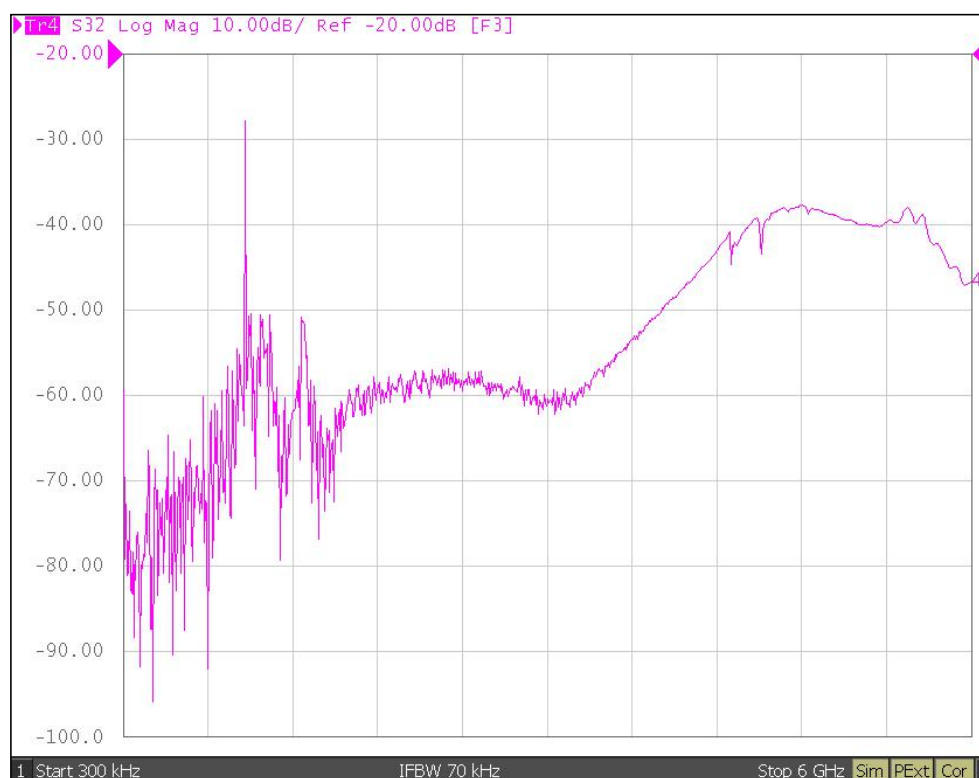
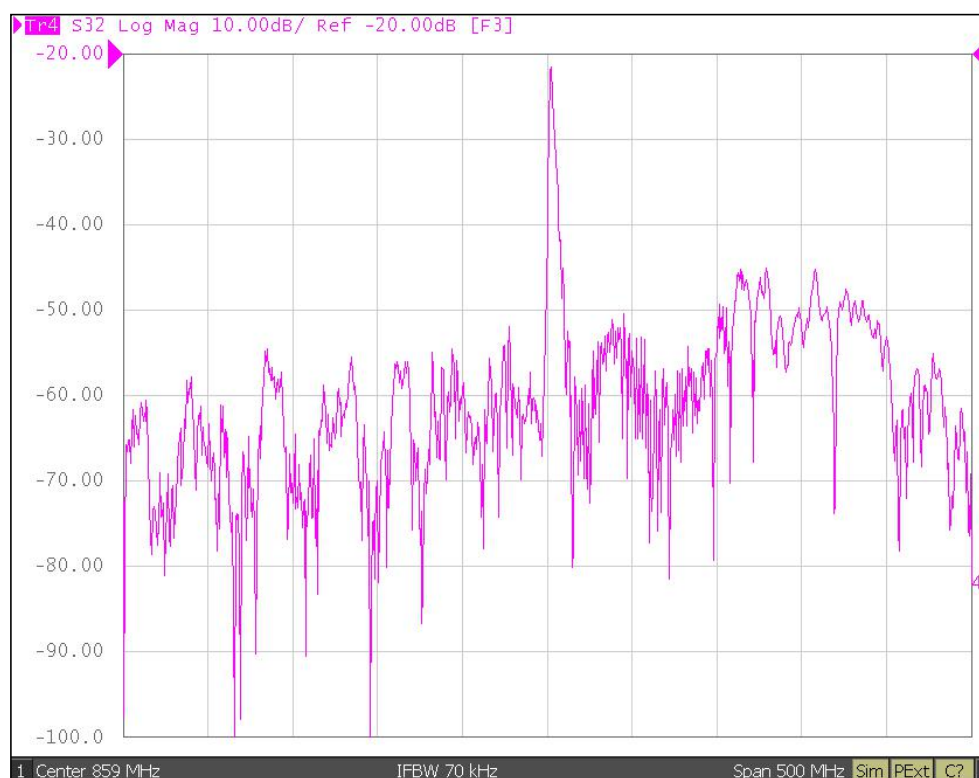
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Isolation Tx to Rx



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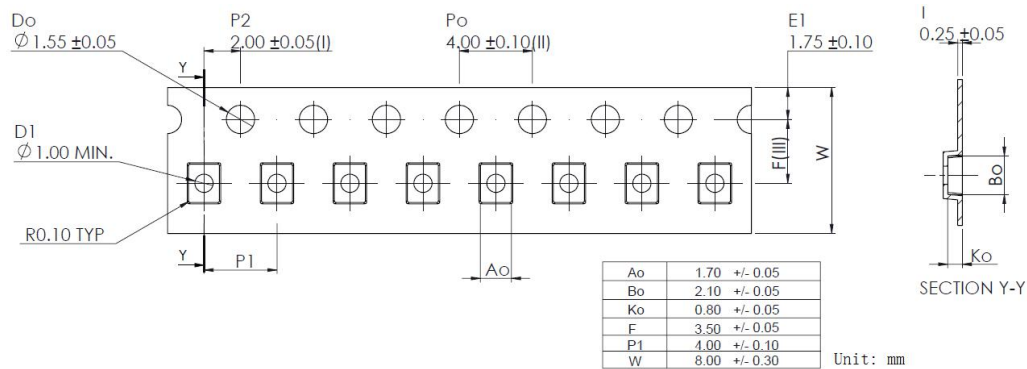
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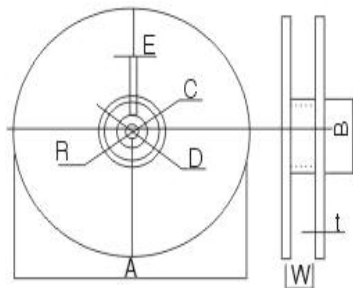
6 包装 Packaging

① 编带尺寸 Dimensions of Tape:



② 带轮尺寸 Dimensions of Reel

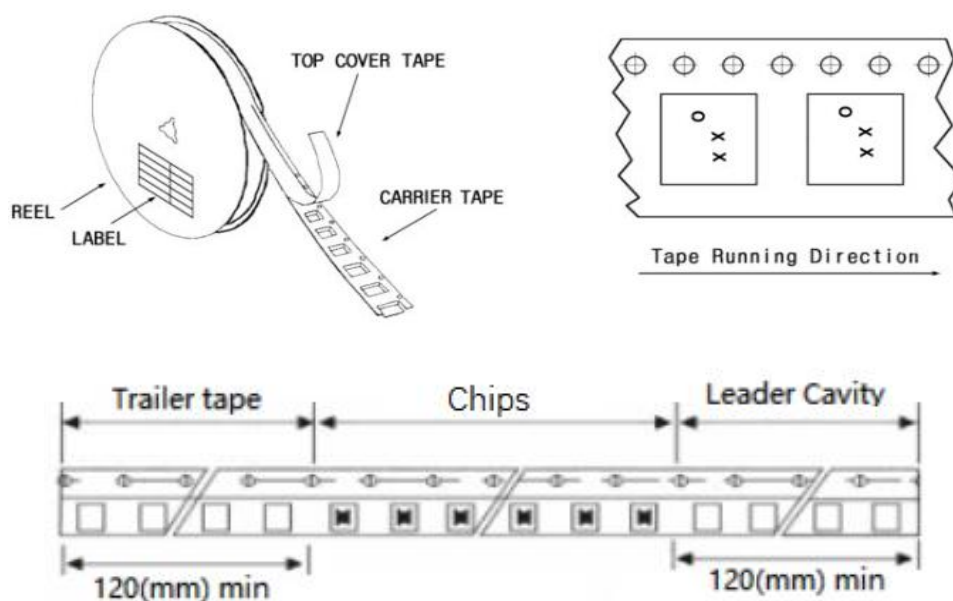
Unit: mm



Reel material: PS (Polystyrene)

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

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



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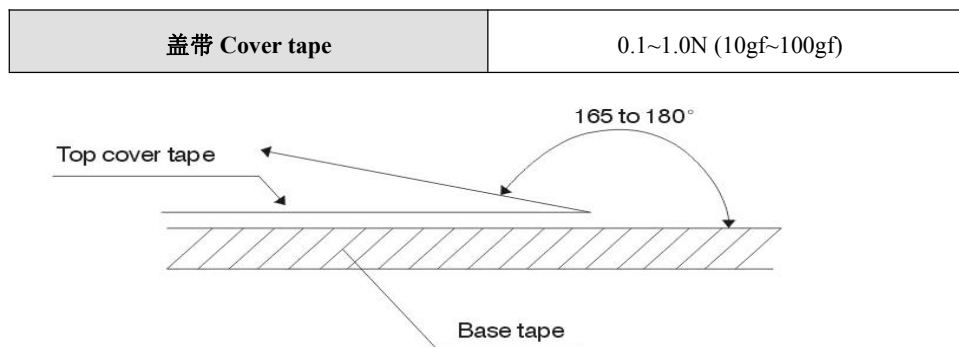
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④ 盖带的剥离强度 Peeling strength of cover tape:



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

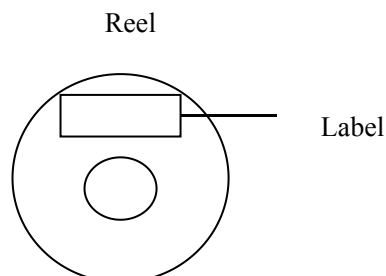
7 装箱清单及标志 Packing documents and marking

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:

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



MG PART NO

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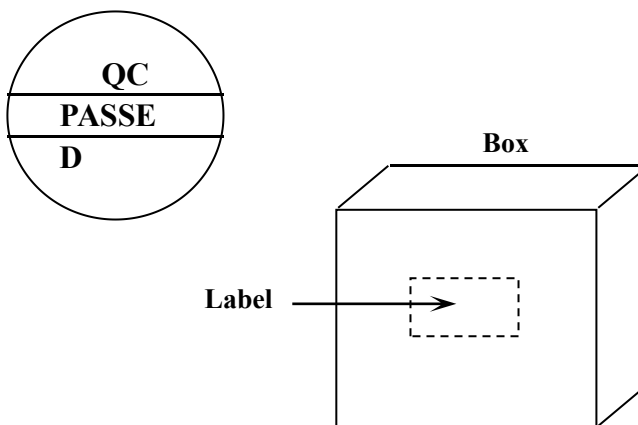
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检验合格后, 检验员在标签上盖上合格章。合格章如下所示: The eligible reels will be pressed a mark onto the surface. The mark will be as following:



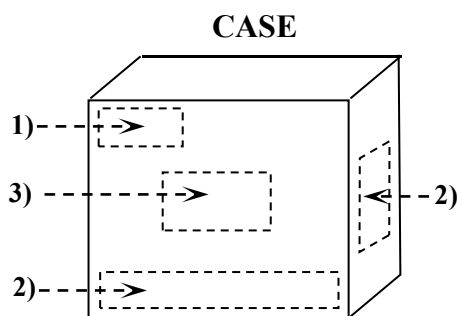
③ 内包装盒标记: Marking on inner box

- 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.