

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.: MS18U2G53-DU07C

版本号 VERSION.: V1.1

|   |            |            |
|---|------------|------------|
| 接受 RECEPTION<br>THE SPECIFICATION HAS BEEN ACCEPTED.<br>该纳入仕様书已被我司接受<br><br>日期:<br>DATE:<br><br>公司:<br>COMPANY: |            |            |
| 批准<br>CFMD  | 审核<br>CHKD | 接收<br>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  
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|             |             |             |
|-------------|-------------|-------------|
| CFMD.<br>批准 | CHKD.<br>审核 | DSGD.<br>担当 |
| 梁启新         | 赖定权         | 吴继航         |

## 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 | 2016.08.22 | 初稿 /New Released                   | 梁启新         |
| 1.1 | 2016.10.13 | 更改产品厚度/Modify Thickness of Product | 梁启新         |
|     |            |                                    |             |

## 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

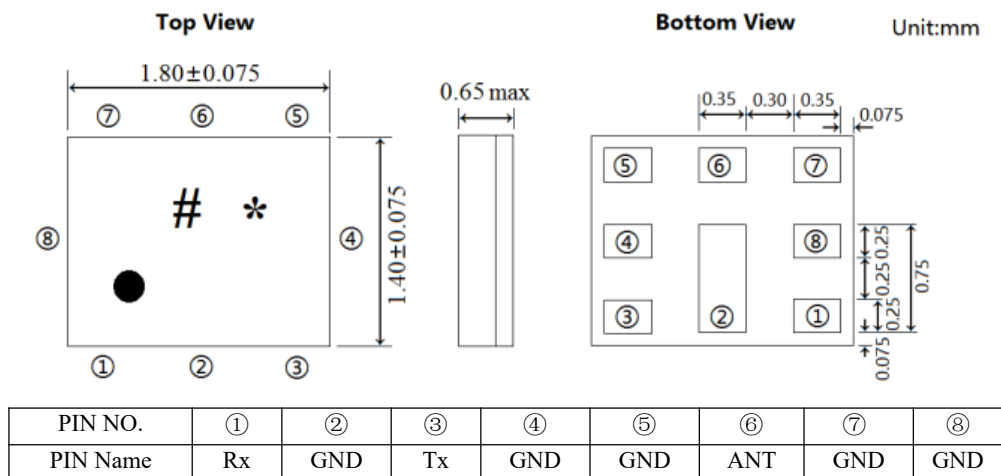
麦捷声表滤波器系列产品设计用于 WIFI、GPS、移动电话和无绳电话机等相关市场中。  
Microgate SAW Component is applicable for WIFI/GPS/Mobile phone/Cordless phone relevant market.

## 2 品名构成 Product Identification

MS 18 U 2G53 - DU 07 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: (2G53-2535MHz)
- ⑤ 型号/Type: (QP-QPX, DU-Duplexer, DI-Diplexer, Tx-Tx SAW, Rx-Rx SAW)
- ⑥ 频段/Band: 07-Band7
- ⑦ 流水号/Serial number

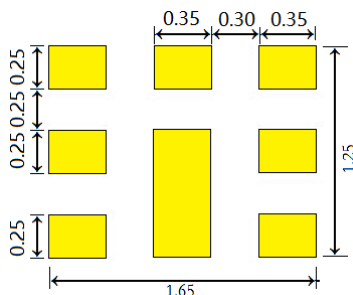
## 3 尺寸和管脚定义 Dimensions and PIN Configurations



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

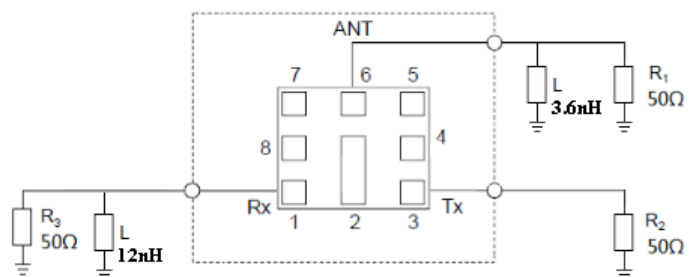
Land Pattern

Unit:mm



Test Circuit

Bottom 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

Table1. Electrical Specification

| No. | Item                 | Frequency (MHz)     | Specification |          |           |
|-----|----------------------|---------------------|---------------|----------|-----------|
|     |                      |                     | Min (dB)      | Max (dB) | Typ. (dB) |
| 1   | Tx to ANT            | Insertion Loss      | 2500~2570     | 2.7      | 1.8       |
| 2   |                      | Ripple Deviation    | 2500~2570     | 1.7      | 0.8       |
| 3   | Absolute Attenuation | 10~1559             | 35            |          | 38        |
| 4   |                      | 1559~1563           | 35            |          | 38        |
| 5   |                      | 1565.42~1573.37     | 35            |          | 38        |
| 6   |                      | 1573.37~1577.47     | 35            |          | 38        |
| 7   |                      | 1577.47~1585.42     | 35            |          | 38        |
| 8   |                      | 1597.55~1605.89     | 35            |          | 38        |
| 9   |                      | 1605.89~1680        | 35            |          | 37        |
| 10  |                      | 1805~1880           | 35            |          | 37        |
| 11  |                      | 1900~1920           | 35            |          | 37        |
| 12  |                      | 2010~2025           | 35            |          | 37        |
| 13  |                      | 2110~2170           | 35            |          | 37        |
| 14  |                      | 2401~2468           | 40            |          | 45        |
| 15  |                      | 2451~2473           | 40            |          | 45        |
| 16  |                      | 2456~2478           | 35            |          | 40        |
| 17  |                      | 2461~2483           | 20            |          | 24        |
| 18  |                      | 2590~2620           | 1.5           |          | 4         |
| 19  |                      | 2620~2690           | 45            |          | 47        |
| 20  |                      | 4900~5280           | 40            |          | 41        |
|     | 7500~7710            | 20                  |               | 30       |           |
| 21  | VSWR                 | 2500~2570(ANT)      |               | 2.0      | 1.6       |
| 22  |                      | 2500~2570(Rx)       |               | 2.0      | 1.7       |
| 23  | Input Signal Level   | +29dBm, 5000h(55°C) |               |          |           |

Table2. Electrical Specification

| No. | Item      |                      | Frequency (MHz) | Specification |           |           |     |    |
|-----|-----------|----------------------|-----------------|---------------|-----------|-----------|-----|----|
|     |           |                      |                 | Min (dB)      | Max (dB)  | Typ. (dB) |     |    |
| 1   | ANT to Rx | Insertion Loss       | 2620~2690       |               | 2.8       | 2.1       |     |    |
| 3   |           | Ripple Deviation     | 2620~2690       |               | 1.6       | 0.6       |     |    |
| 4   |           | Absolute Attenuation |                 | 10~718        | 45        |           | 50  |    |
| 5   |           |                      |                 | 45            | 50        |           | 100 |    |
| 6   |           |                      |                 | 718~748       | 45        |           | 51  |    |
| 7   |           |                      |                 | 814~849       | 45        |           | 49  |    |
| 8   |           |                      |                 | 832~862       | 45        |           | 49  |    |
| 9   |           |                      |                 | 880~915       | 45        |           | 49  |    |
|     |           |                      |                 |               | 1710~1785 | 38        |     | 43 |
|     |           |                      |                 |               | 1920~1980 | 37        |     | 43 |
|     |           |                      |                 |               | 2400~2500 | 40        |     | 45 |
|     |           |                      |                 |               | 2500~2570 | 45        |     | 55 |
|     |           |                      |                 | 2570~2600     | 3         |           | 8   |    |
|     |           |                      | 2775~2790       | 40            |           | 55        |     |    |
| 10  |           |                      | 2790~2810       | 40            |           | 55        |     |    |
|     |           |                      | 2810~3660       | 39            |           | 43        |     |    |
|     |           |                      | 3600~4900       | 39            |           | 42        |     |    |
|     |           |                      | 4900~5300       | 35            |           | 42        |     |    |
|     |           |                      | 5300~5950       | 32            |           | 37        |     |    |
|     |           |                      | 7620~7830       | 15            |           | 20        |     |    |
| 12  | VSWR      |                      | 2620~2690(ANT)  |               | 2.1       | 1.6       |     |    |
| 13  |           |                      | 2620~2690(Rx)   |               | 2.1       | 1.6       |     |    |

Table3. Electrical Specification

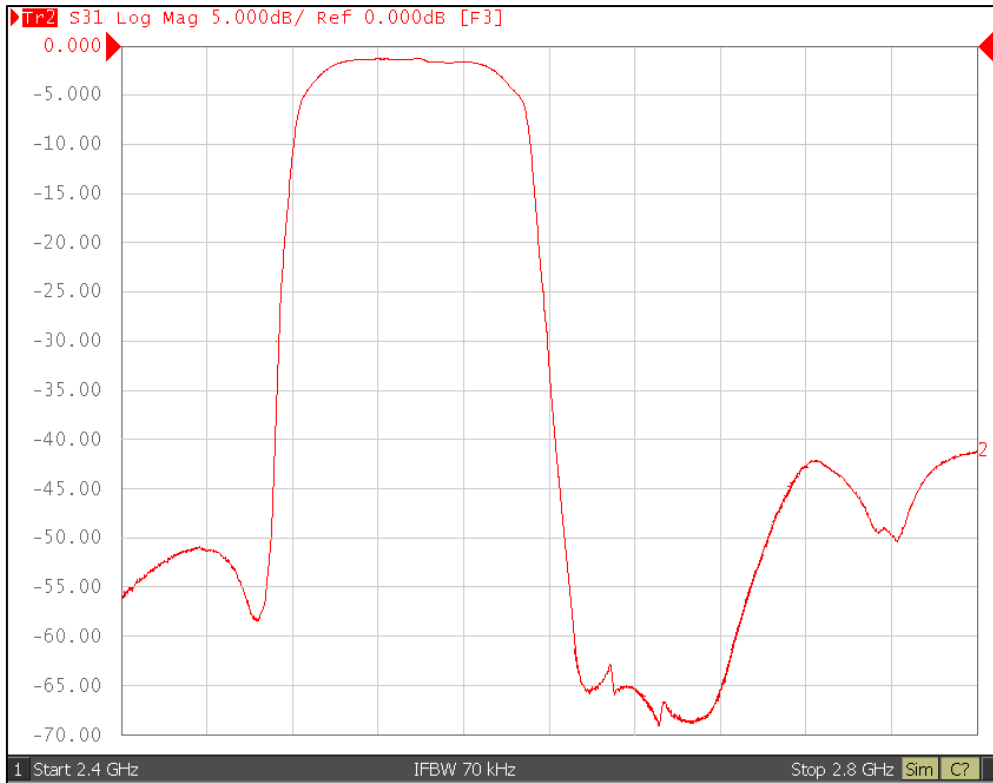
| No. | Item     |           | Frequency (MHz) | Specification |     |      |
|-----|----------|-----------|-----------------|---------------|-----|------|
|     |          |           |                 | Min           | Max | Typ. |
| 1   | Tx to Rx | Isolation | 1574~1577       | 30dB          |     | 59dB |
| 2   |          |           | 2500~2570       | 53dB          |     | 55dB |
| 3   |          |           | 2620~2690       | 50dB          |     | 52dB |
| 4   |          |           | 5001~5140       | 30dB          |     | 50dB |

Table4. Electrical Specification

| No. | Item                        |          | Specification |              |
|-----|-----------------------------|----------|---------------|--------------|
| 1   | Terminating Match Impedance | ANT Port | 50Ω // 3.6nH  | Single-ended |
| 2   |                             | Tx Port  | 50Ω           | Single-ended |
| 3   |                             | Rx Port  | 50Ω // 12nH   | Single-ended |

## Frequency Performance

Tx to ANT



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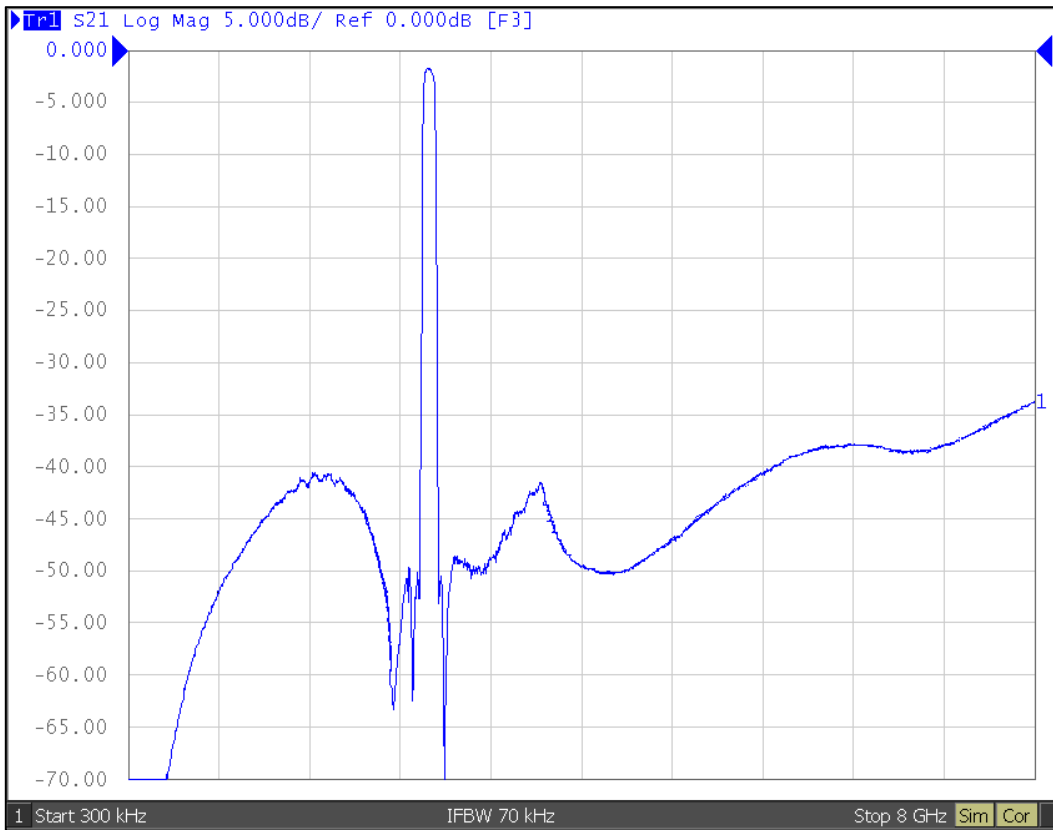
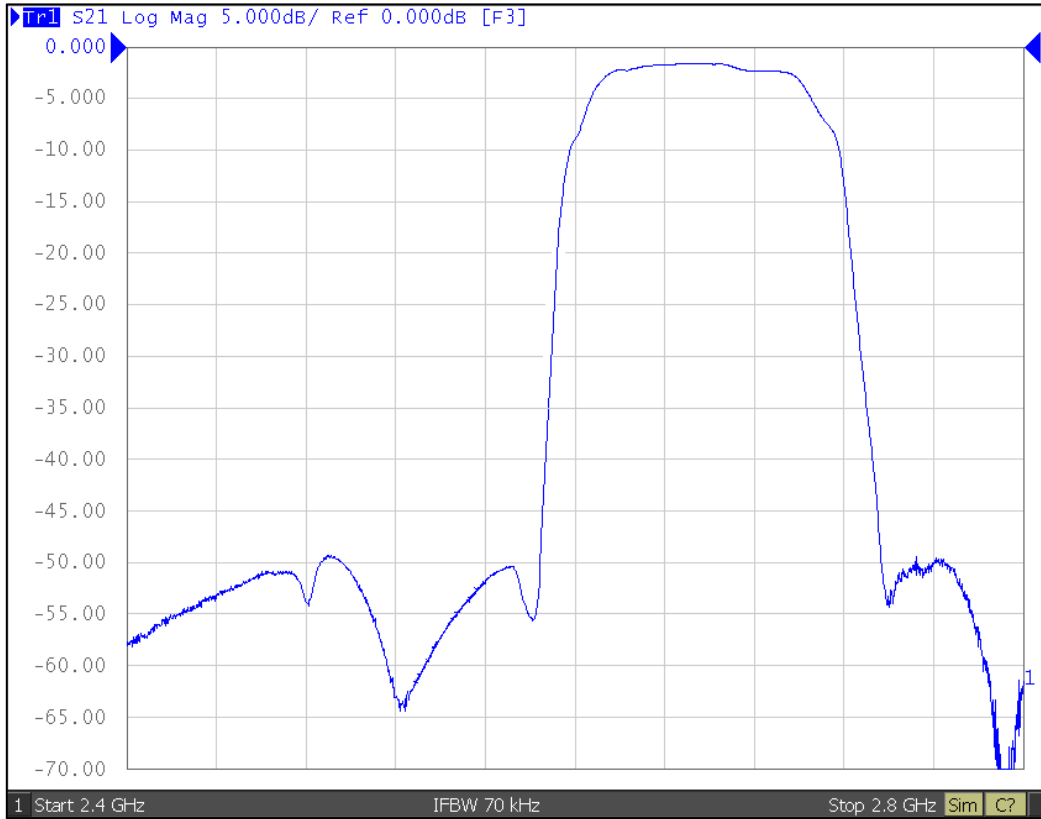
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ANT to Rx



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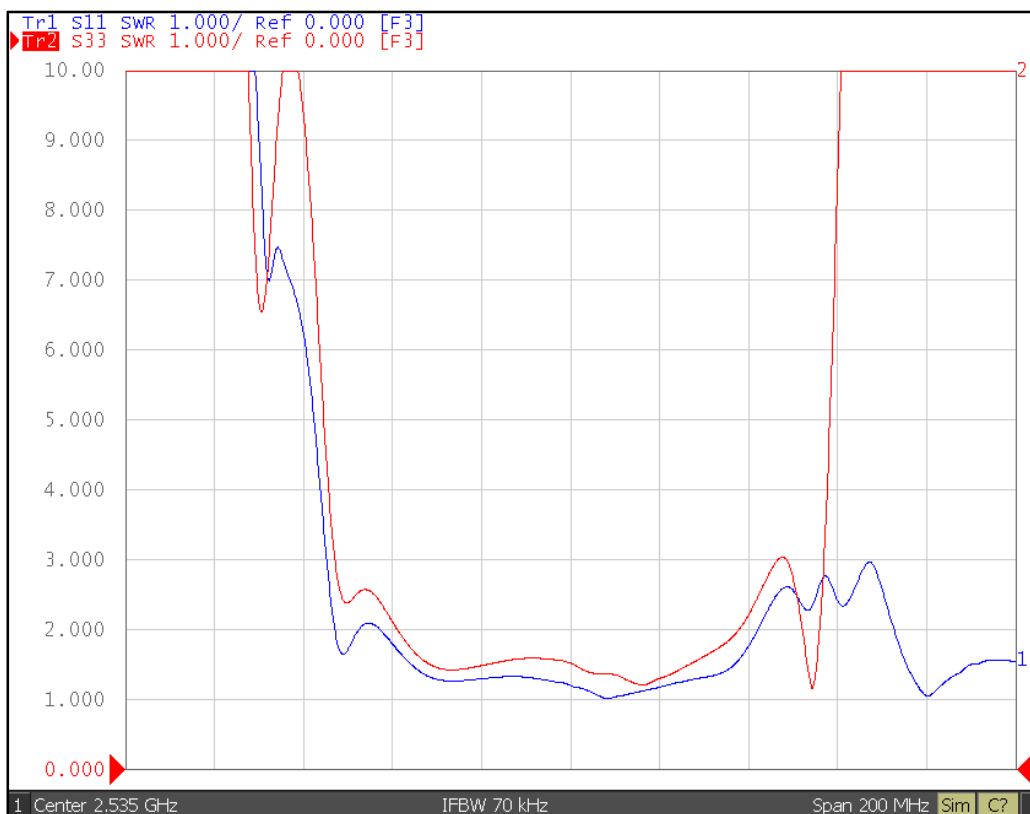
电话(Tel): 0755-28085000

传真(Fax): 0755-28085605

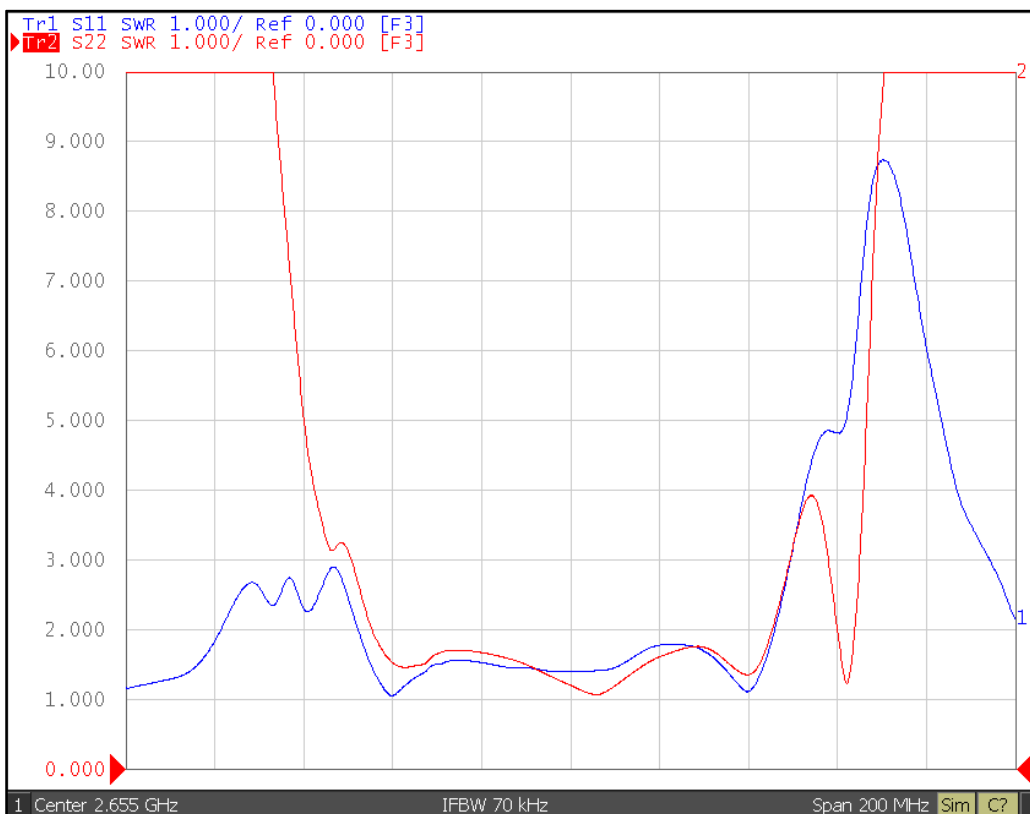
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VSWR Tx to ANT



VSWR ANT to Rx



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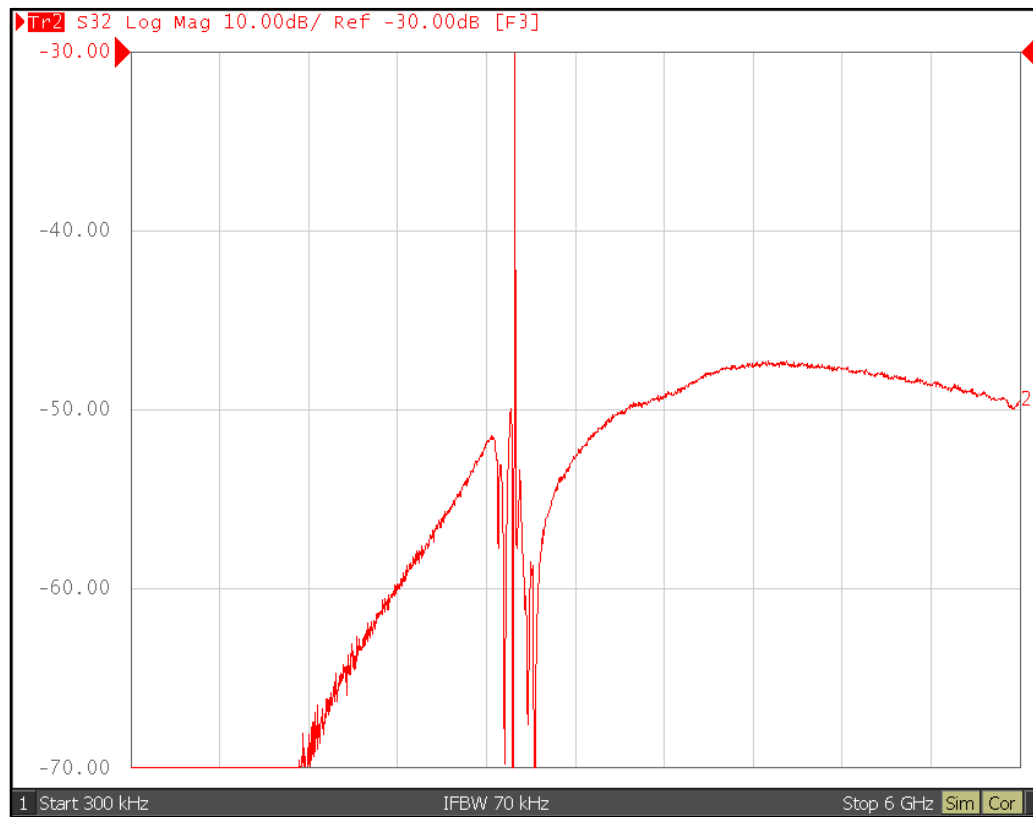
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Isolation Tx to Rx



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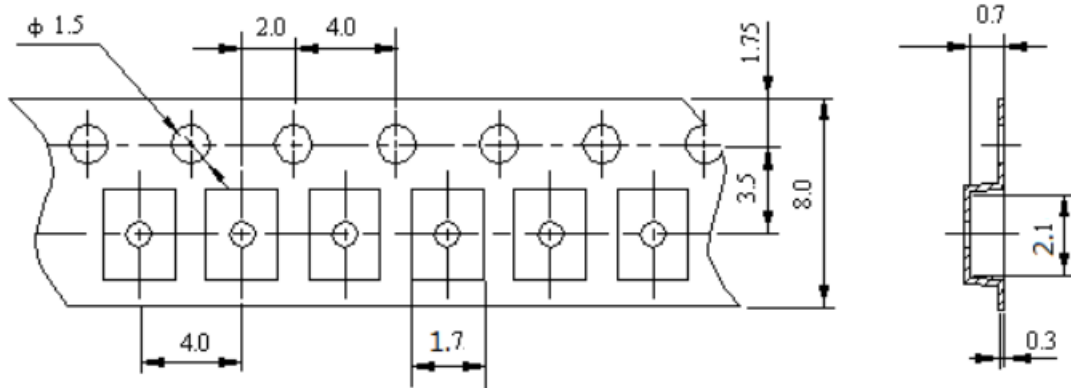
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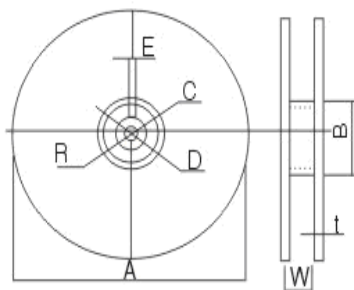
## 6 包装 Packaging

### ① 编带尺寸 Dimensions of Tape:



### ② 带轮尺寸 Dimensions of Reel

Unit: mm



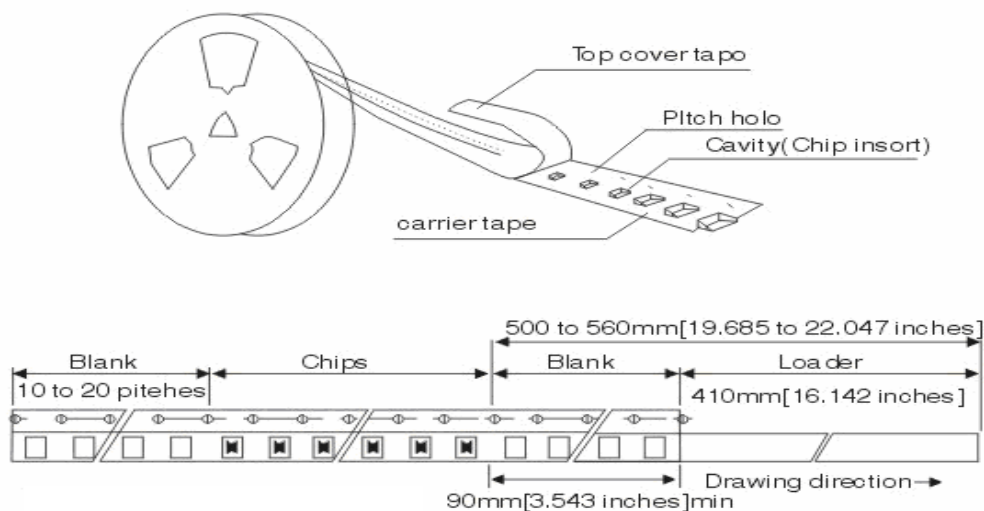
Reel material: PS (Polystyrene)

|   |          |
|---|----------|
| A | 178±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:



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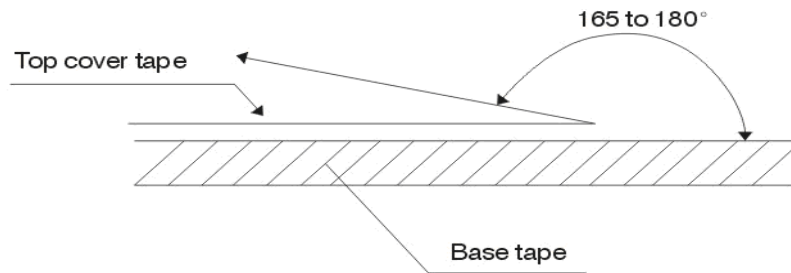
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⑤ 盖带的剥离强度 Peeling strength of cover tape:

|               |                      |
|---------------|----------------------|
| 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

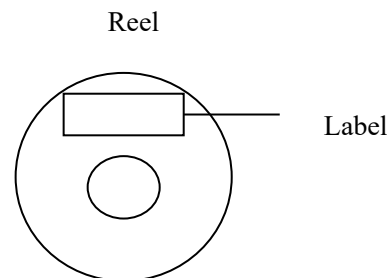
## 7 装箱清单及标志 Packing documents and marking

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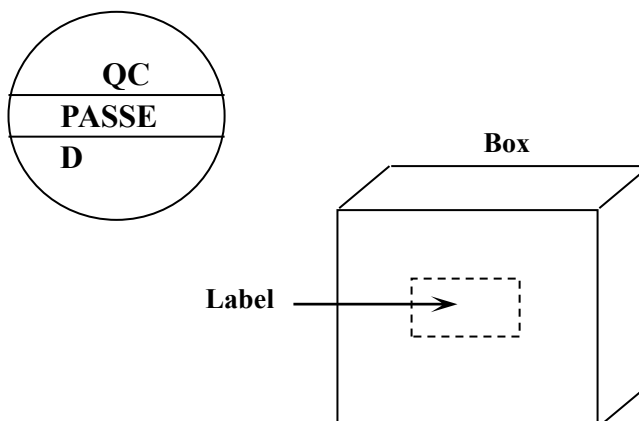
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检验合格后, 检验员在标签上盖上合格章。合格章如下所示: The eligible reels will be pressed a mark onto the surface. The mark will be as following:



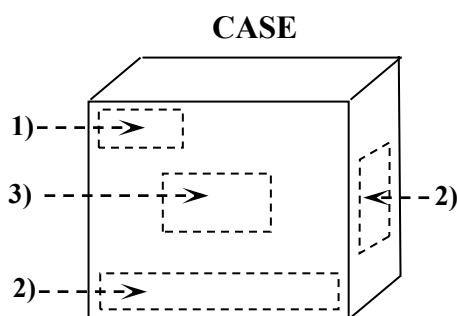
③ 内包装盒标记: Marking on inner box

- 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

### ① 保管期限 Storage period

距麦捷出厂检验时间六个月内，产品可以使用；检验时间可以通过包装外侧标记的检验号确认；若时间超出六个月，应检查焊接性能后方可使用。Products which inspected in MICROGATE over 6 months ago should be examined and used, which can be confirmed with inspection No. marked on the container. Solder ability should be checked if this period is exceeded.

### ② 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.