

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
SHENZHEN MICROGATE TECHNOLOGY CO., LTD
TEL: 86-755-28085000
FAX: 86-755-28085605

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

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1 适用范围 Scope

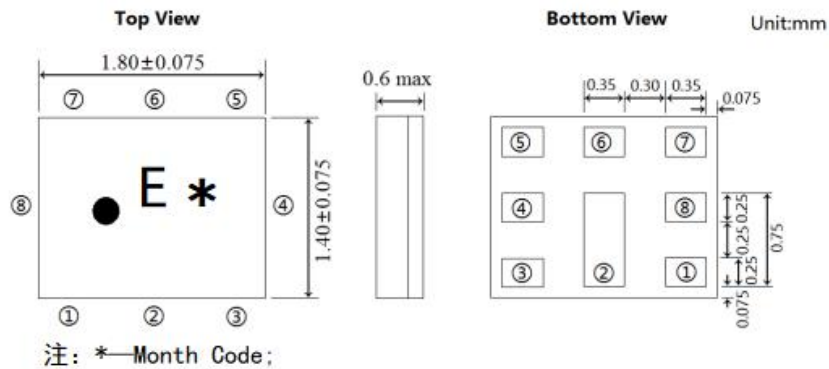
麦捷声表滤波器系列产品设计用于 WIFI、GPS、移动电话和无绳电话机等相关市场中。
Microgate SAW Component is applicable for WIFI/GPS/Mobile phone/Cordless phone relevant market.

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

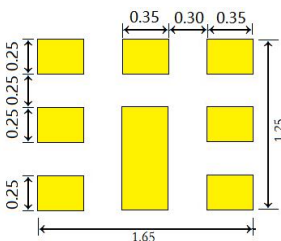


| PIN NO. | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ |
|----------|----|-----|----|-----|-----|-----|-----|-----|
| PIN Name | Rx | GND | Tx | GND | GND | ANT | GND | GND |

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

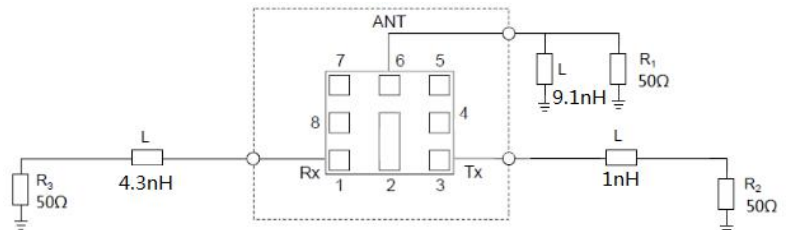
Land Pattern

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°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

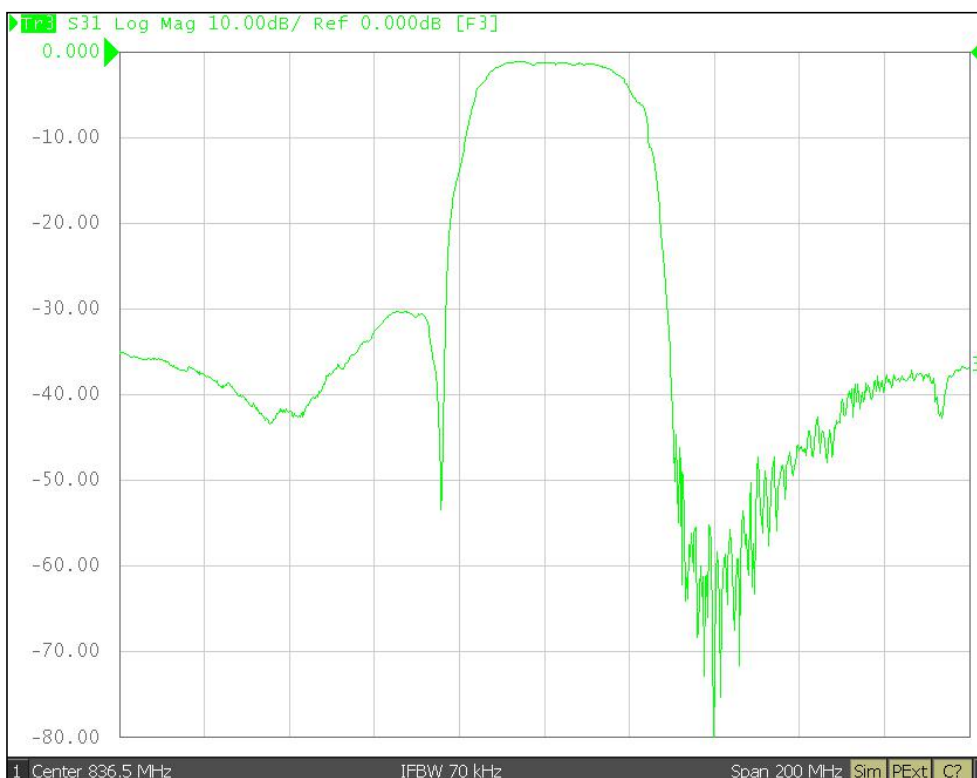
| No. | Item | | Frequency (MHz) | Specification | | | |
|-----|----------|-----------|--------------------|---------------|-----|------|------|
| | | | | Min | Max | Typ. | Unit |
| 1 | Tx to Rx | Isolation | 824~849 | 52 | | 55 | dB |
| 2 | | | 869~894 | 49 | | 51 | dB |

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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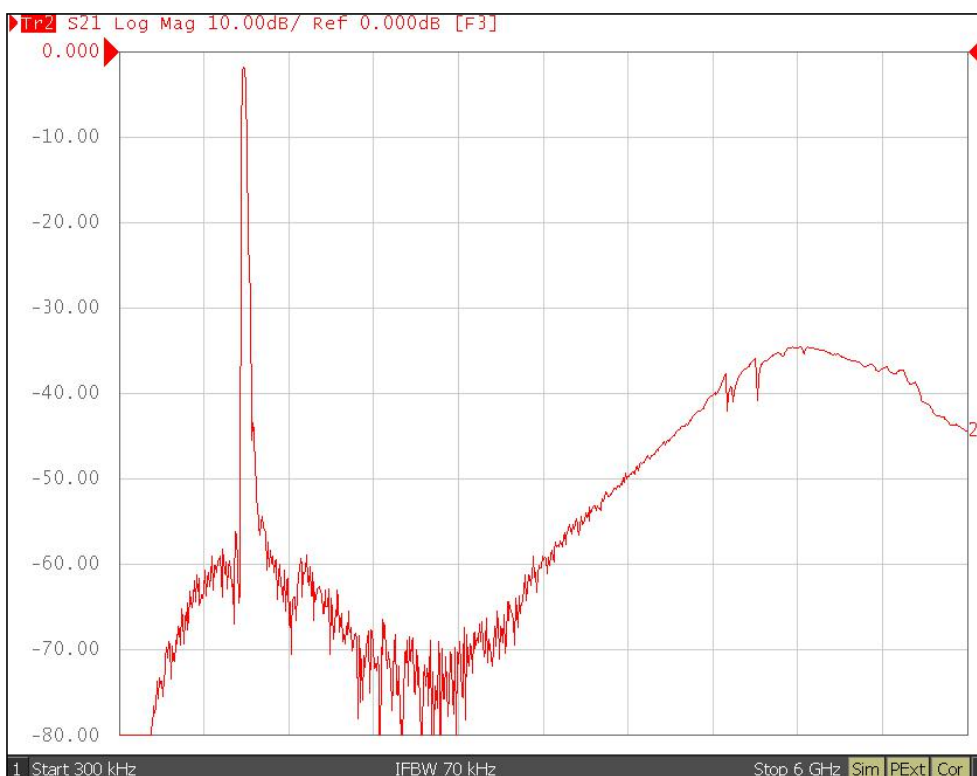
地址：深圳市龙华新区观澜街道高尔夫大道裕新路

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ANT to Rx



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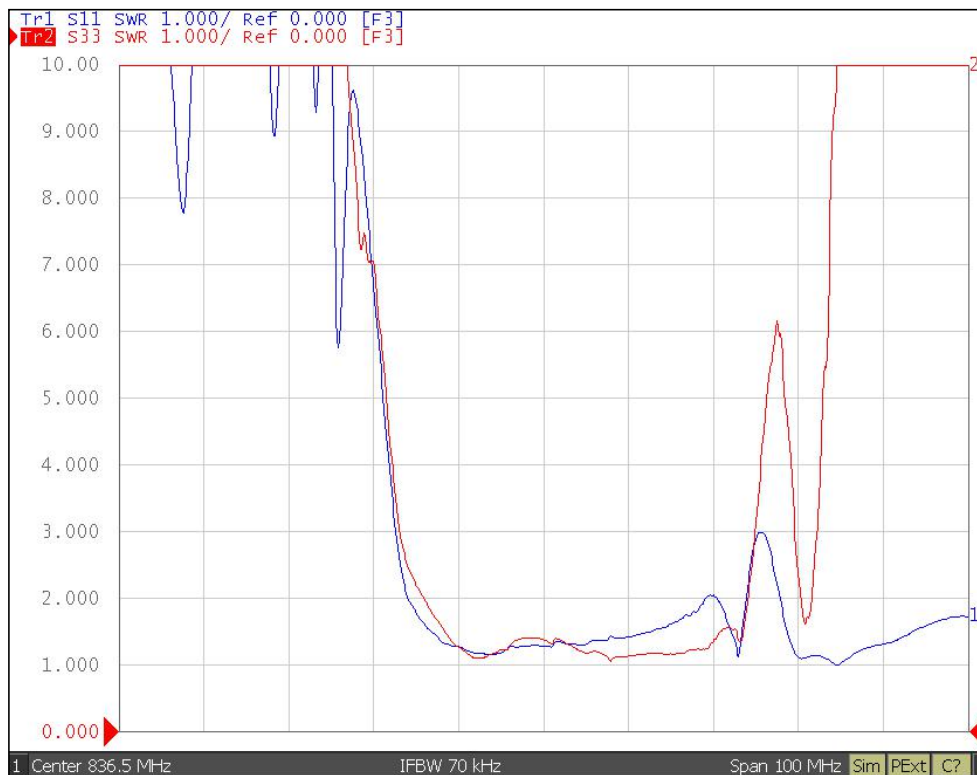
地址：深圳市龙华新区观澜街道高尔夫大道裕新路

电话(Tel): 0755-28085000

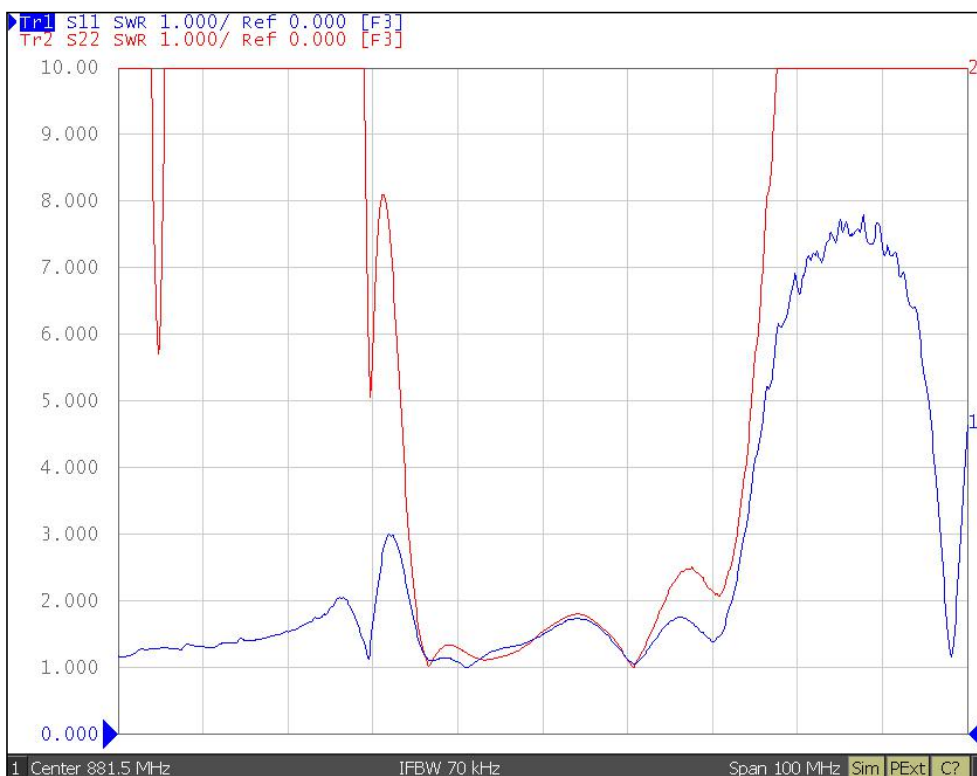
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VSWR Tx to ANT



VSWR ANT to Rx



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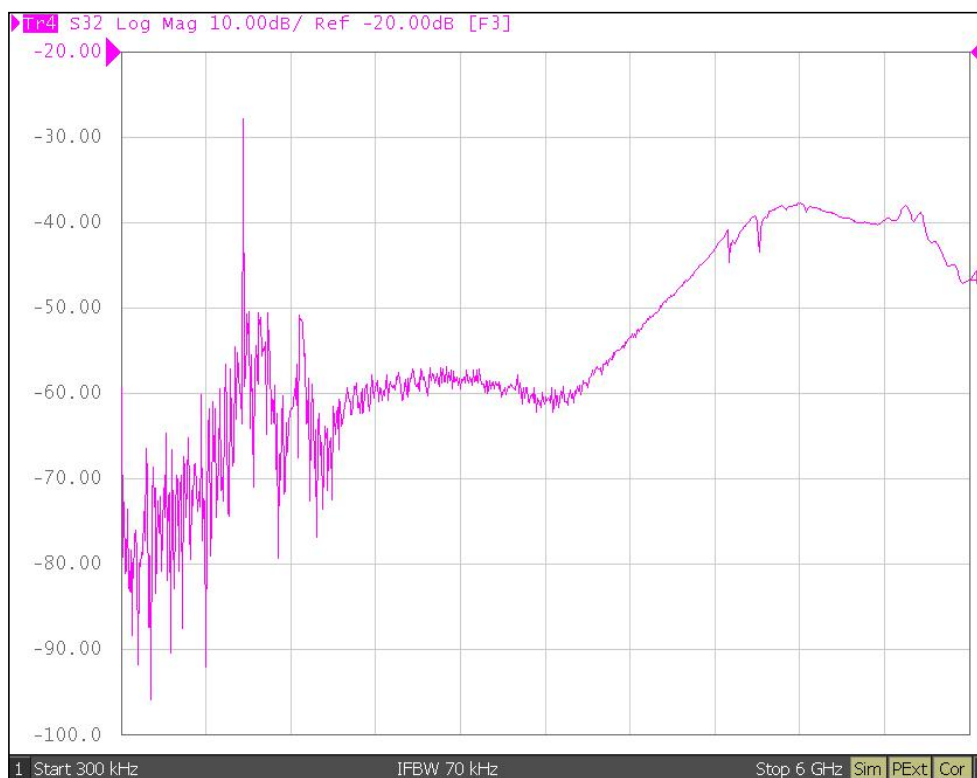
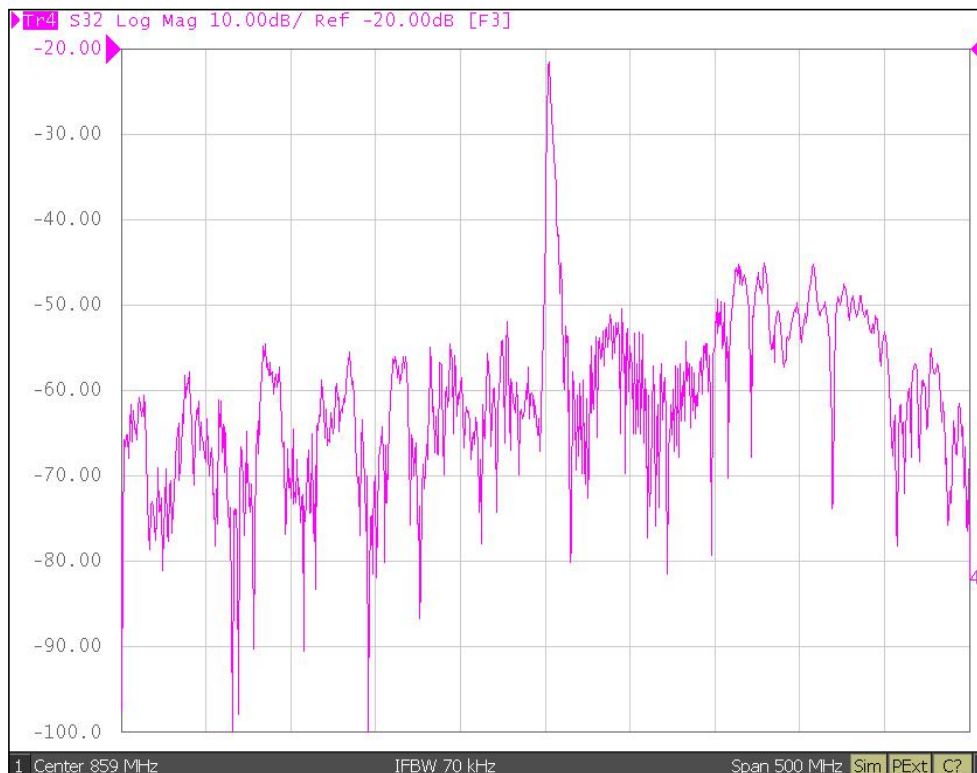
地址：深圳市龙华新区观澜街道高尔夫大道裕新路

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Isolation Tx to Rx



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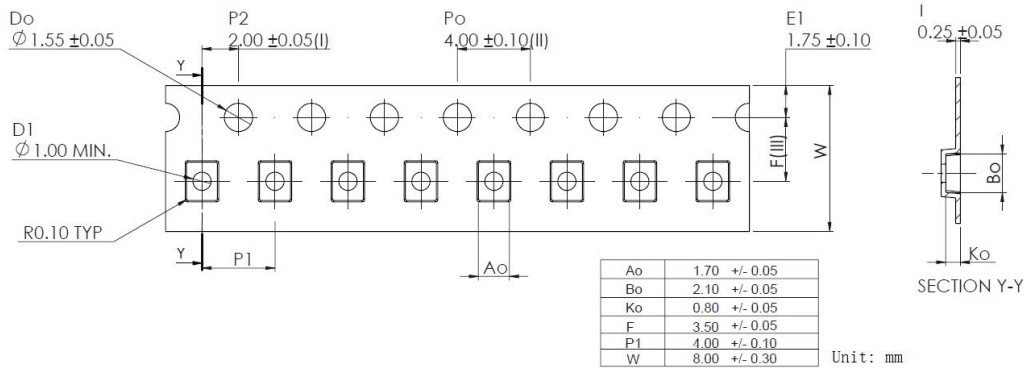
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邮编(Postcode): 518110

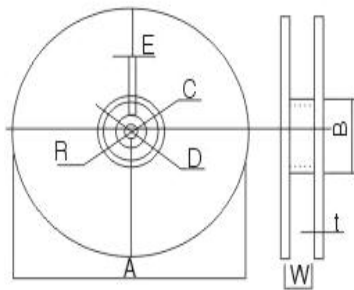
6 包装 Packaging

① 编带尺寸 Dimensions of Tape:



② 带轮尺寸 Dimensions of Reel

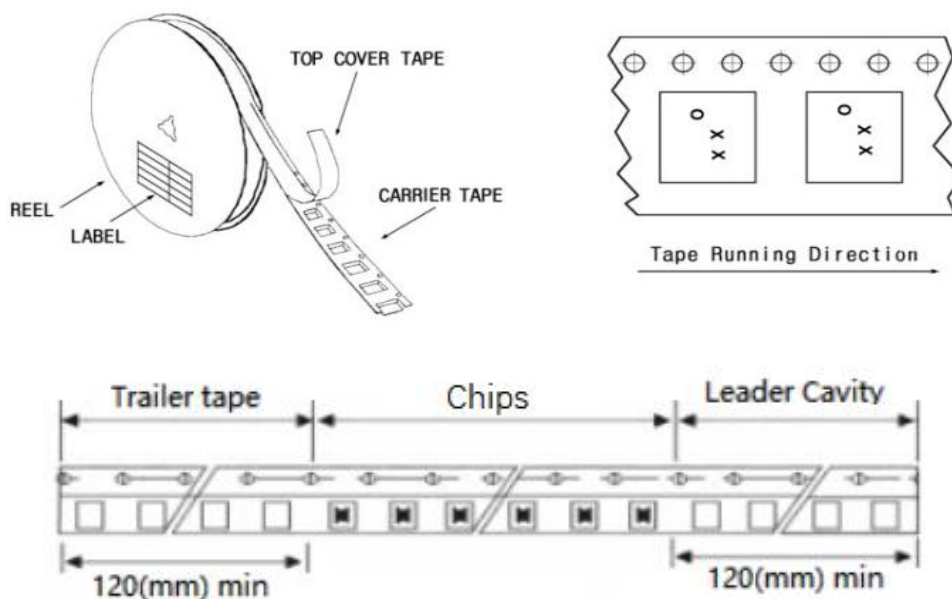
Unit: mm



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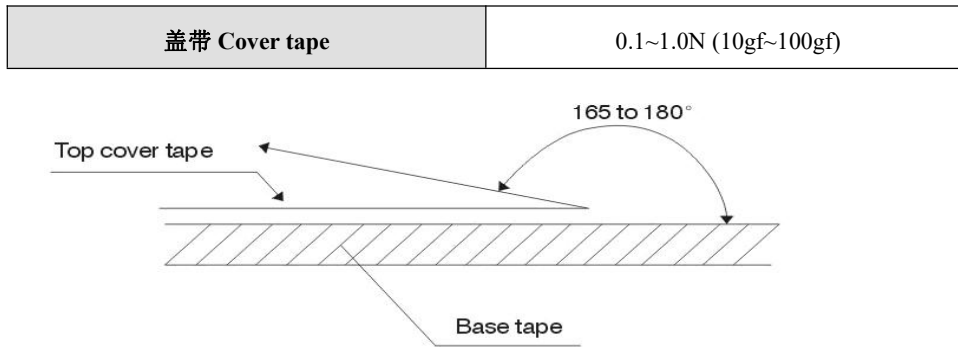
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④ 盖带的剥离强度 Peeling strength of cover tape:



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

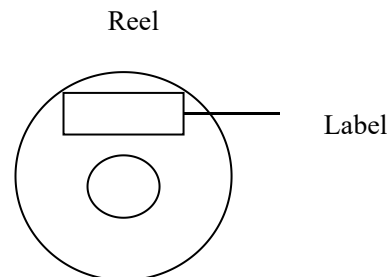
7 装箱清单及标志 Packing documents and marking

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.



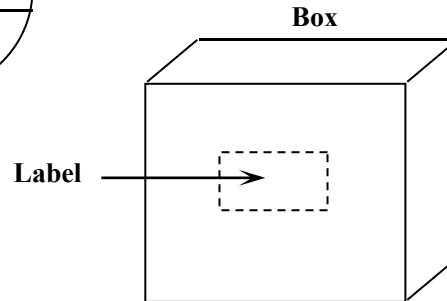
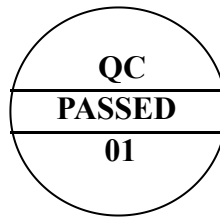
以上内容必须在标签上注明.All above shall be shown on marking label

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

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:



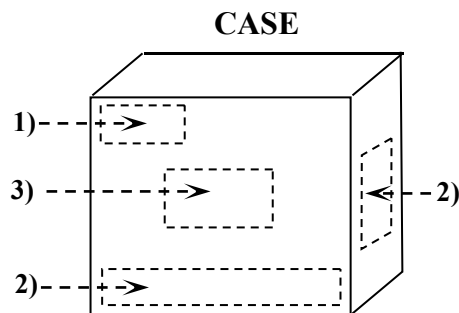
③ 内包装盒标记: Marking on inner box

- 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.