

客 户 :

Customer

客 户 料 号 :

Customer P/N

物 料 名 称 :

Item Name

感 通 型 号 : SWF1608-220M

GanTong P/N

承 认 书 编 号 : S24080256

Spec No.

版 本 号 : A0

Version No.

| 制 造 商<br>Manufacture |          |
|----------------------|----------|
| 拟 制<br>Prepared      | 汤四光      |
| 审 核<br>Checked       | 王 康      |
| 批 准<br>Approved      | 田 一      |
| 日 期<br>Date          | 2024/8/2 |

| 客 户 承 认<br>Approved by Customer |  |
|---------------------------------|--|
| 批 准<br>Approved                 |  |
| 日 期<br>Date                     |  |

备 注:  
Remark

- 在使用产品前, 用户必须确认此产品是否适用于自身设计, 感通仅保证产品符合此份承认书的规格。  
Before use, customer should confirm whether this product is suitable for their design, SGTE only ensure products meet this specification.
- 本承认书的数据更改, 必须经双方确认, 任何一方单独修改无效。  
This specification data change must be confirmed by both parties, any individual modification is in
- 如客户未回签承认书即下订单, 则视为承认此份承认书。  
If customer placed orders without signing back this specification, it is regarded as recognition.

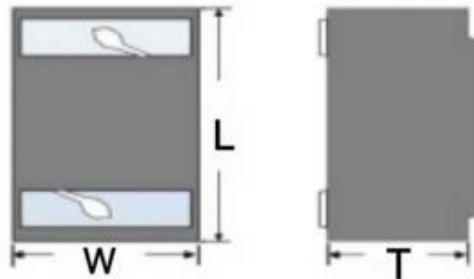
深圳感通科技有限公司

SHENZHEN GANTONG TECHNOLOGY CO.,LTD

深圳市龙岗区平湖街道万福路26号  
NO. 26, Wanfu Road, Pinghu Street, Longgang  
District, Shenzhen.  
Tel:(0755) 28547600 Fax:(0755) 28547610

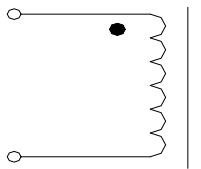


**1 外形尺寸(mm)**  
Appearance and dimensions

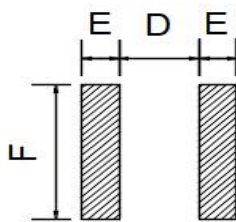


| Series       | L      | W       | T       |
|--------------|--------|---------|---------|
| SWF1608-220M | 1.8Max | 1.25Max | 1.20Max |

**2 原理图**  
Schematic



**3 参考基板尺寸(mm)**  
Reference PCB pattern



LAND PATTERN

|   |      |      |
|---|------|------|
| D | 0.64 | Typ. |
| E | 0.64 | Typ. |
| F | 1.02 | Typ. |

## 4 电气特性

## Electrical characteristics

| 产品料号<br>Part Number | 感值<br>Inductance<br>uH | 测试条件<br>Test Condition | 品质系数<br>Q | 自谐频率<br>SRF<br>MHz | 直流电阻<br>DCR<br>Ω | 饱和电流<br>Isat<br>mA | 温升电流<br>I <sub>rms</sub><br>mA |
|---------------------|------------------------|------------------------|-----------|--------------------|------------------|--------------------|--------------------------------|
|                     | ± 20%                  | MHz                    | Typ       | Typ                | ± 30%            | Typ                | Typ                            |
| SWF1608-220M        | 22                     | 1                      | 9         | 10                 | 3.9              | 220                | 160                            |

※1 电感值测试条件为1MHZ 0.25V .

Inductance is tested at 1MHZ 0.25V.

※2 饱和电流：电感值下降其初始值的35%时所加载的直流电流值。

Saturation current: The value of DC current when the inductance decreases 35% of its initial value.

※3 温升电流：使产品温度上升到 $\Delta T 40^{\circ}\text{C}$ 时所加载的直流电流值( $T_a=25^{\circ}\text{C}$ )。

Heat rating current: The value of DC current when product temperature rise is  $\Delta T 40^{\circ}\text{C}$  ( $T_a=25^{\circ}\text{C}$ ).

※4 特别提示：线路设计，组件布局，使用频率，散热系统等均会影响产品温度，请务必验证产品实际发热状况。

Special remind: Circuit design, component placement, frequency, cooling system and etc. all will affect the product temperature. Please verify the actual product temperature in the final application.

※5 所有数据基于环境温度 $25^{\circ}\text{C}$ 条件下测试。

All data is tested on  $25^{\circ}\text{C}$  ambient temperature.

※6 工作温度范围： $-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ （包含产品发热）

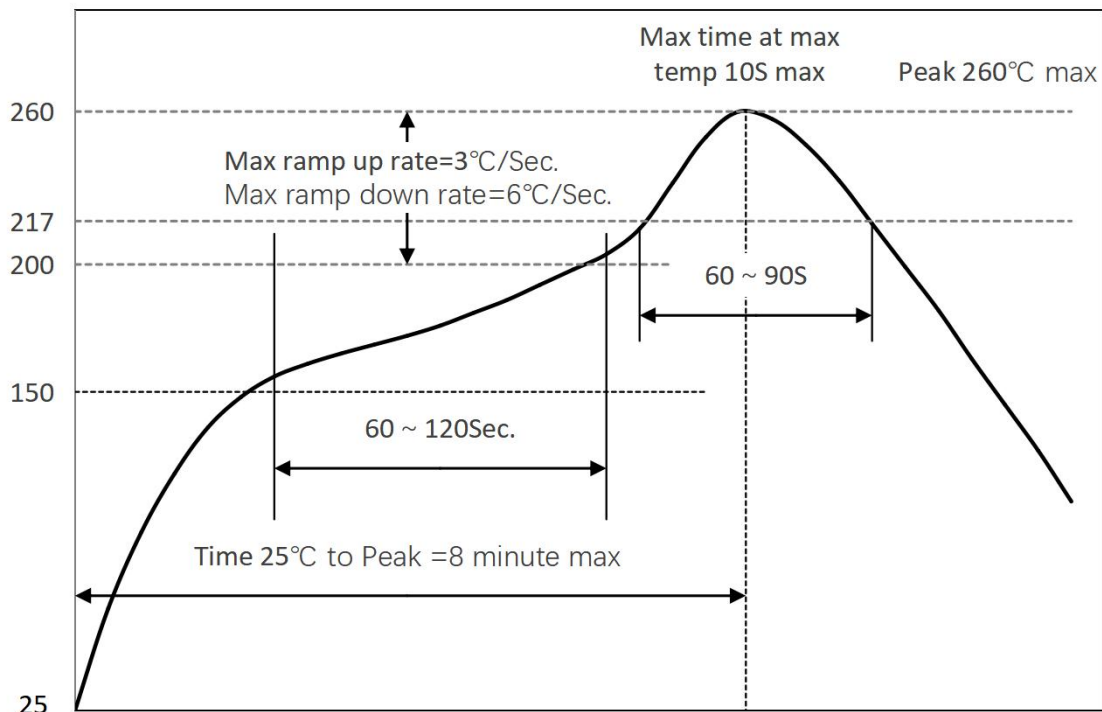
Operating temperature range :  $-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$  (Including self-temperature rise)

5 回流焊接规范

Reflow soldering specification

5.1 SMT回流焊温度曲线

Reflow profile for SMT components



5.2 封装体积与峰值温度(TP)关系分类

Classification of peak package body temperature (TP)

| 无铅装配<br>PB-Free Assembly | 封装厚度<br>Package Thickness | 封装体积<br>Package Volume |                          |                       |
|--------------------------|---------------------------|------------------------|--------------------------|-----------------------|
|                          |                           | <350 mm <sup>3</sup>   | 350~2000 mm <sup>3</sup> | >2000 mm <sup>3</sup> |
|                          | <1.6mm                    | 260°C                  | 260°C                    | 260°C                 |
|                          | 1.6~2.5mm                 | 260°C                  | 250°C                    | 245°C                 |
|                          | ≥2.5mm                    | 250°C                  | 245°C                    | 245°C                 |

※回流焊参照标准IPC/JEDEC J-STD-020D。

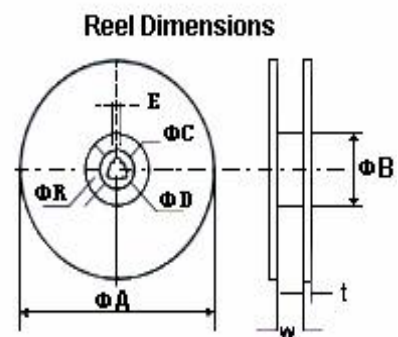
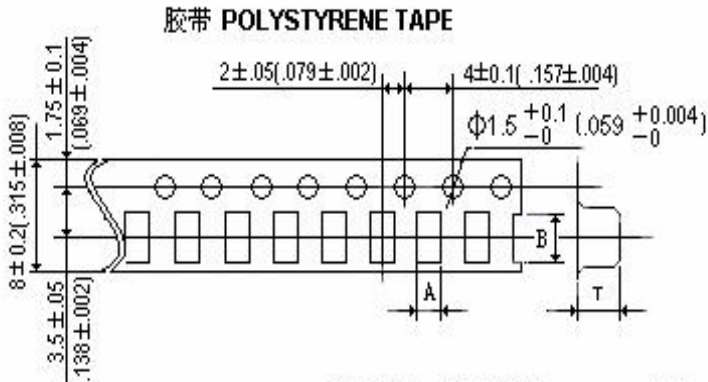
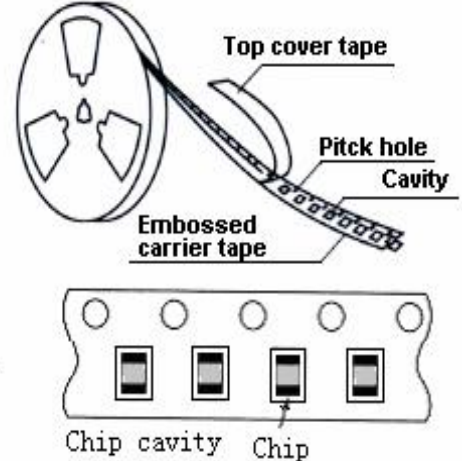
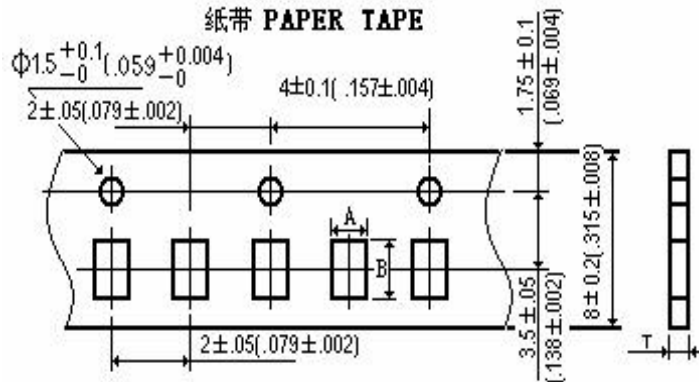
Reflow is referred to standard IPC/JEDEC J-STD-020D.

5.3 烙铁焊接：温度350°C± 10°C，焊接时间3S以内。

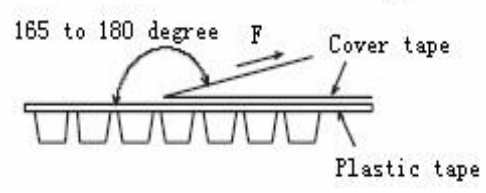
Iron soldering: temperature 350°C± 10°C，dwell time shall be less than 3S.

**6 包装规格**      (Dimensions in mm)  
**Packaging specification**

**Tape**



Peeling off force  
Pull strength  
0402~1210:20g~80g  
Speed of peeling off:  
300mm/min±10%



| A        | B        | T        |
|----------|----------|----------|
| 1.15 ref | 1.83 ref | 0.95 ref |

包装数量(PACKAGING QUANTITY):

**4000 pcs/reel**

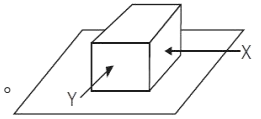
## 7 可靠性试验

### Reliability test

#### 7.1 端子强度试验

##### Terminal Strength test

将样品焊接到基板上，在X和Y方向上各加5.0N的推力10秒钟，无电极剥离现象发生。  
No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 5N for 10 second.



#### 7.2 可焊性试验

##### Solderability test

样品经过(155±15℃, 60秒)预处理，再浸入到常温的助焊剂中5秒，之后将样品电极浸没到锡炉(240±5℃, 3±1秒)，拿出确认电极面上锡状态：电极面被新锡覆盖超过90%。  
After preheat(155±10℃, 90 sec), then the specimen shall be immersed in flux at room temperature, later be immersed in solder pot (240±5℃, 3±1sec), take out and confirm the soldering state. Electrode has been covered by new solder more than 90%.

#### 7.3 冲击试验

##### Shock test

根据橡胶式落下冲击试验机，在互相垂直的3个不同方向，冲击加速度为981m/s<sup>2</sup> (100G)，落下后，对比电感值的变化率在初始值的±15%以内。  
Inductance deviation within ±15% of initial value, after being dropped once with 981m/s<sup>2</sup> (100G) attitude upon a rubber block method shock testing machine, in three different orientations.

#### 7.4 耐湿试验

##### Humidity test

在温度85±3℃和湿度85%±3RH环境中保存96±4小时后，拿出来用干布擦去水滴，在常温常湿下放置1小时后，对比电感值的变化率在初始值的±15%以内。  
Inductance deviation within ±15% of initial value, after 96±4 hours in 85%±3RH relative humidity at 85±3℃ and 1 hour drying under normal condition.

#### 7.5 低温保存试验

##### Low temperature storage test

在温度-25±3℃环境中保存96±4小时后，在室温下放置1-2小时对比电感值的变化率在初始值的±15%以内。  
The specimen shall be stored in a chamber of temperature -25±3℃ for 96±4 hours, and then it shall be subjected to standard atmosphere conditions for 1-2 hours. The inductance deviation within ±15% of initial value.

#### 7.6 高温保存试验

##### High temperature storage test

在温度85±3℃环境中保存96±4小时后，放置室温下1-2小时，对比电感值的变化率在初始值的±15%以内。  
The specimen shall be stored in a chamber of temperature 85±3℃ for 96±4 hours, and then it shall be subjected to standard atmosphere conditions for 1-2 hours. The inductance deviation within±15% of initial value.

#### 7.7 冷热冲击试验

##### Temperature cycle test

在-25±3℃环境中放置30分钟，之后在转移到85±3℃环境中放置30分钟(转移时间不超过2分钟)，这为一个循环，在循环100次以后，对比电感值的变化率在初始值的±15%以内。  
Being subjected to -25±3℃ for 30 minutes, then to 85±3℃ for 30 minutes (Transition time with 2 minutes). This constitutes one cycle. The inductance deviation within ±15% of initial value.



## 8 注意事项 Notes

- 8.1 产品最佳安装保质期限：12个月(从制造日期开始计算)  
保存条件：密封包装，温度 $\leq 40^{\circ}\text{C}$ ，相对湿度 $\leq 70\%$ 。  
The best assembly quality guarantee period of product : 12 months (From manufacture date),  
Storage condition : seal in packaging, temperature $\leq 40^{\circ}\text{C}$ , RH $\leq 70\%$ .
- 8.2 如果取出使用，剩余产品请用胶袋密封，按照以上条件保存，避免电极氧化，影响焊接状态。  
If taking out for use, the remaining products should be sealed in plastic bags and preserved  
in accordance with the above conditions, to avoid oxidation of electrodes and affect soldering status.
- 8.3 请不要将产品保存于高温、高湿、有尘埃、腐蚀性气体的不适合环境中。  
Do not keep products in unsuitable storage conditions,  
such as areas susceptible to high temperature, high humidity, dust or corrosion.
- 8.4 请小心轻放，避免由于产品跌落或取出不当导致产品损坏。  
Always handle products with care to avoid damage.
- 8.5 手上的油脂会导致产品的可焊性降低，请避免直接用手接触产品的端子，以保证最佳的可焊性。  
Do not touch electrodes with bare hands directly, as oil secretions may inhibit soldering.  
Always ensure optimum conditions for soldering.
- 8.6 当本产品应用到相似或新的项目时，电性可能因使用条件的不同而与规格产生一定的出入。  
When product will be used on a similar or new project to the original one,  
sometimes it might be unable to satisfy the specification due to different condition of usage.
- 8.7 本产品无任何自我保护功能，请勿在过载、高温、高压等不正常条件下使用。  
This product itself does not have any protective function in abnormal conditions,  
such as overload, high temperature, high voltage and etc.
- 8.8 超规格的高电压绝缘测试会对本产品绝缘金属粉体造成损伤，从而缩短产品的使用寿命。  
Hi-Pot test with higher voltage than spec value will damage insulation material and shorten its life.
- 8.9 如果将本产品用于埋置复合组件，有可能会对本产品表面造成腐蚀，请咨询本公司。  
If using in potting compound, the product might be damaged, please consult with us.
- 8.10 请不要清洗本产品，如果需要清洗，请咨询本公司。  
Please do not clean this product. If necessary, please consult with us.