

客 户 :

Customer

客 户 料 号 :

Customer P/N

物 料 名 称 :

Item Name

感 通 型 号 : MCM1211-152

GanTong P/N

承 认 书 编 号 : S24072755

Spec No.

版 本 号 : A0

Version No.

制 造 商 Manufacture	
拟 制 Prepared	汤四光
审 核 Checked	王 康
批 准 Approved	田 一
日 期 Date	2024/7/27

客 户 承 认 Approved by Customer	
批 准 Approved	
日 期 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.

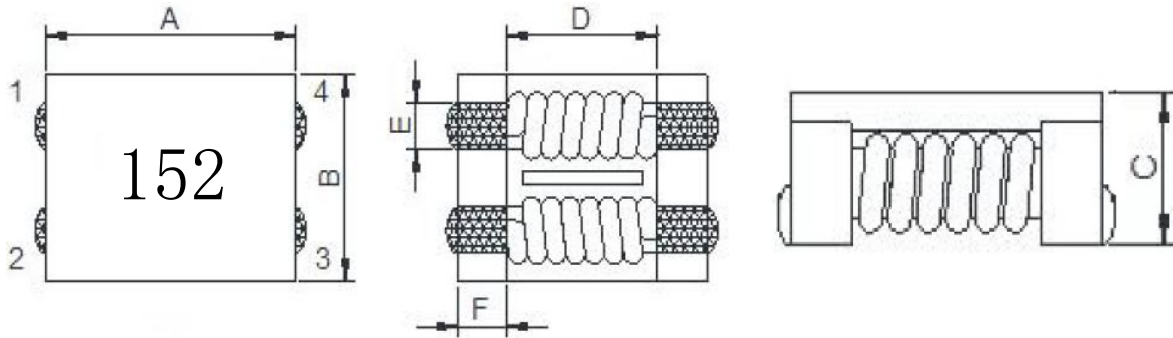


变更履历

Revision History

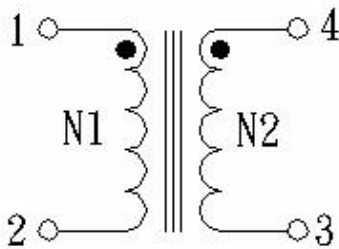
版本号 Revision	变更日期 Changed Date	申请者 Request By	变更内容 Change Content

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

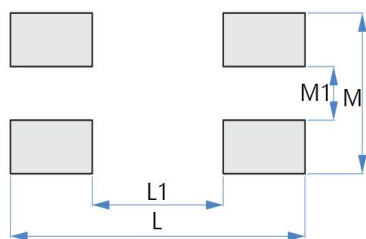


A	B	C	D	E	F
12.0 ±0.5	11±0.5	7.0 Max	7Typ.	2.7Typ.	2.5 Typ.

**2 原理图**  
Schematic



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



L	12.5	Ref.
L1	6.5	Ref.
M	8.5	Ref.
M1	2.0	Ref.

4 电气特性

Electrical characteristics

型号 Type No.	Impedance (Ω) @100MHz/0.1		直流电阻 DCR mΩ	额定电流 Rated Current A	额定电压 Rated Voltage V	Insulation Resistance
	Min	Typ	Max	Max	Max	(MΩ) Min
MCM1211-152	1500	1500	20	4.5	125	10

※1 额定电流：使产品温度上升到 $\Delta T40^{\circ}\text{C}$ 时所加载的直流电流值( $T_a=25^{\circ}\text{C}$ )。

Rated current: The value of DC current when product temperature rise is  $\Delta T40^{\circ}\text{C}$  ( $T_a=25^{\circ}\text{C}$ ).

※2 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

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.

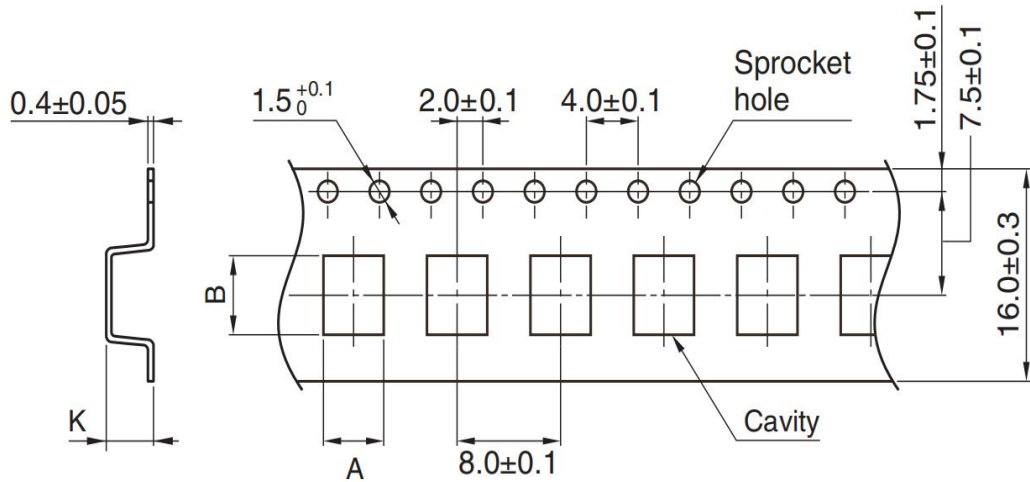
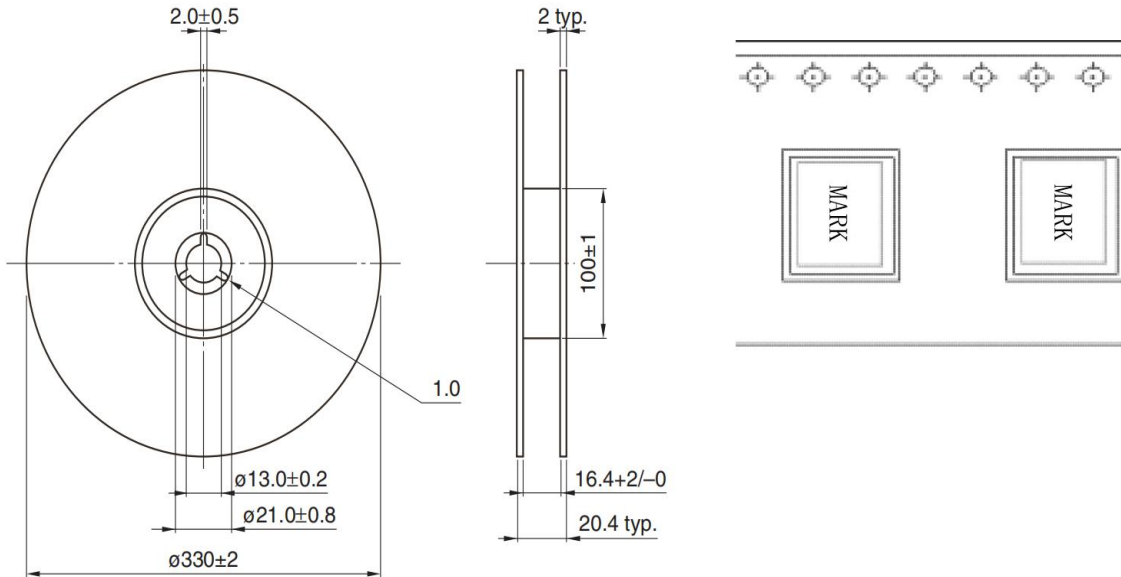
※3 所有数据基于环境温度 $25^{\circ}\text{C}$ 条件下测试。

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

※4 工作温度范围： $-25^{\circ}\text{C} \sim +125^{\circ}\text{C}$ （包含产品发热）

Operating temperature range :  $-25^{\circ}\text{C} \sim +125^{\circ}\text{C}$  (Including self-temperature rise)

5 包装规格 (Dimensions in mm)  
Packaging specification



Dimensions in mm

A	B	K
13.1 Typ.	11.4 Typ.	7 Typ.

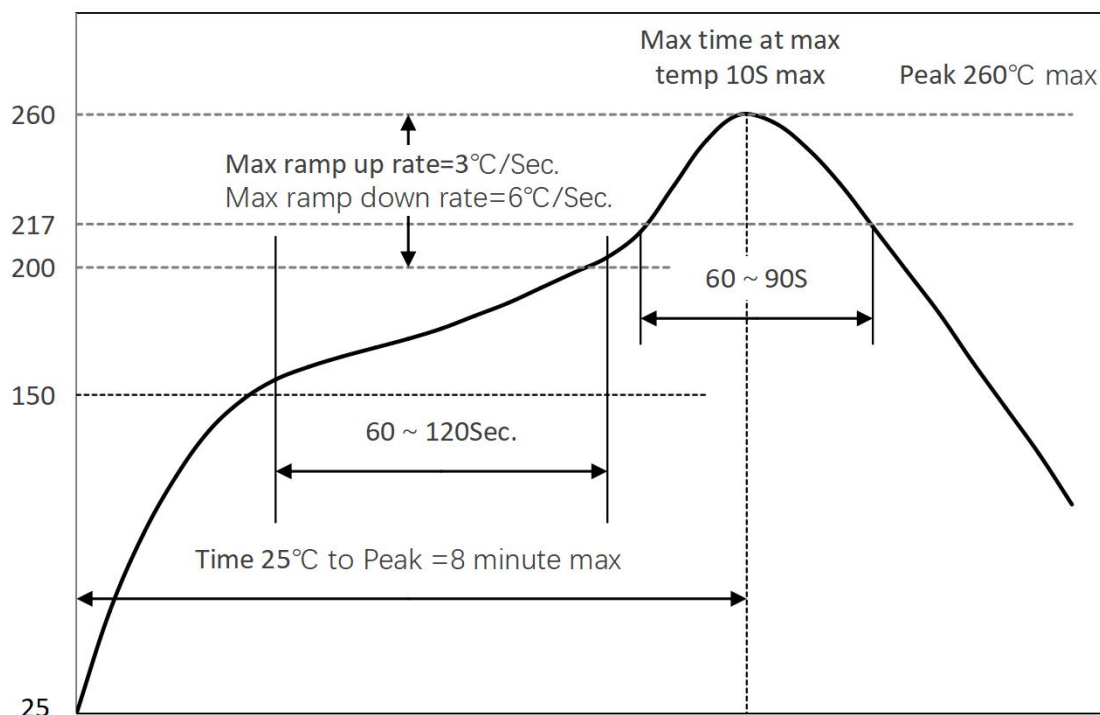
500 pcs/reel

6 回流焊接规范

Reflow soldering specification

6.1 SMT回流焊温度曲线

Reflow profile for SMT components



6.2 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 PB-Free Assembly	封装厚度 Package Thickness	封装体积 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.

6.3 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.

## 7 可靠性试验

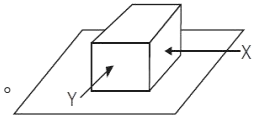
### Reliability test

#### 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(160±10℃, 90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(245±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(160±10℃, 90 sec), then the specimen shall be immersed in flux at room temperature, later be immersed in solder pot (245±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80~85%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 80~85% 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125±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 125±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125±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 125±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.