



产 品 承 认 书

Specification for Approval

客 户 :
Customer :
客户料号 :
Customer P/N :
物料名称 :
Item Name :
感通料号 : **GPSR-AP1770-3R3MS**
GanTong P/N :
承认书编号 : **S21060301**
Spec No. :
版 本 号 : **A**
Version No. :

制 造 商 Manufacture	
拟 制 Prepared	黄荣英
审 核 Checked	王康
批 准 Approved	田一
日 期 Date	2021.06.03

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 invalid.
- 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平湖乡万福路 26 号
NO.26.wanfu road,pinghu township,pinghu street,longgang
District,shenzhen
Tel: (0755) 28457600 Fax: (0755)28457610

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 料号定义

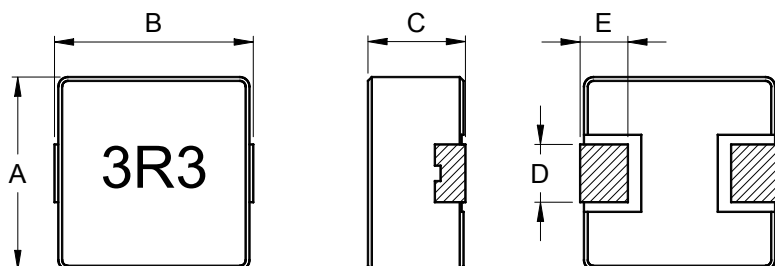
Part No. definition

GPSR : AP1770 : 3R3 M S
① ② ③ ④ ⑤

- ① 产品代码 : 一体成型电感 ⑤ S : 喷码印字
Product Code
② 产品尺寸 : 18.25×17.0×7.0mm
Dimension
③ 电感值 : 例 1R0 = 1.0uH 100 = 10uH
Inductance
④ 公差范围 : M = ±20% N = ±30%
Tolerance
※ 工作温度范围: -40℃ ~ +125℃ (包含产品发热)
Operating temperature range : -40℃ ~ +125℃ (Including self-temperature rise)

2 外形尺寸(mm)

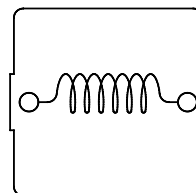
Appearance and dimensions



A	B	C	D	E
17.0±0.3	18.25±0.5	7.0Max	12±0.3	3.2±0.5

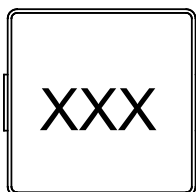
3 原理图

Schematic



4 印字标识

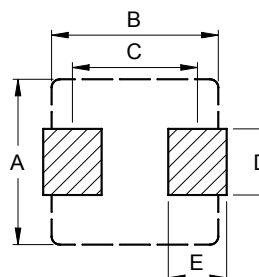
Marking



※ XXX : 感值

5 参考基板尺寸(mm)

Reference PCB pattern



A: 17.5
B: 17.5
C: 14.5
D: 13.0
E: 4.0

6 电气特性

Electrical characteristics

料 号 Part No.	电感值 Inductance (μH) ※1	直流电阻 DC Resistance ($\text{m}\Omega$)		温升电流 Heat Rating Current (A) ※2		饱和电流 Saturation Current (A) ※3	
	$\pm 20\%$	Typical	Max	Typical	Max	Typical	Max
GPSR-AP1770-3R3MS	3.3	3.5	4.5	20	19	40	39

※ 所有数据基于环境温度 25℃ 条件下测试。

All data is tested on 25℃ ambient temperature.

※1 电感值测试条件为 100kHz, 1.0V。

Inductance is tested at 100kHz, 1.0V.

※2 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 $\Delta T 40^\circ\text{C}$ ($T_a=25^\circ\text{C}$).

※3 饱和电流: 电感值下降到其初始值的 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.

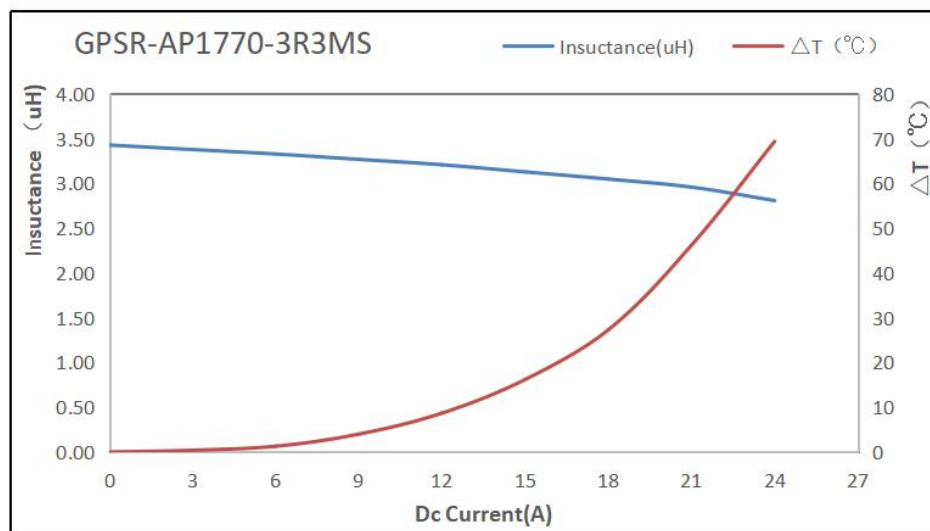
※4 特别提示: 线路设计, 组件布局, 使用频率, 散热系统等均会影响产品温度, 请务必验证产品实际发热状况。

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.

7 温升电流 VS 饱和电流曲线

Heat rating current VS saturation current curve



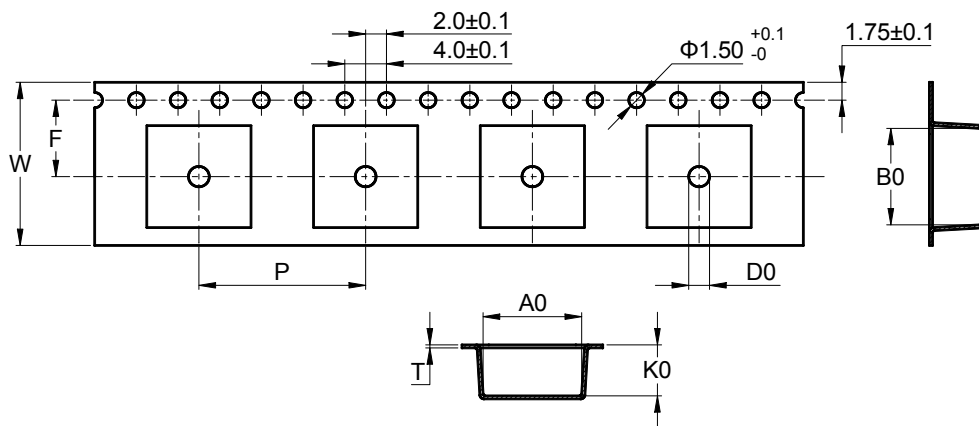
8 包装规格

Packaging specification

8.1 载带尺寸(mm)

Carrier tape dimensions

A0	18.8±0.1
B0	17.3±0.1
K0	7.2±0.1
W	32.0±0.3
P	24.0±0.1
F	14.2±0.1
T	0.4±0.05
D0	N/A

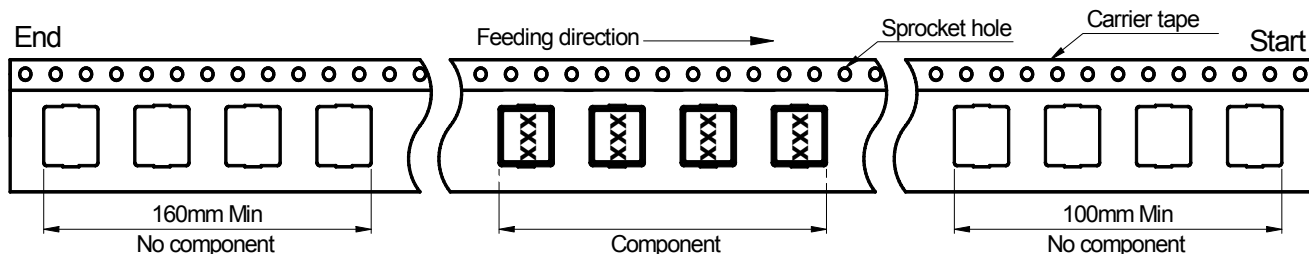


※ 包装参照国际标准 IEC 60286-3。

Packaging is referred to the international standard IEC 60286-3.

8.2 包装方向

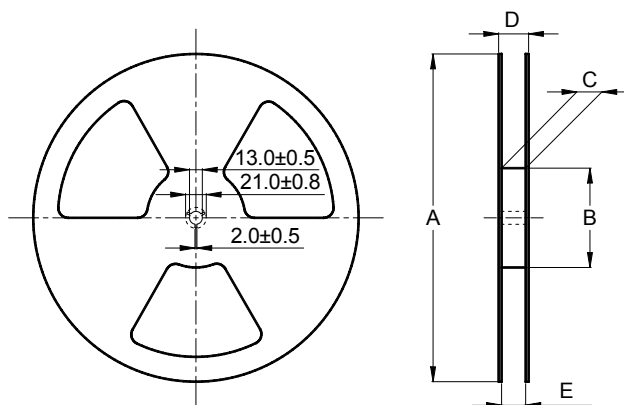
Packaging direction



8.3 卷盘尺寸(mm)

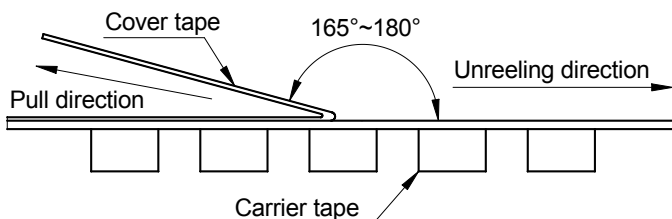
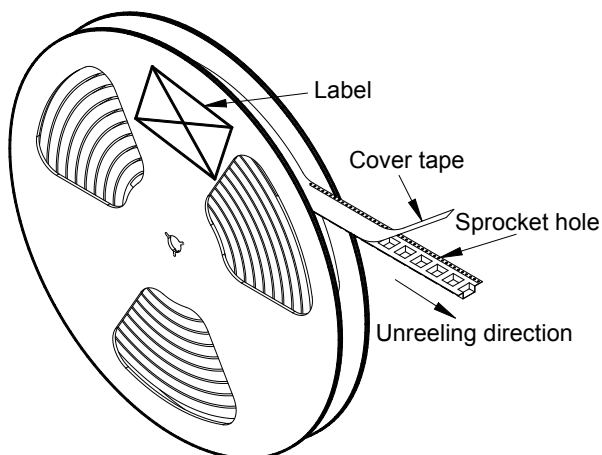
Reel dimensions

A	330 ± 2.0
B	100 Min
C	16.4 +2.0/-0
D	22.4 Max
E	23.9 Min



8.4 盖带剥离条件

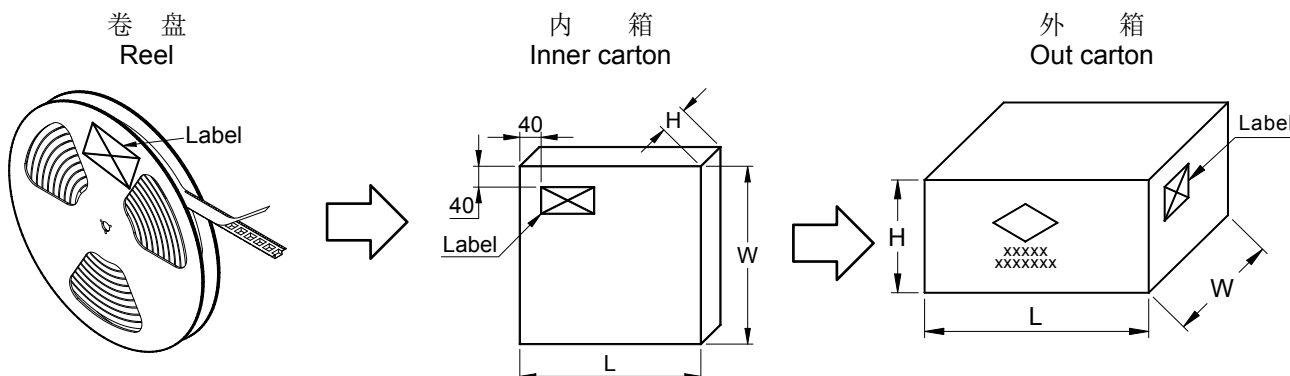
Cover tape peel-off condition



- ※ 盖带剥离力度为 0.2~1.3N。
Cover tape peel-off force will be 0.2 to 1.3N.
- ※ 参考剥离速度 300±10mm/分钟。
Reference peel-off speed 300±10mm/min.

8.5 包装箱尺寸和包装数量

Carton dimensions and packaging quantity



■ 内包装箱(L×W×H): 350×335×37mm
Inner Carton

■ 外包装箱(L×W×H): 365×345×275mm
Out Carton

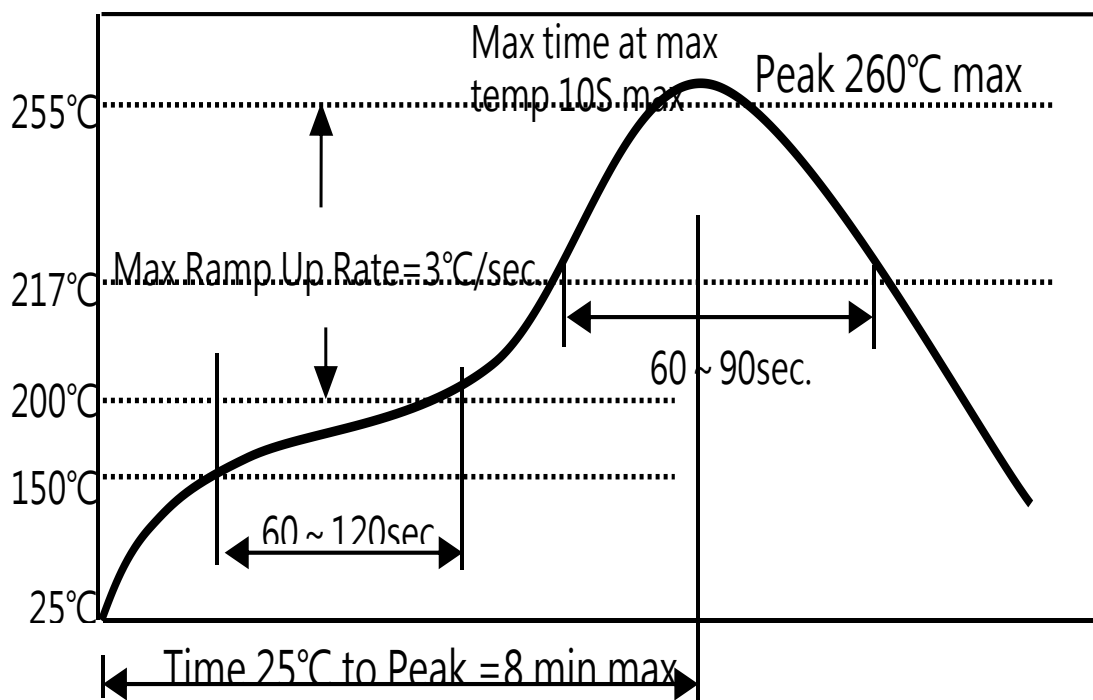
GPSR-AP1770	每盘 包装数量 Per Reel Quatity	内箱 包装数量 Inner Carton Quatity	外箱 包装数量 Out Carton Quatity
	300 pcs	(300×1) =400 pcs	(300×6) = 1800pcs

9 回流焊焊接规范

Reflow soldering specification

9.1 SMT 回流焊温度曲线

Reflow profile for SMT components

9.2 封装体积与峰值温度(T_P)关系分类Classification of peak package body temperature (T_P)

	封装厚度 Package Thickness	封装体积 Package Volume		
		<350 mm ³	350~2000 mm ³	>2000 mm ³
无铅装配 PB-Free Assembly	<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.

10 可靠性试验

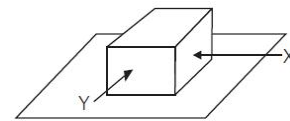
Reliability test

10.1 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.



10.2 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%.

10.3 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/s² (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/s² (100G) attitude upon a rubber block method shock testing machine, in three different orientations.

10.4 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.

10.5 低温保存试验

Low temperature storage test

在温度-40±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 -40±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.

10.6 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.

10.7 冷热冲击试验

Temperature cycle test

在-40±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 -40±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.

11 注意事项 Notes

- 11.1 产品最佳安装保质期限：6 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 : 6 months (From manufacture date),
Storage condition : seal in packaging, temperature $\leq 40^{\circ}\text{C}$, RH $\leq 70\%$.
- 11.2 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.
- 11.3 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.
- 11.4 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.
- 11.5 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.
- 11.6 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.
- 11.7 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.
- 11.8 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.
- 11.9 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.
- 11.10 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.