



产品规格确认书 *Specification For Approval*

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Specification For Approval

顾客 Customer: Semtech

顾客产品名称 Custom Product Name: LINE FILTER

顾客零件号 Custom Part No.: _____

产品名称 Product Name Ferrite Common Mode Choke

产品型号 Product Model: SY18TF-1.5A-24mH

发布日期 Publish Date: 2022.11.6

版本 Version: V1.0

特别说明：此确认书请顾客在 2 周内确认，如未在规定时间内答复，则视为同意。

三友审批签字 Signature by Sanyou			顾客签字或盖章 stamp of signature by customer
编制 Make	审核 Check	批准 Approved	

Especially claim: This specification should be checked in 2 weeks, if had not answered in the scheduled time ,then regards as the agreement.



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变更版记录 Revisions

版本 Version No.	变更内容 Change description	变更原因 Reason	日期 Date	修改 Drafted by	审核 Checked by
V1.0	初版	/	2022.11.6	邹一鸣	黄玉华

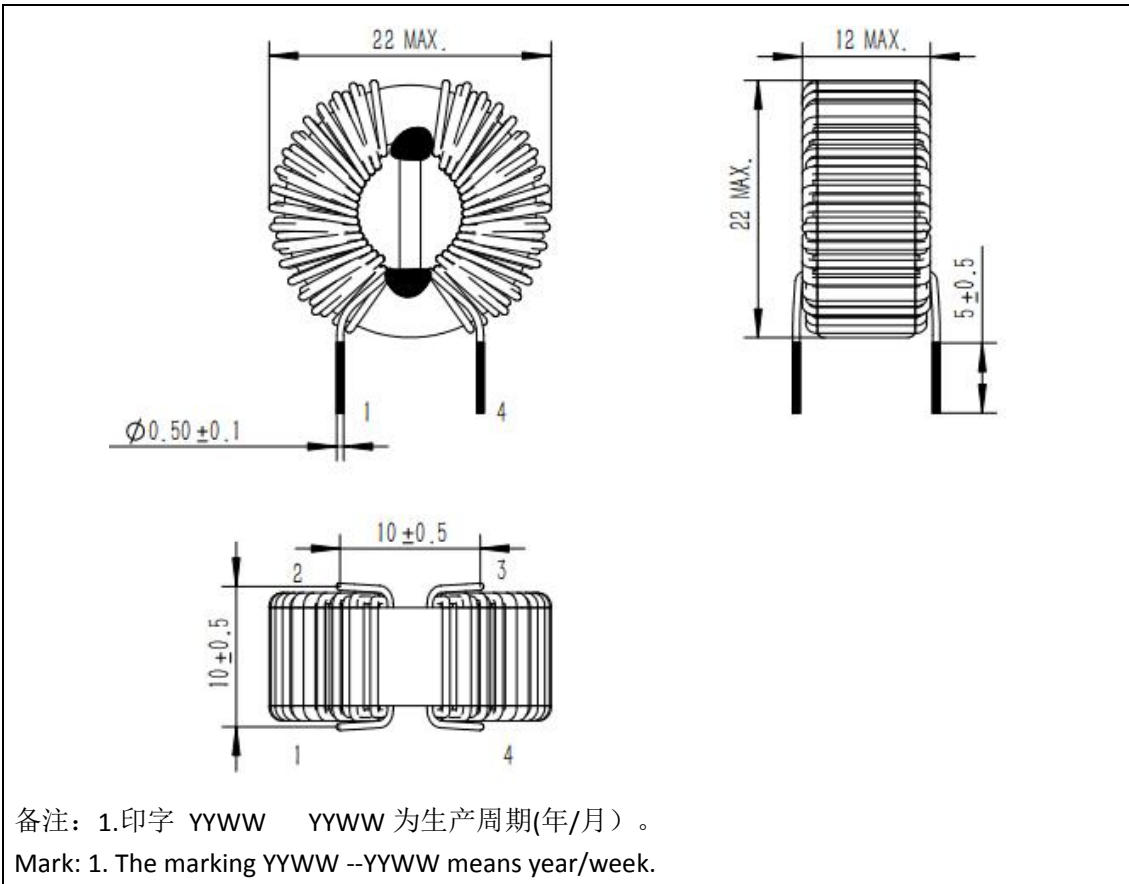
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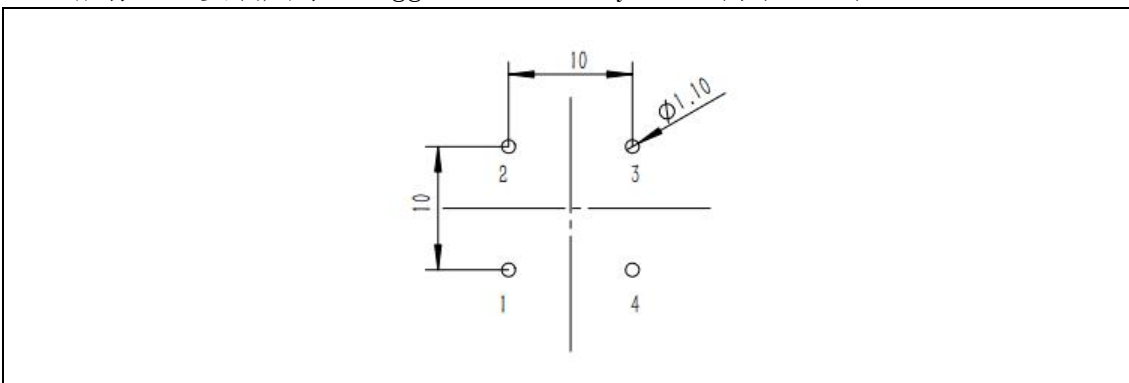


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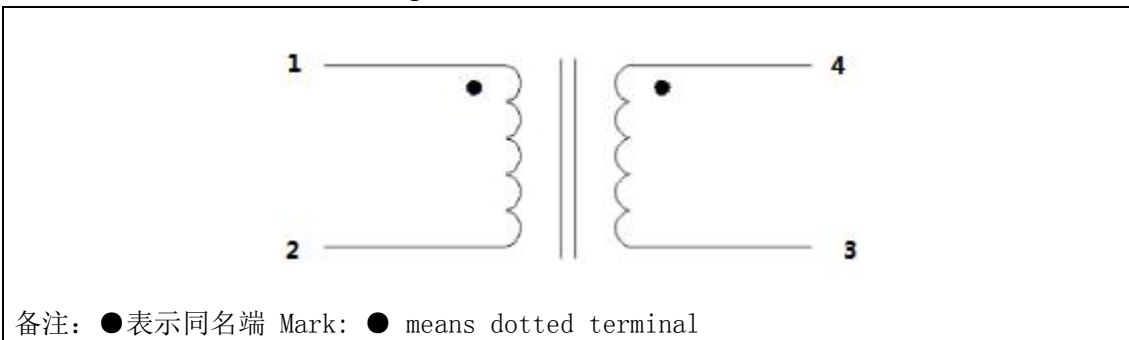
1. 外形尺寸(Outline Dimensions) (单位: mm)



2. 推荐 PCB 安装尺寸 (Suggested PCB Layout) (单位: mm)



3. 原理图 (Schematic Diagram)



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4. 绕线参数 (Winding Parameter)

起线-尾线 Start-finished pin	线径规格 Wire diameter	圈数 Turns	绕线方式 Winding condition	胶带圈数 Turns of tape
1-2	1UEWF 0.5mm	50	密绕 closed winding	/
4-3	1UEWF 0.5mm	50	密绕 closed winding	/

备注：绕线圈数参考，以电感量为准。

The turns of coil specified below is only for reference, the actual number is decided by the inductance

5. 电气特性 (Electrical Characteristics)

项目 Item	测试引脚 Pin NO.	规格 SPEC.	测试条件 Conditions
△ 电感 Inductance	(1-2) / (4-3)	24mH±25%	10KHz 0.25V 25°C (LCR 测试仪器内阻 100Ω)
△ 电感偏差 Inductance deviation	(1-2) - (4-3)	0.3mH MAX.	10KHz 0.25V 25°C (LCR 测试仪器内阻 100Ω)
△ 漏感 Leakage inductance	1-2	50uH MAX.	10KHz 0.25V 25°C (LCR 测试仪器内阻 100Ω) PIN4-3 short
△ 直流电阻 DC resistance	1-2	120mΩ MAX.	25°C
	4-3	120mΩ MAX.	
高压测试 Hi-pot test	(1-2) - (4-3)	1.5KV	60S 1mA (For samples)
		1.8KV	1S 1mA (For mass production)
绝缘电阻 Insulation resistance	(1-2) - (4-3)	100MΩ 最小	500VDC 1MIN (For samples)
		100MΩ 最小	600VDC 1S (For mass production)
工作温度范围 Operation Temperature		-20°C~105°C	包含线圈发热导致的温度升高 (including coil's temperature rising)

备注：△为特殊特性，三友自行识别。如客户要求，要按照客户提供的标识。Mark: △ means special characteristic identified by SANYOU, If customer specified other forms, we will update the spec

6. 材料表 (Material List)

编号 NO.	类别 Description	材料 Material	供应商 MANUFACTURER	认证号 UL NO.	温度等级 TEMP.
1	磁芯 Core	T18 GH12	冠达或等同 Zeming or equivalent	/	115°C
2	隔板 Spacer	KB-6150C	建滔或等同 Changchun Kingboard or equivalent	E123995	130°C
3	漆包线 Wire	1UEWF	金雁、先登或等同 Jinyan, Xiandeng or	E173779	155°C



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			equivalent		
4	锡 Solder	Sn/Cu 99.3/0.7	添硕或等同 Tianshuo or equivalent	/	/
5	环氧胶 EPOXY	EP-600-3M-HF	三通或等同 Tianshuo or equivalent	/	130°C

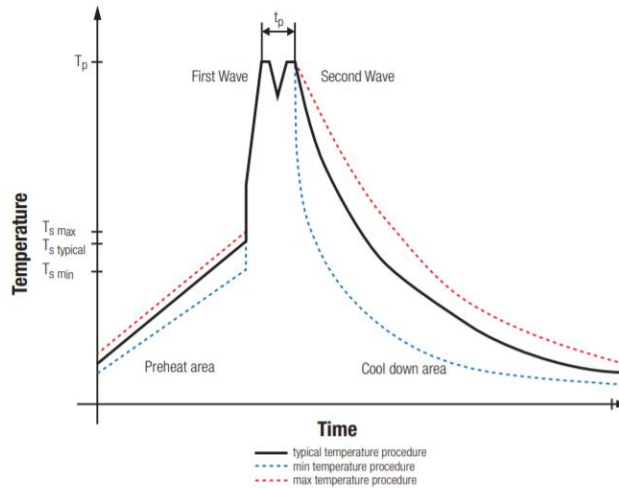
7. 产品工艺要求 (Technological Requirements):

- 1) 绕线平整，两个绕组圈数相同。The turns of two coils must be same, and the winding shall be flat without overlap.
- 2) 磁芯，隔板和底座点胶固定。Fasten core and bobbin with glue.

8. 推荐焊接条件 (Recommend Soldering Conditions)

- 1) 焊接方式：波峰焊 (wave soldering)
- 2) 典型焊接曲线 (Classification wave soldering profile)

Classification Wave Soldering Profile:



Classification Wave Soldering Profile:

Profile Feature		Pb-Free Assembly
Preheat Temperature Min	$T_{s \min}$	100 °C
Preheat Temperature Typical	$T_{s \text{ typical}}$	120 °C
Preheat Temperature Max	$T_{s \max}$	130 °C
Preheat Time t_s from $T_{s \min}$ to $T_{s \max}$	t_s	70 seconds
Ramp-up Rate	ΔT	150 °C max.
Peak Temperature	T_p	250 °C - 260 °C
Time of actual peak temperature	t_p	max. 10 seconds max. 5 seconds each wave
Ramp-down Rate, Min		~ 2 K/ second
Ramp-down Rate, Typical		~ 3.5 K/ second
Ramp-down Rate, Max		~ 5 K/ second
Time 25 °C to 25 °C		4 minutes

refer to EN61760-1:2006

9. 可靠性测试条件 (Reliability Testing Conditions)

序号 (NO.)	测试项目 (Item)	试验条件 (Conditions)	判定标准 (Criterion)
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1	高温存储 High temperature storage	105°C 300 小时 105°C 300Hours	室温放置 2h 后, 各项性能满足规格书要求 After 2 hours at room temperature, the performance meets the requirements of the specifications
2	低温存储 Low temperature storage	-20°C 300 小时 -20°C 300Hours	室温放置 2h 后, 各项性能满足规格书要求 After 2 hours at room temperature, the performance meets the requirements of the specifications
3	冷热冲击 Thermal shock	-20°C 30 分钟~ 105°C 30 分钟 10 个循环 -20°C 30 minutes~ 105°C 30minutes 10 cycles	室温放置 2h 后, 各项性能满足规格书要求 After 2 hours at room temperature, the performance meets the requirements of the specifications
4	湿热试验 Damp heat test	温度 40°C, 湿度 93%RH 240 小时 Temperature 40°C humidity 93%RH 240 hours	室温放置 2h 后, 各项性能满足规格书要求 After 2 hours at room temperature, the performance meets the requirements of the specifications
5	电寿命试验 Life test	额定电流 3A 1000 小时 Rated current 3A 1000Hours	试验完成后, 各项性能满足规格书要求 After the test, the performance meets the requirements of the specifications