



三友繼電器  
SANYOU RELAYS

三友联众集团股份有限公司  
Sanyou Corporation Limited

敬业 诚信  
团结 创新

电话 Tel: (86)-769-82618888

传真 Fax: (86)-769-85914553

网址 Web site: www.sanyourelay.com

## 产品规格确认书

## Specification for approval

文件编号 File No:

顾客 Customer: \_\_\_\_\_

顾客产品名称 Custorm Product Name: Line Filter

顾客零件号 Custorm Part No: \_\_\_\_\_

三友产品名称 SY Product Name: 铁氧体共模电感 1A 6.8mH

三友产品型号 SY Product model: SY16TF-0010-0680-001

发布日期 Publish Date: 2022.12.9

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.

## 变更版记录 Revisions

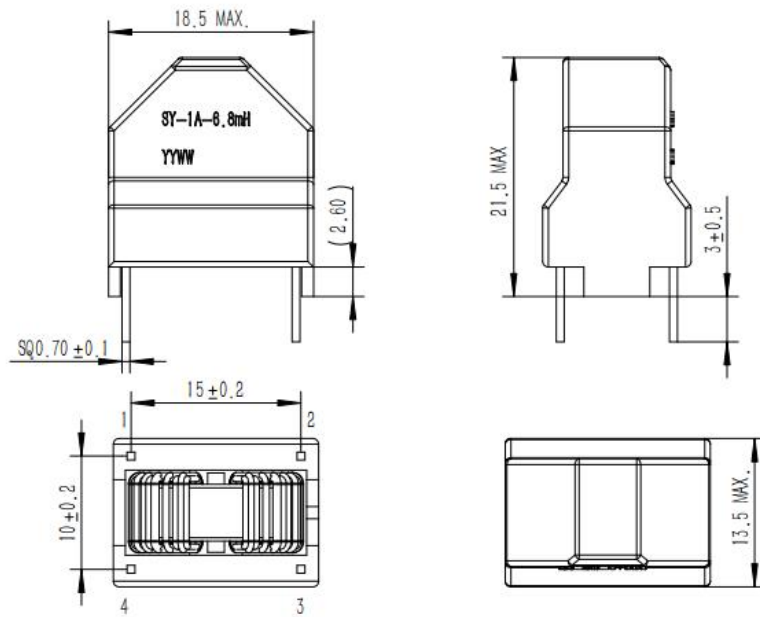
版本 Version No.	变更内容 Change description	变更原因 Reason	日期 Date	修改 Drafted by	审核 Checked by
V1.0	初版	/	2022.12.9	邹一鸣	黄玉华

## 目录 Catalog

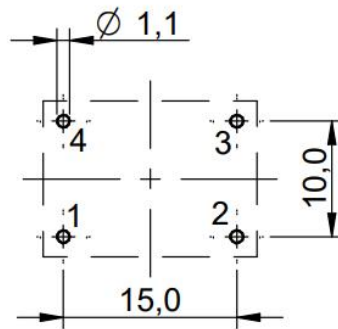
1. 外形尺寸(Outline Dimensions)
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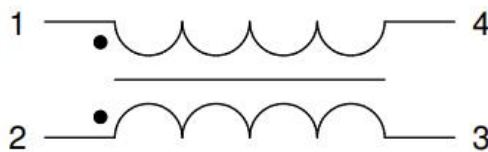
1, 外形尺寸(Outer dimensions) (单位: mm)



2, 推荐 PCB 安装尺寸 (Suggested PCB layout) (单位: mm)



3, 原理图 (Schematic diagram)



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
1-4	2UEW F 0.4mm	40 (REF)	close	\
2-3	2UEW F 0.4mm	40 (REF)	close	\

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

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5, 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.
- 3) 如客户无要求, 产品标签为SY-1A-6.8mH 否则按照客户要求 if no rerequirements, marked the inductor with:SY-1A-6.8mH, else meets customer' s specification.

6, 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	1-4	6.8mH±30%	10KHz 50mV 20℃ (LCR 测试仪器内阻 100 Ω )
	2-3	6.8mH±30%	
电感偏差 Inductance deviation	1-4 - 2-3	500uH max	10KHz 50mV 20℃ (LCR 测试仪器内阻 100 Ω )
漏感 Leakage inductance	1-4	300uH max	10KHz 50mV 20℃ (LCR 测试仪器内阻 100 Ω )
直流电阻 DC resistance	1-4	0.3 Ω max	20℃
	2-3	0.3 Ω max	
高压测试 Hi-pot test	(1-4)-(2-3)	1.5KV	2S 1mA
额定电压 Rated Voltage		250V MAX.	50HZ
绝缘电阻 Insulation resistance	(1-4)-(2-3)	100M Ω min	500VDC
工作温度范围 Operation Temperature		-40~125℃	包含线圈发热导致的温度升高 (including coil' s temperature rising)

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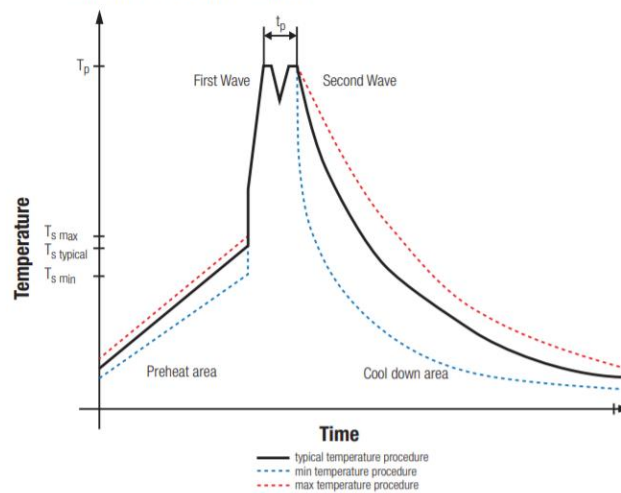
7, 材料表 (Material list)

编号 NO.	类别 Description	材料 Material	供应商 MANUFACTURER	UL NO.	温度等级 TEMP.
1	Core	T16*9*5C GH10T(双层涂 覆)	NANTONG GUANYOUDA MAGNETIC INDUSTRY CO. LTD	/	130°C
			SHANDONG KAITONG ELECTRON CO., LTD	/	125°C
2	Case	PM-9820	SUMITOMO BAKELITE CO LTD	E41429	150°C
		T375HF	CHANGCHU PLASTICS CO., LTD	E59481	150°C
3	Wire	2UEW F	Guangdong Jinyan Electrotechnics or equivalent	E238500	155°C
4	Epoxy	A/B	Santong or equivalent	/	130°C
5	Solder	Sncu	Qiandao or equivalent	/	/

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:**



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**Classification Wave Soldering Profile:**

Profile Feature		Pb-Free Assembly
Preheat Temperature Min	$T_{s \text{ min}}$	100 °C
Preheat Temperature Typical	$T_{s \text{ typical}}$	120 °C
Preheat Temperature Max	$T_{s \text{ max}}$	130 °C
Preheat Time $t_s$ from $T_{s \text{ min}}$ to $T_{s \text{ max}}$	$t_s$	70 seconds
Ramp-up Rate	$\Delta T$	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)
1	高温存储 High temperature storage	125°C 300 小时 125°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	-40°C 300 小时 -40°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	-40°C 30 分钟 ~ 125°C 30 分钟 10 个循环 -40°C 30 minutes ~ 125°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 1A 1000 小时 Rated current 1A 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