承 认 书
SPECIFICATION FOR APPROVAL

客 户 名 称: Customer	
客 户 料 号: Customer P/N	
客 户 型 号: Customer Model	
制 作 日 期: Date Code	2026-06-17
厂 商 名 称: Manufacturer	深圳市思博磁性元件有限公司
厂 商 型 号: Customer P/N	CMLO201612S Series
版 本: R E V	A0

供 应 商 审 核 Confirmed By Ourself			客户承认 Approved by Customer		
制作者 Producer	审核 Checked	批准 Approved	测试 TEST	审核 Checked	批准 Approved
Allen	Billy	Derek			
日期	2026-06-17		日期		

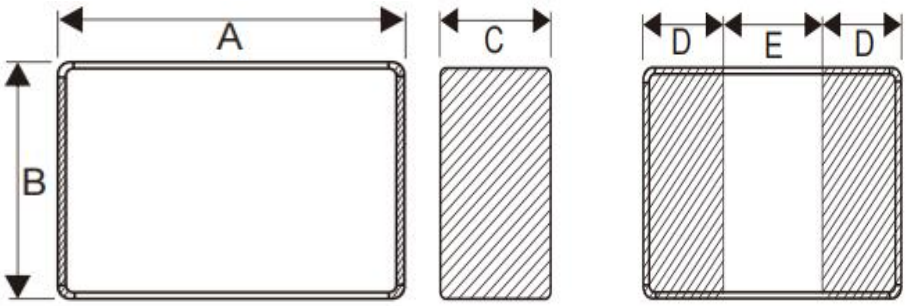
备 注： Remark

1. 在使用产品前，用户必须确认此产品是否适用于自身设计，思博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, Cybermax only ensure products meet this specification.
2. 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.
3. 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.

VERSION 版本	Change project 变更项目	Pre change content 变更前内容	Revised content 变更后内容	Change date 变更日期
A0	CMLO201612S Series	—	—	2026-06-17

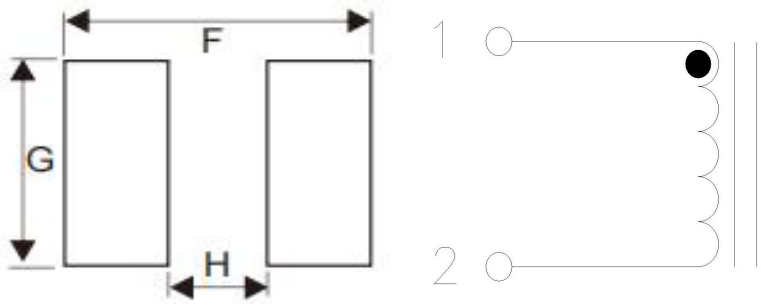
1.特征 FEATURES	■ 高性能合金材料，高通流	■ High performance metal material for large current
	■ 低损耗，低电阻	■ low loss and lower DCR
	■ 闭合磁路设计，低磁漏	■ Closed magnetic circuit design reduces leakage flux
	■ 100%无铅（Pb）符合 RoHS 标准	■ 100% lead (Pb) free meet RoHS standard
2.应用 Application	■ 智能手机、平板	■ Smart phone, pad
	■ 笔记本电脑、LCD 显示器	■ Noetbooks, LCD displays
	■ HDDs、DVC、DSC、PDA 等	■ HDDs, DVCs, DSCs, etc
	■ DC/DC 转换器	■ DC/DC converters

3.外形尺寸 Appearance and dimensions



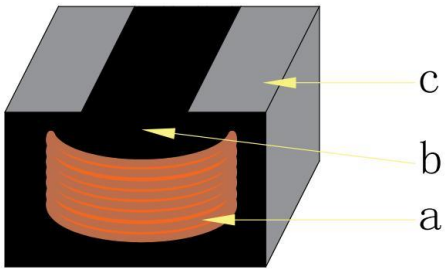
A	2.0±0.2
B	1.6±0.2
C	1.2Max.
D	0.5Typ.
E	0.8Typ.

4.推荐布局和示意图 Recommended Layout and Schematic



G	1.8Typ.
H	0.8Typ.
F	2.2Typ.

5.材料特性 Material Characteristics



NO	项目ITEM	材料Materials
a	线Wire	铜线Copper wire
b	磁芯Core	金属合金Metal alloy
c	金属化电极Terminal	锡Sn

6.电气规格 Electrical specifications

型　号 Part Number	感　值 Inductance （μH）	直流内阻 Rdc		温升电流 Heat Rating Current		饱和电流 Saturation Current	
		(mΩ)		Irms(A)		Isat(A)	
	1MHz,1.0V±20%	Typ.	Max.	Typ.	Max.	Typ.	Max.
CMLO201612SR22MTT	0.22	11.0	15.0	7.0	6.5	8.0	7.5
CMLO201612SR47MTT	0.47	22.0	28.0	5.0	4.5	5.5	5.0
CMLO201612S1R0MTT	1.0	45.0	60.0	3.7	3.3	4.1	3.5
CMLO201612S1R5MTT	1.5	67.0	80.0	3.2	2.7	3.5	3.0
CMLO201612S2R2MTT	2.2	83.0	105.0	2.7	2.2	3.0	2.5
CMLO201612S3R3MTT	3.3	150.0	175.0	2.3	1.9	2.5	2.0
CMLO201612S4R7MTT	4.7	188.0	210.0	1.9	1.7	2.0	1.6

※所有数据均在 25°C 环境温度下进行测试

All data is tested on 25°C ambient temperature.

1.电感在 1MHz、1.0V 下测试

Inductance is tested at 1MHz, 1.0V.

2.饱和电流：当电感减少到其初始值的约 30%时的直流电流值。

Saturation current: The value of DC current when the inductance decreases approximate 30% of its initialvalue.

3.热额定电流：产品温度升高ΔT≤40℃（Ta=20°C）时的直流电流值

Heat rating current: The value of DC current when product temperature rise is ΔT≤40℃ (Ta=20°C).

4.操作温度范围至：-40°C to + 125°C

Operating Temperature Range: -40°C to + 125°C

5.额定电流:以 Isat 和 Irms 中更小者为准。

Rated current:Isat or Irms, whichever is smaller.

6.绝对最大电压：直流 20V

Absolute Maximum Voltage: DC 20V

7.在最坏的工作条件下，零件温度（环境温度+温升）不应超过 125°C。电路设计、元件放置、PCB 迹线尺寸和厚度、气流和其他冷却措施都会影响零件温度。应在最终应用中验证零件温度

The part temperature (ambient + temp rise) should not exceed 125 under°C the worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Parttemperature should be verified in the end application.

7.可靠性 RELIABILITY

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 17.7N 的推力 60 秒钟，无电极剥离现象发生。

The sample was welded to the substrate and subjected to a 17.7N thrust in both X and Y directions for 60 seconds, with no electrode detachment observed.

7.2 可焊性试验 Solderability test

样品经过(150±10℃, 120 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℃, 10 秒)，拿出确认电极面上锡状态：电极面被新锡覆盖超过 95%。

After preheat(150±10℃, 120 sec), then the specimen shall be immersed in flux at room temperature, later be immersed in solder pot (245±5℃, 10sec), take out and confirm the soldering state.

Electrode has been covered by new solder more than 95%.

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/s2 (100G)，

每个方向施加三次连续冲击（共 18 次），对比电感值的变化率在初始值的±10%以内。

According to the impact test machine, the impact acceleration is 981 m/s2 (100G) in three different directions, and the impact is applied three times in each direction (18 times in total). The change rate of the inductance value is within ±10% of the initial value.

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±10%以内。

After being stored for 96 ± 4 hours in an environment with a temperature of 85 ± 3℃ and a humidity of 80-85%, take it out and wipe off the water droplets with a dry cloth. After placing it at room temperature and normal humidity for 1 hour, the change rate of the inductance value should be within ±10% of the initial value.

7.5 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±10%以内。

After 96±4 hours storage at-40±3℃, the change rate of the inductance value at room temperature was within ±10% of the 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±10%以内。

After being stored in an environment with a temperature of 125±3℃ for 96±4 hours, it is placed at room temperature for 1-2 hours. The change rate of the inductance value, when compared, should be within ±10% of the initial value.

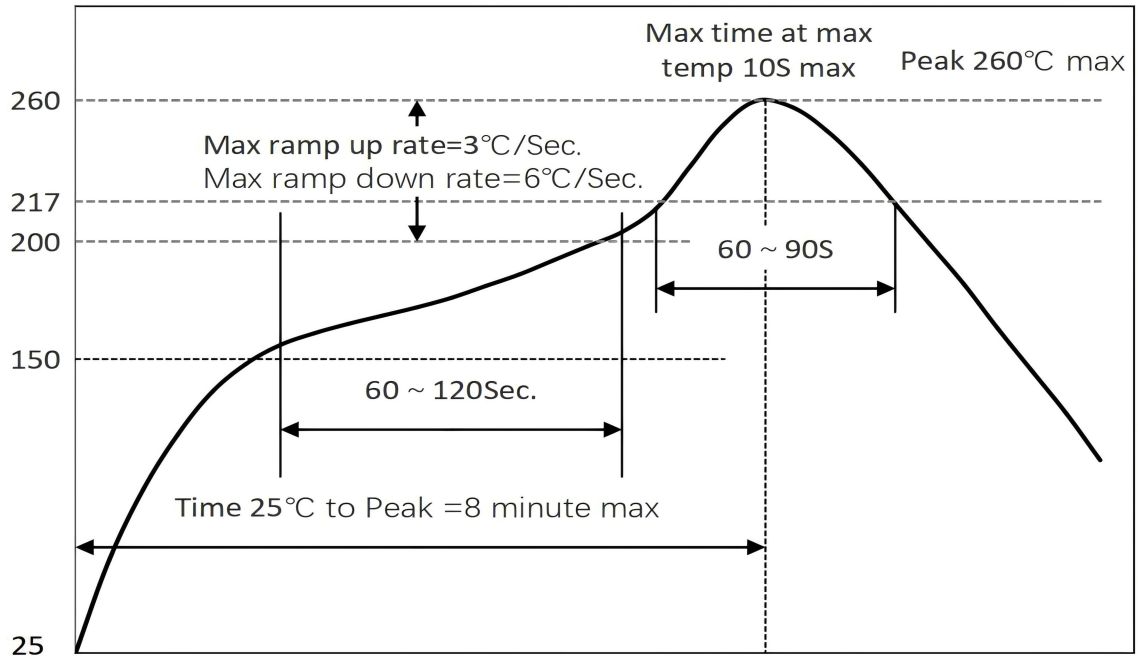
7.7 冷热冲击试验 Temperature cycle test

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，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±10%以内。

The sample was placed in the environment of-40±3℃ for 30 minutes, then transferred to the environment of 125±3℃ for 30 minutes, which was a cycle. After 100 cycles, the change rate of the inductance value was within ±10% of the initial value.

8.推荐的焊接条件 Recommended Soldering Conditions

8.1 SMT 组件的回流曲线 Reflow profile for SMT components



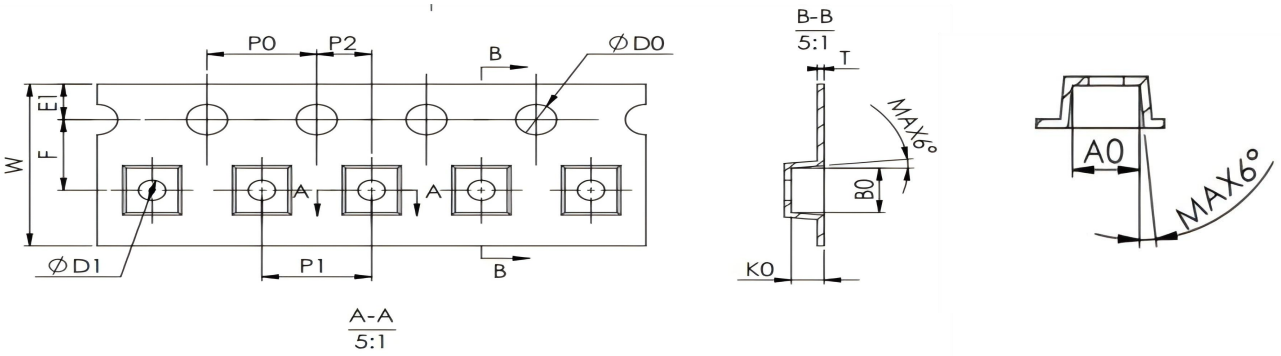
*以上回流焊接曲线来自 J-STD-020D Above reflow soldering curve is from J-STD-020D.

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

	Package Thickness	Package Volume		
		<350mm³	350~2000mm³	>2000mm³
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

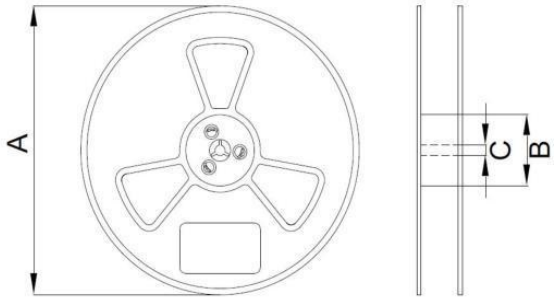
9.包装 PACKAGE

9.1.载带尺寸 Tape Dimension



W ±0.1	A0 ±0.1	B0 ±0.1	K0 ±0.1	P0 ±0.1	T ±0.05	D0 ±0.1
8.0	1.9	2.3	1.35	4.0	0.25	1.5

9.2 卷轴尺寸 Reel Dimension



A	B	C	包装数量
178+2.0	60+2.0	13+2.0	3000PCS

9.3 撕裂力 Tearing Off Force

1.剥离覆盖胶带的力在箭头方向为 0.2 至 1.3 N

The force for peeling off cover tape is 0.2to 1.3 N in the arrow direction.

2.参考剥离速度为 300±10mm/min。

Reference peel-off speed 300±10mm/min

10.储存条件/注意的事项 Storage conditions/Matters need attention

a、产品包装与载体:温度-10℃~+40℃,相对湿度低于 60%
Product packing with carrier tape:-10℃~40℃ and less than 60% RH;

b、单独的产品:温度-20℃~+60℃,相对湿度低于 60%
Product alone:-10℃~60℃ and less than 60% RH;

c、产品在 6 个月内使用(注意:产品一经拆开包装,须尽快使用)
Products should be used within 6 months.(Note that the product should be used as soon as possible once it is folded);

d、包装材料应保存在空气中不存在氯或硫的地方；
The packaging material should kept where no chlorine or sulfur exists in the air;

e、不要用手指触摸电极(焊接端子), 因为这可能导致焊接能力的下降；
Do not touch the electrodes (soldering terminals) with fingers as this may lead to deterioration of solder ability;

f、个别零件强烈建议使用镊子或真空取料机 ，散装搬运应确保尽量减少磨损和机械冲击；
The use of tweezers or vacuum pick-ups is strongly recommended for individual components. Bulk handling should ensure that abrasion and mechanical shock are minimized