

承认书

APPROVE SHEET

客户名称：

Customer _____

产品名称：

Description 正温度系数热敏电阻器

型号规格：

Model Detail WMZ12A-130HL6R0VUU320F18-E8C

批准 Approval by	审核 Checked by	拟制 Prepared by
	任志远	方观灵

批准 Approval by	审核 Checked by	拟制 Prepared by

供方签章：

Supplier

日期：

Date



客户签章：

Customer

日期：

Date

东莞市达孚电子有限公司

东莞市达孚电子科技有限公司

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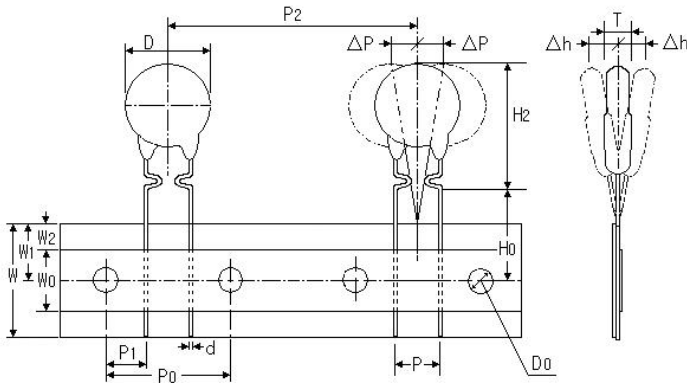
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Model No:	PTC THERMISTOR 6.0 Ω 320mA	2023-08-19
Part No.: WMZ12A-130HL6R0VUU320F18-E8C		

1. APPEARANCE 外观

1-1. Dimensions (mm)尺寸



※ 1. 尺寸要求见“7. 编带尺寸要求”。

1-2. Marking 标志

WMZ12A

■ 130HL

□ No marking

1-3. Coating 包封

□ No coating 无包封

■ Coating 包封

Material 包封材料

□ PF resin 酚醛树脂

□ Silicon 硅树脂

■ Epoxy 改良树脂

□ Others 其他

Color 颜色

■ Green 绿色

□ Red 红色

□ Tan 黄色

□ Black 黑色

□ Blue 兰色

1-4. Leads 引线

■ Tin-plated copper wire 铜线

□ Tin-plated steel wire 镀锡钢线

□ Straight 直形

□ Axis-formed 轴弯

□ No Lead 无引线

■ In-formed 内弯

2. RATINGS 额定参数

2-1. Rated Operating Voltage 额定工作电压 U_R : 220V_{rms}

2-2. Max Working Voltage 最大工作电压 V_{max} : 265 V_{rms}

2-3. Max Working Current 最大工作电流 I_{max} : 4.0A

2-4. Operating Temperature 工作温度: -40°C ~ +85°C (U=0) -10°C ~ +60°C (U=U_{max})

3. MECHANICAL CHARACTERISTICS 机械性能

Item 指标项目	Specification 技术要求	Test Conditions & Methods 测试条件/方法
3-1. Solder-ability 可焊性	The terminals shall be uniformly tinned, and its area ≥ 95% 浸润部分上锡均匀, 上锡面积 ≥ 95%	Dipping the PTC terminals to a depth of 15mm in a soldering bath of 245°C ± 5°C and to the place of 6mm far from PTC body for 3 ± 0.5s (See IEC68-2-20 /GB2423.28 Ta) 将引出端沾助焊剂后, 浸入到温度为 245°C ± 5°C、深度为 15mm 的锡槽中锡面距 PTC 本体下端 6mm 处, 持续 3 ± 0.5 秒。(参见 IEC68-2-20 /GB2423.28 试验 Ta)
3-2. Resistance To Soldering Heat 耐焊接热	No visible mechanical damage. 无可见损伤 $\Delta R/R_N \leq 20\%$ $(\Delta R = R_N - R_N')$ 3	Dipping the terminals to a depth of 15mm in a soldering bath of 260°C ± 5°C and to the place of 6mm far from PTC body for 3 ± 0.5s. After recovering for 4~5 hours under normal temperature. The resistance (R _{N'}) shall be measured. (See IEC68-2-20 /GB2423.28 Tb) 将引出端沾助焊剂后, 浸入到温度为 260°C ± 5°C、深度为 15mm 的锡槽中锡面距 PTC 本体下端 6mm 处, 持续 3 ± 0.5 秒。在常温条件下恢复 4~5 小时后, 复测额定零功率电阻值 R _{N'} 。(参见 IEC68-2-20 /GB2423.28 试验 Tb)

Model No:		PTC THERMISTOR 6.0 Ω 320mA	2023-08-19
Part No.: WMZ12A-130HL6R0VUU320F18-E8C			
3-3. Strength of lead terminal 引出端强度	No break out 无损坏	Fasten the body and apply a force gradually to each lead until 10 N and then keep for 10sec, Hold the body and apply a force to each lead until 90° slowly at 5 N in the direction of lead axis and then keep for 10sec, and do this in the opposite direction repeat for other terminal. (See IEC68-2-21/GB2423.29 Ua / Ub) 根据 IEC68-2-21 (GB2423 .29) 试验 U 进行试验。 试验 Ua: 拉力 10N, 持续 10S; 试验 Ub: 弯曲 90°, 拉力 5N, 连续两次; 试验 Uc: 扭转 180°C, 连续两次。 在常温常湿条件下恢复 4~5 h 后, 复测额定零功率电阻 Rn'	
4. ELECTRICAL CHARACTERISTICS 电气性能			
Item 指标项目	Specification 技术要求	Test Conditions & Methods 测试条件/方法	
4-1. Rated Zero-power Resistance 额定零功率电阻 (RN)	6.0 Ω ± 25%	Ambient temp. TA: 25°C ± 2°C Testing voltage: 1.5VDC After placing for 1~2 hours under TA, the resistance value shall be measured. 环境温度 TA: 25°C ± 2°C (Tc=50°C时 25°C ± 1°C) 测试电压: 1.5VDC 在常温 TA 条件下, 放置 1~2 小时 后测得阻值 RN。	
4-2. Curie Temperature 居里温度 (Tc) (For information only)	130 ± 10°C	The resistance at Tc is twice of RN 电阻为零功率电阻的 2 倍时所对应的温度为 Tc。	
4-3. Non-operating Current 不动作电流 (IN)	320mA Δ R / RN ≤ 50% (Δ R = RN - RN')	Ambient temp. Range 环境温度: 60°C ± 2°C In static air 静止空气中 Voltage of power supply 电源电压: 220V _{rms} . Hold current 电流: 320mA Energized time 持续时间: 60min, Resistance (RN') shall be measured	
4-4. Trip Current 动作电流 (ISW)	845mA Δ R / RN ≥ 50% (Δ R = RN - RN')	Ambient temp. Range 环境温度: -10°C ± 2°C In static air 静止空气中 Voltage of power supply 电源电压: 220V _{rms} . Hold current 电流: 845mA Energized time 持续时间: 5min, Resistance (RN') shall be measured	
4-5. Over-Vol. Withstanding 耐电压能力 (Ub)	320V _{AC} Δ R / RN ≤ 20% (Δ R = RN - RN')	TA: 25°C ± 2°C Initial Current 起始电流 I _{max} : 4.0A Test vol. 测试电压: 220V _{rms} / 10s → Ub / 10s After recovering for 4~5 hours under normal temperature. The resistance (RN') shall be measured. 在常温条件下, 放置 4~5 小时 后测得阻值 RN'	
4-6. Resistance to current impact 耐电流冲击	Δ R / RN ≤ 20% (Δ R = RN - RN')	TA: 25 ± 2°C 被测通以 V _{max} 和 I _{max} Energized time 通电时间: 1min ON, 3min OFF Testing times 测试次数: 10times	

Model No:	PTC THERMISTOR 6.0Ω 320mA	2023-08-19
Part No.: WMZ12A-130HL6R0VUU320F18-E8C		

5. 抽样方案:

Item 指标项目	IL	AQL	Ac	Item 指标项目	IL	AQL	Ac
5-1. Appearance 外观	II	1.5		5-4. Over Voltage Withstanding 耐电压能力	8PCS/Lot		0
5-2. Rated Zero-power Resistance 额定零功率电阻 (RN)	II	0.65		5-5. Solder-ability 可焊性	5PCS/Lot		0
5-3. Non-operating Current 不动作电流(IN)	5PCS/Lot		0				

6. NUMBERING SYSTEM AND PACKING 编号方法和包装方式

6-1. Part Numbering 料号编号方法

WMZ12A	-	130	HL	6R0	V	U	U	320	F	18	E	8	C
①		②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬

① Series 系列: WMZ12A- PTC thermistors for over-current protection
过电流保护系列 PTC 热敏电阻。

② Curie temperature 居里温度 130:130°C (75: 75°C 85: 85°C ……)

③ Diameter 外径 D HL:18.5mm (M: 11.5mm S: 4.5mm L: 5.5mm……)

④ Rated zero power resistance 额定零功率电阻(RN) 6R0: 6.0Ω (401: 400Ω; 202: 2KΩ 153: 10KΩ …)

⑤ Tolerance 电阻允差 V: ±25% (X:Else 其它 M: ±20% N: ±30% P: ±50%; ……)

⑥ Leads form 引线形状 U: Inside kink 内弯 (A: Axis wind 轴弯 S: Straight 直形 F: No coating 无包封)

⑦ Leads 引线材质 U: Tin-plated copper wire 铜线 (P: 铜包钢线)

⑧ Non-operating current 不动作电流 320:320mA (120: 120mA 330: 330mA……)

⑨ Packing Type 包装方式 F-Foldable Tape 折叠编带 (A: Ammo 条带 B: Bulk 散装 C: Reel 盘带 ……)

⑩ Leads length 引线长度: 18: 18.0±1.0mm 3.5: 3.5±0.5mm 5: 5.0±1.0mm 20:20mm(最小值)

⑪ Coating Material 包封材料: S - Black Silicone 硅树脂 G - Green Silicone 绿色硅树脂 N - No Coating 无包封
P - PF Resin 酚醛树脂 E -Epoxy 改良树脂

⑫ Leads Diameter 引线直径: 5 - Φ0.5mm 6 - Φ0.6mm 8 - Φ0.8mm 1 - Φ1.0mm

⑬ Leads Distance 引线间距: A - 2.5mm B - 5.0mm C - 7.5mm D - 10.0mm

6-2. Lot Numbering 批号编号方法

130	HL	A	1307226	1/2
①	②	③	④	⑤

① Curie temperature 居里温度 130:130°C (105: 105°C 85: 85°C ……)

② Diameter 外径 Dmax HL:18.5mm (M:11.5mm S: 4.5mm L: 5.5mm……)

③ Series 系列: WMZ12A-PTC thermistors for over-current protection
过电流保护系列 PTC 热敏电阻。

④ Pipelined batch number 流水批号: 1307226;

⑤ Shipment branch card batch number 分卡号: 1/2;

6-3. PACKING TYPE 包装方式

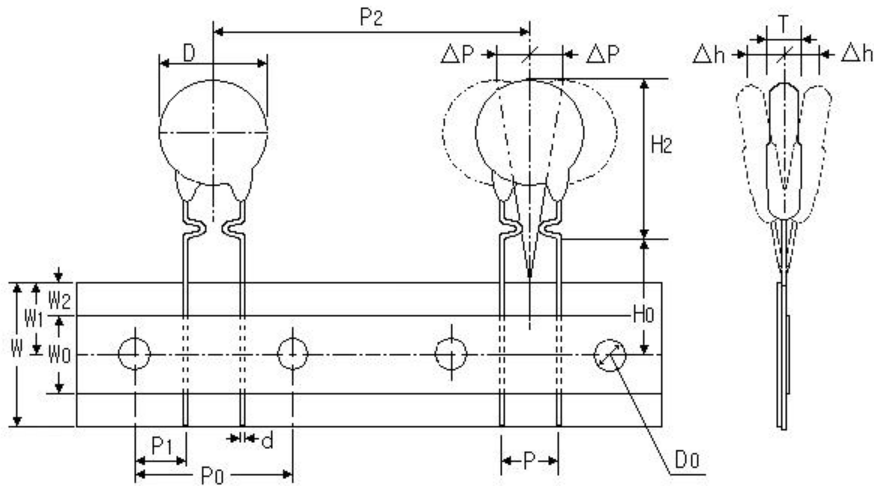
Bulk _____ Pcs / Bag

Reel _____ Pcs / Reel


Foldable Tape 500 Pcs / Box

Model No:	PTC THERMISTOR 6.0 Ω 320mA	2023-08-19
Part No.: WMZ12A-130HL6R0VUU320F18-E8C		

7. Braid size 编带尺寸要求:



Dmax	18.5mm
Tmax	7.5mm
d±0.05	0.6mm
P±0.5	7.5mm
P ₀ ±0.3	15.0mm
P ₂ ±1.0	30.0mm
P ₁ ±0.7	3.75mm
H ₀ ±1.0	18.0mm
H2max	24.5mm
W±1.0	18.0mm
W ₀ ±1.0	10.0mm
W ₁ ±1.0	9.0mm
W ₂ ±1.0	1.5mm
ΔPmax	1.0mm
Δhmax	2.0mm
D0±0.2	4.0mm

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Part No.: WMZ12A-130HL6R0VUU320F18-E8C		
<p>8. STORAGE CONDITIONS 贮存环境条件</p> <p>8-1. Temperature 温度: -10℃ ~ +40℃</p> <p>8-2. Humidity 湿度: ≤70%RH</p> <p>8-2. Term 期限: ≤6 months (First-in/ First-out 先进先出)</p> <p>8-3. Place 地点:</p> <p>Do not exposing PTC components to the following conditions, otherwise, it may result to deterioration of characteristics. 不要暴露在下列环境条件下, 否则将导致性能衰退或参数飘移:</p> <p>1) Corrosive gas or deoxidizing gas. 腐蚀性或易氧化气体</p> <p>2) Flammable and explosive gases. 易燃易爆气体</p> <p>3) Oil, water and chemical liquid. 油、水和化学溶液</p> <p>4) Under the sunlight. 太阳光下</p> <p>8-4. Handling after seal open 开封后的处理:</p> <p>After unpacking of the minimum package, reseal it promptly or store it inside a sealed container with a drying agent. 尽量保证开口最小化, 立即重新封好, 并贮存在密封、带有干燥剂的容器中。</p> <p>9. WARNING 注意. 警告 </p> <p>Do not apply the components under the following conditions, otherwise, it may result in deterioration of characteristics, destruction of product or in the worst case, to catching fire. 请不要在下列条件下使用本元件, 否则将可能导致产品性能衰退或产品损毁, 甚至引发火灾:</p> <p>1) Exceeding I_{max} or V_{max}. 超过最大工作电流或工作电压</p> <p>2) Exceeding rated temperature range. 超过许可工作温度范围</p> <p>3) Inferior thermal dissipation (Due to badly inferior thermal dissipation, some part of the components will become overheated and then be damaged.) 散热不良 (由于散热不良, 本元件可能因部分过热而导致破坏)</p>		