

# 大亞秋田電子科技（深圳）有限公司

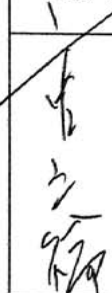
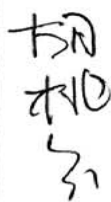
负温度系数热敏电阻器  
 規格：WMF21  
 产品規格書

製造廠商：

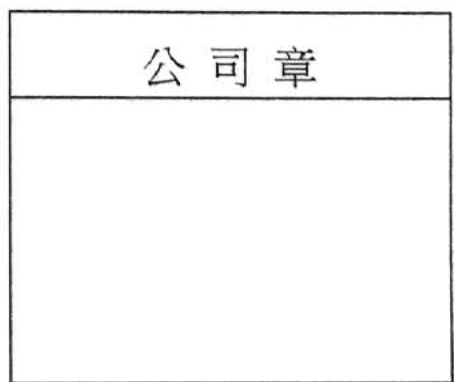
使用廠商：

大亞秋田電子科技（深圳）  
有限公司

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| 認可                                                                                  | 審核                                                                                         | 製作  |
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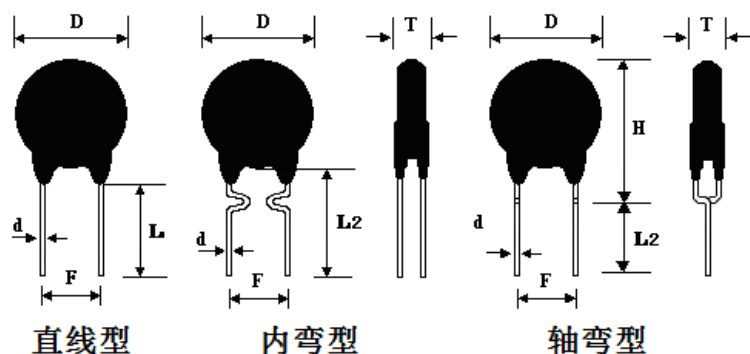
| 認可 | 審核 | 製作 |
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|                |              |                |               |                       |
|----------------|--------------|----------------|---------------|-----------------------|
| PART NO.<br>料号 | WMF21 Series | NTC THERMISTOR | REV NO.<br>版本 | 0/A (JUN. 19th, 2020) |
|----------------|--------------|----------------|---------------|-----------------------|

1. APPEARANCE 外观

1-1. Dimensions (mm)尺寸



1-2. Marking 标志



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 环氧树脂
- 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 镀锡铜线
- Tin-plated steel wire 镀锡钢线
- Straight 直形
- Axis-formed 轴弯
- In-Forming 内弯
- No Lead 无引线

2. MECHANICAL CHARACTERISTICS 机械性能

| Item<br>指标项目                              | Specification<br>技术要求                                                                               | Test Conditions & Methods<br>测试条件/方法                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-1. Solder-ability 可焊性                   | The terminals shall be uniformly tinned, and its area $\geq 95\%$<br>浸润部分上锡均匀, 上锡面积 $\geq 95\%$     | Dipping the NTC terminals to a depth of 15mm in a soldering bath of $245 \pm 5^\circ\text{C}$ and to the place of 6mm far from NTC body for 2-3s (See IEC68-2-20 /GB2423.28 Ta)<br>将引出端沾助焊剂后, 浸入到温度为 $245 \pm 5^\circ\text{C}$ 、深度为 15mm 的锡槽中锡面距 NTC 本体下端 6mm 处, 持续 2-3 秒。(参见 IEC68-2-20 /GB2423.28 试验 Ta)                                                                                                                                                                                                                                   |
| 2-2. Resistance To Soldering Heat<br>耐焊接热 | No visible mechanical damage.<br>无可见损伤<br>$\Delta R/R_N \leq 20\%$<br>( $\Delta R =  R_N - R_N' $ ) | Dipping the NTC terminals to a depth of 15mm in a soldering bath of $260 \pm 5^\circ\text{C}$ and to the place for 6mm below from NTC body for $10 \pm 1\text{s}$ . After recovering 4-5h under $25 \pm 2^\circ\text{C}$ . The rated zero power resistance value $R_N'$ shall be measured.<br>(See IEC68-2-20 /GB2423.28 Tb)<br>根据 IEC68-2-20 (GB2423.28) 试验 Tb 进行试验。<br>采用焊槽法, 将引出端沾助焊剂后, 浸入到温度为 $260 \pm 5^\circ\text{C}$ 、深度为 15mm 的锡槽中, 锡面距 NTC 本体下端 6mm 处, 维持 $10 \pm 1$ 秒. 在 $25 \pm 2^\circ\text{C}$ 条件下恢复 4-5h 后, 复测额定零功率电阻 $R_N'$ . |

|                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                       |
|----------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------|
| PART NO.<br>料号                                                 | WMF21 Series                                                                     | NTC THERMISTOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | REV NO.<br>版本 | 0/A (JUN. 19th, 2020) |
| 2-3. Strength of lead terminal<br>引出端强度                        | No break out<br>无损坏<br>$\Delta R/R_N \leq 20\%$<br>( $\Delta R =  R_N - R_N' $ ) | Fasten the body and apply a force gradually to each lead until 10N and then keep for 10sec, Hold body and apply a force to each lead until 90° slowly at 5N in the direction of lead axis and then keep for 10sec, and do this in the opposite direction repeat for other terminal. After recovering 4~5h under $25 \pm 2^\circ\text{C}$ , the rated zero power resistance value $R_N'$ shall be measured.<br>(See IEC68-2-21/GB2423.29 Ua / Ub)<br>根据 IEC68-2-21 (GB2423.29) 试验 U 进行试验。<br>试验 Ua: 拉力 10N, 持续 10 S;<br>试验 Ub: 弯曲 90°, 拉力 5N, 持续 10 S;<br>扭转 180°, 拉力 5N, 持续 10 S。<br>在 $25 \pm 2^\circ\text{C}$ 条件下恢复 4~5 h 后, 复测额定零功率电阻 $R_N'$ |               |                       |
| 3.ELECTRICAL CHARACTERISTICS 电气性能                              |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                       |
| 3-1.Test Conditions & Method 测试条件/方法                           |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                       |
| Items<br>指标项目                                                  | Spec.<br>技术要求                                                                    | Test Conditions & Methods<br>测试条件/方法                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                       |
| 3-1-1.Rated Zero-Power Resistance<br>额定零功率电阻<br>$R_N (\Omega)$ | See WMF21 Series<br>Spec. Table attached<br>参见所附 WMF21 系列<br>规格表                 | Ambient temp. Range: $25^\circ\text{C} \pm 2^\circ\text{C} (T_A)$ .<br>Testing voltage: 1.5VDC<br>After placing for 1~2 hours under $T_A$ , the resistance value shall be measured.<br>环境温度 $T_A$ : $25^\circ\text{C} \pm 2^\circ\text{C}$<br>测试电压: 1.5VDC<br>在常温 $T_A$ 条件下, 放置 1~2 小时 后测得阻值 $R_N$ 。                                                                                                                                                                                                                                                                                                                                            |               |                       |
| 3-1-2.Thermal Dissipation Constant<br>热耗散系数<br>(mW/°C)         |                                                                                  | The thermal dissipation constant( $\delta$ ) could be calculated by the ratio of a change in power dissipation( $\Delta P$ ) of the thermistor to a change in temperature( $\Delta T$ ) of the thermistor at a specified ambient temperature<br>在特定的环境温度下, 热耗散系数( $\delta$ )为热敏电阻电功率消耗( $\Delta P$ )与本体温度变化量 ( $\Delta T$ )的比值.                                                                                                                                                                                                                                                                                                                 |               |                       |
| 3-1-3.Thermal Time Constant<br>热时间常数<br>$\tau$ (s)             |                                                                                  | The time( $\tau$ ) shall be measured within which the temperature change of NTC thermistor is reached at 63.2% of the ambient temperature change under zero power condition<br>热时间常数( $\tau$ )为在零功率条件下, 热敏电阻的温度下降到其最初温度与最终温度之差为 63.2% 时所需要的时间                                                                                                                                                                                                                                                                                                                                                                                                   |               |                       |
| 3-1-4.Material Constant<br>材料常数<br>$B$ (°K)                    |                                                                                  | $R_1, R_2$ is zero-power resistance at $T_1, T_2$<br>$R_1, R_2$ 分别为 $T_1, T_2$ 温度下的零功率电阻<br>$T_1 = 298.15^\circ\text{K}(25^\circ\text{C}) \quad T_2 = 323.15^\circ\text{K}(50^\circ\text{C})$                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                       |

|                                                      |                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |               |                       |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------|
| PART NO.<br>料号                                       | WMF21 Series                                                                                                                                                           | NTC THERMISTOR                                                                                                                                                                                                                                                                                                                                                                  | REV NO.<br>版本 | 0/A (JUN. 19th, 2020) |
| 3-1-5. Maximum permissible capacity.<br>最大允许电容量 (uF) | See WMF21 Series Spec. Table attached<br>参见所附 WMF21 系列规格表                                                                                                              | Ambient temp. Range 环境温度:25°C ± 2°C.<br>Testing voltage 测试电压:240V                                                                                                                                                                                                                                                                                                               |               |                       |
| 3-1-6.Max.Steady State Current<br>最大稳态电流(A)          | See WMF21 Series Spec. Table attached<br>参见所附 WMF21 系列规格表<br>No visible mechanical damage.<br>无可见损伤<br>$\Delta R_N / R_N \leq 20\%$<br>( $\Delta R =   R_N - R_N'  $ ) | Ambient temp. Range 环境温度:25°C ± 2°C.<br>Testing Current 测试电流:参见所附 WMF21 系列规格表                                                                                                                                                                                                                                                                                                   |               |                       |
| 4. Reliability Test 可靠性试验                            |                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |               |                       |
| Items<br>指标项目                                        | Spec.<br>技术要求                                                                                                                                                          | Test Conditions & Methods<br>测试条件/方法                                                                                                                                                                                                                                                                                                                                            |               |                       |
| *4-1. Temp. Cycling Testing<br>温度循环测试                | No visible mechanical damage.<br>无可见损伤<br>$\Delta R_N / R_N \leq 20\%$<br>( $\Delta R =   R_N - R_N'  $ )                                                              | Ta:-40 ± 3°C / 30min → 25 ± 2°C / 5min → Tb:160 ± 3°C / 30min → 25 ± 2°C / 5min Cycles: 5times<br>After recovering 4~5 h under 25 ± 2°C, the rated zero power resistance value R <sub>N</sub> ' shall be measured.<br>在 Ta=-40 ± 3°C 和 Tb=160 ± 3°C 的环境温度中各存放 30 分钟, 循环 5 次.每次高低温循环都有在 25 ± 2°C 的环境中过渡 5 分钟。<br>样品进行温度循环测试后, 取出放置室温 (25 ± 2°C) 4~5 小时后测量零功率电阻 R <sub>N</sub> '. |               |                       |
| *4-2. Electrical Cycling Testing<br>电循环测试            |                                                                                                                                                                        | Ambient temp. Range:25°C ± 2°C.<br>Cycles: 2,000times On / Off: 5 s / 55 s<br>Test Current:参见所附 WMF21 系列规格表<br>After recovering 4~5h under 25 ± 2°C, the rated zero power resistance value R <sub>N</sub> ' shall be measured.<br>环境温度:25°C ± 2°C.<br>循环次数: 2,000 次<br>通/断: 5 s / 55 s<br>测试电流:参见所附 WMF21 系列规格表<br>样品置于室温 (25 ± 2°C) 4~5 小时后,测量其零功率电阻 R <sub>N</sub> '.         |               |                       |
| *4-3.LoadLife ( Endurance ) Testing<br>持久性测试         |                                                                                                                                                                        | Ambient temp. Range:25°C ± 2°C;3A/ 1,000 ± 24h<br>After recovering 4~5 h under 25 ± 2°C, the rated zero power resistance value R <sub>N</sub> ' shall be measured.<br>环境温度:25°C ± 2°C.<br>样品通过最大工作电流(参见所附 WMF21 系列规格表), 1,000 ± 24 小时后, 取出置于室温 (25 ± 2°C) 4~5 小时后,测量其零功率电阻 R <sub>N</sub> '.                                                                                    |               |                       |
| *4-3. Humidity Testing<br>耐湿性测试                      | No visible mechanical damage.<br>无可见损伤<br>$\Delta R_N / R_N \leq 20\%$<br>( $\Delta R =   R_N - R_N'  $ )                                                              | Ambient temp. range : 40°C ± 2°C<br>R.H.:93 ± 3% , Energized time:1000 ± 24 h<br>After recovering 4~5 h under 25 ± 2°C, the rated zero power resistance value R <sub>N</sub> ' shall be measured.<br>在温度 40 ± 2°C,相对湿度 93 ± 3% 的环境中放置 1000 ± 24 小时后, 取出置于室温 (25 ± 2°C) 4~5 小时后, 测量其零功率电阻 R <sub>N</sub> '.                                                                      |               |                       |

|                |              |                |               |                       |
|----------------|--------------|----------------|---------------|-----------------------|
| PART NO.<br>料号 | WMF21 Series | NTC THERMISTOR | REV NO.<br>版本 | 0/A (JUN. 19th, 2020) |
|----------------|--------------|----------------|---------------|-----------------------|

5. INSPECTION 检验方法

5-1. Lot Inspection 批量检验

Sampling with IEC410 / DIN ISO 2859-1 (GB/T2828.1-2003); Testing with SPEC.NO.: WL21-191225-2.  
 抽样方法按 IEC410/ DIN ISO 2859-1 ( GB/T2828.1-2003 ); 试验方法按 SPEC.NO.: WL21-191225-2.

| Item 指标项目                | IL  | AQL  | Item 指标项目                                             | IL  | AQL  |
|--------------------------|-----|------|-------------------------------------------------------|-----|------|
| Appearance 外观(无露铜、锡脚、挂勾) | II  | 0.65 | Rated Zero-Power Resistance<br>额定零功率电阻 R <sub>N</sub> | II  | 0.65 |
| Soldering-ability 可焊性    | S-2 | 1.5  | Maximum permissible capacity.<br>最大允许电容量 (uF)         | S-2 | 1.5  |
|                          |     |      |                                                       |     |      |

5-2. Periodic Inspection 周期性试验

See the items with \*参见\*条目

6. NUMBERING SYSTEM AND PACKING 产品标号及包装

6-1. PART NUMBERING 产品编号

|       |   |    |     |   |   |   |   |   |   |   |   |
|-------|---|----|-----|---|---|---|---|---|---|---|---|
| WMF21 | - | 10 | D11 | M | P | U | P | 8 | C | B | 7 |
| ①     |   | ②  | ③   | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | ⑩ | ⑪ |

- ① Series WMF21: NTC thermistors for limiting of inrush current  
WMF21 系列: 用于抑制浪涌电流系列 NTC 热敏电阻器
- ② Rated zero power resistance 额定零功率电阻 4.7:4.7Ω 5:5.0Ω 10:10Ω
- ③ Disk diameter 芯片尺寸 D9: Φ9mm; D11: Φ11mm; D13: Φ13mm; D15: Φ15mm
- ④ Tolerance of Resistance 阻值允差: M - ±20%; U - ±15%; K - ±10%
- ⑤ Coating Material 封装材料: S - Silicone 硅树脂 N - No Coating 无封装  
P - PF Resin 酚醛树脂 E - Epoxy 环氧树脂
- ⑥ Shape of Leads 引线形状: U - Inside kink 内弯 S - Straight 直形 A - Axis Formed 轴弯
- ⑦ Coating materia 引线材质: U-Cu 铜线 P-Cp 钢线
- ⑧ Leads Diameter 引线直径: 5 - Φ0.5mm 6 - Φ0.6mm 8 - Φ0.8mm 1 - Φ1.0mm
- ⑨ Leads Distance 引线间距: A - 2.5mm B - 5.0mm C - 7.5mm D - 10.0mm
- ⑩ Packing Type 包装方式 B: Bulk 散装 A: Ammo 条带 C: Reel 盘带 .....
- ⑪ Leads length 引线长度: 10: 10.0±1.0mm 3.2: 3.2±0.5mm 7: 7.0±1.0mm 20:20mm(最小值)

6-2. Lot Numbering 批号编号方法

|     |        |     |
|-----|--------|-----|
| TL1 | 130135 | 1/3 |
| ①   | ②      | ③   |

- ① Material code 材料代号 TL1: TL 材料第 1 批;
- ② Pipelined batch number 流水批号: 130135;
- ② Shipment branch card batch number 出货分卡号;

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                |               |                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------|---------------|-----------------------|
| PART NO.<br>料号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | WMF21 Series | NTC THERMISTOR | REV NO.<br>版本 | 0/A (JUN. 19th, 2020) |
| 6-3. Packing Type 包装方式<br><input checked="" type="checkbox"/> Bulk 散装<br><input type="checkbox"/> Ammo 条带<br><input type="checkbox"/> Reel 盘带                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                |               |                       |
| 7. Operating Temperature Range 工作温度范围:<br>-40~ +170℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                |               |                       |
| 8. STORAGE CONDITIONS 存贮环境条件:<br>8-1. Temperature 温度: -10℃~+40℃<br>8-2. Humidity 湿度: ≤70%RH<br>8-3. Term 期限: ≤6 months (First-in/ First-out 先进先出)<br>8-4. Place 地点:<br>Do not exposing the components to the following conditions, otherwise, it may result in deterioration of characteristics.<br>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:<br>1) Corrosive gas or deoxidizing gas. 腐蚀性或易氧化气体<br>2) Flammable and explosive gases. 易燃易爆气体<br>3) Oil, water and chemical liquid. 油、水和化学溶液<br>4) Under the sunlight. 太阳光下<br>8-5. Handling after seal open: After unpacking of the minimum package, reseal it promptly or store it inside a sealed container with a drying agent.<br>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。 |              |                |               |                       |
| 9. WARNING 注意、警告 <br>Do not apply the components under the following conditions, otherwise, it may result in deterioration of characteristics, destruction of components or in the worst case, to catching fire.<br>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:<br>1) Exceeding $I_{max}$ . 超过最大工作电流<br>2) Exceeding rated temperature range. 超过许可工作温度范围<br>3) Inferior thermal dissipation (Due to badly inferior thermal dissipation, some part of the components body will become overheated and then be damaged.)<br>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)                                                                    |              |                |               |                       |

SPECIFICATIONS TABLE 规格表

| 商品编号    | 商品名称 | 厂家型号                    | 零功率电阻值<br>R25 ( $\Omega$ ) | 最大稳态电流<br>I <sub>max</sub> (A) | 热耗散系数<br>$\delta$ (mW/°C) | 热时间常数<br>$\tau$ (Sec) | B Value<br>B 值 | 建议电容<br>@240Vac | 外型尺寸             |                  |                    |                 |
|---------|------|-------------------------|----------------------------|--------------------------------|---------------------------|-----------------------|----------------|-----------------|------------------|------------------|--------------------|-----------------|
|         |      |                         |                            |                                |                           |                       |                |                 | D <sub>max</sub> | T <sub>max</sub> | d <sup>±0.05</sup> | F <sup>±1</sup> |
| C471924 | 热敏电阻 | WMF21-5D5MGSU6BB20      | 5±20%                      | 1                              | 6                         | 20                    | 2200           | 68              | 6.5              | 5                | 0.6                | 5               |
| C471927 | 热敏电阻 | WMF21-5D5MGUP6BB3.5     | 5±20%                      | 1                              | 6                         | 20                    | 2200           |                 |                  |                  |                    |                 |
| C471932 | 热敏电阻 | WMF21-47D5MGSU6BB25     | 47±20%                     | 0.4                            | 6                         | 20                    | 3000           |                 |                  |                  |                    |                 |
| C471920 | 热敏电阻 | WMF21-60D5MPSP5AB25     | 60±20%                     | 0.4                            | 6                         | 18                    | 3200           |                 |                  |                  | 0.5                | 3               |
| C471937 | 热敏电阻 | WMF21-5D7MPUP           | 5±20%                      | 2                              | 10                        | 30                    | 2600           | 100             | 8.5              | 5                | 0.6                | 5               |
| C471939 | 热敏电阻 | WMF21-8D7MGUP           | 8±20%                      | 1                              | 9                         | 28                    | 2600           |                 |                  |                  |                    |                 |
| C471947 | 热敏电阻 | WMF21-8D7MGUU           | 8±20%                      | 1                              | 9                         | 28                    | 2600           |                 |                  |                  |                    |                 |
| C471946 | 热敏电阻 | WMF21-10D7MGUU          | 10±20%                     | 1                              | 9                         | 27                    | 2800           |                 |                  |                  |                    |                 |
| C471940 | 热敏电阻 | WMF21-10D7MPAP          | 10±20%                     | 1                              | 9                         | 27                    | 2800           |                 |                  |                  |                    |                 |
| C471944 | 热敏电阻 | WMF21-10D7MPSP          | 10±20%                     | 1                              | 9                         | 27                    | 2800           |                 |                  |                  |                    |                 |
| C471936 | 热敏电阻 | WMF21-10D7MPUP          | 10±20%                     | 1                              | 9                         | 27                    | 2800           |                 |                  |                  |                    |                 |
| C471965 | 热敏电阻 | WMF21-3D9MSUP           | 3±20%                      | 4                              | 11                        | 35                    | 2600           |                 |                  |                  |                    |                 |
| C471952 | 热敏电阻 | WMF21-3D9XMPUP          | 3±20%                      | 4                              | 11                        | 35                    | 2600           |                 |                  |                  |                    |                 |
| C471964 | 热敏电阻 | WMF21-5D9MGUP           | 5±20%                      | 3                              | 11                        | 34                    | 2600           |                 |                  |                  |                    |                 |
| C471961 | 热敏电阻 | WMF21-5D9MPAU           | 5±20%                      | 3                              | 11                        | 34                    | 2600           |                 |                  |                  |                    |                 |
| C471966 | 热敏电阻 | WMF21-5D9MPSP           | 5±20%                      | 3                              | 11                        | 34                    | 2600           |                 |                  |                  |                    |                 |
| C471953 | 热敏电阻 | WMF21-5D9MPUP           | 5±20%                      | 3                              | 11                        | 34                    | 2600           |                 |                  |                  |                    |                 |
| C471948 | 热敏电阻 | WMF21-5D9XMPUP          | 5±20%                      | 3                              | 11                        | 34                    | 2600           |                 |                  |                  |                    |                 |
| C471954 | 热敏电阻 | WMF21-10D9MPAP          | 10±20%                     | 2                              | 11                        | 32                    | 2800           |                 |                  |                  |                    |                 |
| C471955 | 热敏电阻 | WMF21-10D9MPUP          | 10±20%                     | 2                              | 11                        | 32                    | 2800           |                 |                  |                  |                    |                 |
| C471949 | 热敏电阻 | WMF21-10D9XMPSP         | 10±20%                     | 2                              | 11                        | 32                    | 2800           |                 |                  |                  |                    |                 |
| C471950 | 热敏电阻 | WMF21-10D9XMPUU         | 10±20%                     | 2                              | 11                        | 32                    | 2800           |                 |                  |                  |                    |                 |
| C471979 | 热敏电阻 | WMF21-3.3D11MSAU8CB3.5  | 3.3±20%                    | 5                              | 13                        | 43                    | 2600           | 330             | 12.5             | 5.5              | 0.8<br>(0.6)       | 7.5<br>(5.0)    |
| C471978 | 热敏电阻 | WMF21-3.3D11MSAUT8CB3.5 | 3.3±20%                    | 5                              | 13                        | 43                    | 2600           | 330             |                  |                  |                    |                 |
| C471985 | 热敏电阻 | WMF21-3.3D11MSOU8CB3.5  | 3.3±20%                    | 5                              | 13                        | 43                    | 2600           | 330             |                  |                  |                    |                 |
| C471945 | 热敏电阻 | WMF21-5D10MSUP8CB3.5    | 5±20%                      | 4                              | 13                        | 45                    | 2800           | 330<br>(300)    |                  |                  |                    |                 |
| C471987 | 热敏电阻 | WMF21-5D11MGUU8CB3.5    | 5±20%                      | 4                              | 13                        | 45                    | 2800           |                 |                  |                  |                    |                 |
| C471986 | 热敏电阻 | WMF21-5D11MPUP8CB3.5    | 5±20%                      | 4                              | 13                        | 45                    | 2800           |                 |                  |                  |                    |                 |
| C471994 | 热敏电阻 | WMF21-5D11MPUP8CB4      | 5±20%                      | 4                              | 13                        | 45                    | 2800           |                 |                  |                  |                    |                 |
| C472002 | 热敏电阻 | WMF21-5D11MPUP8CB5      | 5±20%                      | 4                              | 13                        | 45                    | 2800           |                 |                  |                  |                    |                 |
| C472001 | 热敏电阻 | WMF21-5D11MPUU8CB20     | 5±20%                      | 4                              | 13                        | 45                    | 2800           |                 |                  |                  |                    |                 |
| C471975 | 热敏电阻 | WMF21-5D11XMPUP8CB3.5   | 5±20%                      | 4                              | 13                        | 45                    | 2800           |                 |                  |                  |                    |                 |

|         |      |                                 |         |     |    |    |      |     |      |   |              |               |
|---------|------|---------------------------------|---------|-----|----|----|------|-----|------|---|--------------|---------------|
| C471970 | 热敏电阻 | WMF21-5D11XMPUU8CB3.5<br>(MF71) | 5±20%   | 4   | 13 | 45 | 2800 |     |      |   |              |               |
| C471969 | 热敏电阻 | WMF21-5D11XMSSP8CB6             | 5±20%   | 4   | 13 | 45 | 2800 |     |      |   |              |               |
| C471996 | 热敏电阻 | WMF21-8D11MSAP8CB3.5            | 8±20%   | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471981 | 热敏电阻 | WMF21-8D11MSOP8CB3.5            | 8±20%   | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471977 | 热敏电阻 | WMF21-8D11XMPAP8CB20            | 8±20%   | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471968 | 热敏电阻 | WMF21-8D11XMPAP8CB4             | 8±20%   | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471972 | 热敏电阻 | WMF21-8D11XMSAU8CB3             | 8±20%   | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471990 | 热敏电阻 | WMF21-10D11MPUP8CB5             | 10±20%  | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471993 | 热敏电阻 | WMF21-10D11MPUP8CB9             | 10±20%  | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C472003 | 热敏电阻 | WMF21-10D11MSUP8CB25            | 10±20%  | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471992 | 热敏电阻 | WMF21-10D11MSUP8CF18            | 10±20%  | 3   | 14 | 47 | 2800 |     |      |   |              |               |
| C471984 | 热敏电阻 | WMF21-16D11MPUP8CB4             | 16±20%  | 2   | 14 | 50 | 2800 |     |      |   |              |               |
| C471997 | 热敏电阻 | WMF21-22D11MPUP8CB3.5           | 22±20%  | 2   | 15 | 52 | 3000 |     |      |   |              |               |
| C471980 | 热敏电阻 | WMF21-33D11MPUP8CB4             | 33±20%  | 1.5 | 15 | 52 | 3000 |     |      |   |              |               |
| C472008 | 热敏电阻 | WMF21-5D13MGSP                  | 5±20%   | 5   | 15 | 68 | 2800 | 560 | 14.5 | 6 | 0.8<br>(1.0) | 10.0<br>(7.5) |
| C472014 | 热敏电阻 | WMF21-5D13MGUP                  | 5±20%   | 5   | 15 | 68 | 2800 |     |      |   |              |               |
| C472019 | 热敏电阻 | WMF21-5D13MPAP                  | 5±20%   | 5   | 15 | 68 | 2800 |     |      |   |              |               |
| C472010 | 热敏电阻 | WMF21-5D13MPSP                  | 5±20%   | 5   | 15 | 68 | 2800 |     |      |   |              |               |
| C472007 | 热敏电阻 | WMF21-5D13MPUP                  | 5±20%   | 5   | 15 | 68 | 2800 |     |      |   |              |               |
| C472011 | 热敏电阻 | WMF21-5D13MSUU                  | 5±20%   | 5   | 15 | 68 | 2800 |     |      |   |              |               |
| C472018 | 热敏电阻 | WMF21-8D13MGSP                  | 8±20%   | 4   | 15 | 60 | 3000 |     |      |   |              |               |
| C472013 | 热敏电阻 | WMF21-8D13MPUP                  | 8±20%   | 4   | 15 | 60 | 3000 |     |      |   |              |               |
| C472012 | 热敏电阻 | WMF21-10D13MPUP                 | 10±20%  | 4   | 15 | 65 | 3000 |     |      |   |              |               |
| C472032 | 热敏电阻 | WMF21-2.2D15MSAUT               | 2.2±20% | 7   | 19 | 69 | 2800 |     |      |   |              |               |
| C472027 | 热敏电阻 | WMF21-2.2D15MSUU                | 2.2±20% | 7   | 19 | 69 | 2800 | 610 |      |   |              |               |
| C472036 | 热敏电阻 | WMF21-2.5D15MGSU                | 2.5±20% | 7   | 19 | 69 | 2800 |     |      |   |              |               |
| C472029 | 热敏电阻 | WMF21-2.5D15MSAU                | 2.5±20% | 7   | 19 | 69 | 2800 |     |      |   |              |               |
| C472049 | 热敏电阻 | WMF21-3D15MPUP                  | 3±20%   | 7   | 18 | 76 | 2900 |     |      |   |              |               |
| C472039 | 热敏电阻 | WMF21-3D15MSAP                  | 3±20%   | 7   | 18 | 76 | 2900 |     |      |   |              |               |
| C472047 | 热敏电阻 | WMF21-3.3D15MSUU                | 3.3±20% | 7   | 18 | 76 | 2900 |     |      |   |              |               |
| C472034 | 热敏电阻 | WMF21-5D15MGUP                  | 5±20%   | 6   | 20 | 76 | 3000 | 610 | 16.5 | 6 | 0.8<br>(1.0) | 10.0<br>(7.5) |
| C472028 | 热敏电阻 | WMF21-5D15MGUU                  | 5±20%   | 6   | 20 | 76 | 3000 |     |      |   |              |               |
| C472042 | 热敏电阻 | WMF21-5D15MPUP                  | 5±20%   | 6   | 20 | 76 | 3000 |     |      |   |              |               |
| C472035 | 热敏电阻 | WMF21-5D15MSAU                  | 5±20%   | 6   | 20 | 76 | 3000 |     |      |   |              |               |
| C472037 | 热敏电阻 | WMF21-5D15MSAUT                 | 5±20%   | 6   | 20 | 76 | 3000 |     |      |   |              |               |
| C472030 | 热敏电阻 | WMF21-5D15MSUU                  | 5±20%   | 6   | 20 | 76 | 3000 |     |      |   |              |               |
| C472051 | 热敏电阻 | WMF21-10D15MGUP                 | 5±20%   | 5   | 20 | 75 | 3200 |     |      |   |              |               |
| C472046 | 热敏电阻 | WMF21-10D15MPUP                 | 10±20%  | 5   | 20 | 75 | 3200 |     |      |   |              |               |



|         |      |                 |        |     |    |    |      |      |      |   |              |               |
|---------|------|-----------------|--------|-----|----|----|------|------|------|---|--------------|---------------|
| C472054 | 热敏电阻 | WMF21-10D15MSSU | 10±20% | 5   | 20 | 75 | 3200 |      |      |   |              |               |
| C472038 | 热敏电阻 | WMF21-10D15MSUU | 10±20% | 5   | 20 | 75 | 3200 |      |      |   |              |               |
| C472053 | 热敏电阻 | WMF21-10D15USUP | 10±20% | 5   | 20 | 75 | 3200 |      |      |   |              |               |
| C472041 | 热敏电阻 | WMF21-15D15MPUU | 15±20% | 4   | 21 | 85 | 3200 |      |      |   |              |               |
| C472033 | 热敏电阻 | WMF21-20D15MSUU | 20±20% | 4   | 17 | 86 | 3200 | 500  |      |   |              |               |
| C472043 | 热敏电阻 | WMF21-40D15MSSU | 40±20% | 3.5 | 18 | 86 | 3200 | 470  |      |   |              |               |
| C472040 | 热敏电阻 | WMF21-47D15MPUU | 47±20% | 3   | 21 | 86 | 3200 | 470  |      |   |              |               |
| C472059 | 热敏电阻 | WMF21-5D22MSSU  | 5±20%  | 7   | 23 | 87 | 3000 | 1100 | 21.5 | 7 | 0.8<br>(1.0) | 10.0<br>(7.5) |

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