

产品承认书

PRODUCT SPECIFICATION FOR APPROVAL

|                                  |                                   |
|----------------------------------|-----------------------------------|
| 客户名称<br>CUSTOMER NAME            |                                   |
| 客户料号<br>P/N OF CUSTOMER          |                                   |
| 承认字号<br>APPROVAL NO.             |                                   |
| 产品名称<br>PRODUCT NAME             | 敏感型负温度系数热敏电阻<br>SN NTC THERMISTOR |
| 规格型号<br>TYPE SPECIFICATION       | SNS103B23435FE3BZ016ESC13M        |
| 承认书版本号<br>APPROVAL SHEET VERSION | 1.0                               |
| 承认日期<br>DATE OF APPROVAL         |                                   |

| 供 应 商<br>SUPPLIER            |               |                |
|------------------------------|---------------|----------------|
| 制定<br>DESIGNED               | 审核<br>CHECKED | 批准<br>APPROVED |
|                              |               |                |
| 供应商品管部印鉴<br>SUPPLIER QA SEAL |               |                |

| 客 户<br>CUSTOMER                  |               |                |
|----------------------------------|---------------|----------------|
| 检验<br>INSPECTED                  | 审核<br>CHECKED | 批准<br>APPROVED |
|                                  |               |                |
| 客户承认印鉴<br>CUSTOMER APPROVAL SEAL |               |                |



## 修订履历

[illegible]

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## 1、规格型号 PART IDENTIFICATION

SN   S   103   B2   3435   F   E   3   BZ   016   E   SC   13   M  
 ①   ②   ③   ④   ④   ⑥   ⑦   ⑧   ⑨   ⑩   ⑪   ⑫   ⑬   ⑭

|                                          |                                              |
|------------------------------------------|----------------------------------------------|
| ①<br>产品类别<br>PART NUMBER ENTIFICATION    | SN指敏感型负温度系数热敏电阻;                             |
|                                          | SN INDICATES SMD NTC THERMISTOR              |
| ②<br>系列类别<br>SERIES CATEGORY             | S指传感器                                        |
|                                          | S-FINGER SENSOR                              |
| ③<br>产品阻值<br>PRODUCT RESISTANCE          | 103指10KΩ                                     |
|                                          | 103 MEANS 10KΩ;                              |
| ④<br>B 值代码<br>B-VALUE CODE               | B2指 25/85                                    |
|                                          | B2 MEANS 25/85                               |
| ⑤<br>B 值数值<br>B-VALUE TOLERANCE          | 3435指B值为3435K                                |
|                                          | 3435 MEANS THAT B VALUE IS 3435K             |
| ⑥<br>阻值误差<br>PACKAGING STYLE             | F 指±1%                                       |
|                                          | F INDICATES ±1%                              |
| ⑦<br>头部外观结构<br>HEAD APPEARANCE STRUCTURE | E指环氧树脂包封;                                    |
|                                          | E REFERS TO EPOXY RESIN ENCAPSULATION;       |
| ⑧<br>线材颜色<br>WIRE COLOR                  | 3指线材颜色为红色;                                   |
|                                          | 3 THE COLOR OF THE FINGER WIRE IS RED;       |
| ⑨<br>线材规格<br>WIRE SPECIFICATION          | BZ指线材为0.18mm漆包线;                             |
|                                          | BZ WIRE IS 0.18MM ENAMELLED WIRE;            |
| ⑩<br>线材长度<br>WIRE LENGTH                 | 016指产品总长度为16mm;                              |
|                                          | 016 MEANS THE TOTAL LENGTH OF THE PRODUCT IS |

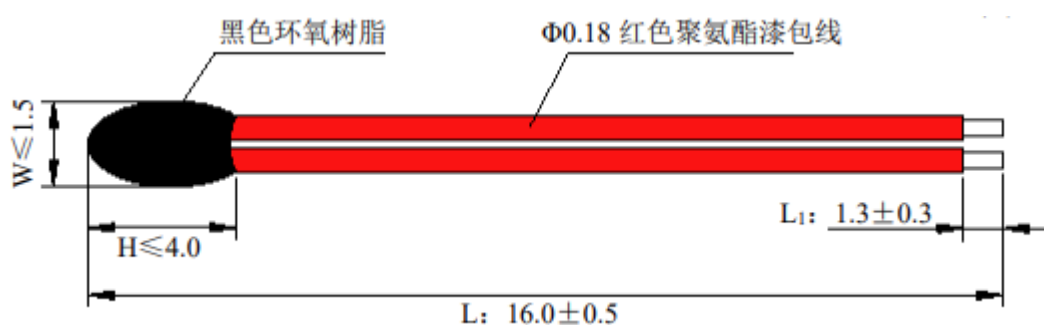
|                                                |                                                                                                  |
|------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                                                | 16MM;                                                                                            |
| ⑪<br>环保产品<br>ENVIRONMENTAL PROTECTION PRODUCTS | E表示环保;                                                                                           |
|                                                | E IS FOR ENVIRONMENTAL PROTECTION                                                                |
| ⑫<br>特殊定义<br>SPECIAL DEFINITION                | SC指产品头部宽度尺寸 $W \leq 1.5\text{mm}$ , 深度 $H \leq 4.0\text{mm}$ ;                                   |
|                                                | SC REFERS TO THE WIDTH OF THE PRODUCT HEAD $W \leq 1.5\text{MM}$ , DEPTH $H \leq 4.0\text{MM}$ ; |
| ⑬<br>线尾剥线长度<br>STRIP LENGTH OF THE WIRE TAIL   | 13指产品线尾剥线长度1.3mm;                                                                                |
|                                                | 13 FINGERS PRODUCT LINE TAIL STRIP LENGTH 1.3MM;                                                 |
| ⑭<br>特供码<br>FEATURE CODE                       | M指特供小米。                                                                                          |
|                                                | M STANDS FOR SPECIAL MILLET.                                                                     |

## 2、产品特性 PRODUCTION FEATURES

### 2.1 技术参数 TECHNICAL PARAMETER

| 型号规格<br>SPECIFICATION AND MODEL | 额定零功率电阻值<br>RATED ZERO POWER RESISTANCE VALUE | B (K) | 耗散系数<br>DISSIPATION COEFFICIENT (S) | 热时间常数<br>THERMAL TIME CONSTANT (S) | 额定功率<br>RATED POWER (mw) | 工作温度范围<br>(°C) |
|---------------------------------|-----------------------------------------------|-------|-------------------------------------|------------------------------------|--------------------------|----------------|
| SNS103B23435FE3BZ016ESC13M      | 10K                                           | 3435  | $\geq 2.5$                          | $\leq 10$                          | 30                       | -40~105        |

### 2.2 外形尺寸 PRODUCTION DIMENSION



(单位UNIT: MM)

### 3、检验规则 INSPECTION REGULATIONS

#### 3.1 出厂检验 DELIVERY INSPECTION

| 序号<br>SEQUENCE | 检测项目<br>TEST ITEM                    | 检验方法<br>INSPECTION METHOD                                                                                                 | 性能要求<br>PERFORMANCE<br>REQUIREMENT                                                                                       |
|----------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| (1)            | $R_{25}$                             | 将待测品置于 25℃高精度油槽内稳定后测量<br>THE PRODUCT TO BE MEASURED IS PLACED IN A 25°C HIGH PRECISION OIL TANK FOR STABILITY             | $10K\Omega \pm 1\%$                                                                                                      |
| (2)            | $B_{25/85}$                          | 将待测品置于25℃、85精度油槽内稳定后测量<br>THE PRODUCT TO BE TESTED IS PLACED IN A HIGH PRECISION OIL TANK AT 25°C AND 85AND THEN MEASURED | $3435K \pm 1\%$                                                                                                          |
| (3)            | 外观<br>APPEARANCE                     | 目测<br>VISUAL INSPECTION                                                                                                   | 产品符合2.2的外形要求,<br>无针孔、氧化、烫伤等<br>THE PRODUCT MEETS THE APPEARANCE REQUIREMENTS OF 2.2,WITHOUT PINHOLES,OXIDATION,BURNS,ETC |
| (4)            | 尺寸<br>DIMENSION                      | 用精度为0.01mm的卡尺测量<br>MEASURE WITH A CALIPER WITH AN ACCURACY OF 0.01MM                                                      | 符合2.2的外形尺寸<br>CONFORMS TO THE DIMENSIONS OF 2.2                                                                          |
| (5)            | 绝缘电阻测试<br>INSULATION RESISTANCE TEST | 绝缘电压INSULATION VOLTAGE:<br>300V <sub>DC</sub><br>时间TIME: 1min                                                             | 无外观损伤 NO APPARENT DAMAGE<br>绝缘电阻 INSULATION RESISTANCE: $\geq 150 M\Omega$                                               |

### 3.2 型式检验 PATTERN INSPECTION

| 序号<br>SEQUENCE | 检验项目<br>ITEMS                   | 检验标准<br>STANDARD            | 检验标准<br>STANDARD                                                                           | 性能要求<br>PERFORMANCE<br>REQUIREMENTS                                                         |
|----------------|---------------------------------|-----------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| (1)            | 跌落 FALL                         | IEC68-2-32                  | 跌落高度 DROP HEIGHT: 1±0.1m<br>跌落次数 NUMBER OF DROPS: 1<br>跌落面 FALLING SURFACE: 水泥 CEMENT      | 无外观损伤<br>NO COSMETIC DAMAGE<br>$ \Delta R_{25}/R_{25}  \leq 1\%$<br>$ \Delta B/B  \leq 2\%$ |
| (2)            | 湿热负载<br>MOIST HEAT LOAD         | IEC68-2-2/IEC68-2-3/CNS5550 | 温度 TEMPERATURE: 40±2°C<br>湿度 HUMIDITY: 90~95%RH<br>时间 TIME: 500±12h; 工作电流 PERATING CURRENT | 无外观损伤<br>NO COSMETIC DAMAGE<br>$ \Delta R_{25}/R_{25}  \leq 5\%$<br>$ \Delta B/B  \leq 2\%$ |
| (3)            | 高温存储<br>HIGHT TEMPERATURE LOADS | IEC68-2-2/CNS5550           | 温度 TEMPERATURE: 105±2°C<br>时间 TIME: 1000±24h                                               | 无外观损伤<br>NO COSMETIC DAMAGE<br>$ \Delta R_{25}/R_{25}  \leq 5\%$<br>$ \Delta B/B  \leq 2\%$ |
| (4)            | 冷热冲击<br>COLD AND HEAT SHOCK     | IEC68-2-14                  | 温度 TEMPERATURE: -40°C, +105°C<br>周期 PERIOD: 100,30min/cyc                                  | 无外观损伤<br>NO COSMETIC DAMAGE<br>$ \Delta R_{25}/R_{25}  \leq 5\%$<br>$ \Delta B/B  \leq 2\%$ |
| (5)            | 低温存储<br>LOW TEMPERATURE STORAGE | IEC68-2-1                   | 温度 TEMPERATURE: -40±2°C<br>时间 TIME: 1000±24h                                               | 无外观损伤<br>NO COSMETIC DAMAGE<br>$ \Delta R_{25}/R_{25}  \leq 2\%$<br>$ \Delta B/B  \leq 2\%$ |
| (6)            | 耐久性<br>DURABILITY               | UL1434                      | 环境温度 ENVIRONMENT TEMPERATURE: 25±2°C<br>周期 PERIOD: 6000                                    | 无外观损伤<br>NO COSMETIC DAMAGE<br>$ \Delta R_{25}/R_{25}  \leq 5\%$<br>$ \Delta B/B  \leq 2\%$ |

#### 4、包装、贮存 PACKAGE & STORAGE

##### 4.1 包装 PACKAGE

| 序号<br>SEQUENCE | 包装方式<br>PACKAGING         | 包装材料、尺寸<br>PACKAGING MATERIAL & DIMENSION | 产品数量<br>QUANTITY OF PRODUCT |
|----------------|---------------------------|-------------------------------------------|-----------------------------|
| (1)            | 包装袋<br>PACKING BAG        | 热封口袋 HEAT SEALED POCKET                   | 1000PCS                     |
| (2)            | 内包装箱<br>INNER PACKING BOX | 纸箱 CARTON, L×W×H=185mm×70mm×190mm         |                             |
| (3)            | 外包装箱<br>OUTER PACKING BOX | 纸箱 CARTON, L×W×H=370mm×205mm×215mm        |                             |

##### 4.2 贮存 STORAGE

产品密封保存，存放产品的仓库环境温度-10℃~+40℃、相对湿度不大于70%，仓库内不允许有各、易爆的种有害气体、易爆的产品及有腐蚀腐蚀性的化学物品，并且无强烈的机械震动、冲击和强辐射的作用，包装箱应垫高地面至少20cm，距离墙壁、热源、冷源、窗口或空气入口至少50cm。

- THIS PRODUCT MUST BE KEPT SEALED.
- STORE IN AN ORDINARY ENVIRONMENT (NORMAL ROOM TEMPERATURE, HUMIDITY AND ATMOSPHERIC PRESSURE).
- STORAGE TEMPERATURE: -10℃~+40℃
- RELATIVE HUMIDITY: ≤70%RH.
- KEEP AWAY FROM CORROSIVE GASES, DEOXIDIZING GAS, FLAMMABLE GAS OR DIRECT SUNLIGHT.
- AVOID STRONG MECHANICAL VIBRATION, SHOCK.
- THE PACKING BOX SHOULD BE RAISED AT LEAST 20CM ABOVE THE GROUND AND AT LEAST 50CM AWAY FROM THE WALL, HEAT SOURCE, COLD SOURCE, WINDOWS OR AIR INLET.
- ABNORMAL STORAGE AND OPERATING CONDITIONS MAY CAUSE MALFUNCTION FUNCTION OR FAILURE OF OUR PRODUCTS.

## 5、电阻 – 温度特性表 RESISTANCE-TEMPERATURE CHARACTERISTIC TABLE

 $R_{25}=10K\Omega\pm1\%$   
 $B25/85=3435K\pm1\%$ 

| T(°C) | RMin(KΩ) | RNor(KΩ) | RMax(KΩ) | T(°C) | RMin(KΩ) | RNor(KΩ) | RMax(KΩ) |
|-------|----------|----------|----------|-------|----------|----------|----------|
| -40   | 191.4889 | 199.2982 | 207.4053 | -1    | 28.1746  | 28.7614  | 29.3576  |
| -39   | 181.0213 | 188.2967 | 195.8451 | 0     | 26.9889  | 27.5390  | 28.0976  |
| -38   | 171.1980 | 177.9784 | 185.0087 | 1     | 25.8593  | 26.3750  | 26.8984  |
| -37   | 161.9752 | 168.2962 | 174.8462 | 2     | 24.7829  | 25.2663  | 25.7566  |
| -36   | 153.3123 | 159.2068 | 165.3113 | 3     | 23.7568  | 24.2099  | 24.6692  |
| -35   | 145.1716 | 150.6700 | 156.3610 | 4     | 22.7786  | 23.2032  | 23.6333  |
| -34   | 137.5183 | 142.6488 | 147.9558 | 5     | 21.8457  | 22.2435  | 22.6463  |
| -33   | 130.3200 | 135.1085 | 140.0590 | 6     | 20.9558  | 21.3284  | 21.7055  |
| -32   | 123.5468 | 128.0174 | 132.6365 | 7     | 20.1067  | 20.4557  | 20.8086  |
| -31   | 117.1708 | 121.3457 | 125.6568 | 8     | 19.2963  | 19.6230  | 19.9533  |
| -30   | 111.1663 | 115.0661 | 119.0908 | 9     | 18.5227  | 18.8285  | 19.1375  |
| -29   | 105.5091 | 109.1529 | 112.9112 | 10    | 17.7839  | 18.0701  | 18.3592  |
| -28   | 100.1771 | 103.5825 | 107.0929 | 11    | 17.0783  | 17.3461  | 17.6163  |
| -27   | 95.1495  | 98.3328  | 101.6124 | 12    | 16.4043  | 16.6547  | 16.9073  |
| -26   | 90.4071  | 93.3835  | 96.4482  | 13    | 15.7601  | 15.9943  | 16.2302  |
| -25   | 85.9318  | 88.7153  | 91.5799  | 14    | 15.1445  | 15.3633  | 15.5837  |
| -24   | 81.7070  | 84.3107  | 86.9887  | 15    | 14.5559  | 14.7602  | 14.9660  |
| -23   | 77.7171  | 80.1531  | 82.6573  | 16    | 13.9930  | 14.1838  | 14.3758  |
| -22   | 73.9476  | 76.2272  | 78.5692  | 17    | 13.4547  | 13.6327  | 13.8118  |
| -21   | 70.3850  | 72.5186  | 74.7094  | 18    | 12.9396  | 13.1057  | 13.2726  |
| -20   | 67.0166  | 69.0139  | 71.0636  | 19    | 12.4468  | 12.6016  | 12.7571  |
| -19   | 63.8674  | 65.7389  | 67.6584  | 20    | 11.9751  | 12.1193  | 12.2640  |
| -18   | 60.8844  | 62.6382  | 64.4361  | 21    | 11.5235  | 11.6577  | 11.7924  |
| -17   | 58.0580  | 59.7017  | 61.3858  | 22    | 11.0911  | 11.2159  | 11.3411  |
| -16   | 55.3789  | 56.9196  | 58.4973  | 23    | 10.6769  | 10.7930  | 10.9092  |
| -15   | 52.8387  | 54.2829  | 55.7611  | 24    | 10.2802  | 10.3879  | 10.4958  |
| -14   | 50.4294  | 51.7834  | 53.1684  | 25    | 9.9000   | 10.0000  | 10.1000  |
| -13   | 48.1435  | 49.4130  | 50.7109  | 26    | 9.5287   | 9.6286   | 9.7285   |
| -12   | 45.9741  | 47.1644  | 48.3807  | 27    | 9.1734   | 9.2731   | 9.3729   |
| -11   | 43.9146  | 45.0307  | 46.1705  | 28    | 8.8334   | 8.9327   | 9.0322   |
| -10   | 41.9587  | 43.0053  | 44.0736  | 29    | 8.5079   | 8.6068   | 8.7059   |
| -9    | 40.1008  | 41.0823  | 42.0835  | 30    | 8.1963   | 8.2946   | 8.3932   |
| -8    | 38.3353  | 39.2557  | 40.1942  | 31    | 7.8979   | 7.9955   | 8.0936   |
| -7    | 36.6573  | 37.5204  | 38.4001  | 32    | 7.6120   | 7.7089   | 7.8063   |
| -6    | 35.0618  | 35.8713  | 36.6957  | 33    | 7.3380   | 7.4342   | 7.5308   |
| -5    | 33.5444  | 34.3035  | 35.0762  | 34    | 7.0755   | 7.1708   | 7.2666   |
| -4    | 32.1009  | 32.8127  | 33.5370  | 35    | 6.8238   | 6.9182   | 7.0131   |
| -3    | 30.7272  | 31.3947  | 32.0735  | 36    | 6.5824   | 6.6759   | 6.7699   |
| -2    | 29.4196  | 30.0455  | 30.6816  | 37    | 6.3510   | 6.4434   | 6.5365   |

| T(°C) | RMin(KΩ) | RNor(KΩ) | RMax(KΩ) | T(°C) | RMin(KΩ) | RNor(KΩ) | RMax(KΩ) |
|-------|----------|----------|----------|-------|----------|----------|----------|
| 38    | 6.1289   | 6.2203   | 6.3124   | 72    | 2.0421   | 2.0952   | 2.1495   |
| 39    | 5.9158   | 6.0061   | 6.0972   | 73    | 1.9830   | 2.0351   | 2.0885   |
| 40    | 5.7114   | 5.8005   | 5.8905   | 74    | 1.9258   | 1.9770   | 2.0294   |
| 41    | 5.5150   | 5.6031   | 5.6920   | 75    | 1.8706   | 1.9209   | 1.9724   |
| 42    | 5.3265   | 5.4135   | 5.5013   | 76    | 1.8172   | 1.8666   | 1.9172   |
| 43    | 5.1455   | 5.2313   | 5.3179   | 77    | 1.7656   | 1.8141   | 1.8638   |
| 44    | 4.9716   | 5.0562   | 5.1417   | 78    | 1.7157   | 1.7634   | 1.8122   |
| 45    | 4.8045   | 4.8879   | 4.9723   | 79    | 1.6675   | 1.7143   | 1.7622   |
| 46    | 4.6439   | 4.7261   | 4.8093   | 80    | 1.6208   | 1.6668   | 1.7139   |
| 47    | 4.4896   | 4.5706   | 4.6526   | 81    | 1.5757   | 1.6208   | 1.6671   |
| 48    | 4.3412   | 4.4210   | 4.5018   | 82    | 1.5320   | 1.5764   | 1.6218   |
| 49    | 4.1985   | 4.2771   | 4.3567   | 83    | 1.4898   | 1.5333   | 1.5780   |
| 50    | 4.0612   | 4.1386   | 4.2170   | 84    | 1.4489   | 1.4917   | 1.5355   |
| 51    | 3.9292   | 4.0054   | 4.0826   | 85    | 1.4094   | 1.4513   | 1.4944   |
| 52    | 3.8021   | 3.8771   | 3.9531   | 86    | 1.3711   | 1.4123   | 1.4546   |
| 53    | 3.6798   | 3.7536   | 3.8285   | 87    | 1.3340   | 1.3745   | 1.4161   |
| 54    | 3.5621   | 3.6347   | 3.7084   | 88    | 1.2981   | 1.3379   | 1.3787   |
| 55    | 3.4488   | 3.5202   | 3.5927   | 89    | 1.2633   | 1.3024   | 1.3425   |
| 56    | 3.3396   | 3.4099   | 3.4812   | 90    | 1.2297   | 1.2680   | 1.3074   |
| 57    | 3.2345   | 3.3036   | 3.3738   | 91    | 1.1970   | 1.2347   | 1.2734   |
| 58    | 3.1332   | 3.2011   | 3.2702   | 92    | 1.1654   | 1.2024   | 1.2404   |
| 59    | 3.0356   | 3.1024   | 3.1703   | 93    | 1.1348   | 1.1711   | 1.2085   |
| 60    | 2.9416   | 3.0072   | 3.0740   | 94    | 1.1051   | 1.1408   | 1.1775   |
| 61    | 2.8509   | 2.9155   | 2.9811   | 95    | 1.0764   | 1.1114   | 1.1474   |
| 62    | 2.7635   | 2.8269   | 2.8915   | 96    | 1.0485   | 1.0829   | 1.1183   |
| 63    | 2.6793   | 2.7416   | 2.8051   | 97    | 1.0214   | 1.0552   | 1.0900   |
| 64    | 2.5980   | 2.6592   | 2.7216   | 98    | 0.9952   | 1.0284   | 1.0626   |
| 65    | 2.5196   | 2.5797   | 2.6411   | 99    | 0.9698   | 1.0024   | 1.0359   |
| 66    | 2.4439   | 2.5030   | 2.5633   | 100   | 0.9451   | 0.9771   | 1.0101   |
| 67    | 2.3709   | 2.4290   | 2.4883   | 101   | 0.9212   | 0.9526   | 0.9850   |
| 68    | 2.3005   | 2.3575   | 2.4158   | 102   | 0.8979   | 0.9288   | 0.9607   |
| 69    | 2.2324   | 2.2885   | 2.3457   | 103   | 0.8754   | 0.9058   | 0.9370   |
| 70    | 2.1668   | 2.2218   | 2.2781   | 104   | 0.8536   | 0.8834   | 0.9141   |
| 71    | 2.1034   | 2.1575   | 2.2127   | 105   | 0.8323   | 0.8616   | 0.8918   |

6、安规认证 SAFETY CERTIFICATION

6.1、UL证书编号：E318986

6.2、UL 产品认证规格：SNS103