



南京时恒电子科技有限公司

规格承认书

APPROVAL SHEET

客户名称:

CUSTOMER _____

产品名称:

PART NAME MF58 玻壳测温型 NTC 热敏电阻器

产品规格:

PART NUMBER MF58-104 H 3950 (UL: E240991)

日期:

DATE 2017年07月20日

确 认

CONFIRM

客户

品保部:

制造部:

工程部:

供货商/制造商

规格书制作: 鞠晓丽

技术部审核:

品质部审核:

生产部审核:

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南京时恒电子科技有限公司

MF58 玻壳测温型 NTC 热敏电阻器

型号: MF58-104H3950

本规格书提供了南京时恒电子科技有限公司生产的 MF58 系列 NTC 热敏电阻的结构尺寸、产品性能、试验条件、使用要求的描述, 敬请贵司确认。
对本规格书产生疑义时, 请速与我们联系 (025-52121868), 若无疑义请确认回传, 若无回传, 我司将视为默认。
贵公司改变使用用途, 作用方法时, 请与我们联系。

| | | |
|-------|-----|-----|
| 客户名称: | | |
| 客户确认 | 确认: | 时间: |
| | 审核: | 时间: |

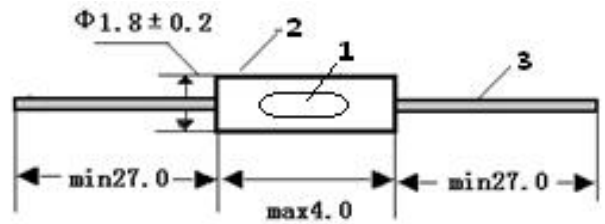
1. 电气性能

| | 项目 | 符号 | 测试条件 | 单位 | 性能要求 |
|------|------------|--------------------|--|------|----------|
| 1.1 | 25℃的零功率电阻值 | R ₂₅ | T _a =25±0.05℃ 测试功率≤0.1mw | KΩ | 100KΩ±3% |
| 1.2 | B 值 | B _{25/50} | $B = \frac{(T_a \times T_b) / (T_b - T_a)}{\ln(R_a/R_b)}$ T _b =50℃±0.05℃ | K | 3950±2% |
| 1.3 | 耗散系数 | δ | 静止空气中 | mW/℃ | ≥2 |
| 1.4 | 时间常数 | τ | 静止空气中 | sec | ≤20 |
| 1.5 | 耐电压 | / | 1500V/AC 1min | / | 无击穿或飞弧 |
| 1.6 | 绝缘电阻 | / | 500V/DC 1min | MΩ | ≥500 |
| 1.7 | 工作温度范围 | / | / | ℃ | -55~195 |
| 1.8 | 最大额定功率 | P _{max} | / | mW | 50 |
| 1.9 | 阻温特性 | / | / | / | 见附表 1 |
| 1.10 | 阻值误差 | / | / | / | 见附表 2 |

2. 可靠性

| 项目 | 测试条件及方法 | 技术要求 |
|------------|---|------------------------------------|
| 2.1 引出端强度 | 固定电阻端, 拉力: 10±1 N, 时间: 10±1 秒 | 无可见性损伤 R ₂₅ ΔR/R≤±2% |
| 2.2 可焊性 | 温度 245±5℃ 时间 2-3 秒 | 着锡面积≥95% |
| 2.3 耐焊接热 | 锡锅温度: 260±5℃, 浸入深度距电阻体 6mm, 时间 5±1 秒 | R ₂₅ ΔR/R≤±2% |
| 2.4 稳态湿热 | 温度: 40℃±2℃, 湿度: 93±2%, 时间: 500 小时 | R ₂₅ ΔR/R≤±2% |
| 2.5 温度快速变化 | -55℃30min→25℃5min→195℃30min→25℃5min, 反复 5 次 | R ₂₅ ΔR/R≤±2% |
| 2.6 高温储存 | 温度: 195℃±5℃, 时间: 1000 小时 | R ₂₅ ΔR/R≤±2% |
| 2.7 低温储存 | 温度: -55℃±5℃, 时间: 1000 小时 | R ₂₅ ΔR/R≤±2% |

4. 外形尺寸: (单位: mm)



| 序号 | 名称 | 材料规格 | 数量 | 备注 |
|----|----|----------------|----|----|
| 1 | 元件 | NTC 热敏电阻 | 1 | |
| 2 | 外壳 | 玻璃 | 1 | |
| 3 | 导线 | Φ0.5±0.05 镀锡钢线 | 2 | |

5. 产品型号说明

MF58 104 H 3950

① ② ③ ④

- ① MF58: 玻壳测温型 NTC 热敏电阻
- ② 104: 25℃的零功率电阻值 100KΩ
- ③ H: 阻值精度代码 F-±1% G-±2% H-±3% K-±10%
- ④ 3950: B_{25/50} 值 3950K

6. 认证

- 6.1 质量管理体系认证 ISO9001:2008 (01115Q20270R5M)
ISO/TS16949: 2009 (0192416)
- 6.2 环境管理体系认证 ISO14001:2004 (01113E20060R2M)
- 6.3 环保检测报告 ROHS
- 6.4 产品 CQC 认证 (CQC09001033986)
- 6.5 江苏省高新技术产品认证 (150115G0377N)
- 6.6 安规认证 UL 1434 认证(File # E240991)

3. 使用注意事项

- 3.1 本产品的用途: 温度测量与控制;
- 3.2 避免流过热敏电阻芯片的电流引起元件自身发热而产生测量误差;
- 3.3 烙铁焊接时, 焊接处距玻壳端距离至少 2mm, 焊接温度应低于 360℃, 焊接时间<3ses;
- 3.4 若引线弯曲时, 弯曲点应距玻壳端 2mm 以上, 以免造成玻壳损伤;
- 3.5 储存温度: -10℃ ~ 40℃; 储存湿度: ≤75% RH;
- 3.6 避免存放在具有腐蚀性气体及光照的环境下;
- 3.7 包装打开后需重新密封保存。

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附表 1

南京时恒阻温特性表

R25=100K Ω 精度: $\pm 3\%$ B25/50=3950K B25/85=4092K 精度: $\pm 1\%$ (P182-6B2)

| 温度($^{\circ}\text{C}$) | 电阻(K Ω) | | | 电阻精度(%) | | 温度精度($^{\circ}\text{C}$) | |
|--------------------------|-----------------|----------|----------|------------|-------------|----------------------------|-------------|
| | 最小值 | 中心值 | 最大值 | ΔR | $-\Delta R$ | ΔT | $-\Delta T$ |
| -55 | 6518.480 | 7011.860 | 7535.790 | 7.472 | -7.036 | 1.029 | -0.969 |
| -54 | 6204.050 | 6670.290 | 7165.120 | 7.418 | -6.989 | 1.025 | -0.966 |
| -53 | 5895.630 | 6335.440 | 6801.920 | 7.363 | -6.941 | 1.022 | -0.963 |
| -52 | 5594.600 | 6008.770 | 6447.780 | 7.306 | -6.892 | 1.018 | -0.961 |
| -51 | 5302.090 | 5691.510 | 6104.040 | 7.248 | -6.842 | 1.015 | -0.958 |
| -50 | 5019.020 | 5384.660 | 5771.750 | 7.188 | -6.790 | 1.012 | -0.956 |
| -49 | 4746.090 | 5088.980 | 5451.730 | 7.128 | -6.737 | 1.009 | -0.953 |
| -48 | 4483.840 | 4805.020 | 5144.570 | 7.066 | -6.684 | 1.006 | -0.951 |
| -47 | 4232.610 | 4533.160 | 4850.680 | 7.004 | -6.629 | 1.002 | -0.949 |
| -46 | 3992.620 | 4273.610 | 4570.250 | 6.941 | -6.574 | 0.999 | -0.947 |
| -45 | 3763.940 | 4026.430 | 4303.350 | 6.877 | -6.519 | 0.996 | -0.944 |
| -44 | 3546.530 | 3791.580 | 4049.910 | 6.813 | -6.462 | 0.993 | -0.942 |
| -43 | 3340.250 | 3568.880 | 3809.730 | 6.748 | -6.406 | 0.990 | -0.940 |
| -42 | 3144.880 | 3358.100 | 3582.550 | 6.683 | -6.349 | 0.987 | -0.938 |
| -41 | 2960.170 | 3158.930 | 3368.000 | 6.618 | -6.292 | 0.985 | -0.936 |
| -40 | 2785.770 | 2971.000 | 3165.690 | 6.553 | -6.234 | 0.982 | -0.934 |
| -39 | 2621.310 | 2793.890 | 2975.150 | 6.487 | -6.176 | 0.979 | -0.932 |
| -38 | 2466.420 | 2627.180 | 2795.900 | 6.422 | -6.119 | 0.976 | -0.930 |
| -37 | 2320.660 | 2470.400 | 2627.440 | 6.356 | -6.061 | 0.973 | -0.928 |
| -36 | 2183.620 | 2323.090 | 2469.240 | 6.291 | -6.003 | 0.970 | -0.926 |
| -35 | 2054.870 | 2184.770 | 2320.800 | 6.226 | -5.945 | 0.967 | -0.923 |
| -34 | 1933.980 | 2054.980 | 2181.590 | 6.161 | -5.888 | 0.964 | -0.921 |
| -33 | 1820.520 | 1933.240 | 2051.100 | 6.096 | -5.830 | 0.961 | -0.919 |
| -32 | 1714.080 | 1819.110 | 1928.830 | 6.031 | -5.773 | 0.958 | -0.917 |
| -31 | 1614.260 | 1712.140 | 1814.310 | 5.967 | -5.716 | 0.955 | -0.915 |
| -30 | 1520.670 | 1611.900 | 1707.060 | 5.903 | -5.659 | 0.952 | -0.913 |
| -29 | 1432.930 | 1517.980 | 1606.630 | 5.840 | -5.602 | 0.949 | -0.910 |
| -28 | 1350.680 | 1430.000 | 1512.610 | 5.776 | -5.546 | 0.946 | -0.908 |
| -27 | 1273.580 | 1347.570 | 1424.570 | 5.714 | -5.490 | 0.943 | -0.906 |
| -26 | 1201.310 | 1270.350 | 1342.140 | 5.651 | -5.434 | 0.939 | -0.903 |
| -25 | 1133.550 | 1198.000 | 1264.960 | 5.589 | -5.379 | 0.936 | -0.901 |
| -24 | 1070.020 | 1130.190 | 1192.670 | 5.528 | -5.323 | 0.933 | -0.898 |
| -23 | 1010.440 | 1066.650 | 1124.960 | 5.467 | -5.269 | 0.930 | -0.896 |
| -22 | 954.563 | 1007.070 | 1061.520 | 5.406 | -5.214 | 0.926 | -0.893 |
| -21 | 902.128 | 951.217 | 1002.070 | 5.346 | -5.160 | 0.923 | -0.891 |
| -20 | 852.919 | 898.820 | 946.339 | 5.286 | -5.106 | 0.919 | -0.888 |
| -19 | 806.721 | 849.657 | 894.074 | 5.227 | -5.053 | 0.916 | -0.885 |
| -18 | 763.335 | 803.514 | 845.047 | 5.168 | -5.000 | 0.912 | -0.883 |
| -17 | 722.577 | 760.189 | 799.039 | 5.110 | -4.947 | 0.909 | -0.880 |

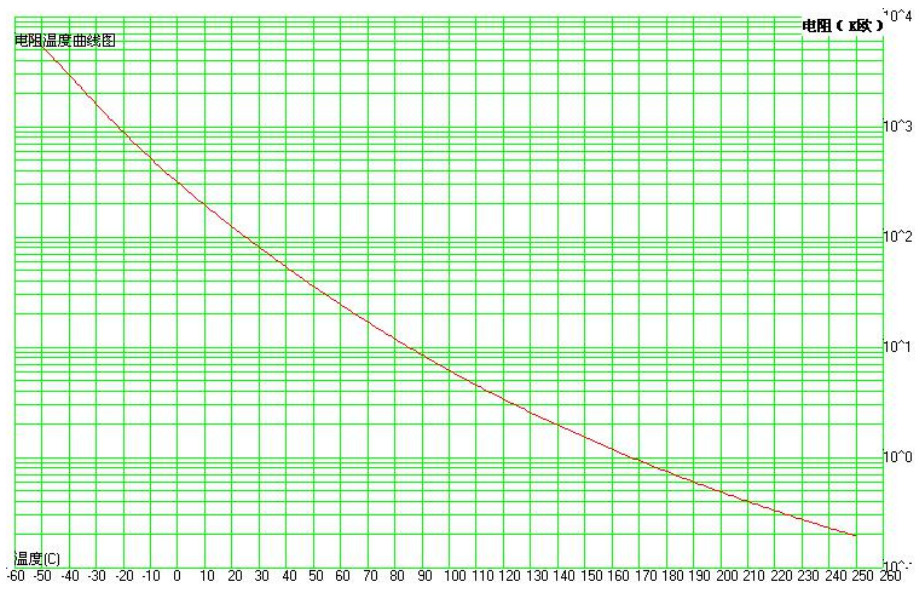
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|-----|---------|---------|---------|-------|--------|-------|--------|
| -16 | 684.272 | 719.495 | 755.849 | 5.052 | -4.895 | 0.905 | -0.877 |
| -15 | 648.260 | 681.256 | 715.288 | 4.995 | -4.843 | 0.901 | -0.874 |
| -14 | 614.388 | 645.311 | 677.180 | 4.938 | -4.791 | 0.897 | -0.871 |
| -13 | 582.517 | 611.507 | 641.361 | 4.882 | -4.740 | 0.893 | -0.868 |
| -12 | 552.516 | 579.703 | 607.680 | 4.826 | -4.689 | 0.890 | -0.864 |
| -11 | 524.263 | 549.768 | 575.995 | 4.770 | -4.639 | 0.885 | -0.861 |
| -10 | 497.644 | 521.579 | 546.174 | 4.715 | -4.588 | 0.881 | -0.858 |
| -9 | 472.554 | 495.024 | 518.095 | 4.660 | -4.539 | 0.877 | -0.854 |
| -8 | 448.895 | 469.995 | 491.645 | 4.606 | -4.489 | 0.873 | -0.851 |
| -7 | 426.574 | 446.396 | 466.718 | 4.552 | -4.440 | 0.869 | -0.847 |
| -6 | 405.508 | 424.134 | 443.215 | 4.499 | -4.391 | 0.864 | -0.844 |
| -5 | 385.616 | 403.123 | 421.046 | 4.445 | -4.342 | 0.860 | -0.840 |
| -4 | 366.825 | 383.286 | 400.125 | 4.393 | -4.294 | 0.855 | -0.836 |
| -3 | 349.067 | 364.548 | 380.373 | 4.340 | -4.246 | 0.851 | -0.832 |
| -2 | 332.277 | 346.840 | 361.716 | 4.289 | -4.198 | 0.846 | -0.829 |
| -1 | 316.395 | 330.099 | 344.087 | 4.237 | -4.151 | 0.842 | -0.825 |
| 0 | 302.709 | 315.680 | 328.909 | 4.190 | -4.108 | 0.834 | -0.818 |
| 1 | 287.140 | 299.283 | 311.659 | 4.135 | -4.057 | 0.832 | -0.816 |
| 2 | 273.666 | 285.101 | 296.747 | 4.084 | -4.010 | 0.827 | -0.812 |
| 3 | 260.900 | 271.671 | 282.632 | 4.034 | -3.964 | 0.822 | -0.808 |
| 4 | 248.800 | 258.947 | 269.266 | 3.984 | -3.918 | 0.817 | -0.803 |
| 5 | 237.328 | 246.889 | 256.604 | 3.935 | -3.872 | 0.812 | -0.799 |
| 6 | 226.445 | 235.457 | 244.606 | 3.885 | -3.827 | 0.807 | -0.795 |
| 7 | 216.119 | 224.614 | 233.232 | 3.836 | -3.781 | 0.801 | -0.790 |
| 8 | 206.317 | 214.326 | 222.445 | 3.788 | -3.736 | 0.796 | -0.785 |
| 9 | 197.009 | 204.561 | 212.211 | 3.739 | -3.691 | 0.791 | -0.781 |
| 10 | 188.167 | 195.290 | 202.499 | 3.691 | -3.647 | 0.785 | -0.776 |
| 11 | 179.765 | 186.484 | 193.279 | 3.643 | -3.602 | 0.780 | -0.771 |
| 12 | 171.779 | 178.117 | 184.523 | 3.596 | -3.558 | 0.774 | -0.766 |
| 13 | 164.185 | 170.165 | 176.205 | 3.549 | -3.514 | 0.768 | -0.761 |
| 14 | 156.962 | 162.605 | 168.300 | 3.501 | -3.470 | 0.763 | -0.756 |
| 15 | 150.090 | 155.416 | 160.786 | 3.455 | -3.426 | 0.757 | -0.751 |
| 16 | 143.550 | 148.577 | 153.641 | 3.408 | -3.383 | 0.751 | -0.745 |
| 17 | 137.323 | 142.068 | 146.845 | 3.362 | -3.340 | 0.745 | -0.740 |
| 18 | 131.394 | 135.874 | 140.380 | 3.316 | -3.296 | 0.739 | -0.735 |
| 19 | 125.746 | 129.976 | 134.226 | 3.270 | -3.253 | 0.733 | -0.729 |
| 20 | 120.365 | 124.358 | 128.369 | 3.224 | -3.211 | 0.727 | -0.724 |
| 21 | 115.237 | 119.008 | 122.791 | 3.179 | -3.168 | 0.721 | -0.718 |
| 22 | 110.348 | 113.909 | 117.479 | 3.134 | -3.126 | 0.714 | -0.712 |
| 23 | 105.686 | 109.049 | 112.418 | 3.089 | -3.084 | 0.708 | -0.707 |
| 24 | 101.241 | 104.417 | 107.596 | 3.044 | -3.041 | 0.701 | -0.701 |
| 25 | 97.000 | 100.000 | 103.000 | 3.000 | -3.000 | 0.696 | -0.696 |
| 26 | 92.873 | 95.786 | 98.703 | 3.044 | -3.041 | 0.709 | -0.709 |
| 27 | 88.938 | 91.767 | 94.602 | 3.088 | -3.083 | 0.723 | -0.722 |
| 28 | 85.185 | 87.932 | 90.687 | 3.132 | -3.124 | 0.738 | -0.736 |

| | | | | | | | |
|----|--------|--------|--------|-------|--------|-------|--------|
| 29 | 81.604 | 84.272 | 86.949 | 3.176 | -3.165 | 0.752 | -0.749 |
| 30 | 78.188 | 80.779 | 83.380 | 3.220 | -3.206 | 0.766 | -0.763 |
| 31 | 74.928 | 77.443 | 79.970 | 3.263 | -3.247 | 0.781 | -0.777 |
| 32 | 71.816 | 74.258 | 76.713 | 3.307 | -3.288 | 0.796 | -0.791 |
| 33 | 68.845 | 71.215 | 73.601 | 3.350 | -3.328 | 0.810 | -0.805 |
| 34 | 66.007 | 68.309 | 70.627 | 3.393 | -3.368 | 0.825 | -0.819 |
| 35 | 63.298 | 65.532 | 67.783 | 3.436 | -3.409 | 0.840 | -0.833 |
| 36 | 60.709 | 62.878 | 65.065 | 3.479 | -3.449 | 0.855 | -0.847 |
| 37 | 58.236 | 60.341 | 62.466 | 3.521 | -3.488 | 0.870 | -0.862 |
| 38 | 55.872 | 57.916 | 59.980 | 3.564 | -3.528 | 0.885 | -0.876 |
| 39 | 53.614 | 55.597 | 57.602 | 3.606 | -3.567 | 0.900 | -0.890 |
| 40 | 51.454 | 53.380 | 55.327 | 3.648 | -3.606 | 0.915 | -0.905 |
| 41 | 49.390 | 51.259 | 53.151 | 3.690 | -3.646 | 0.931 | -0.919 |
| 42 | 47.416 | 49.230 | 51.068 | 3.732 | -3.684 | 0.946 | -0.934 |
| 43 | 45.528 | 47.289 | 49.074 | 3.774 | -3.723 | 0.961 | -0.949 |
| 44 | 43.722 | 45.432 | 47.165 | 3.815 | -3.762 | 0.977 | -0.963 |
| 45 | 41.995 | 43.654 | 45.338 | 3.857 | -3.800 | 0.993 | -0.978 |
| 46 | 40.342 | 41.952 | 43.588 | 3.898 | -3.838 | 1.008 | -0.993 |
| 47 | 38.760 | 40.323 | 41.912 | 3.939 | -3.876 | 1.024 | -1.008 |
| 48 | 37.246 | 38.764 | 40.307 | 3.980 | -3.914 | 1.040 | -1.023 |
| 49 | 35.797 | 37.270 | 38.769 | 4.021 | -3.952 | 1.056 | -1.038 |
| 50 | 34.409 | 35.840 | 37.295 | 4.062 | -3.990 | 1.072 | -1.053 |
| 51 | 33.081 | 34.469 | 35.883 | 4.102 | -4.027 | 1.088 | -1.068 |
| 52 | 31.809 | 33.156 | 34.530 | 4.143 | -4.064 | 1.105 | -1.084 |
| 53 | 30.590 | 31.898 | 33.233 | 4.183 | -4.102 | 1.121 | -1.099 |
| 54 | 29.423 | 30.693 | 31.989 | 4.223 | -4.138 | 1.137 | -1.115 |
| 55 | 28.304 | 29.538 | 30.797 | 4.263 | -4.175 | 1.154 | -1.130 |
| 56 | 27.232 | 28.430 | 29.654 | 4.303 | -4.212 | 1.171 | -1.146 |
| 57 | 26.205 | 27.368 | 28.557 | 4.343 | -4.248 | 1.187 | -1.161 |
| 58 | 25.221 | 26.350 | 27.505 | 4.382 | -4.285 | 1.204 | -1.177 |
| 59 | 24.277 | 25.374 | 26.496 | 4.422 | -4.321 | 1.221 | -1.193 |
| 60 | 23.373 | 24.437 | 25.528 | 4.461 | -4.357 | 1.238 | -1.209 |
| 61 | 22.505 | 23.539 | 24.599 | 4.500 | -4.392 | 1.255 | -1.225 |
| 62 | 21.673 | 22.678 | 23.707 | 4.539 | -4.428 | 1.272 | -1.241 |
| 63 | 20.875 | 21.851 | 22.851 | 4.578 | -4.464 | 1.289 | -1.257 |
| 64 | 20.110 | 21.057 | 22.030 | 4.617 | -4.499 | 1.307 | -1.273 |
| 65 | 19.376 | 20.296 | 21.241 | 4.655 | -4.534 | 1.324 | -1.289 |
| 66 | 18.671 | 19.565 | 20.483 | 4.694 | -4.569 | 1.341 | -1.306 |
| 67 | 17.995 | 18.863 | 19.756 | 4.732 | -4.604 | 1.359 | -1.322 |
| 68 | 17.346 | 18.189 | 19.057 | 4.770 | -4.639 | 1.377 | -1.339 |
| 69 | 16.723 | 17.542 | 18.386 | 4.808 | -4.673 | 1.394 | -1.355 |
| 70 | 16.124 | 16.921 | 17.741 | 4.846 | -4.708 | 1.412 | -1.372 |
| 71 | 15.550 | 16.324 | 17.122 | 4.883 | -4.742 | 1.430 | -1.389 |
| 72 | 14.999 | 15.751 | 16.526 | 4.921 | -4.776 | 1.448 | -1.406 |
| 73 | 14.469 | 15.200 | 15.954 | 4.958 | -4.810 | 1.466 | -1.422 |

| | | | | | | | |
|-----|--------|--------|--------|-------|--------|-------|--------|
| 74 | 13.960 | 14.671 | 15.404 | 4.995 | -4.843 | 1.485 | -1.439 |
| 75 | 13.471 | 14.162 | 14.875 | 5.033 | -4.877 | 1.503 | -1.456 |
| 76 | 13.001 | 13.673 | 14.366 | 5.069 | -4.910 | 1.521 | -1.474 |
| 77 | 12.550 | 13.203 | 13.877 | 5.106 | -4.944 | 1.540 | -1.491 |
| 78 | 12.116 | 12.751 | 13.407 | 5.143 | -4.977 | 1.558 | -1.508 |
| 79 | 11.699 | 12.316 | 12.954 | 5.179 | -5.010 | 1.577 | -1.525 |
| 80 | 11.298 | 11.898 | 12.519 | 5.216 | -5.043 | 1.596 | -1.543 |
| 81 | 10.913 | 11.496 | 12.100 | 5.252 | -5.075 | 1.615 | -1.560 |
| 82 | 10.542 | 11.109 | 11.697 | 5.288 | -5.108 | 1.634 | -1.578 |
| 83 | 10.185 | 10.737 | 11.309 | 5.324 | -5.140 | 1.653 | -1.596 |
| 84 | 9.842 | 10.379 | 10.935 | 5.359 | -5.172 | 1.672 | -1.613 |
| 85 | 9.512 | 10.035 | 10.576 | 5.395 | -5.204 | 1.691 | -1.631 |
| 86 | 9.195 | 9.703 | 10.230 | 5.430 | -5.236 | 1.710 | -1.649 |
| 87 | 8.889 | 9.383 | 9.896 | 5.466 | -5.268 | 1.730 | -1.667 |
| 88 | 8.595 | 9.076 | 9.575 | 5.501 | -5.299 | 1.749 | -1.685 |
| 89 | 8.312 | 8.780 | 9.266 | 5.536 | -5.331 | 1.769 | -1.703 |
| 90 | 8.039 | 8.495 | 8.968 | 5.571 | -5.362 | 1.788 | -1.721 |
| 91 | 7.777 | 8.220 | 8.681 | 5.605 | -5.393 | 1.808 | -1.740 |
| 92 | 7.524 | 7.956 | 8.404 | 5.640 | -5.424 | 1.828 | -1.758 |
| 93 | 7.281 | 7.701 | 8.138 | 5.674 | -5.455 | 1.848 | -1.776 |
| 94 | 7.046 | 7.455 | 7.881 | 5.709 | -5.485 | 1.868 | -1.795 |
| 95 | 6.820 | 7.219 | 7.633 | 5.743 | -5.516 | 1.888 | -1.814 |
| 96 | 6.603 | 6.990 | 7.394 | 5.777 | -5.546 | 1.908 | -1.832 |
| 97 | 6.393 | 6.770 | 7.164 | 5.810 | -5.576 | 1.929 | -1.851 |
| 98 | 6.191 | 6.558 | 6.942 | 5.844 | -5.606 | 1.949 | -1.870 |
| 99 | 5.996 | 6.354 | 6.727 | 5.878 | -5.636 | 1.970 | -1.889 |
| 100 | 5.823 | 6.173 | 6.537 | 5.908 | -5.664 | 1.991 | -1.909 |
| 101 | 5.627 | 5.966 | 6.321 | 5.944 | -5.696 | 2.011 | -1.927 |
| 102 | 5.452 | 5.783 | 6.129 | 5.977 | -5.725 | 2.032 | -1.946 |
| 103 | 5.283 | 5.606 | 5.943 | 6.010 | -5.754 | 2.052 | -1.965 |
| 104 | 5.121 | 5.435 | 5.763 | 6.043 | -5.784 | 2.073 | -1.984 |
| 105 | 4.964 | 5.270 | 5.590 | 6.076 | -5.813 | 2.094 | -2.004 |
| 106 | 4.812 | 5.111 | 5.423 | 6.108 | -5.842 | 2.116 | -2.023 |
| 107 | 4.666 | 4.957 | 5.262 | 6.141 | -5.870 | 2.137 | -2.043 |
| 108 | 4.525 | 4.809 | 5.106 | 6.173 | -5.899 | 2.158 | -2.062 |
| 109 | 4.389 | 4.666 | 4.955 | 6.205 | -5.927 | 2.180 | -2.082 |
| 110 | 4.258 | 4.527 | 4.810 | 6.237 | -5.956 | 2.201 | -2.102 |
| 111 | 4.131 | 4.394 | 4.669 | 6.269 | -5.984 | 2.223 | -2.121 |
| 112 | 4.008 | 4.264 | 4.533 | 6.301 | -6.012 | 2.244 | -2.141 |
| 113 | 3.890 | 4.140 | 4.402 | 6.332 | -6.040 | 2.266 | -2.161 |
| 114 | 3.775 | 4.019 | 4.275 | 6.364 | -6.068 | 2.288 | -2.181 |
| 115 | 3.665 | 3.903 | 4.152 | 6.395 | -6.095 | 2.310 | -2.202 |
| 116 | 3.558 | 3.790 | 4.034 | 6.426 | -6.123 | 2.332 | -2.222 |
| 117 | 3.455 | 3.681 | 3.919 | 6.457 | -6.150 | 2.354 | -2.242 |
| 118 | 3.355 | 3.576 | 3.808 | 6.488 | -6.177 | 2.376 | -2.262 |

| | | | | | | | |
|-----|-------|-------|-------|-------|--------|-------|--------|
| 119 | 3.258 | 3.474 | 3.701 | 6.519 | -6.204 | 2.399 | -2.283 |
| 120 | 3.165 | 3.376 | 3.597 | 6.549 | -6.231 | 2.421 | -2.303 |
| 121 | 3.075 | 3.280 | 3.496 | 6.580 | -6.258 | 2.443 | -2.324 |
| 122 | 2.988 | 3.188 | 3.399 | 6.610 | -6.285 | 2.466 | -2.345 |
| 123 | 2.903 | 3.099 | 3.305 | 6.641 | -6.311 | 2.489 | -2.365 |
| 124 | 2.822 | 3.013 | 3.214 | 6.671 | -6.338 | 2.512 | -2.386 |
| 125 | 2.743 | 2.929 | 3.126 | 6.701 | -6.364 | 2.534 | -2.407 |
| 126 | 2.666 | 2.849 | 3.040 | 6.730 | -6.390 | 2.557 | -2.428 |
| 127 | 2.593 | 2.770 | 2.958 | 6.760 | -6.416 | 2.580 | -2.449 |
| 128 | 2.521 | 2.695 | 2.878 | 6.790 | -6.442 | 2.603 | -2.470 |
| 129 | 2.452 | 2.621 | 2.800 | 6.819 | -6.468 | 2.627 | -2.491 |
| 130 | 2.385 | 2.550 | 2.725 | 6.849 | -6.494 | 2.650 | -2.513 |
| 131 | 2.320 | 2.481 | 2.652 | 6.878 | -6.519 | 2.673 | -2.534 |
| 132 | 2.257 | 2.415 | 2.582 | 6.907 | -6.545 | 2.697 | -2.555 |
| 133 | 2.196 | 2.350 | 2.513 | 6.936 | -6.570 | 2.720 | -2.577 |
| 134 | 2.137 | 2.288 | 2.447 | 6.965 | -6.595 | 2.744 | -2.599 |
| 135 | 2.080 | 2.227 | 2.383 | 6.993 | -6.620 | 2.768 | -2.620 |
| 136 | 2.024 | 2.168 | 2.321 | 7.022 | -6.645 | 2.792 | -2.642 |
| 137 | 1.970 | 2.111 | 2.260 | 7.050 | -6.670 | 2.816 | -2.664 |
| 138 | 1.918 | 2.056 | 2.202 | 7.079 | -6.695 | 2.840 | -2.686 |
| 139 | 1.868 | 2.003 | 2.145 | 7.107 | -6.719 | 2.864 | -2.708 |
| 140 | 1.819 | 1.951 | 2.090 | 7.135 | -6.744 | 2.888 | -2.730 |
| 141 | 1.772 | 1.900 | 2.037 | 7.163 | -6.768 | 2.912 | -2.752 |
| 142 | 1.726 | 1.852 | 1.985 | 7.191 | -6.793 | 2.937 | -2.774 |
| 143 | 1.681 | 1.804 | 1.934 | 7.219 | -6.817 | 2.961 | -2.796 |
| 144 | 1.638 | 1.758 | 1.886 | 7.247 | -6.841 | 2.986 | -2.818 |
| 145 | 1.596 | 1.714 | 1.838 | 7.274 | -6.865 | 3.010 | -2.841 |
| 146 | 1.555 | 1.670 | 1.792 | 7.302 | -6.889 | 3.035 | -2.863 |
| 147 | 1.516 | 1.628 | 1.748 | 7.329 | -6.912 | 3.060 | -2.886 |
| 148 | 1.477 | 1.588 | 1.704 | 7.356 | -6.936 | 3.085 | -2.909 |
| 149 | 1.440 | 1.548 | 1.662 | 7.383 | -6.959 | 3.110 | -2.931 |
| 150 | 1.404 | 1.510 | 1.621 | 7.410 | -6.983 | 3.135 | -2.954 |
| 151 | 1.369 | 1.472 | 1.582 | 7.437 | -7.006 | 3.160 | -2.977 |
| 152 | 1.335 | 1.436 | 1.543 | 7.464 | -7.029 | 3.185 | -3.000 |
| 153 | 1.302 | 1.401 | 1.506 | 7.490 | -7.052 | 3.211 | -3.023 |
| 154 | 1.270 | 1.367 | 1.469 | 7.517 | -7.075 | 3.236 | -3.046 |
| 155 | 1.239 | 1.333 | 1.434 | 7.544 | -7.098 | 3.262 | -3.069 |
| 156 | 1.208 | 1.301 | 1.400 | 7.570 | -7.121 | 3.287 | -3.092 |
| 157 | 1.179 | 1.270 | 1.366 | 7.596 | -7.143 | 3.313 | -3.116 |
| 158 | 1.150 | 1.239 | 1.334 | 7.622 | -7.166 | 3.339 | -3.139 |
| 159 | 1.123 | 1.210 | 1.302 | 7.648 | -7.188 | 3.365 | -3.162 |
| 160 | 1.096 | 1.181 | 1.271 | 7.674 | -7.211 | 3.391 | -3.186 |
| 161 | 1.069 | 1.153 | 1.242 | 7.700 | -7.233 | 3.417 | -3.210 |
| 162 | 1.044 | 1.126 | 1.213 | 7.726 | -7.255 | 3.443 | -3.233 |
| 163 | 1.019 | 1.099 | 1.184 | 7.751 | -7.277 | 3.469 | -3.257 |

| | | | | | | | |
|-----|-------|-------|-------|-------|--------|-------|--------|
| 164 | 0.995 | 1.073 | 1.157 | 7.777 | -7.299 | 3.496 | -3.281 |
| 165 | 0.972 | 1.048 | 1.130 | 7.802 | -7.321 | 3.522 | -3.305 |
| 166 | 0.949 | 1.024 | 1.104 | 7.828 | -7.343 | 3.548 | -3.329 |
| 167 | 0.927 | 1.000 | 1.079 | 7.853 | -7.364 | 3.575 | -3.353 |
| 168 | 0.905 | 0.977 | 1.054 | 7.878 | -7.386 | 3.602 | -3.377 |
| 169 | 0.884 | 0.955 | 1.030 | 7.903 | -7.407 | 3.629 | -3.401 |
| 170 | 0.864 | 0.933 | 1.007 | 7.928 | -7.429 | 3.655 | -3.425 |
| 171 | 0.844 | 0.912 | 0.984 | 7.953 | -7.450 | 3.682 | -3.450 |
| 172 | 0.825 | 0.891 | 0.962 | 7.977 | -7.471 | 3.709 | -3.474 |
| 173 | 0.806 | 0.871 | 0.941 | 8.002 | -7.492 | 3.736 | -3.498 |
| 174 | 0.788 | 0.852 | 0.920 | 8.027 | -7.513 | 3.764 | -3.523 |
| 175 | 0.770 | 0.832 | 0.900 | 8.051 | -7.534 | 3.791 | -3.548 |
| 176 | 0.752 | 0.814 | 0.880 | 8.075 | -7.555 | 3.818 | -3.572 |
| 177 | 0.735 | 0.796 | 0.860 | 8.100 | -7.576 | 3.846 | -3.597 |
| 178 | 0.719 | 0.778 | 0.842 | 8.124 | -7.597 | 3.873 | -3.622 |
| 179 | 0.703 | 0.761 | 0.823 | 8.148 | -7.617 | 3.901 | -3.647 |
| 180 | 0.688 | 0.744 | 0.805 | 8.172 | -7.638 | 3.929 | -3.672 |
| 181 | 0.672 | 0.728 | 0.788 | 8.196 | -7.658 | 3.957 | -3.697 |
| 182 | 0.658 | 0.712 | 0.771 | 8.220 | -7.678 | 3.985 | -3.722 |
| 183 | 0.643 | 0.697 | 0.754 | 8.243 | -7.699 | 4.013 | -3.747 |
| 184 | 0.629 | 0.682 | 0.738 | 8.267 | -7.719 | 4.041 | -3.773 |
| 185 | 0.615 | 0.667 | 0.722 | 8.290 | -7.739 | 4.069 | -3.798 |
| 186 | 0.602 | 0.653 | 0.707 | 8.314 | -7.759 | 4.097 | -3.824 |
| 187 | 0.589 | 0.639 | 0.692 | 8.337 | -7.779 | 4.125 | -3.849 |
| 188 | 0.577 | 0.625 | 0.678 | 8.360 | -7.798 | 4.154 | -3.875 |
| 189 | 0.564 | 0.612 | 0.663 | 8.384 | -7.818 | 4.182 | -3.900 |
| 190 | 0.552 | 0.599 | 0.650 | 8.407 | -7.838 | 4.211 | -3.926 |
| 191 | 0.541 | 0.587 | 0.636 | 8.430 | -7.857 | 4.240 | -3.952 |
| 192 | 0.529 | 0.574 | 0.623 | 8.452 | -7.877 | 4.269 | -3.978 |
| 193 | 0.518 | 0.562 | 0.610 | 8.475 | -7.896 | 4.298 | -4.004 |
| 194 | 0.507 | 0.551 | 0.598 | 8.498 | -7.915 | 4.326 | -4.030 |
| 195 | 0.497 | 0.539 | 0.585 | 8.521 | -7.935 | 4.356 | -4.056 |



附表:2

南京时恒电阻误差曲线图

