



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 MF52 珠状测温型 NTC 热敏电阻器

产品规格:

PART NUMBER MF52 A 503 J 3950 (A1) (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

MF52 珠状测温型 NTC 热敏电阻器

型号: MF52A 503J3950 (A1)

本规格书提供了南京时恒电子科技有限公司生产的 MF52A 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。
对本规格书产生疑问时, 请速与我们取得联系 (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, 请与我们取得联系。

客户名称:

客户
确认

确认:
审核:

时间:
时间:

1. 电气性能

| 项目 | 项目 | 符号 | 测试条件 | 单位 | 性能要求 |
|-----|--------------|--------------------------|---|------------------------------|--|
| 1.1 | 25°C 的零功率电阻值 | $R_{25^{\circ}\text{C}}$ | $T_a=25\pm 0.05^{\circ}\text{C}$ 测试功率 $\leq 0.1\text{mW}$ | $\text{K}\Omega$ | $50\text{K}\Omega \pm 5\%$ |
| 1.2 | B 值 | $B_{25/50}$ | $B=[(T_a \times T_b)/(T_b - T_a)] \times \ln(R_a/R_b)$ $T_b=50^{\circ}\text{C} \pm 0.01^{\circ}\text{C}$ | K | $3950 \pm 1\%$ |
| 1.3 | 耗散系数 | δ | 静止空气中 | $\text{mW}/^{\circ}\text{C}$ | ≥ 2 |
| 1.4 | 时间常数 | τ | 静止空气中 | sec | ≤ 7 |
| 1.5 | 绝缘电阻 | / | 100V/DC 1min | $\text{M}\Omega$ | ≥ 100 |
| 1.6 | 工作温度范围 | / | / | $^{\circ}\text{C}$ | $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ |
| 1.7 | 最大额定功率 | P_{max} | / | mW | 50 |
| 1.8 | 阻温特性 | / | / | / | 见附表 1 |
| 1.9 | 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: $5 \pm 1\text{N}$, 时间: 10 ± 1 秒 | 无可见性损伤 $R_{25} \Delta R/R \leq \pm 2\%$ |
| 2.2 可焊性 | 温度 $245 \pm 5^{\circ}\text{C}$ 时间 2-3 秒 | 着锡面积 $\geq 95\%$ |
| 2.3 耐焊接热 | 锡锅温度: $260 \pm 5^{\circ}\text{C}$, 浸入深度距电阻体 6mm, 时间 5 ± 1 秒 | $R_{25} \Delta R/R \leq \pm 2\%$ |
| 2.4 稳态湿热 | 温度: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 湿度: $93 \pm 2\%$, 时间: 500 小时 | $R_{25} \Delta R/R \leq \pm 2\%$ |
| 2.5 温度快速变化 | $-55^{\circ}\text{C} 30\text{min} \rightarrow 25^{\circ}\text{C} 5\text{min} \rightarrow 125^{\circ}\text{C} 30\text{min} \rightarrow 25^{\circ}\text{C} 5\text{min}$, 反复 5 次 | $R_{25} \Delta R/R \leq \pm 2\%$ |
| 2.6 高温储存 | 温度: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 时间: 1000 小时 | $R_{25} \Delta R/R \leq \pm 2\%$ |
| 2.7 低温储存 | 温度: -55°C 时间: 1000 小时 | $R_{25} \Delta R/R \leq \pm 2\%$ |

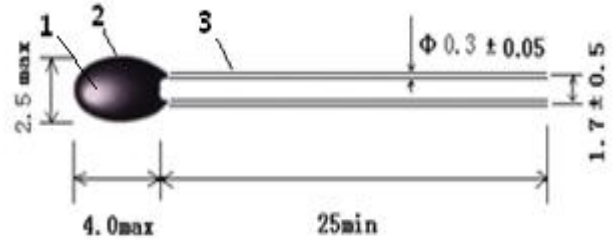
3. 使用注意事项

- 本产品的用途: 温度测量与控制;
- 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;
- 烙铁焊接时, 焊接处距涂装层距离至少 2mm, 焊接温度应低于 300°C , 焊接时间 $< 3\text{ses}$;
- 储存温度: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; 储存湿度: $\leq 75\% \text{RH}$;
- 避免存放在具有腐蚀性气体及光照的环境下;
- 包装打开后需重新密封保存。

4. 认证

- 质量管理体系认证 ISO9001:2008 (01115Q20270R5M)
ISO/TS16949: 2009 (0192416)
- 环境管理体系认证 ISO14001:2004(01113E20060R2M)
- 环保检测报告 ROHS
- 产品 CQC 认证 (CQC10001052282)
- 江苏省高新技术产品认证 (120115G0179N)

5. 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 | 改性树脂 | 封装类树脂 | 1 | 黑色 |
| 3 | 导线 | 镀锡铜包钢线 | 2 | 银色 |

6. 产品型号说明

MF52 A1 503 J 3950 A1
① ② ③ ④ ⑤ ⑥

- MF52: 珠状精密性 NTC 热敏电阻
- A1: 引线为镀锡铜包钢线
- 503: 25°C 的零功率电阻值 $50\text{K}\Omega$
- J: 阻值精度代码 F- $\pm 1\%$ G- $\pm 2\%$ H- $\pm 3\%$ J- $\pm 5\%$
- 3950: $B_{25/50}$ 值 3950K
- A1: 小头

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南京时恒阻温特性表

R25=50K Ω 精度:±5% B25/50=3950K B25/85=4091K 精度:±1%(P182-6B)

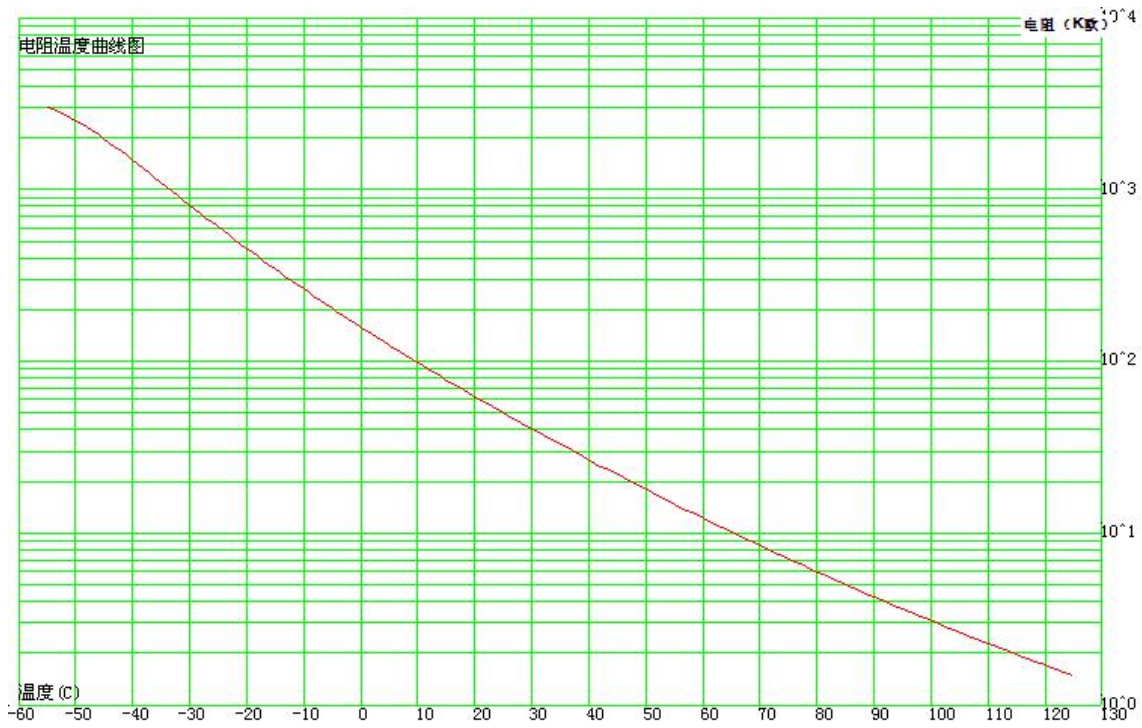
| 温度(°C) | 电阻(K Ω) | | | 电阻精度(%) | | 温度精度(°C) | |
|--------|-----------------|----------|----------|------------|-------------|------------|-------------|
| | 最小值 | 中心值 | 最大值 | ΔR | $-\Delta R$ | ΔT | $-\Delta T$ |
| -55 | 2763.660 | 3031.010 | 3315.920 | 9.399 | -8.820 | 1.340 | -1.257 |
| -54 | 2684.430 | 2943.250 | 3218.960 | 9.367 | -8.793 | 1.334 | -1.252 |
| -53 | 2596.720 | 2846.130 | 3111.700 | 9.330 | -8.763 | 1.329 | -1.248 |
| -52 | 2502.630 | 2741.980 | 2996.710 | 9.289 | -8.729 | 1.325 | -1.245 |
| -51 | 2404.040 | 2632.890 | 2876.320 | 9.245 | -8.691 | 1.320 | -1.241 |
| -50 | 2302.610 | 2520.700 | 2752.560 | 9.198 | -8.652 | 1.317 | -1.238 |
| -49 | 2199.770 | 2407.010 | 2627.200 | 9.147 | -8.610 | 1.313 | -1.236 |
| -48 | 2096.750 | 2293.180 | 2501.740 | 9.094 | -8.565 | 1.310 | -1.234 |
| -47 | 1994.570 | 2180.330 | 2377.420 | 9.039 | -8.519 | 1.307 | -1.232 |
| -46 | 1894.080 | 2069.390 | 2255.280 | 8.982 | -8.471 | 1.305 | -1.230 |
| -45 | 1795.930 | 1961.100 | 2136.120 | 8.924 | -8.422 | 1.302 | -1.229 |
| -44 | 1700.650 | 1856.050 | 2020.570 | 8.864 | -8.372 | 1.300 | -1.228 |
| -43 | 1608.650 | 1754.650 | 1909.110 | 8.803 | -8.320 | 1.298 | -1.227 |
| -42 | 1520.190 | 1657.220 | 1802.070 | 8.741 | -8.268 | 1.296 | -1.226 |
| -41 | 1435.480 | 1563.960 | 1699.680 | 8.678 | -8.215 | 1.295 | -1.226 |
| -40 | 1354.610 | 1475.000 | 1602.060 | 8.614 | -8.161 | 1.293 | -1.225 |
| -39 | 1277.650 | 1390.370 | 1509.250 | 8.550 | -8.107 | 1.292 | -1.225 |
| -38 | 1204.570 | 1310.060 | 1421.230 | 8.485 | -8.052 | 1.291 | -1.225 |
| -37 | 1135.340 | 1234.030 | 1337.940 | 8.420 | -7.997 | 1.289 | -1.224 |
| -36 | 1069.860 | 1162.160 | 1259.270 | 8.355 | -7.942 | 1.288 | -1.224 |
| -35 | 1008.030 | 1094.340 | 1185.070 | 8.290 | -7.886 | 1.287 | -1.224 |
| -34 | 949.735 | 1030.430 | 1115.190 | 8.225 | -7.831 | 1.286 | -1.224 |
| -33 | 894.817 | 970.264 | 1049.440 | 8.160 | -7.775 | 1.285 | -1.224 |
| -32 | 843.134 | 913.673 | 987.640 | 8.095 | -7.720 | 1.284 | -1.225 |
| -31 | 794.532 | 860.490 | 929.593 | 8.030 | -7.665 | 1.283 | -1.225 |
| -30 | 748.857 | 810.538 | 875.106 | 7.966 | -7.609 | 1.282 | -1.225 |
| -29 | 705.953 | 763.645 | 823.986 | 7.901 | -7.554 | 1.281 | -1.225 |
| -28 | 665.666 | 719.638 | 776.041 | 7.837 | -7.499 | 1.280 | -1.225 |
| -27 | 627.847 | 678.352 | 731.087 | 7.774 | -7.445 | 1.279 | -1.225 |
| -26 | 592.351 | 639.624 | 688.944 | 7.710 | -7.390 | 1.278 | -1.225 |
| -25 | 559.037 | 603.300 | 649.438 | 7.647 | -7.336 | 1.277 | -1.225 |
| -24 | 527.774 | 569.230 | 612.407 | 7.585 | -7.282 | 1.276 | -1.226 |
| -23 | 498.432 | 537.273 | 577.692 | 7.523 | -7.229 | 1.275 | -1.226 |
| -22 | 470.891 | 507.295 | 545.145 | 7.461 | -7.175 | 1.274 | -1.226 |
| -21 | 445.037 | 479.168 | 514.627 | 7.400 | -7.122 | 1.273 | -1.226 |
| -20 | 420.761 | 452.774 | 486.004 | 7.339 | -7.070 | 1.272 | -1.226 |
| -19 | 397.962 | 427.999 | 459.153 | 7.278 | -7.018 | 1.271 | -1.225 |
| -18 | 376.544 | 404.738 | 433.956 | 7.218 | -6.966 | 1.270 | -1.225 |
| -17 | 356.417 | 382.892 | 410.304 | 7.159 | -6.914 | 1.269 | -1.225 |

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|-----|---------|---------|---------|-------|--------|-------|--------|
| -16 | 337.497 | 362.367 | 388.096 | 7.100 | -6.863 | 1.267 | -1.225 |
| -15 | 319.706 | 343.077 | 367.236 | 7.041 | -6.812 | 1.266 | -1.225 |
| -14 | 302.970 | 324.941 | 347.634 | 6.983 | -6.761 | 1.264 | -1.224 |
| -13 | 287.221 | 307.884 | 329.208 | 6.926 | -6.711 | 1.263 | -1.224 |
| -12 | 272.394 | 291.834 | 311.879 | 6.868 | -6.661 | 1.261 | -1.223 |
| -11 | 258.430 | 276.726 | 295.577 | 6.812 | -6.611 | 1.260 | -1.223 |
| -10 | 245.273 | 262.500 | 280.233 | 6.755 | -6.562 | 1.258 | -1.222 |
| -9 | 232.872 | 249.097 | 265.785 | 6.699 | -6.513 | 1.256 | -1.221 |
| -8 | 221.178 | 236.464 | 252.176 | 6.644 | -6.464 | 1.254 | -1.221 |
| -7 | 210.145 | 224.554 | 239.350 | 6.589 | -6.416 | 1.253 | -1.220 |
| -6 | 199.733 | 213.318 | 227.257 | 6.534 | -6.368 | 1.251 | -1.219 |
| -5 | 189.902 | 202.715 | 215.851 | 6.480 | -6.320 | 1.249 | -1.218 |
| -4 | 180.616 | 192.704 | 205.088 | 6.426 | -6.273 | 1.246 | -1.217 |
| -3 | 171.840 | 183.249 | 194.927 | 6.372 | -6.225 | 1.244 | -1.216 |
| -2 | 163.543 | 174.314 | 185.330 | 6.319 | -6.179 | 1.242 | -1.214 |
| -1 | 155.697 | 165.869 | 176.263 | 6.266 | -6.132 | 1.240 | -1.213 |
| 0 | 148.299 | 157.910 | 167.723 | 6.214 | -6.086 | 1.237 | -1.212 |
| 1 | 141.245 | 150.324 | 159.588 | 6.162 | -6.040 | 1.235 | -1.210 |
| 2 | 134.590 | 143.172 | 151.921 | 6.110 | -5.994 | 1.232 | -1.209 |
| 3 | 128.286 | 136.400 | 144.665 | 6.059 | -5.948 | 1.230 | -1.207 |
| 4 | 122.312 | 129.985 | 137.795 | 6.007 | -5.903 | 1.227 | -1.206 |
| 5 | 116.648 | 123.907 | 131.289 | 5.957 | -5.858 | 1.224 | -1.204 |
| 6 | 111.277 | 118.145 | 125.124 | 5.906 | -5.813 | 1.221 | -1.202 |
| 7 | 106.181 | 112.681 | 119.281 | 5.856 | -5.768 | 1.219 | -1.200 |
| 8 | 101.344 | 107.498 | 113.740 | 5.806 | -5.724 | 1.216 | -1.198 |
| 9 | 96.753 | 102.580 | 108.485 | 5.757 | -5.680 | 1.213 | -1.196 |
| 10 | 92.507 | 98.034 | 103.631 | 5.709 | -5.637 | 1.207 | -1.192 |
| 11 | 88.249 | 93.477 | 98.767 | 5.659 | -5.592 | 1.206 | -1.192 |
| 12 | 84.312 | 89.265 | 94.273 | 5.610 | -5.549 | 1.203 | -1.190 |
| 13 | 80.569 | 85.263 | 90.005 | 5.561 | -5.505 | 1.200 | -1.188 |
| 14 | 77.009 | 81.459 | 85.951 | 5.513 | -5.462 | 1.196 | -1.185 |
| 15 | 73.624 | 77.842 | 82.097 | 5.465 | -5.419 | 1.193 | -1.183 |
| 16 | 70.402 | 74.403 | 78.434 | 5.418 | -5.376 | 1.189 | -1.180 |
| 17 | 67.336 | 71.130 | 74.951 | 5.370 | -5.334 | 1.186 | -1.178 |
| 18 | 64.417 | 68.016 | 71.637 | 5.323 | -5.291 | 1.182 | -1.175 |
| 19 | 61.637 | 65.052 | 68.485 | 5.276 | -5.249 | 1.178 | -1.172 |
| 20 | 58.989 | 62.230 | 65.484 | 5.230 | -5.207 | 1.175 | -1.169 |
| 21 | 56.466 | 59.542 | 62.628 | 5.183 | -5.165 | 1.171 | -1.167 |
| 22 | 54.062 | 56.981 | 59.909 | 5.137 | -5.124 | 1.167 | -1.164 |
| 23 | 51.769 | 54.542 | 57.318 | 5.091 | -5.082 | 1.163 | -1.161 |
| 24 | 49.584 | 52.216 | 54.851 | 5.045 | -5.041 | 1.159 | -1.158 |
| 25 | 47.500 | 50.000 | 52.500 | 5.000 | -5.000 | 1.156 | -1.156 |
| 26 | 45.472 | 47.886 | 50.302 | 5.045 | -5.041 | 1.171 | -1.170 |
| 27 | 43.539 | 45.870 | 48.205 | 5.090 | -5.081 | 1.188 | -1.186 |
| 28 | 41.696 | 43.947 | 46.204 | 5.135 | -5.122 | 1.206 | -1.202 |

| | | | | | | | |
|----|--------|--------|--------|-------|--------|-------|--------|
| 29 | 39.938 | 42.112 | 44.294 | 5.180 | -5.162 | 1.223 | -1.219 |
| 30 | 38.261 | 40.361 | 42.470 | 5.225 | -5.203 | 1.240 | -1.235 |
| 31 | 36.661 | 38.689 | 40.728 | 5.269 | -5.243 | 1.257 | -1.251 |
| 32 | 35.134 | 37.094 | 39.065 | 5.313 | -5.283 | 1.275 | -1.267 |
| 33 | 33.676 | 35.570 | 37.476 | 5.358 | -5.322 | 1.292 | -1.284 |
| 34 | 32.285 | 34.114 | 35.957 | 5.402 | -5.362 | 1.310 | -1.300 |
| 35 | 30.956 | 32.724 | 34.506 | 5.446 | -5.401 | 1.327 | -1.317 |
| 36 | 29.687 | 31.396 | 33.119 | 5.489 | -5.441 | 1.345 | -1.333 |
| 37 | 28.475 | 30.126 | 31.793 | 5.533 | -5.480 | 1.363 | -1.350 |
| 38 | 27.317 | 28.913 | 30.525 | 5.576 | -5.518 | 1.381 | -1.367 |
| 39 | 26.211 | 27.753 | 29.313 | 5.619 | -5.557 | 1.399 | -1.383 |
| 40 | 25.153 | 26.644 | 28.153 | 5.662 | -5.596 | 1.417 | -1.400 |
| 41 | 24.142 | 25.584 | 27.044 | 5.705 | -5.634 | 1.435 | -1.417 |
| 42 | 23.176 | 24.570 | 25.982 | 5.748 | -5.672 | 1.453 | -1.434 |
| 43 | 22.252 | 23.600 | 24.966 | 5.791 | -5.710 | 1.472 | -1.451 |
| 44 | 21.368 | 22.671 | 23.994 | 5.833 | -5.748 | 1.490 | -1.468 |
| 45 | 20.523 | 21.783 | 23.063 | 5.876 | -5.786 | 1.509 | -1.486 |
| 46 | 19.714 | 20.933 | 22.172 | 5.918 | -5.823 | 1.527 | -1.503 |
| 47 | 18.940 | 20.120 | 21.319 | 5.960 | -5.860 | 1.546 | -1.520 |
| 48 | 18.200 | 19.341 | 20.502 | 6.002 | -5.898 | 1.565 | -1.538 |
| 49 | 17.491 | 18.595 | 19.719 | 6.043 | -5.935 | 1.584 | -1.556 |
| 50 | 16.869 | 17.940 | 19.031 | 6.081 | -5.968 | 1.607 | -1.577 |
| 51 | 16.164 | 17.197 | 18.251 | 6.126 | -6.008 | 1.622 | -1.591 |
| 52 | 15.542 | 16.542 | 17.562 | 6.167 | -6.045 | 1.641 | -1.609 |
| 53 | 14.946 | 15.914 | 16.902 | 6.208 | -6.081 | 1.661 | -1.627 |
| 54 | 14.376 | 15.313 | 16.270 | 6.249 | -6.117 | 1.680 | -1.645 |
| 55 | 13.830 | 14.736 | 15.663 | 6.290 | -6.153 | 1.700 | -1.663 |
| 56 | 13.306 | 14.184 | 15.082 | 6.331 | -6.189 | 1.719 | -1.681 |
| 57 | 12.804 | 13.654 | 14.525 | 6.371 | -6.225 | 1.739 | -1.699 |
| 58 | 12.324 | 13.147 | 13.990 | 6.412 | -6.260 | 1.759 | -1.717 |
| 59 | 11.863 | 12.660 | 13.477 | 6.452 | -6.295 | 1.779 | -1.736 |
| 60 | 11.421 | 12.193 | 12.985 | 6.492 | -6.331 | 1.799 | -1.754 |
| 61 | 10.998 | 11.746 | 12.513 | 6.532 | -6.366 | 1.819 | -1.773 |
| 62 | 10.592 | 11.316 | 12.060 | 6.571 | -6.401 | 1.839 | -1.791 |
| 63 | 10.202 | 10.904 | 11.625 | 6.611 | -6.435 | 1.859 | -1.810 |
| 64 | 9.829 | 10.509 | 11.208 | 6.650 | -6.470 | 1.880 | -1.829 |
| 65 | 9.470 | 10.129 | 10.807 | 6.689 | -6.504 | 1.900 | -1.848 |
| 66 | 9.126 | 9.765 | 10.422 | 6.728 | -6.538 | 1.921 | -1.867 |
| 67 | 8.797 | 9.415 | 10.053 | 6.767 | -6.572 | 1.942 | -1.886 |
| 68 | 8.480 | 9.080 | 9.698 | 6.806 | -6.606 | 1.963 | -1.905 |
| 69 | 8.176 | 8.758 | 9.357 | 6.845 | -6.640 | 1.984 | -1.924 |
| 70 | 7.884 | 8.448 | 9.030 | 6.883 | -6.674 | 2.005 | -1.944 |
| 71 | 7.604 | 8.151 | 8.715 | 6.921 | -6.707 | 2.026 | -1.963 |
| 72 | 7.335 | 7.865 | 8.413 | 6.960 | -6.740 | 2.047 | -1.983 |
| 73 | 7.077 | 7.591 | 8.122 | 6.998 | -6.773 | 2.068 | -2.002 |

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|-----|-------|-------|-------|-------|--------|-------|--------|
| 74 | 6.829 | 7.327 | 7.843 | 7.035 | -6.806 | 2.090 | -2.022 |
| 75 | 6.590 | 7.074 | 7.574 | 7.073 | -6.839 | 2.111 | -2.042 |
| 76 | 6.361 | 6.831 | 7.316 | 7.111 | -6.872 | 2.133 | -2.061 |
| 77 | 6.141 | 6.597 | 7.068 | 7.148 | -6.904 | 2.155 | -2.081 |
| 78 | 5.930 | 6.372 | 6.829 | 7.185 | -6.937 | 2.177 | -2.101 |
| 79 | 5.726 | 6.155 | 6.600 | 7.222 | -6.969 | 2.199 | -2.122 |
| 80 | 5.531 | 5.947 | 6.379 | 7.259 | -7.001 | 2.221 | -2.142 |
| 81 | 5.343 | 5.747 | 6.166 | 7.296 | -7.033 | 2.243 | -2.162 |
| 82 | 5.162 | 5.554 | 5.962 | 7.332 | -7.064 | 2.265 | -2.182 |
| 83 | 4.988 | 5.369 | 5.765 | 7.369 | -7.096 | 2.288 | -2.203 |
| 84 | 4.821 | 5.191 | 5.575 | 7.405 | -7.127 | 2.310 | -2.224 |
| 85 | 4.660 | 5.020 | 5.393 | 7.441 | -7.158 | 2.333 | -2.244 |
| 86 | 4.505 | 4.854 | 5.217 | 7.477 | -7.189 | 2.356 | -2.265 |
| 87 | 4.356 | 4.695 | 5.048 | 7.513 | -7.220 | 2.378 | -2.286 |
| 88 | 4.213 | 4.542 | 4.885 | 7.548 | -7.251 | 2.401 | -2.307 |
| 89 | 4.075 | 4.395 | 4.729 | 7.584 | -7.281 | 2.424 | -2.328 |
| 90 | 3.942 | 4.253 | 4.577 | 7.619 | -7.312 | 2.448 | -2.349 |
| 91 | 3.814 | 4.117 | 4.432 | 7.654 | -7.342 | 2.471 | -2.370 |
| 92 | 3.691 | 3.985 | 4.291 | 7.689 | -7.372 | 2.494 | -2.391 |
| 93 | 3.572 | 3.858 | 4.156 | 7.724 | -7.402 | 2.518 | -2.413 |
| 94 | 3.458 | 3.736 | 4.026 | 7.759 | -7.432 | 2.541 | -2.434 |
| 95 | 3.348 | 3.618 | 3.900 | 7.793 | -7.462 | 2.565 | -2.456 |
| 96 | 3.242 | 3.504 | 3.779 | 7.828 | -7.491 | 2.589 | -2.477 |
| 97 | 3.140 | 3.395 | 3.662 | 7.862 | -7.521 | 2.613 | -2.499 |
| 98 | 3.041 | 3.289 | 3.549 | 7.896 | -7.550 | 2.637 | -2.521 |
| 99 | 2.946 | 3.188 | 3.441 | 7.930 | -7.579 | 2.661 | -2.543 |
| 100 | 2.854 | 3.090 | 3.336 | 7.964 | -7.608 | 2.685 | -2.565 |
| 101 | 2.766 | 2.995 | 3.234 | 7.997 | -7.636 | 2.709 | -2.587 |
| 102 | 2.681 | 2.903 | 3.137 | 8.031 | -7.665 | 2.734 | -2.609 |
| 103 | 2.599 | 2.815 | 3.042 | 8.064 | -7.694 | 2.758 | -2.631 |
| 104 | 2.519 | 2.730 | 2.951 | 8.097 | -7.722 | 2.783 | -2.654 |
| 105 | 2.443 | 2.648 | 2.863 | 8.130 | -7.750 | 2.807 | -2.676 |
| 106 | 2.369 | 2.569 | 2.779 | 8.163 | -7.778 | 2.832 | -2.699 |
| 107 | 2.298 | 2.492 | 2.697 | 8.196 | -7.806 | 2.857 | -2.721 |
| 108 | 2.229 | 2.418 | 2.618 | 8.228 | -7.834 | 2.882 | -2.744 |
| 109 | 2.163 | 2.347 | 2.541 | 8.261 | -7.861 | 2.907 | -2.767 |
| 110 | 2.098 | 2.278 | 2.467 | 8.293 | -7.889 | 2.933 | -2.790 |
| 111 | 2.036 | 2.212 | 2.396 | 8.325 | -7.916 | 2.958 | -2.813 |
| 112 | 1.977 | 2.147 | 2.327 | 8.357 | -7.943 | 2.984 | -2.836 |
| 113 | 1.919 | 2.085 | 2.260 | 8.389 | -7.970 | 3.009 | -2.859 |
| 114 | 1.863 | 2.025 | 2.196 | 8.421 | -7.997 | 3.035 | -2.882 |
| 115 | 1.809 | 1.967 | 2.133 | 8.452 | -8.024 | 3.061 | -2.906 |
| 116 | 1.757 | 1.911 | 2.073 | 8.483 | -8.050 | 3.087 | -2.929 |
| 117 | 1.707 | 1.857 | 2.015 | 8.515 | -8.077 | 3.113 | -2.952 |
| 118 | 1.658 | 1.804 | 1.958 | 8.546 | -8.103 | 3.139 | -2.976 |

| | | | | | | | |
|-----|-------|-------|-------|-------|--------|-------|--------|
| 119 | 1.611 | 1.753 | 1.904 | 8.577 | -8.130 | 3.165 | -3.000 |
| 120 | 1.565 | 1.704 | 1.851 | 8.608 | -8.156 | 3.191 | -3.024 |
| 121 | 1.521 | 1.657 | 1.800 | 8.638 | -8.182 | 3.218 | -3.047 |
| 122 | 1.478 | 1.611 | 1.750 | 8.669 | -8.207 | 3.244 | -3.071 |
| 123 | 1.437 | 1.566 | 1.703 | 8.699 | -8.233 | 3.271 | -3.095 |
| 124 | 1.397 | 1.523 | 1.656 | 8.730 | -8.259 | 3.297 | -3.119 |
| 125 | 1.359 | 1.482 | 1.611 | 8.760 | -8.284 | 3.324 | -3.144 |



南京时恒阻值误差曲线图

