



## NTC THERMISTOR R-T CHARACTERISTICS

|      |              |
|------|--------------|
| TYPE | GR15-6P493F* |
|------|--------------|

|         |         |         |
|---------|---------|---------|
| T0 (°C) | T1 (°C) | T2 (°C) |
| 25      | 25      | 50      |

|               |         |                 |       |                 |       |
|---------------|---------|-----------------|-------|-----------------|-------|
| R at T0°C     | 49120 Ω | R+TOLERANCE (%) | 1     | R-TOLERANCE (%) | 1     |
| B (T1°C/T2°C) | 3948 K  | B+TOLERANCE (K) | 39.48 | B-TOLERANCE (K) | 39.48 |

| T (°C) | Rmin (Ω)  | Rnom (Ω)  | Rmax (Ω)  |
|--------|-----------|-----------|-----------|
| 50     | 1.728E+04 | 1.763E+04 | 1.799E+04 |
| 51     | 1.663E+04 | 1.698E+04 | 1.733E+04 |
| 52     | 1.601E+04 | 1.635E+04 | 1.669E+04 |
| 53     | 1.541E+04 | 1.574E+04 | 1.608E+04 |
| 54     | 1.484E+04 | 1.517E+04 | 1.550E+04 |
| 55     | 1.429E+04 | 1.461E+04 | 1.494E+04 |
| 56     | 1.377E+04 | 1.408E+04 | 1.440E+04 |
| 57     | 1.327E+04 | 1.358E+04 | 1.389E+04 |
| 58     | 1.279E+04 | 1.309E+04 | 1.339E+04 |
| 59     | 1.233E+04 | 1.262E+04 | 1.292E+04 |
| 60     | 1.189E+04 | 1.217E+04 | 1.247E+04 |
| 61     | 1.146E+04 | 1.174E+04 | 1.203E+04 |
| 62     | 1.106E+04 | 1.133E+04 | 1.161E+04 |
| 63     | 1.067E+04 | 1.094E+04 | 1.121E+04 |
| 64     | 1.029E+04 | 1.056E+04 | 1.083E+04 |
| 65     | 9.933E+03 | 1.019E+04 | 1.046E+04 |
| 66     | 9.588E+03 | 9.841E+03 | 1.010E+04 |
| 67     | 9.257E+03 | 9.505E+03 | 9.758E+03 |
| 68     | 8.939E+03 | 9.182E+03 | 9.429E+03 |
| 69     | 8.634E+03 | 8.871E+03 | 9.114E+03 |
| 70     | 8.341E+03 | 8.572E+03 | 8.810E+03 |
| 71     | 8.059E+03 | 8.285E+03 | 8.518E+03 |
| 72     | 7.788E+03 | 8.009E+03 | 8.237E+03 |
| 73     | 7.527E+03 | 7.744E+03 | 7.966E+03 |
| 74     | 7.276E+03 | 7.489E+03 | 7.706E+03 |
| 75     | 7.035E+03 | 7.243E+03 | 7.456E+03 |
| 76     | 6.804E+03 | 7.007E+03 | 7.215E+03 |
| 77     | 6.581E+03 | 6.779E+03 | 6.983E+03 |
| 78     | 6.366E+03 | 6.560E+03 | 6.759E+03 |
| 79     | 6.159E+03 | 6.349E+03 | 6.544E+03 |
| 80     | 5.960E+03 | 6.146E+03 | 6.337E+03 |
| 81     | 5.769E+03 | 5.950E+03 | 6.137E+03 |
| 82     | 5.584E+03 | 5.762E+03 | 5.945E+03 |
| 83     | 5.407E+03 | 5.580E+03 | 5.759E+03 |
| 84     | 5.236E+03 | 5.405E+03 | 5.580E+03 |
| 85     | 5.071E+03 | 5.237E+03 | 5.408E+03 |
| 86     | 4.912E+03 | 5.074E+03 | 5.241E+03 |
| 87     | 4.758E+03 | 4.917E+03 | 5.081E+03 |
| 88     | 4.611E+03 | 4.766E+03 | 4.926E+03 |
| 89     | 4.468E+03 | 4.620E+03 | 4.777E+03 |
| 90     | 4.331E+03 | 4.480E+03 | 4.633E+03 |
| 91     | 4.198E+03 | 4.344E+03 | 4.494E+03 |
| 92     | 4.071E+03 | 4.213E+03 | 4.360E+03 |
| 93     | 3.947E+03 | 4.086E+03 | 4.230E+03 |
| 94     | 3.828E+03 | 3.964E+03 | 4.105E+03 |
| 95     | 3.713E+03 | 3.846E+03 | 3.984E+03 |
| 96     | 3.602E+03 | 3.733E+03 | 3.867E+03 |
| 97     | 3.495E+03 | 3.623E+03 | 3.754E+03 |
| 98     | 3.392E+03 | 3.517E+03 | 3.645E+03 |
| 99     | 3.292E+03 | 3.414E+03 | 3.540E+03 |
| 100    | 3.196E+03 | 3.315E+03 | 3.438E+03 |

| T (°C) | Rmin (Ω)  | Rnom (Ω)  | Rmax (Ω)  |
|--------|-----------|-----------|-----------|
| 100    | 3.196E+03 | 3.315E+03 | 3.438E+03 |
| 101    | 3.102E+03 | 3.219E+03 | 3.340E+03 |
| 102    | 3.012E+03 | 3.126E+03 | 3.245E+03 |
| 103    | 2.925E+03 | 3.037E+03 | 3.153E+03 |
| 104    | 2.841E+03 | 2.950E+03 | 3.064E+03 |
| 105    | 2.760E+03 | 2.867E+03 | 2.978E+03 |
| 106    | 2.681E+03 | 2.786E+03 | 2.894E+03 |
| 107    | 2.605E+03 | 2.707E+03 | 2.814E+03 |
| 108    | 2.531E+03 | 2.632E+03 | 2.736E+03 |
| 109    | 2.460E+03 | 2.558E+03 | 2.660E+03 |
| 110    | 2.391E+03 | 2.488E+03 | 2.587E+03 |
| 111    | 2.325E+03 | 2.419E+03 | 2.517E+03 |
| 112    | 2.260E+03 | 2.352E+03 | 2.448E+03 |
| 113    | 2.198E+03 | 2.288E+03 | 2.382E+03 |
| 114    | 2.137E+03 | 2.226E+03 | 2.317E+03 |
| 115    | 2.079E+03 | 2.165E+03 | 2.255E+03 |
| 116    | 2.022E+03 | 2.107E+03 | 2.195E+03 |
| 117    | 1.967E+03 | 2.050E+03 | 2.137E+03 |
| 118    | 1.914E+03 | 1.996E+03 | 2.080E+03 |
| 119    | 1.863E+03 | 1.942E+03 | 2.025E+03 |
| 120    | 1.813E+03 | 1.891E+03 | 1.972E+03 |
| 121    | 1.765E+03 | 1.841E+03 | 1.920E+03 |
| 122    | 1.718E+03 | 1.793E+03 | 1.870E+03 |
| 123    | 1.673E+03 | 1.746E+03 | 1.822E+03 |
| 124    | 1.629E+03 | 1.700E+03 | 1.775E+03 |
| 125    | 1.586E+03 | 1.656E+03 | 1.729E+03 |
| 126    | 1.545E+03 | 1.613E+03 | 1.685E+03 |
| 127    | 1.504E+03 | 1.572E+03 | 1.642E+03 |
| 128    | 1.466E+03 | 1.532E+03 | 1.600E+03 |
| 129    | 1.428E+03 | 1.492E+03 | 1.560E+03 |
| 130    | 1.391E+03 | 1.455E+03 | 1.521E+03 |
| 131    | 1.356E+03 | 1.418E+03 | 1.483E+03 |
| 132    | 1.321E+03 | 1.382E+03 | 1.446E+03 |
| 133    | 1.288E+03 | 1.347E+03 | 1.410E+03 |
| 134    | 1.255E+03 | 1.314E+03 | 1.375E+03 |
| 135    | 1.224E+03 | 1.281E+03 | 1.341E+03 |
| 136    | 1.193E+03 | 1.249E+03 | 1.308E+03 |
| 137    | 1.164E+03 | 1.219E+03 | 1.276E+03 |
| 138    | 1.135E+03 | 1.189E+03 | 1.245E+03 |
| 139    | 1.107E+03 | 1.160E+03 | 1.215E+03 |
| 140    | 1.080E+03 | 1.131E+03 | 1.186E+03 |
| 141    | 1.053E+03 | 1.104E+03 | 1.157E+03 |
| 142    | 1.028E+03 | 1.078E+03 | 1.130E+03 |
| 143    | 1.003E+03 | 1.052E+03 | 1.103E+03 |
| 144    | 9.787E+02 | 1.027E+03 | 1.077E+03 |
| 145    | 9.553E+02 | 1.002E+03 | 1.052E+03 |
| 146    | 9.324E+02 | 9.786E+02 | 1.027E+03 |
| 147    | 9.103E+02 | 9.555E+02 | 1.003E+03 |
| 148    | 8.887E+02 | 9.331E+02 | 9.796E+02 |
| 149    | 8.678E+02 | 9.113E+02 | 9.569E+02 |
| 150    | 8.474E+02 | 8.901E+02 | 9.348E+02 |

## NTC THERMISTOR R-T CHARACTERISTICS

|      |              |
|------|--------------|
| TYPE | GR15-6P493F* |
|------|--------------|

|         |         |         |
|---------|---------|---------|
| T0 (°C) | T1 (°C) | T2 (°C) |
| 25      | 25      | 50      |

|              |         |                 |       |                 |       |
|--------------|---------|-----------------|-------|-----------------|-------|
| R at T0°C    | 49120 Ω | R+TOLERANCE (%) | 1     | R-TOLERANCE (%) | 1     |
| B(T1°C/T2°C) | 3948 K  | B+TOLERANCE (K) | 39.48 | B-TOLERANCE (K) | 39.48 |

| T (°C) | Rmin (Ω)  | Rnom (Ω)  | Rmax (Ω)  |
|--------|-----------|-----------|-----------|
| 150    | 8.474E+02 | 8.901E+02 | 9.348E+02 |
| 151    | 8.275E+02 | 8.694E+02 | 9.133E+02 |
| 152    | 8.082E+02 | 8.493E+02 | 8.924E+02 |
| 153    | 7.894E+02 | 8.298E+02 | 8.721E+02 |
| 154    | 7.712E+02 | 8.107E+02 | 8.523E+02 |
| 155    | 7.534E+02 | 7.923E+02 | 8.330E+02 |
| 156    | 7.362E+02 | 7.743E+02 | 8.143E+02 |
| 157    | 7.194E+02 | 7.568E+02 | 7.960E+02 |
| 158    | 7.030E+02 | 7.397E+02 | 7.783E+02 |
| 159    | 6.871E+02 | 7.231E+02 | 7.610E+02 |
| 160    | 6.716E+02 | 7.070E+02 | 7.442E+02 |
| 161    | 6.566E+02 | 6.913E+02 | 7.278E+02 |
| 162    | 6.419E+02 | 6.760E+02 | 7.118E+02 |
| 163    | 6.277E+02 | 6.611E+02 | 6.963E+02 |
| 164    | 6.138E+02 | 6.466E+02 | 6.812E+02 |
| 165    | 6.003E+02 | 6.325E+02 | 6.665E+02 |
| 166    | 5.871E+02 | 6.188E+02 | 6.521E+02 |
| 167    | 5.743E+02 | 6.054E+02 | 6.382E+02 |
| 168    | 5.618E+02 | 5.924E+02 | 6.245E+02 |
| 169    | 5.497E+02 | 5.797E+02 | 6.113E+02 |
| 170    | 5.378E+02 | 5.673E+02 | 5.984E+02 |
| 171    | 5.263E+02 | 5.553E+02 | 5.858E+02 |
| 172    | 5.151E+02 | 5.435E+02 | 5.735E+02 |
| 173    | 5.041E+02 | 5.321E+02 | 5.615E+02 |
| 174    | 4.934E+02 | 5.209E+02 | 5.499E+02 |
| 175    | 4.831E+02 | 5.100E+02 | 5.385E+02 |
| 176    | 4.729E+02 | 4.994E+02 | 5.274E+02 |
| 177    | 4.631E+02 | 4.891E+02 | 5.166E+02 |
| 178    | 4.534E+02 | 4.790E+02 | 5.061E+02 |
| 179    | 4.440E+02 | 4.692E+02 | 4.958E+02 |
| 180    | 4.349E+02 | 4.596E+02 | 4.858E+02 |
| 181    | 4.260E+02 | 4.503E+02 | 4.760E+02 |
| 182    | 4.173E+02 | 4.412E+02 | 4.665E+02 |
| 183    | 4.088E+02 | 4.324E+02 | 4.572E+02 |
| 184    | 4.006E+02 | 4.237E+02 | 4.481E+02 |
| 185    | 3.925E+02 | 4.152E+02 | 4.392E+02 |
| 186    | 3.846E+02 | 4.070E+02 | 4.306E+02 |
| 187    | 3.770E+02 | 3.989E+02 | 4.222E+02 |
| 188    | 3.695E+02 | 3.911E+02 | 4.139E+02 |
| 189    | 3.621E+02 | 3.834E+02 | 4.058E+02 |
| 190    | 3.550E+02 | 3.759E+02 | 3.980E+02 |
| 191    | 3.480E+02 | 3.685E+02 | 3.903E+02 |
| 192    | 3.411E+02 | 3.614E+02 | 3.827E+02 |
| 193    | 3.345E+02 | 3.544E+02 | 3.754E+02 |
| 194    | 3.279E+02 | 3.475E+02 | 3.682E+02 |
| 195    | 3.216E+02 | 3.408E+02 | 3.612E+02 |
| 196    | 3.154E+02 | 3.343E+02 | 3.544E+02 |
| 197    | 3.093E+02 | 3.280E+02 | 3.477E+02 |
| 198    | 3.034E+02 | 3.217E+02 | 3.411E+02 |
| 199    | 2.976E+02 | 3.157E+02 | 3.348E+02 |
| 200    | 2.920E+02 | 3.097E+02 | 3.285E+02 |

| T (°C) | Rmin (Ω)  | Rnom (Ω)  | Rmax (Ω)  |
|--------|-----------|-----------|-----------|
| 200    | 2.920E+02 | 3.097E+02 | 3.285E+02 |
| 201    | 2.865E+02 | 3.040E+02 | 3.225E+02 |
| 202    | 2.811E+02 | 2.983E+02 | 3.165E+02 |
| 203    | 2.759E+02 | 2.928E+02 | 3.107E+02 |
| 204    | 2.707E+02 | 2.874E+02 | 3.051E+02 |
| 205    | 2.657E+02 | 2.821E+02 | 2.995E+02 |
| 206    | 2.608E+02 | 2.770E+02 | 2.941E+02 |
| 207    | 2.560E+02 | 2.719E+02 | 2.888E+02 |
| 208    | 2.513E+02 | 2.670E+02 | 2.836E+02 |
| 209    | 2.467E+02 | 2.621E+02 | 2.785E+02 |
| 210    | 2.422E+02 | 2.574E+02 | 2.735E+02 |
| 211    | 2.378E+02 | 2.528E+02 | 2.686E+02 |
| 212    | 2.335E+02 | 2.483E+02 | 2.639E+02 |
| 213    | 2.293E+02 | 2.438E+02 | 2.592E+02 |
| 214    | 2.252E+02 | 2.395E+02 | 2.546E+02 |
| 215    | 2.212E+02 | 2.353E+02 | 2.502E+02 |
| 216    | 2.173E+02 | 2.311E+02 | 2.458E+02 |
| 217    | 2.134E+02 | 2.271E+02 | 2.415E+02 |
| 218    | 2.097E+02 | 2.231E+02 | 2.373E+02 |
| 219    | 2.060E+02 | 2.192E+02 | 2.332E+02 |
| 220    | 2.024E+02 | 2.154E+02 | 2.292E+02 |
| 221    | 1.988E+02 | 2.116E+02 | 2.253E+02 |
| 222    | 1.953E+02 | 2.080E+02 | 2.214E+02 |
| 223    | 1.919E+02 | 2.044E+02 | 2.176E+02 |
| 224    | 1.886E+02 | 2.009E+02 | 2.139E+02 |
| 225    | 1.854E+02 | 1.975E+02 | 2.103E+02 |
| 226    | 1.822E+02 | 1.941E+02 | 2.068E+02 |
| 227    | 1.791E+02 | 1.908E+02 | 2.033E+02 |
| 228    | 1.760E+02 | 1.876E+02 | 1.999E+02 |
| 229    | 1.731E+02 | 1.845E+02 | 1.966E+02 |
| 230    | 1.701E+02 | 1.814E+02 | 1.933E+02 |
| 231    | 1.673E+02 | 1.784E+02 | 1.902E+02 |
| 232    | 1.645E+02 | 1.754E+02 | 1.871E+02 |
| 233    | 1.618E+02 | 1.725E+02 | 1.840E+02 |
| 234    | 1.591E+02 | 1.697E+02 | 1.810E+02 |
| 235    | 1.565E+02 | 1.669E+02 | 1.781E+02 |
| 236    | 1.539E+02 | 1.642E+02 | 1.752E+02 |
| 237    | 1.514E+02 | 1.616E+02 | 1.724E+02 |
| 238    | 1.489E+02 | 1.590E+02 | 1.696E+02 |
| 239    | 1.465E+02 | 1.564E+02 | 1.669E+02 |
| 240    | 1.441E+02 | 1.539E+02 | 1.643E+02 |
| 241    | 1.418E+02 | 1.514E+02 | 1.617E+02 |
| 242    | 1.395E+02 | 1.490E+02 | 1.591E+02 |
| 243    | 1.373E+02 | 1.466E+02 | 1.566E+02 |
| 244    | 1.351E+02 | 1.443E+02 | 1.542E+02 |
| 245    | 1.329E+02 | 1.421E+02 | 1.518E+02 |
| 246    | 1.308E+02 | 1.398E+02 | 1.494E+02 |
| 247    | 1.288E+02 | 1.376E+02 | 1.471E+02 |
| 248    | 1.267E+02 | 1.355E+02 | 1.448E+02 |
| 249    | 1.248E+02 | 1.334E+02 | 1.426E+02 |
| 250    | 1.228E+02 | 1.313E+02 | 1.404E+02 |

