



# **NTC thermistors for temperature measurement**

Miniature sensors  
with bendable wires

**Series/Type:** B57861  
**Date:** March 2006

**Applications**

- Heating systems
- Industrial electronics
- Automotive electronics

**Features**

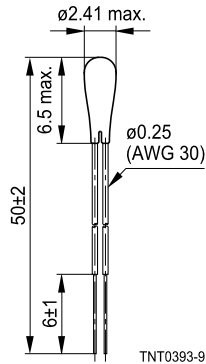
- Fast response
- High measuring accuracy
- Different tolerances available
- Epoxy resin encapsulation
- PTFE-insulated leads of silver-plated nickel wire, AWG 30
- UL approval (E69802)

**Options**

Non-standard lead lengths.  
Also available with close B value tolerance.

**Delivery mode**

Bulk

**Dimensional drawing**


Dimensions in mm

Approx. weight 60 mg

**General technical data**

|  |               |                  |              |      |
|--|---------------|------------------|--------------|------|
| Climatic category                      | (IEC 60068-1) |                  | 55/155/56    |      |
| For types with close B value tolerance | ±0.3%         |                  | 40/100/56    |      |
| Max. power                             | (at 25 °C)    | $P_{25}$         | 60           | mW   |
| Resistance tolerance                   |               | $\Delta R_R/R_R$ | ±1, ±3, ±5   | %    |
| Rated temperature                      |               | $T_R$            | 25           | °C   |
| Dissipation factor                     | (in air)      | $\delta_{th}$    | approx. 1.5  | mW/K |
| Thermal cooling time constant          | (in air)      | $\tau_c$         | approx. 15   | s    |
| Heat capacity                          |               | $C_{th}$         | approx. 22.5 | mJ/K |

**Electrical specification and ordering codes**

| $R_{25}$<br>$\Omega$   | No. of R/T<br>characteristic | $B_{25/100}$<br>K | Ordering code   |
|--|------------------------------|-------------------|-----------------|
| <b>B value tolerance = 0.3%, resistance tolerance = <math>\pm 1\%</math></b>   |                              |                   |                 |
| 5 k  | 8016                         | 3988 $\pm 0.3\%$  | B57861S0502F045 |
| 10 k   | 8016                         | 3988 $\pm 0.3\%$  | B57861S0103F045 |
| 30 k   | 8018                         | 3964 $\pm 0.3\%$  | B57861S0303F045 |
| <b>B value tolerance = 1.0%, resistance tolerance = <math>\pm 1\%</math>, <math>\pm 3\%</math> or <math>\pm 5\%</math></b> |                              |                   |                 |
| 2 k  | 1008                         | 3560 $\pm 1\%$    | B57861S0202+040 |
| 3 k  | 8016                         | 3988 $\pm 1\%$    | B57861S0302+040 |
| 5 k  | 8016                         | 3988 $\pm 1\%$    | B57861S0502+040 |
| 10 k   | 8016                         | 3988 $\pm 1\%$    | B57861S0103+040 |
| 30 k   | 8018                         | 3964 $\pm 1\%$    | B57861S0303+040 |
| 50 k   | 2901                         | 3760 $\pm 1\%$    | B57861S0503+040 |
| 100 k  | 2014                         | 4540 $\pm 1\%$    | B57861S0104+040 |

+ = Resistance tolerance

F =  $\pm 1\%$

H =  $\pm 3\%$

J =  $\pm 5\%$

**Reliability data**

| Test                                  | Standard       | Test conditions   | $\Delta R_{25}/R_{25}$<br>(typical) | Remarks           |
|---------------------------------------|----------------|---|-------------------------------------|-------------------|
| Storage in dry heat                   | IEC 60068-2-2  | Storage at upper category temperature<br>T: 155 °C<br>t: 1000 h                           | < 2%                                | No visible damage |
| Storage in damp heat, steady state    | IEC 60068-2-78 | Temperature of air: 40 °C<br>Relative humidity of air: 93%<br>Duration: 56 days           | < 1%                                | No visible damage |
| Rapid temperature cycling             | IEC 60068-2-14 | Lower test temperature: -55 °C<br>Upper test temperature: 155 °C<br>Number of cycles: 100 | < 1%                                | No visible damage |
| Long-term stability (empirical value) |                | Temperature: 70 °C<br>t: 10000 h  | < 2%                                | No visible damage |

**R/T characteristics**

| <b>B57861S0502F045</b> |  |                       |                       |                                      |            |            |
|------------------------|--|-----------------------|-----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016   |                       |                       |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 5000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                       |                       |                                      |            |            |
|                        | R <sub>nomL</sub> [Ω]  | R <sub>minL</sub> [Ω] | R <sub>maxL</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -40.0                  | 168250   | 164600                | 171900                | 2.2                                  | 0.3        | 6.7        |
| -35.0                  | 121300   | 118800                | 123790                | 2.1                                  | 0.3        | 6.4        |
| -30.0                  | 88500  | 86767                 | 90232                 | 2.0                                  | 0.3        | 6.2        |
| -25.0                  | 65185  | 63973                 | 66396                 | 1.9                                  | 0.3        | 6.0        |
| -20.0                  | 48535  | 47679                 | 49391                 | 1.8                                  | 0.3        | 5.8        |
| -15.0                  | 36465  | 35855                 | 37074                 | 1.7                                  | 0.3        | 5.6        |
| -10.0                  | 27665  | 27227                 | 28103                 | 1.6                                  | 0.3        | 5.4        |
| -5.0                   | 21158  | 20840                 | 21475                 | 1.5                                  | 0.3        | 5.3        |
| 0.0                    | 16325  | 16094                 | 16556                 | 1.4                                  | 0.3        | 5.1        |
| 5.0                    | 12694  | 12524                 | 12864                 | 1.3                                  | 0.3        | 5.0        |
| 10.0                   | 9950   | 9824                  | 10076                 | 1.3                                  | 0.3        | 4.8        |
| 15.0                   | 7854   | 7760                  | 7947                  | 1.2                                  | 0.3        | 4.7        |
| 20.0                   | 6245   | 6175                  | 6315                  | 1.1                                  | 0.2        | 4.5        |
| <b>25.0</b>            | <b>5000</b>  | <b>4950</b>           | <b>5050</b>           | <b>1.0</b>                           | <b>0.2</b> | <b>4.4</b> |
| 30.0                   | 4029   | 3984                  | 4073                  | 1.1                                  | 0.3        | 4.3        |
| 35.0                   | 3266   | 3227                  | 3304                  | 1.2                                  | 0.3        | 4.1        |
| 40.0                   | 2664   | 2630                  | 2697                  | 1.2                                  | 0.3        | 4.0        |
| 45.0                   | 2184   | 2156                  | 2213                  | 1.3                                  | 0.3        | 3.9        |
| 50.0                   | 1802   | 1777                  | 1826                  | 1.4                                  | 0.4        | 3.8        |
| 55.0                   | 1493   | 1472                  | 1514                  | 1.4                                  | 0.4        | 3.7        |
| 60.0                   | 1244   | 1226                  | 1262                  | 1.5                                  | 0.4        | 3.6        |
| 65.0                   | 1042   | 1026                  | 1057                  | 1.5                                  | 0.4        | 3.5        |
| 70.0                   | 876.0  | 862.2                 | 889.8                 | 1.6                                  | 0.5        | 3.4        |
| 75.0                   | 740.7  | 728.6                 | 752.7                 | 1.6                                  | 0.5        | 3.3        |
| 80.0                   | 629.0  | 618.5                 | 639.5                 | 1.7                                  | 0.5        | 3.2        |
| 85.0                   | 536.2  | 526.9                 | 545.4                 | 1.7                                  | 0.5        | 3.2        |
| 90.0                   | 458.8  | 450.7                 | 467.0                 | 1.8                                  | 0.6        | 3.1        |
| 95.0                   | 394.3  | 387.1                 | 401.4                 | 1.8                                  | 0.6        | 3.0        |
| 100.0                  | 340.0  | 333.7                 | 346.3                 | 1.9                                  | 0.6        | 2.9        |

| <b>B57861S0103F045</b> |   |                       |                       |                                      |         |         |
|------------------------|---|-----------------------|-----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8016  |                       |                       |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 10000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                       |                       |                                      |         |         |
|                        | R <sub>nomL</sub> [Ω]   | R <sub>minL</sub> [Ω] | R <sub>maxL</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| -40.0                  | 336500  | 329200                | 343800                | 2.2                                  | 0.3     | 6.7     |
| -35.0                  | 242590  | 237590                | 247590                | 2.1                                  | 0.3     | 6.4     |
| -30.0                  | 177000  | 173540                | 180470                | 2.0                                  | 0.3     | 6.2     |
| -25.0                  | 130370  | 127950                | 132790                | 1.9                                  | 0.3     | 6.0     |

| <b>B57861S0103F045</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 10000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -20.0                  | 97070   | 95358                | 98782                | 1.8                                  | 0.3        | 5.8        |
| -15.0                  | 72929   | 71710                | 74148                | 1.7                                  | 0.3        | 5.6        |
| -10.0                  | 55330   | 54454                | 56206                | 1.6                                  | 0.3        | 5.4        |
| -5.0                   | 42315   | 41681                | 42949                | 1.5                                  | 0.3        | 5.3        |
| 0.0                    | 32650   | 32187                | 33113                | 1.4                                  | 0.3        | 5.1        |
| 5.0                    | 25388   | 25048                | 25727                | 1.3                                  | 0.3        | 5.0        |
| 10.0                   | 19900   | 19649                | 20151                | 1.3                                  | 0.3        | 4.8        |
| 15.0                   | 15708   | 15521                | 15895                | 1.2                                  | 0.3        | 4.7        |
| 20.0                   | 12490   | 12350                | 12630                | 1.1                                  | 0.2        | 4.5        |
| <b>25.0</b>            | <b>10000</b>  | <b>9900</b>          | <b>10100</b>         | <b>1.0</b>                           | <b>0.2</b> | <b>4.4</b> |
| 30.0                   | 8057  | 7967                 | 8147                 | 1.1                                  | 0.3        | 4.3        |
| 35.0                   | 6531  | 6454                 | 6608                 | 1.2                                  | 0.3        | 4.1        |
| 40.0                   | 5327  | 5261                 | 5393                 | 1.2                                  | 0.3        | 4.0        |
| 45.0                   | 4369  | 4312                 | 4426                 | 1.3                                  | 0.3        | 3.9        |
| 50.0                   | 3603  | 3554                 | 3652                 | 1.4                                  | 0.4        | 3.8        |
| 55.0                   | 2986  | 2944                 | 3029                 | 1.4                                  | 0.4        | 3.7        |
| 60.0                   | 2488  | 2451                 | 2525                 | 1.5                                  | 0.4        | 3.6        |
| 65.0                   | 2083  | 2051                 | 2115                 | 1.5                                  | 0.4        | 3.5        |
| 70.0                   | 1752  | 1724                 | 1780                 | 1.6                                  | 0.5        | 3.4        |
| 75.0                   | 1481  | 1457                 | 1505                 | 1.6                                  | 0.5        | 3.3        |
| 80.0                   | 1258  | 1237                 | 1279                 | 1.7                                  | 0.5        | 3.2        |
| 85.0                   | 1072  | 1054                 | 1091                 | 1.7                                  | 0.5        | 3.2        |
| 90.0                   | 917.7   | 901.5                | 933.9                | 1.8                                  | 0.6        | 3.1        |
| 95.0                   | 788.5   | 774.2                | 802.8                | 1.8                                  | 0.6        | 3.0        |
| 100.0                  | 680.0   | 667.4                | 692.6                | 1.9                                  | 0.6        | 2.9        |

| <b>B57861S0303F045</b> |   |                      |                      |                                      |         |         |
|------------------------|---|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8018  |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3964 K, R <sub>25</sub> = 30000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| -40.0                  | 907060  | 887450               | 926670               | 2.2                                  | 0.3     | 6.4     |
| -35.0                  | 663280  | 649650               | 676910               | 2.1                                  | 0.3     | 6.2     |
| -30.0                  | 489810  | 480250               | 499370               | 2.0                                  | 0.3     | 6.0     |
| -25.0                  | 365130  | 358360               | 371900               | 1.9                                  | 0.3     | 5.8     |
| -20.0                  | 274640  | 269810               | 279480               | 1.8                                  | 0.3     | 5.6     |
| -15.0                  | 208370  | 204900               | 211850               | 1.7                                  | 0.3     | 5.4     |
| -10.0                  | 159410  | 156890               | 161920               | 1.6                                  | 0.3     | 5.3     |
| -5.0                   | 122920  | 121080               | 124750               | 1.5                                  | 0.3     | 5.1     |
| 0.0                    | 95501   | 94149                | 96852                | 1.4                                  | 0.3     | 5.0     |

| <b>B57861S0303F045</b> |  |                     |                     |                         |                               |                 |
|------------------------|--|---------------------|---------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8018   |                     |                     |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3964 \text{ K}$ , $R_{25} = 30000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                     |                     |                         |                               |                 |
|                        | $R_{nom}[ \Omega ]$  | $R_{min}[ \Omega ]$ | $R_{max}[ \Omega ]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 5.0                    | 74745  | 73745               | 75744               | 1.3                     | 0.3                           | 4.8             |
| 10.0                   | 58911  | 58168               | 59654               | 1.3                     | 0.3                           | 4.7             |
| 15.0                   | 46745  | 46189               | 47300               | 1.2                     | 0.3                           | 4.6             |
| 20.0                   | 37332  | 36914               | 37749               | 1.1                     | 0.3                           | 4.4             |
| <b>25.0</b>            | <b>30000</b>   | <b>29700</b>        | <b>30300</b>        | <b>1.0</b>              | <b>0.2</b>                    | <b>4.3</b>      |
| 30.0                   | 24253  | 23982               | 24523               | 1.1                     | 0.3                           | 4.2             |
| 35.0                   | 19720  | 19487               | 19952               | 1.2                     | 0.3                           | 4.1             |
| 40.0                   | 16123  | 15923               | 16323               | 1.2                     | 0.3                           | 4.0             |
| 45.0                   | 13252  | 13080               | 13425               | 1.3                     | 0.3                           | 3.9             |
| 50.0                   | 10949  | 10800               | 11098               | 1.4                     | 0.4                           | 3.8             |
| 55.0                   | 9091   | 8962                | 9219                | 1.4                     | 0.4                           | 3.7             |
| 60.0                   | 7584   | 7473                | 7696                | 1.5                     | 0.4                           | 3.6             |
| 65.0                   | 6356   | 6259                | 6453                | 1.5                     | 0.4                           | 3.5             |
| 70.0                   | 5351   | 5267                | 5435                | 1.6                     | 0.5                           | 3.4             |
| 75.0                   | 4524   | 4450                | 4597                | 1.6                     | 0.5                           | 3.3             |
| 80.0                   | 3840   | 3776                | 3904                | 1.7                     | 0.5                           | 3.2             |
| 85.0                   | 3273   | 3217                | 3329                | 1.7                     | 0.5                           | 3.2             |
| 90.0                   | 2800   | 2751                | 2850                | 1.8                     | 0.6                           | 3.1             |
| 95.0                   | 2405   | 2361                | 2448                | 1.8                     | 0.6                           | 3.0             |
| 100.0                  | 2073   | 2034                | 2111                | 1.9                     | 0.6                           | 2.9             |

| <b>B57861S0202F040</b> |   |                     |                     |                         |                               |                 |
|------------------------|---|---------------------|---------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 1008  |                     |                     |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3560 \text{ K}$ , $R_{25} = 2000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                     |                     |                         |                               |                 |
|                        | $R_{nom}[ \Omega ]$   | $R_{min}[ \Omega ]$ | $R_{max}[ \Omega ]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 106210  | 100440              | 111970              | 5.4                     | 0.9                           | 6.1             |
| -50.0                  | 78635   | 74654               | 82616               | 5.1                     | 0.8                           | 6.0             |
| -45.0                  | 58650   | 55886               | 61415               | 4.7                     | 0.8                           | 5.8             |
| -40.0                  | 44060   | 42131               | 45989               | 4.4                     | 0.8                           | 5.7             |
| -35.0                  | 33333   | 31980               | 34686               | 4.1                     | 0.7                           | 5.5             |
| -30.0                  | 25392   | 24439               | 26344               | 3.8                     | 0.7                           | 5.4             |
| -25.0                  | 19450   | 18778               | 20122               | 3.5                     | 0.7                           | 5.2             |
| -20.0                  | 15034   | 14557               | 15511               | 3.2                     | 0.6                           | 5.1             |
| -15.0                  | 11671   | 11332               | 12009               | 2.9                     | 0.6                           | 4.9             |
| -10.0                  | 9137  | 8896                | 9378                | 2.6                     | 0.5                           | 4.8             |
| -5.0                   | 7210  | 7038                | 7382                | 2.4                     | 0.5                           | 4.7             |
| 0.0                    | 5733  | 5610                | 5856                | 2.1                     | 0.5                           | 4.5             |
| 5.0                    | 4581  | 4494                | 4669                | 1.9                     | 0.4                           | 4.4             |
| 10.0                   | 3688  | 3625                | 3750                | 1.7                     | 0.4                           | 4.3             |

| <b>B57861S0202F040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 1008   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3560 K, R <sub>25</sub> = 2000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| 15.0                   | 2984   | 2940                 | 3028                 | 1.5                                  | 0.4        | 4.1        |
| 20.0                   | 2431   | 2400                 | 2461                 | 1.3                                  | 0.3        | 4.0        |
| <b>25.0</b>            | <b>2000</b>  | <b>1980</b>          | <b>2020</b>          | <b>1.0</b>                           | <b>0.3</b> | <b>3.9</b> |
| 30.0                   | 1660   | 1639                 | 1680                 | 1.2                                  | 0.3        | 3.8        |
| 35.0                   | 1373   | 1353                 | 1392                 | 1.4                                  | 0.4        | 3.7        |
| 40.0                   | 1142   | 1124                 | 1161                 | 1.6                                  | 0.5        | 3.6        |
| 45.0                   | 960.3  | 943.0                | 977.6                | 1.8                                  | 0.5        | 3.5        |
| 50.0                   | 810.9  | 794.9                | 826.9                | 2.0                                  | 0.6        | 3.4        |
| 55.0                   | 683.4  | 668.8                | 698.0                | 2.1                                  | 0.6        | 3.3        |
| 60.0                   | 579.0  | 565.7                | 592.4                | 2.3                                  | 0.7        | 3.2        |
| 65.0                   | 494.3  | 482.1                | 506.5                | 2.5                                  | 0.8        | 3.1        |
| 70.0                   | 423.7  | 412.6                | 434.7                | 2.6                                  | 0.9        | 3.1        |
| 75.0                   | 363.9  | 353.8                | 373.9                | 2.8                                  | 0.9        | 3.0        |
| 80.0                   | 313.6  | 304.5                | 322.7                | 2.9                                  | 1.0        | 2.9        |
| 85.0                   | 271.8  | 263.5                | 280.1                | 3.1                                  | 1.1        | 2.8        |
| 90.0                   | 236.4  | 228.9                | 244.0                | 3.2                                  | 1.2        | 2.8        |
| 95.0                   | 206.8  | 199.9                | 213.7                | 3.3                                  | 1.2        | 2.7        |
| 100.0                  | 181.5  | 175.2                | 187.7                | 3.4                                  | 1.3        | 2.6        |
| 105.0                  | 159.3  | 153.6                | 165.0                | 3.6                                  | 1.4        | 2.6        |
| 110.0                  | 140.2  | 135.0                | 145.4                | 3.7                                  | 1.5        | 2.5        |
| 115.0                  | 123.8  | 119.1                | 128.5                | 3.8                                  | 1.6        | 2.4        |
| 120.0                  | 109.6  | 105.3                | 113.9                | 3.9                                  | 1.6        | 2.4        |
| 125.0                  | 97.41  | 93.47                | 101.4                | 4.0                                  | 1.7        | 2.3        |
| 130.0                  | 86.83  | 83.22                | 90.44                | 4.2                                  | 1.8        | 2.3        |
| 135.0                  | 77.44  | 74.14                | 80.75                | 4.3                                  | 1.9        | 2.2        |
| 140.0                  | 69.23  | 66.20                | 72.26                | 4.4                                  | 2.0        | 2.2        |
| 145.0                  | 62.10  | 59.32                | 64.88                | 4.5                                  | 2.1        | 2.1        |
| 150.0                  | 55.82  | 53.26                | 58.37                | 4.6                                  | 2.2        | 2.1        |
| 155.0                  | 50.39  | 48.03                | 52.74                | 4.7                                  | 2.3        | 2.0        |

| <b>B57861S0202H040</b> |  |                      |                      |                                      |         |         |
|------------------------|--|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 1008   |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3560 K, R <sub>25</sub> = 2000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| -55.0                  | 106210   | 98317                | 114100               | 7.4                                  | 1.2     | 6.1     |
| -50.0                  | 78635  | 73081                | 84189                | 7.1                                  | 1.2     | 6.0     |
| -45.0                  | 58650  | 54713                | 62588                | 6.7                                  | 1.2     | 5.8     |
| -40.0                  | 44060  | 41250                | 46871                | 6.4                                  | 1.1     | 5.7     |
| -35.0                  | 33333  | 31313                | 35352                | 6.1                                  | 1.1     | 5.5     |

| <b>B57861S0202H040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 1008   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3560 K, R <sub>25</sub> = 2000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -30.0                  | 25392  | 23931                | 26852                | 5.8                                  | 1.1        | 5.4        |
| -25.0                  | 19450  | 18389                | 20511                | 5.5                                  | 1.0        | 5.2        |
| -20.0                  | 15034  | 14256                | 15812                | 5.2                                  | 1.0        | 5.1        |
| -15.0                  | 11671  | 11099                | 12242                | 4.9                                  | 1.0        | 4.9        |
| -10.0                  | 9137   | 8713                 | 9561                 | 4.6                                  | 1.0        | 4.8        |
| -5.0                   | 7210   | 6894                 | 7526                 | 4.4                                  | 0.9        | 4.7        |
| 0.0                    | 5733   | 5495                 | 5970                 | 4.1                                  | 0.9        | 4.5        |
| 5.0                    | 4581   | 4402                 | 4761                 | 3.9                                  | 0.9        | 4.4        |
| 10.0                   | 3688   | 3552                 | 3823                 | 3.7                                  | 0.9        | 4.3        |
| 15.0                   | 2984   | 2881                 | 3087                 | 3.5                                  | 0.8        | 4.1        |
| 20.0                   | 2431   | 2352                 | 2510                 | 3.3                                  | 0.8        | 4.0        |
| <b>25.0</b>            | <b>2000</b>  | <b>1940</b>          | <b>2060</b>          | <b>3.0</b>                           | <b>0.8</b> | <b>3.9</b> |
| 30.0                   | 1660   | 1606                 | 1713                 | 3.2                                  | 0.9        | 3.8        |
| 35.0                   | 1373   | 1326                 | 1420                 | 3.4                                  | 0.9        | 3.7        |
| 40.0                   | 1142   | 1101                 | 1183                 | 3.6                                  | 1.0        | 3.6        |
| 45.0                   | 960.3  | 923.8                | 996.8                | 3.8                                  | 1.1        | 3.5        |
| 50.0                   | 810.9  | 778.7                | 843.1                | 4.0                                  | 1.2        | 3.4        |
| 55.0                   | 683.4  | 655.1                | 711.7                | 4.1                                  | 1.2        | 3.3        |
| 60.0                   | 579.0  | 554.1                | 604.0                | 4.3                                  | 1.3        | 3.2        |
| 65.0                   | 494.3  | 472.2                | 516.3                | 4.5                                  | 1.4        | 3.1        |
| 70.0                   | 423.7  | 404.1                | 443.2                | 4.6                                  | 1.5        | 3.1        |
| 75.0                   | 363.9  | 346.5                | 381.2                | 4.8                                  | 1.6        | 3.0        |
| 80.0                   | 313.6  | 298.2                | 329.0                | 4.9                                  | 1.7        | 2.9        |
| 85.0                   | 271.8  | 258.1                | 285.6                | 5.1                                  | 1.8        | 2.8        |
| 90.0                   | 236.4  | 224.2                | 248.7                | 5.2                                  | 1.9        | 2.8        |
| 95.0                   | 206.8  | 195.8                | 217.8                | 5.3                                  | 2.0        | 2.7        |
| 100.0                  | 181.5  | 171.6                | 191.4                | 5.4                                  | 2.1        | 2.6        |
| 105.0                  | 159.3  | 150.4                | 168.2                | 5.6                                  | 2.2        | 2.6        |
| 110.0                  | 140.2  | 132.2                | 148.2                | 5.7                                  | 2.3        | 2.5        |
| 115.0                  | 123.8  | 116.6                | 131.0                | 5.8                                  | 2.4        | 2.4        |
| 120.0                  | 109.6  | 103.1                | 116.1                | 5.9                                  | 2.5        | 2.4        |
| 125.0                  | 97.41  | 91.52                | 103.3                | 6.0                                  | 2.6        | 2.3        |
| 130.0                  | 86.83  | 81.48                | 92.18                | 6.2                                  | 2.7        | 2.3        |
| 135.0                  | 77.44  | 72.59                | 82.30                | 6.3                                  | 2.8        | 2.2        |
| 140.0                  | 69.23  | 64.82                | 73.64                | 6.4                                  | 2.9        | 2.2        |
| 145.0                  | 62.10  | 58.07                | 66.12                | 6.5                                  | 3.0        | 2.1        |
| 150.0                  | 55.82  | 52.15                | 59.49                | 6.6                                  | 3.2        | 2.1        |
| 155.0                  | 50.39  | 47.02                | 53.75                | 6.7                                  | 3.3        | 2.0        |



| <b>B57861S0202J040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 1008   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3560 K, R <sub>25</sub> = 2000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 106210   | 96193                | 116220               | 9.4                                  | 1.5        | 6.1        |
| -50.0                  | 78635  | 71508                | 85762                | 9.1                                  | 1.5        | 6.0        |
| -45.0                  | 58650  | 53540                | 63761                | 8.7                                  | 1.5        | 5.8        |
| -40.0                  | 44060  | 40368                | 47752                | 8.4                                  | 1.5        | 5.7        |
| -35.0                  | 33333  | 30647                | 36019                | 8.1                                  | 1.5        | 5.5        |
| -30.0                  | 25392  | 23424                | 27360                | 7.8                                  | 1.4        | 5.4        |
| -25.0                  | 19450  | 18000                | 20900                | 7.5                                  | 1.4        | 5.2        |
| -20.0                  | 15034  | 13956                | 16112                | 7.2                                  | 1.4        | 5.1        |
| -15.0                  | 11671  | 10865                | 12476                | 6.9                                  | 1.4        | 4.9        |
| -10.0                  | 9137   | 8531                 | 9744                 | 6.6                                  | 1.4        | 4.8        |
| -5.0                   | 7210   | 6750                 | 7670                 | 6.4                                  | 1.4        | 4.7        |
| 0.0                    | 5733   | 5381                 | 6085                 | 6.1                                  | 1.4        | 4.5        |
| 5.0                    | 4581   | 4311                 | 4852                 | 5.9                                  | 1.3        | 4.4        |
| 10.0                   | 3688   | 3478                 | 3897                 | 5.7                                  | 1.3        | 4.3        |
| 15.0                   | 2984   | 2821                 | 3147                 | 5.5                                  | 1.3        | 4.1        |
| 20.0                   | 2431   | 2303                 | 2559                 | 5.3                                  | 1.3        | 4.0        |
| <b>25.0</b>            | <b>2000</b>  | <b>1900</b>          | <b>2100</b>          | <b>5.0</b>                           | <b>1.3</b> | <b>3.9</b> |
| 30.0                   | 1660   | 1572                 | 1747                 | 5.2                                  | 1.4        | 3.8        |
| 35.0                   | 1373   | 1298                 | 1447                 | 5.4                                  | 1.5        | 3.7        |
| 40.0                   | 1142   | 1078                 | 1206                 | 5.6                                  | 1.6        | 3.6        |
| 45.0                   | 960.3  | 904.6                | 1016                 | 5.8                                  | 1.7        | 3.5        |
| 50.0                   | 810.9  | 762.5                | 859.3                | 6.0                                  | 1.8        | 3.4        |
| 55.0                   | 683.4  | 641.4                | 725.4                | 6.1                                  | 1.9        | 3.3        |
| 60.0                   | 579.0  | 542.5                | 615.5                | 6.3                                  | 2.0        | 3.2        |
| 65.0                   | 494.3  | 462.3                | 526.2                | 6.5                                  | 2.1        | 3.1        |
| 70.0                   | 423.7  | 395.6                | 451.7                | 6.6                                  | 2.2        | 3.1        |
| 75.0                   | 363.9  | 339.3                | 388.5                | 6.8                                  | 2.3        | 3.0        |
| 80.0                   | 313.6  | 291.9                | 335.3                | 6.9                                  | 2.4        | 2.9        |
| 85.0                   | 271.8  | 252.7                | 291.0                | 7.1                                  | 2.5        | 2.8        |
| 90.0                   | 236.4  | 219.5                | 253.4                | 7.2                                  | 2.6        | 2.8        |
| 95.0                   | 206.8  | 191.7                | 221.9                | 7.3                                  | 2.7        | 2.7        |
| 100.0                  | 181.5  | 168.0                | 195.0                | 7.4                                  | 2.8        | 2.6        |
| 105.0                  | 159.3  | 147.2                | 171.4                | 7.6                                  | 3.0        | 2.6        |
| 110.0                  | 140.2  | 129.4                | 151.0                | 7.7                                  | 3.1        | 2.5        |
| 115.0                  | 123.8  | 114.1                | 133.5                | 7.8                                  | 3.2        | 2.4        |
| 120.0                  | 109.6  | 100.9                | 118.3                | 7.9                                  | 3.3        | 2.4        |
| 125.0                  | 97.41  | 89.57                | 105.3                | 8.0                                  | 3.4        | 2.3        |
| 130.0                  | 86.83  | 79.74                | 93.91                | 8.2                                  | 3.6        | 2.3        |
| 135.0                  | 77.44  | 71.04                | 83.85                | 8.3                                  | 3.7        | 2.2        |

| <b>B57861S0202J040</b> |  |                          |                          |                         |                          |                 |
|------------------------|--|--------------------------|--------------------------|-------------------------|--------------------------|-----------------|
| R/T No.                | 1008   |                          |                          |                         |                          |                 |
| T (°C)                 | $B_{25/100} = 3560 \text{ K}, R_{25} = 2000 \Omega, T_R = 25 \text{ °C}, \Delta R_R/R_R = \pm 5\%$ |                          |                          |                         |                          |                 |
|                        | $R_{\text{nom}}[\Omega]$   | $R_{\text{min}}[\Omega]$ | $R_{\text{max}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm\text{°C}]$ | $\alpha (\%/K)$ |
| 140.0                  | 69.23  | 63.43                    | 75.03                    | 8.4                     | 3.8                      | 2.2             |
| 145.0                  | 62.10  | 56.83                    | 67.36                    | 8.5                     | 4.0                      | 2.1             |
| 150.0                  | 55.82  | 51.03                    | 60.61                    | 8.6                     | 4.1                      | 2.1             |
| 155.0                  | 50.39  | 46.02                    | 54.76                    | 8.7                     | 4.3                      | 2.0             |

| <b>B57861S0302F040</b> |  |                          |                          |                         |                          |                 |
|------------------------|--|--------------------------|--------------------------|-------------------------|--------------------------|-----------------|
| R/T No.                | 8016   |                          |                          |                         |                          |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}, R_{25} = 3000 \Omega, T_R = 25 \text{ °C}, \Delta R_R/R_R = \pm 1\%$ |                          |                          |                         |                          |                 |
|                        | $R_{\text{nom}}[\Omega]$   | $R_{\text{min}}[\Omega]$ | $R_{\text{max}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm\text{°C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 288910   | 271710                   | 306120                   | 6.0                     | 0.8                      | 7.4             |
| -50.0                  | 201030   | 189880                   | 212180                   | 5.5                     | 0.8                      | 7.1             |
| -45.0                  | 141510   | 134210                   | 148800                   | 5.2                     | 0.7                      | 6.9             |
| -40.0                  | 100950   | 96126                    | 105770                   | 4.8                     | 0.7                      | 6.7             |
| -35.0                  | 72777  | 69560                    | 75993                    | 4.4                     | 0.7                      | 6.4             |
| -30.0                  | 53100  | 50936                    | 55264                    | 4.1                     | 0.7                      | 6.2             |
| -25.0                  | 39111  | 37646                    | 40576                    | 3.7                     | 0.6                      | 6.0             |
| -20.0                  | 29121  | 28123                    | 30119                    | 3.4                     | 0.6                      | 5.8             |
| -15.0                  | 21879  | 21196                    | 22562                    | 3.1                     | 0.6                      | 5.6             |
| -10.0                  | 16599  | 16129                    | 17069                    | 2.8                     | 0.5                      | 5.4             |
| -5.0                   | 12695  | 12371                    | 13018                    | 2.5                     | 0.5                      | 5.3             |
| 0.0                    | 9795   | 9572                     | 10018                    | 2.3                     | 0.4                      | 5.1             |
| 5.0                    | 7616   | 7463                     | 7769                     | 2.0                     | 0.4                      | 5.0             |
| 10.0                   | 5970   | 5865                     | 6075                     | 1.8                     | 0.4                      | 4.8             |
| 15.0                   | 4712   | 4641                     | 4784                     | 1.5                     | 0.3                      | 4.7             |
| 20.0                   | 3747   | 3699                     | 3795                     | 1.3                     | 0.3                      | 4.5             |
| <b>25.0</b>            | <b>3000</b>  | <b>2970</b>              | <b>3030</b>              | <b>1.0</b>              | <b>0.2</b>               | <b>4.4</b>      |
| 30.0                   | 2417   | 2386                     | 2448                     | 1.3                     | 0.3                      | 4.3             |
| 35.0                   | 1959   | 1930                     | 1988                     | 1.5                     | 0.4                      | 4.1             |
| 40.0                   | 1598   | 1571                     | 1625                     | 1.7                     | 0.4                      | 4.0             |
| 45.0                   | 1311   | 1286                     | 1335                     | 1.9                     | 0.5                      | 3.9             |
| 50.0                   | 1081   | 1058                     | 1103                     | 2.1                     | 0.5                      | 3.8             |
| 55.0                   | 895.9  | 875.5                    | 916.2                    | 2.3                     | 0.6                      | 3.7             |
| 60.0                   | 746.4  | 728.1                    | 764.7                    | 2.5                     | 0.7                      | 3.6             |
| 65.0                   | 624.9  | 608.5                    | 641.4                    | 2.6                     | 0.8                      | 3.5             |
| 70.0                   | 525.6  | 510.9                    | 540.3                    | 2.8                     | 0.8                      | 3.4             |
| 75.0                   | 444.4  | 431.2                    | 457.6                    | 3.0                     | 0.9                      | 3.3             |
| 80.0                   | 377.4  | 365.6                    | 389.2                    | 3.1                     | 1.0                      | 3.2             |
| 85.0                   | 321.7  | 311.1                    | 332.3                    | 3.3                     | 1.0                      | 3.2             |
| 90.0                   | 275.3  | 265.8                    | 284.8                    | 3.4                     | 1.1                      | 3.1             |

| <b>B57861S0302F040</b> |  |                      |                      |                                      |         |         |
|------------------------|--|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8016   |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 3000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| 95.0                   | 236.6  | 228.1                | 245.1                | 3.6                                  | 1.2     | 3.0     |
| 100.0                  | 204.0  | 196.4                | 211.6                | 3.7                                  | 1.3     | 2.9     |
| 105.0                  | 176.6  | 169.7                | 183.4                | 3.9                                  | 1.4     | 2.9     |
| 110.0                  | 153.4  | 147.2                | 159.5                | 4.0                                  | 1.4     | 2.8     |
| 115.0                  | 133.6  | 128.1                | 139.2                | 4.2                                  | 1.5     | 2.7     |
| 120.0                  | 116.8  | 111.8                | 121.8                | 4.3                                  | 1.6     | 2.7     |
| 125.0                  | 102.5  | 97.99                | 107.0                | 4.4                                  | 1.7     | 2.6     |
| 130.0                  | 90.27  | 86.18                | 94.36                | 4.5                                  | 1.8     | 2.5     |
| 135.0                  | 79.63  | 75.93                | 83.34                | 4.7                                  | 1.9     | 2.5     |
| 140.0                  | 70.44  | 67.08                | 73.80                | 4.8                                  | 2.0     | 2.4     |
| 145.0                  | 62.50  | 59.44                | 65.55                | 4.9                                  | 2.1     | 2.4     |
| 150.0                  | 55.59  | 52.81                | 58.37                | 5.0                                  | 2.2     | 2.3     |
| 155.0                  | 49.60  | 47.07                | 52.14                | 5.1                                  | 2.3     | 2.3     |

| <b>B57861S0302H040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 3000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 288910   | 265930               | 311900               | 8.0                                  | 1.1        | 7.4        |
| -50.0                  | 201030   | 185860               | 216200               | 7.5                                  | 1.1        | 7.1        |
| -45.0                  | 141510   | 131380               | 151630               | 7.2                                  | 1.0        | 6.9        |
| -40.0                  | 100950   | 94107                | 107790               | 6.8                                  | 1.0        | 6.7        |
| -35.0                  | 72777  | 68105                | 77449                | 6.4                                  | 1.0        | 6.4        |
| -30.0                  | 53100  | 49874                | 56326                | 6.1                                  | 1.0        | 6.2        |
| -25.0                  | 39111  | 36864                | 41358                | 5.7                                  | 1.0        | 6.0        |
| -20.0                  | 29121  | 27540                | 30702                | 5.4                                  | 0.9        | 5.8        |
| -15.0                  | 21879  | 20758                | 22999                | 5.1                                  | 0.9        | 5.6        |
| -10.0                  | 16599  | 15797                | 17401                | 4.8                                  | 0.9        | 5.4        |
| -5.0                   | 12695  | 12117                | 13272                | 4.5                                  | 0.9        | 5.3        |
| 0.0                    | 9795   | 9376                 | 10214                | 4.3                                  | 0.8        | 5.1        |
| 5.0                    | 7616   | 7311                 | 7922                 | 4.0                                  | 0.8        | 5.0        |
| 10.0                   | 5970   | 5746                 | 6194                 | 3.8                                  | 0.8        | 4.8        |
| 15.0                   | 4712   | 4547                 | 4878                 | 3.5                                  | 0.8        | 4.7        |
| 20.0                   | 3747   | 3624                 | 3870                 | 3.3                                  | 0.7        | 4.5        |
| <b>25.0</b>            | <b>3000</b>  | <b>2910</b>          | <b>3090</b>          | <b>3.0</b>                           | <b>0.7</b> | <b>4.4</b> |
| 30.0                   | 2417   | 2338                 | 2496                 | 3.3                                  | 0.8        | 4.3        |
| 35.0                   | 1959   | 1891                 | 2028                 | 3.5                                  | 0.8        | 4.1        |
| 40.0                   | 1598   | 1539                 | 1657                 | 3.7                                  | 0.9        | 4.0        |
| 45.0                   | 1311   | 1260                 | 1362                 | 3.9                                  | 1.0        | 3.9        |

| <b>B57861S0302H040</b> |   |                           |                           |                         |                               |                 |
|------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016  |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 3000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 3\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$   | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 50.0                   | 1081  | 1037                      | 1125                      | 4.1                     | 1.1                           | 3.8             |
| 55.0                   | 895.9   | 857.6                     | 934.1                     | 4.3                     | 1.2                           | 3.7             |
| 60.0                   | 746.4   | 713.1                     | 779.7                     | 4.5                     | 1.2                           | 3.6             |
| 65.0                   | 624.9   | 596.0                     | 653.9                     | 4.6                     | 1.3                           | 3.5             |
| 70.0                   | 525.6   | 500.3                     | 550.9                     | 4.8                     | 1.4                           | 3.4             |
| 75.0                   | 444.4   | 422.3                     | 466.5                     | 5.0                     | 1.5                           | 3.3             |
| 80.0                   | 377.4   | 358.0                     | 396.8                     | 5.1                     | 1.6                           | 3.2             |
| 85.0                   | 321.7   | 304.7                     | 338.7                     | 5.3                     | 1.7                           | 3.2             |
| 90.0                   | 275.3   | 260.3                     | 290.3                     | 5.4                     | 1.8                           | 3.1             |
| 95.0                   | 236.6   | 223.3                     | 249.8                     | 5.6                     | 1.9                           | 3.0             |
| 100.0                  | 204.0   | 192.3                     | 215.7                     | 5.7                     | 2.0                           | 2.9             |
| 105.0                  | 176.6   | 166.2                     | 187.0                     | 5.9                     | 2.1                           | 2.9             |
| 110.0                  | 153.4   | 144.1                     | 162.6                     | 6.0                     | 2.2                           | 2.8             |
| 115.0                  | 133.6   | 125.4                     | 141.8                     | 6.2                     | 2.3                           | 2.7             |
| 120.0                  | 116.8   | 109.5                     | 124.1                     | 6.3                     | 2.4                           | 2.7             |
| 125.0                  | 102.5   | 95.94                     | 109.1                     | 6.4                     | 2.5                           | 2.6             |
| 130.0                  | 90.27   | 84.37                     | 96.17                     | 6.5                     | 2.6                           | 2.5             |
| 135.0                  | 79.63   | 74.33                     | 84.93                     | 6.7                     | 2.7                           | 2.5             |
| 140.0                  | 70.44   | 65.67                     | 75.21                     | 6.8                     | 2.8                           | 2.4             |
| 145.0                  | 62.50   | 58.19                     | 66.80                     | 6.9                     | 2.9                           | 2.4             |
| 150.0                  | 55.59   | 51.70                     | 59.48                     | 7.0                     | 3.0                           | 2.3             |
| 155.0                  | 49.60   | 46.08                     | 53.13                     | 7.1                     | 3.1                           | 2.3             |

| <b>B57861S0302J040</b> |   |                           |                           |                         |                               |                 |
|------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016  |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 3000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 5\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$   | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 288910  | 260150                    | 317680                    | 10.0                    | 1.3                           | 7.4             |
| -50.0                  | 201030  | 181840                    | 220220                    | 9.5                     | 1.3                           | 7.1             |
| -45.0                  | 141510  | 128550                    | 154460                    | 9.2                     | 1.3                           | 6.9             |
| -40.0                  | 100950  | 92088                     | 109810                    | 8.8                     | 1.3                           | 6.7             |
| -35.0                  | 72777   | 66649                     | 78905                     | 8.4                     | 1.3                           | 6.4             |
| -30.0                  | 53100   | 48812                     | 57388                     | 8.1                     | 1.3                           | 6.2             |
| -25.0                  | 39111   | 36082                     | 42140                     | 7.7                     | 1.3                           | 6.0             |
| -20.0                  | 29121   | 26958                     | 31284                     | 7.4                     | 1.3                           | 5.8             |
| -15.0                  | 21879   | 20320                     | 23437                     | 7.1                     | 1.3                           | 5.6             |
| -10.0                  | 16599   | 15465                     | 17733                     | 6.8                     | 1.3                           | 5.4             |
| -5.0                   | 12695   | 11863                     | 13526                     | 6.5                     | 1.2                           | 5.3             |
| 0.0                    | 9795  | 9180                      | 10410                     | 6.3                     | 1.2                           | 5.1             |

| <b>B57861S0302J040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 3000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| 5.0                    | 7616   | 7158                 | 8074                 | 6.0                                  | 1.2        | 5.0        |
| 10.0                   | 5970   | 5626                 | 6314                 | 5.8                                  | 1.2        | 4.8        |
| 15.0                   | 4712   | 4452                 | 4972                 | 5.5                                  | 1.2        | 4.7        |
| 20.0                   | 3747   | 3549                 | 3945                 | 5.3                                  | 1.2        | 4.5        |
| <b>25.0</b>            | <b>3000</b>  | <b>2850</b>          | <b>3150</b>          | <b>5.0</b>                           | <b>1.1</b> | <b>4.4</b> |
| 30.0                   | 2417   | 2290                 | 2544                 | 5.3                                  | 1.2        | 4.3        |
| 35.0                   | 1959   | 1852                 | 2067                 | 5.5                                  | 1.3        | 4.1        |
| 40.0                   | 1598   | 1507                 | 1689                 | 5.7                                  | 1.4        | 4.0        |
| 45.0                   | 1311   | 1233                 | 1388                 | 5.9                                  | 1.5        | 3.9        |
| 50.0                   | 1081   | 1015                 | 1147                 | 6.1                                  | 1.6        | 3.8        |
| 55.0                   | 895.9  | 839.7                | 952.1                | 6.3                                  | 1.7        | 3.7        |
| 60.0                   | 746.4  | 698.2                | 794.6                | 6.5                                  | 1.8        | 3.6        |
| 65.0                   | 624.9  | 583.5                | 666.4                | 6.6                                  | 1.9        | 3.5        |
| 70.0                   | 525.6  | 489.8                | 561.4                | 6.8                                  | 2.0        | 3.4        |
| 75.0                   | 444.4  | 413.4                | 475.4                | 7.0                                  | 2.1        | 3.3        |
| 80.0                   | 377.4  | 350.5                | 404.3                | 7.1                                  | 2.2        | 3.2        |
| 85.0                   | 321.7  | 298.2                | 345.2                | 7.3                                  | 2.3        | 3.2        |
| 90.0                   | 275.3  | 254.8                | 295.8                | 7.4                                  | 2.4        | 3.1        |
| 95.0                   | 236.6  | 218.6                | 254.5                | 7.6                                  | 2.5        | 3.0        |
| 100.0                  | 204.0  | 188.2                | 219.8                | 7.7                                  | 2.6        | 2.9        |
| 105.0                  | 176.6  | 162.7                | 190.5                | 7.9                                  | 2.8        | 2.9        |
| 110.0                  | 153.4  | 141.1                | 165.7                | 8.0                                  | 2.9        | 2.8        |
| 115.0                  | 133.6  | 122.7                | 144.5                | 8.2                                  | 3.0        | 2.7        |
| 120.0                  | 116.8  | 107.1                | 126.5                | 8.3                                  | 3.1        | 2.7        |
| 125.0                  | 102.5  | 93.89                | 111.1                | 8.4                                  | 3.2        | 2.6        |
| 130.0                  | 90.27  | 82.57                | 97.97                | 8.5                                  | 3.4        | 2.5        |
| 135.0                  | 79.63  | 72.74                | 86.52                | 8.7                                  | 3.5        | 2.5        |
| 140.0                  | 70.44  | 64.26                | 76.62                | 8.8                                  | 3.6        | 2.4        |
| 145.0                  | 62.50  | 56.94                | 68.05                | 8.9                                  | 3.8        | 2.4        |
| 150.0                  | 55.59  | 50.59                | 60.59                | 9.0                                  | 3.9        | 2.3        |
| 155.0                  | 49.60  | 45.08                | 54.12                | 9.1                                  | 4.0        | 2.3        |

| <b>B57861S0502F040</b> |  |                      |                      |                                      |         |         |
|------------------------|--|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8016   |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 5000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| -55.0                  | 481520   | 452850               | 510200               | 6.0                                  | 0.8     | 7.4     |
| -50.0                  | 335050   | 316470               | 353630               | 5.5                                  | 0.8     | 7.1     |
| -45.0                  | 235840   | 223690               | 248000               | 5.2                                  | 0.7     | 6.9     |

| <b>B57861S0502F040</b> |   |                   |                   |                         |                               |                 |
|------------------------|---|-------------------|-------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016  |                   |                   |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 5000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                   |                   |                         |                               |                 |
|                        | $R_{nom}[\Omega]$   | $R_{min}[\Omega]$ | $R_{max}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -40.0                  | 168250  | 160210            | 176290            | 4.8                     | 0.7                           | 6.7             |
| -35.0                  | 121300  | 115930            | 126660            | 4.4                     | 0.7                           | 6.4             |
| -30.0                  | 88500   | 84893             | 92107             | 4.1                     | 0.7                           | 6.2             |
| -25.0                  | 65185   | 62744             | 67626             | 3.7                     | 0.6                           | 6.0             |
| -20.0                  | 48535   | 46871             | 50199             | 3.4                     | 0.6                           | 5.8             |
| -15.0                  | 36465   | 35326             | 37603             | 3.1                     | 0.6                           | 5.6             |
| -10.0                  | 27665   | 26882             | 28448             | 2.8                     | 0.5                           | 5.4             |
| -5.0                   | 21158   | 20619             | 21696             | 2.5                     | 0.5                           | 5.3             |
| 0.0                    | 16325   | 15954             | 16696             | 2.3                     | 0.4                           | 5.1             |
| 5.0                    | 12694   | 12438             | 12949             | 2.0                     | 0.4                           | 5.0             |
| 10.0                   | 9950  | 9775              | 10125             | 1.8                     | 0.4                           | 4.8             |
| 15.0                   | 7854  | 7735              | 7973              | 1.5                     | 0.3                           | 4.7             |
| 20.0                   | 6245  | 6165              | 6325              | 1.3                     | 0.3                           | 4.5             |
| <b>25.0</b>            | <b>5000</b>   | <b>4950</b>       | <b>5050</b>       | <b>1.0</b>              | <b>0.2</b>                    | <b>4.4</b>      |
| 30.0                   | 4029  | 3977              | 4080              | 1.3                     | 0.3                           | 4.3             |
| 35.0                   | 3266  | 3217              | 3314              | 1.5                     | 0.4                           | 4.1             |
| 40.0                   | 2664  | 2618              | 2709              | 1.7                     | 0.4                           | 4.0             |
| 45.0                   | 2184  | 2143              | 2226              | 1.9                     | 0.5                           | 3.9             |
| 50.0                   | 1802  | 1764              | 1839              | 2.1                     | 0.5                           | 3.8             |
| 55.0                   | 1493  | 1459              | 1527              | 2.3                     | 0.6                           | 3.7             |
| 60.0                   | 1244  | 1213              | 1275              | 2.5                     | 0.7                           | 3.6             |
| 65.0                   | 1042  | 1014              | 1069              | 2.6                     | 0.8                           | 3.5             |
| 70.0                   | 876.0   | 851.4             | 900.6             | 2.8                     | 0.8                           | 3.4             |
| 75.0                   | 740.7   | 718.7             | 762.7             | 3.0                     | 0.9                           | 3.3             |
| 80.0                   | 629.0   | 609.3             | 648.7             | 3.1                     | 1.0                           | 3.2             |
| 85.0                   | 536.2   | 518.5             | 553.8             | 3.3                     | 1.0                           | 3.2             |
| 90.0                   | 458.8   | 443.0             | 474.7             | 3.4                     | 1.1                           | 3.1             |
| 95.0                   | 394.3   | 380.1             | 408.4             | 3.6                     | 1.2                           | 3.0             |
| 100.0                  | 340.0   | 327.3             | 352.7             | 3.7                     | 1.3                           | 2.9             |
| 105.0                  | 294.3   | 282.9             | 305.7             | 3.9                     | 1.4                           | 2.9             |
| 110.0                  | 255.6   | 245.3             | 265.9             | 4.0                     | 1.4                           | 2.8             |
| 115.0                  | 222.7   | 213.5             | 231.9             | 4.2                     | 1.5                           | 2.7             |
| 120.0                  | 194.7   | 186.3             | 203.0             | 4.3                     | 1.6                           | 2.7             |
| 125.0                  | 170.9   | 163.3             | 178.4             | 4.4                     | 1.7                           | 2.6             |
| 130.0                  | 150.5   | 143.6             | 157.3             | 4.5                     | 1.8                           | 2.5             |
| 135.0                  | 132.7   | 126.5             | 138.9             | 4.7                     | 1.9                           | 2.5             |
| 140.0                  | 117.4   | 111.8             | 123.0             | 4.8                     | 2.0                           | 2.4             |
| 145.0                  | 104.2   | 99.07             | 109.3             | 4.9                     | 2.1                           | 2.4             |
| 150.0                  | 92.65   | 88.02             | 97.28             | 5.0                     | 2.2                           | 2.3             |
| 155.0                  | 82.67   | 78.45             | 86.90             | 5.1                     | 2.3                           | 2.3             |

| <b>B57861S0502H040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 5000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 481520   | 443220               | 519830               | 8.0                                  | 1.1        | 7.4        |
| -50.0                  | 335050   | 309770               | 360330               | 7.5                                  | 1.1        | 7.1        |
| -45.0                  | 235840   | 218970               | 252720               | 7.2                                  | 1.0        | 6.9        |
| -40.0                  | 168250   | 156840               | 179660               | 6.8                                  | 1.0        | 6.7        |
| -35.0                  | 121300   | 113510               | 129080               | 6.4                                  | 1.0        | 6.4        |
| -30.0                  | 88500  | 83123                | 93877                | 6.1                                  | 1.0        | 6.2        |
| -25.0                  | 65185  | 61440                | 68930                | 5.7                                  | 1.0        | 6.0        |
| -20.0                  | 48535  | 45901                | 51169                | 5.4                                  | 0.9        | 5.8        |
| -15.0                  | 36465  | 34597                | 38332                | 5.1                                  | 0.9        | 5.6        |
| -10.0                  | 27665  | 26329                | 29001                | 4.8                                  | 0.9        | 5.4        |
| -5.0                   | 21158  | 20196                | 22119                | 4.5                                  | 0.9        | 5.3        |
| 0.0                    | 16325  | 15627                | 17023                | 4.3                                  | 0.8        | 5.1        |
| 5.0                    | 12694  | 12185                | 13203                | 4.0                                  | 0.8        | 5.0        |
| 10.0                   | 9950   | 9576                 | 10324                | 3.8                                  | 0.8        | 4.8        |
| 15.0                   | 7854   | 7578                 | 8130                 | 3.5                                  | 0.8        | 4.7        |
| 20.0                   | 6245   | 6040                 | 6450                 | 3.3                                  | 0.7        | 4.5        |
| <b>25.0</b>            | <b>5000</b>  | <b>4850</b>          | <b>5150</b>          | <b>3.0</b>                           | <b>0.7</b> | <b>4.4</b> |
| 30.0                   | 4029   | 3897                 | 4160                 | 3.3                                  | 0.8        | 4.3        |
| 35.0                   | 3266   | 3152                 | 3379                 | 3.5                                  | 0.8        | 4.1        |
| 40.0                   | 2664   | 2565                 | 2762                 | 3.7                                  | 0.9        | 4.0        |
| 45.0                   | 2184   | 2099                 | 2269                 | 3.9                                  | 1.0        | 3.9        |
| 50.0                   | 1802   | 1728                 | 1875                 | 4.1                                  | 1.1        | 3.8        |
| 55.0                   | 1493   | 1429                 | 1557                 | 4.3                                  | 1.2        | 3.7        |
| 60.0                   | 1244   | 1189                 | 1299                 | 4.5                                  | 1.2        | 3.6        |
| 65.0                   | 1042   | 993.3                | 1090                 | 4.6                                  | 1.3        | 3.5        |
| 70.0                   | 876.0  | 833.9                | 918.1                | 4.8                                  | 1.4        | 3.4        |
| 75.0                   | 740.7  | 703.9                | 777.5                | 5.0                                  | 1.5        | 3.3        |
| 80.0                   | 629.0  | 596.7                | 661.3                | 5.1                                  | 1.6        | 3.2        |
| 85.0                   | 536.2  | 507.8                | 564.5                | 5.3                                  | 1.7        | 3.2        |
| 90.0                   | 458.8  | 433.9                | 483.8                | 5.4                                  | 1.8        | 3.1        |
| 95.0                   | 394.3  | 372.2                | 416.3                | 5.6                                  | 1.9        | 3.0        |
| 100.0                  | 340.0  | 320.5                | 359.5                | 5.7                                  | 2.0        | 2.9        |
| 105.0                  | 294.3  | 277.0                | 311.6                | 5.9                                  | 2.1        | 2.9        |
| 110.0                  | 255.6  | 240.2                | 271.0                | 6.0                                  | 2.2        | 2.8        |
| 115.0                  | 222.7  | 209.0                | 236.4                | 6.2                                  | 2.3        | 2.7        |
| 120.0                  | 194.7  | 182.4                | 206.9                | 6.3                                  | 2.4        | 2.7        |
| 125.0                  | 170.9  | 159.9                | 181.8                | 6.4                                  | 2.5        | 2.6        |
| 130.0                  | 150.5  | 140.6                | 160.3                | 6.5                                  | 2.6        | 2.5        |
| 135.0                  | 132.7  | 123.9                | 141.6                | 6.7                                  | 2.7        | 2.5        |

| <b>B57861S0502H040</b> |   |                           |                           |                         |                               |                 |
|------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016  |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 5000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 3\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$   | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 140.0                  | 117.4   | 109.4                     | 125.4                     | 6.8                     | 2.8                           | 2.4             |
| 145.0                  | 104.2   | 96.99                     | 111.3                     | 6.9                     | 2.9                           | 2.4             |
| 150.0                  | 92.65   | 86.16                     | 99.14                     | 7.0                     | 3.0                           | 2.3             |
| 155.0                  | 82.67   | 76.79                     | 88.55                     | 7.1                     | 3.1                           | 2.3             |

| <b>B57861S0502J040</b> |   |                           |                           |                         |                               |                 |
|------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016  |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 5000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 5\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$   | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 481520  | 433590                    | 529460                    | 10.0                    | 1.3                           | 7.4             |
| -50.0                  | 335050  | 303070                    | 367030                    | 9.5                     | 1.3                           | 7.1             |
| -45.0                  | 235840  | 214260                    | 257430                    | 9.2                     | 1.3                           | 6.9             |
| -40.0                  | 168250  | 153480                    | 183020                    | 8.8                     | 1.3                           | 6.7             |
| -35.0                  | 121300  | 111080                    | 131510                    | 8.4                     | 1.3                           | 6.4             |
| -30.0                  | 88500   | 81353                     | 95647                     | 8.1                     | 1.3                           | 6.2             |
| -25.0                  | 65185   | 60136                     | 70234                     | 7.7                     | 1.3                           | 6.0             |
| -20.0                  | 48535   | 44930                     | 52140                     | 7.4                     | 1.3                           | 5.8             |
| -15.0                  | 36465   | 33867                     | 39062                     | 7.1                     | 1.3                           | 5.6             |
| -10.0                  | 27665   | 25776                     | 29554                     | 6.8                     | 1.3                           | 5.4             |
| -5.0                   | 21158   | 19772                     | 22543                     | 6.5                     | 1.2                           | 5.3             |
| 0.0                    | 16325   | 15301                     | 17349                     | 6.3                     | 1.2                           | 5.1             |
| 5.0                    | 12694   | 11931                     | 13457                     | 6.0                     | 1.2                           | 5.0             |
| 10.0                   | 9950  | 9377                      | 10523                     | 5.8                     | 1.2                           | 4.8             |
| 15.0                   | 7854  | 7421                      | 8287                      | 5.5                     | 1.2                           | 4.7             |
| 20.0                   | 6245  | 5915                      | 6575                      | 5.3                     | 1.2                           | 4.5             |
| <b>25.0</b>            | <b>5000</b>   | <b>4750</b>               | <b>5250</b>               | <b>5.0</b>              | <b>1.1</b>                    | <b>4.4</b>      |
| 30.0                   | 4029  | 3816                      | 4241                      | 5.3                     | 1.2                           | 4.3             |
| 35.0                   | 3266  | 3087                      | 3445                      | 5.5                     | 1.3                           | 4.1             |
| 40.0                   | 2664  | 2512                      | 2815                      | 5.7                     | 1.4                           | 4.0             |
| 45.0                   | 2184  | 2056                      | 2313                      | 5.9                     | 1.5                           | 3.9             |
| 50.0                   | 1802  | 1692                      | 1911                      | 6.1                     | 1.6                           | 3.8             |
| 55.0                   | 1493  | 1399                      | 1587                      | 6.3                     | 1.7                           | 3.7             |
| 60.0                   | 1244  | 1164                      | 1324                      | 6.5                     | 1.8                           | 3.6             |
| 65.0                   | 1042  | 972.4                     | 1111                      | 6.6                     | 1.9                           | 3.5             |
| 70.0                   | 876.0   | 816.4                     | 935.6                     | 6.8                     | 2.0                           | 3.4             |
| 75.0                   | 740.7   | 689.1                     | 792.3                     | 7.0                     | 2.1                           | 3.3             |
| 80.0                   | 629.0   | 584.1                     | 673.9                     | 7.1                     | 2.2                           | 3.2             |
| 85.0                   | 536.2   | 497.1                     | 575.3                     | 7.3                     | 2.3                           | 3.2             |
| 90.0                   | 458.8   | 424.7                     | 493.0                     | 7.4                     | 2.4                           | 3.1             |



| <b>B57861S0502J040</b> |  |                      |                      |                                      |         |         |
|------------------------|--|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8016   |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 5000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| 95.0                   | 394.3  | 364.3                | 424.2                | 7.6                                  | 2.5     | 3.0     |
| 100.0                  | 340.0  | 313.7                | 366.3                | 7.7                                  | 2.6     | 2.9     |
| 105.0                  | 294.3  | 271.1                | 317.5                | 7.9                                  | 2.8     | 2.9     |
| 110.0                  | 255.6  | 235.1                | 276.1                | 8.0                                  | 2.9     | 2.8     |
| 115.0                  | 222.7  | 204.6                | 240.9                | 8.2                                  | 3.0     | 2.7     |
| 120.0                  | 194.7  | 178.5                | 210.8                | 8.3                                  | 3.1     | 2.7     |
| 125.0                  | 170.9  | 156.5                | 185.2                | 8.4                                  | 3.2     | 2.6     |
| 130.0                  | 150.5  | 137.6                | 163.3                | 8.5                                  | 3.4     | 2.5     |
| 135.0                  | 132.7  | 121.2                | 144.2                | 8.7                                  | 3.5     | 2.5     |
| 140.0                  | 117.4  | 107.1                | 127.7                | 8.8                                  | 3.6     | 2.4     |
| 145.0                  | 104.2  | 94.90                | 113.4                | 8.9                                  | 3.8     | 2.4     |
| 150.0                  | 92.65  | 84.31                | 101.0                | 9.0                                  | 3.9     | 2.3     |
| 155.0                  | 82.67  | 75.14                | 90.21                | 9.1                                  | 4.0     | 2.3     |

| <b>B57861S0103F040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 10000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 963050  | 905700               | 1020400              | 6.0                                  | 0.8        | 7.4        |
| -50.0                  | 670100  | 632940               | 707260               | 5.5                                  | 0.8        | 7.1        |
| -45.0                  | 471690  | 447380               | 496000               | 5.2                                  | 0.7        | 6.9        |
| -40.0                  | 336500  | 320420               | 352580               | 4.8                                  | 0.7        | 6.7        |
| -35.0                  | 242590  | 231870               | 253310               | 4.4                                  | 0.7        | 6.4        |
| -30.0                  | 177000  | 169790               | 184210               | 4.1                                  | 0.7        | 6.2        |
| -25.0                  | 130370  | 125490               | 135250               | 3.7                                  | 0.6        | 6.0        |
| -20.0                  | 97070   | 93743                | 100400               | 3.4                                  | 0.6        | 5.8        |
| -15.0                  | 72929   | 70652                | 75206                | 3.1                                  | 0.6        | 5.6        |
| -10.0                  | 55330   | 53765                | 56895                | 2.8                                  | 0.5        | 5.4        |
| -5.0                   | 42315   | 41237                | 43393                | 2.5                                  | 0.5        | 5.3        |
| 0.0                    | 32650   | 31907                | 33393                | 2.3                                  | 0.4        | 5.1        |
| 5.0                    | 25388   | 24877                | 25898                | 2.0                                  | 0.4        | 5.0        |
| 10.0                   | 19900   | 19550                | 20250                | 1.8                                  | 0.4        | 4.8        |
| 15.0                   | 15708   | 15470                | 15946                | 1.5                                  | 0.3        | 4.7        |
| 20.0                   | 12490   | 12330                | 12650                | 1.3                                  | 0.3        | 4.5        |
| <b>25.0</b>            | <b>10000</b>  | <b>9900</b>          | <b>10100</b>         | <b>1.0</b>                           | <b>0.2</b> | <b>4.4</b> |
| 30.0                   | 8057  | 7955                 | 8159                 | 1.3                                  | 0.3        | 4.3        |
| 35.0                   | 6531  | 6434                 | 6628                 | 1.5                                  | 0.4        | 4.1        |
| 40.0                   | 5327  | 5237                 | 5417                 | 1.7                                  | 0.4        | 4.0        |
| 45.0                   | 4369  | 4286                 | 4451                 | 1.9                                  | 0.5        | 3.9        |

| <b>B57861S0103F040</b> |  |                           |                           |                         |                               |                 |
|------------------------|--|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016   |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 10000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$  | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 50.0                   | 3603   | 3528                      | 3678                      | 2.1                     | 0.5                           | 3.8             |
| 55.0                   | 2986   | 2918                      | 3054                      | 2.3                     | 0.6                           | 3.7             |
| 60.0                   | 2488   | 2427                      | 2549                      | 2.5                     | 0.7                           | 3.6             |
| 65.0                   | 2083   | 2028                      | 2138                      | 2.6                     | 0.8                           | 3.5             |
| 70.0                   | 1752   | 1703                      | 1801                      | 2.8                     | 0.8                           | 3.4             |
| 75.0                   | 1481   | 1437                      | 1525                      | 3.0                     | 0.9                           | 3.3             |
| 80.0                   | 1258   | 1219                      | 1297                      | 3.1                     | 1.0                           | 3.2             |
| 85.0                   | 1072   | 1037                      | 1108                      | 3.3                     | 1.0                           | 3.2             |
| 90.0                   | 917.7  | 886.1                     | 949.3                     | 3.4                     | 1.1                           | 3.1             |
| 95.0                   | 788.5  | 760.2                     | 816.9                     | 3.6                     | 1.2                           | 3.0             |
| 100.0                  | 680.0  | 654.6                     | 705.4                     | 3.7                     | 1.3                           | 2.9             |
| 105.0                  | 588.6  | 565.8                     | 611.4                     | 3.9                     | 1.4                           | 2.9             |
| 110.0                  | 511.2  | 490.7                     | 531.7                     | 4.0                     | 1.4                           | 2.8             |
| 115.0                  | 445.4  | 426.9                     | 463.9                     | 4.2                     | 1.5                           | 2.7             |
| 120.0                  | 389.3  | 372.6                     | 406.0                     | 4.3                     | 1.6                           | 2.7             |
| 125.0                  | 341.7  | 326.6                     | 356.8                     | 4.4                     | 1.7                           | 2.6             |
| 130.0                  | 300.9  | 287.3                     | 314.5                     | 4.5                     | 1.8                           | 2.5             |
| 135.0                  | 265.4  | 253.1                     | 277.8                     | 4.7                     | 1.9                           | 2.5             |
| 140.0                  | 234.8  | 223.6                     | 246.0                     | 4.8                     | 2.0                           | 2.4             |
| 145.0                  | 208.3  | 198.1                     | 218.5                     | 4.9                     | 2.1                           | 2.4             |
| 150.0                  | 185.3  | 176.0                     | 194.6                     | 5.0                     | 2.2                           | 2.3             |
| 155.0                  | 165.3  | 156.9                     | 173.8                     | 5.1                     | 2.3                           | 2.3             |

| <b>B57861S0103H040</b> |  |                           |                           |                         |                               |                 |
|------------------------|--|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8016   |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3988 \text{ K}$ , $R_{25} = 10000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 3\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$  | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 963050   | 886440                    | 1039700                   | 8.0                     | 1.1                           | 7.4             |
| -50.0                  | 670100   | 619540                    | 720660                    | 7.5                     | 1.1                           | 7.1             |
| -45.0                  | 471690   | 437940                    | 505430                    | 7.2                     | 1.0                           | 6.9             |
| -40.0                  | 336500   | 313690                    | 359310                    | 6.8                     | 1.0                           | 6.7             |
| -35.0                  | 242590   | 227020                    | 258160                    | 6.4                     | 1.0                           | 6.4             |
| -30.0                  | 177000   | 166250                    | 187750                    | 6.1                     | 1.0                           | 6.2             |
| -25.0                  | 130370   | 122880                    | 137860                    | 5.7                     | 1.0                           | 6.0             |
| -20.0                  | 97070  | 91801                     | 102340                    | 5.4                     | 0.9                           | 5.8             |
| -15.0                  | 72929  | 69193                     | 76665                     | 5.1                     | 0.9                           | 5.6             |
| -10.0                  | 55330  | 52658                     | 58002                     | 4.8                     | 0.9                           | 5.4             |
| -5.0                   | 42315  | 40391                     | 44239                     | 4.5                     | 0.9                           | 5.3             |
| 0.0                    | 32650  | 31254                     | 34046                     | 4.3                     | 0.8                           | 5.1             |

| <b>B57861S0103H040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 10000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| 5.0                    | 25388   | 24369                | 26406                | 4.0                                  | 0.8        | 5.0        |
| 10.0                   | 19900   | 19152                | 20648                | 3.8                                  | 0.8        | 4.8        |
| 15.0                   | 15708   | 15156                | 16260                | 3.5                                  | 0.8        | 4.7        |
| 20.0                   | 12490   | 12081                | 12899                | 3.3                                  | 0.7        | 4.5        |
| <b>25.0</b>            | <b>10000</b>  | <b>9700</b>          | <b>10300</b>         | <b>3.0</b>                           | <b>0.7</b> | <b>4.4</b> |
| 30.0                   | 8057  | 7793                 | 8321                 | 3.3                                  | 0.8        | 4.3        |
| 35.0                   | 6531  | 6304                 | 6759                 | 3.5                                  | 0.8        | 4.1        |
| 40.0                   | 5327  | 5130                 | 5524                 | 3.7                                  | 0.9        | 4.0        |
| 45.0                   | 4369  | 4199                 | 4539                 | 3.9                                  | 1.0        | 3.9        |
| 50.0                   | 3603  | 3456                 | 3750                 | 4.1                                  | 1.1        | 3.8        |
| 55.0                   | 2986  | 2859                 | 3114                 | 4.3                                  | 1.2        | 3.7        |
| 60.0                   | 2488  | 2377                 | 2599                 | 4.5                                  | 1.2        | 3.6        |
| 65.0                   | 2083  | 1987                 | 2180                 | 4.6                                  | 1.3        | 3.5        |
| 70.0                   | 1752  | 1668                 | 1836                 | 4.8                                  | 1.4        | 3.4        |
| 75.0                   | 1481  | 1408                 | 1555                 | 5.0                                  | 1.5        | 3.3        |
| 80.0                   | 1258  | 1193                 | 1323                 | 5.1                                  | 1.6        | 3.2        |
| 85.0                   | 1072  | 1016                 | 1129                 | 5.3                                  | 1.7        | 3.2        |
| 90.0                   | 917.7   | 867.7                | 967.7                | 5.4                                  | 1.8        | 3.1        |
| 95.0                   | 788.5   | 744.4                | 832.6                | 5.6                                  | 1.9        | 3.0        |
| 100.0                  | 680.0   | 641.0                | 719.0                | 5.7                                  | 2.0        | 2.9        |
| 105.0                  | 588.6   | 554.0                | 623.2                | 5.9                                  | 2.1        | 2.9        |
| 110.0                  | 511.2   | 480.4                | 542.0                | 6.0                                  | 2.2        | 2.8        |
| 115.0                  | 445.4   | 418.0                | 472.8                | 6.2                                  | 2.3        | 2.7        |
| 120.0                  | 389.3   | 364.8                | 413.8                | 6.3                                  | 2.4        | 2.7        |
| 125.0                  | 341.7   | 319.8                | 363.6                | 6.4                                  | 2.5        | 2.6        |
| 130.0                  | 300.9   | 281.2                | 320.6                | 6.5                                  | 2.6        | 2.5        |
| 135.0                  | 265.4   | 247.8                | 283.1                | 6.7                                  | 2.7        | 2.5        |
| 140.0                  | 234.8   | 218.9                | 250.7                | 6.8                                  | 2.8        | 2.4        |
| 145.0                  | 208.3   | 194.0                | 222.7                | 6.9                                  | 2.9        | 2.4        |
| 150.0                  | 185.3   | 172.3                | 198.3                | 7.0                                  | 3.0        | 2.3        |
| 155.0                  | 165.3   | 153.6                | 177.1                | 7.1                                  | 3.1        | 2.3        |

| <b>B57861S0103J040</b> |   |                      |                      |                                      |         |         |
|------------------------|---|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8016  |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 10000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| -55.0                  | 963050  | 867180               | 1058900              | 10.0                                 | 1.3     | 7.4     |
| -50.0                  | 670100  | 606140               | 734070               | 9.5                                  | 1.3     | 7.1     |
| -45.0                  | 471690  | 428510               | 514870               | 9.2                                  | 1.3     | 6.9     |

| <b>B57861S0103J040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8016  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3988 K, R <sub>25</sub> = 10000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -40.0                  | 336500  | 306960               | 366040               | 8.8                                  | 1.3        | 6.7        |
| -35.0                  | 242590  | 222160               | 263020               | 8.4                                  | 1.3        | 6.4        |
| -30.0                  | 177000  | 162710               | 191290               | 8.1                                  | 1.3        | 6.2        |
| -25.0                  | 130370  | 120270               | 140470               | 7.7                                  | 1.3        | 6.0        |
| -20.0                  | 97070   | 89860                | 104280               | 7.4                                  | 1.3        | 5.8        |
| -15.0                  | 72929   | 67735                | 78124                | 7.1                                  | 1.3        | 5.6        |
| -10.0                  | 55330   | 51551                | 59108                | 6.8                                  | 1.3        | 5.4        |
| -5.0                   | 42315   | 39545                | 45085                | 6.5                                  | 1.2        | 5.3        |
| 0.0                    | 32650   | 30601                | 34699                | 6.3                                  | 1.2        | 5.1        |
| 5.0                    | 25388   | 23861                | 26914                | 6.0                                  | 1.2        | 5.0        |
| 10.0                   | 19900   | 18754                | 21046                | 5.8                                  | 1.2        | 4.8        |
| 15.0                   | 15708   | 14842                | 16574                | 5.5                                  | 1.2        | 4.7        |
| 20.0                   | 12490   | 11831                | 13149                | 5.3                                  | 1.2        | 4.5        |
| <b>25.0</b>            | <b>10000</b>  | <b>9500</b>          | <b>10500</b>         | <b>5.0</b>                           | <b>1.1</b> | <b>4.4</b> |
| 30.0                   | 8057  | 7632                 | 8482                 | 5.3                                  | 1.2        | 4.3        |
| 35.0                   | 6531  | 6173                 | 6889                 | 5.5                                  | 1.3        | 4.1        |
| 40.0                   | 5327  | 5024                 | 5630                 | 5.7                                  | 1.4        | 4.0        |
| 45.0                   | 4369  | 4111                 | 4626                 | 5.9                                  | 1.5        | 3.9        |
| 50.0                   | 3603  | 3384                 | 3822                 | 6.1                                  | 1.6        | 3.8        |
| 55.0                   | 2986  | 2799                 | 3174                 | 6.3                                  | 1.7        | 3.7        |
| 60.0                   | 2488  | 2327                 | 2649                 | 6.5                                  | 1.8        | 3.6        |
| 65.0                   | 2083  | 1945                 | 2221                 | 6.6                                  | 1.9        | 3.5        |
| 70.0                   | 1752  | 1633                 | 1871                 | 6.8                                  | 2.0        | 3.4        |
| 75.0                   | 1481  | 1378                 | 1585                 | 7.0                                  | 2.1        | 3.3        |
| 80.0                   | 1258  | 1168                 | 1348                 | 7.1                                  | 2.2        | 3.2        |
| 85.0                   | 1072  | 994.2                | 1151                 | 7.3                                  | 2.3        | 3.2        |
| 90.0                   | 917.7   | 849.4                | 986.0                | 7.4                                  | 2.4        | 3.1        |
| 95.0                   | 788.5   | 728.6                | 848.4                | 7.6                                  | 2.5        | 3.0        |
| 100.0                  | 680.0   | 627.4                | 732.6                | 7.7                                  | 2.6        | 2.9        |
| 105.0                  | 588.6   | 542.2                | 635.0                | 7.9                                  | 2.8        | 2.9        |
| 110.0                  | 511.2   | 470.2                | 552.2                | 8.0                                  | 2.9        | 2.8        |
| 115.0                  | 445.4   | 409.1                | 481.7                | 8.2                                  | 3.0        | 2.7        |
| 120.0                  | 389.3   | 357.1                | 421.5                | 8.3                                  | 3.1        | 2.7        |
| 125.0                  | 341.7   | 313.0                | 370.4                | 8.4                                  | 3.2        | 2.6        |
| 130.0                  | 300.9   | 275.2                | 326.6                | 8.5                                  | 3.4        | 2.5        |
| 135.0                  | 265.4   | 242.5                | 288.4                | 8.7                                  | 3.5        | 2.5        |
| 140.0                  | 234.8   | 214.2                | 255.4                | 8.8                                  | 3.6        | 2.4        |
| 145.0                  | 208.3   | 189.8                | 226.8                | 8.9                                  | 3.8        | 2.4        |
| 150.0                  | 185.3   | 168.6                | 202.0                | 9.0                                  | 3.9        | 2.3        |
| 155.0                  | 165.3   | 150.3                | 180.4                | 9.1                                  | 4.0        | 2.3        |

| <b>B57861S0303F040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8018  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3964 K, R <sub>25</sub> = 30000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 2472200   | 2325700              | 2618700              | 5.9                                  | 0.8        | 7.0        |
| -50.0                  | 1750300   | 1653700              | 1846900              | 5.5                                  | 0.8        | 6.8        |
| -45.0                  | 1253200   | 1189000              | 1317500              | 5.1                                  | 0.8        | 6.6        |
| -40.0                  | 907060  | 863910               | 950200               | 4.8                                  | 0.7        | 6.4        |
| -35.0                  | 663280  | 634100               | 692460               | 4.4                                  | 0.7        | 6.2        |
| -30.0                  | 489810  | 469940               | 509680               | 4.1                                  | 0.7        | 6.0        |
| -25.0                  | 365130  | 351510               | 378740               | 3.7                                  | 0.6        | 5.8        |
| -20.0                  | 274640  | 265270               | 284020               | 3.4                                  | 0.6        | 5.6        |
| -15.0                  | 208370  | 201890               | 214850               | 3.1                                  | 0.6        | 5.4        |
| -10.0                  | 159410  | 154910               | 163900               | 2.8                                  | 0.5        | 5.3        |
| -5.0                   | 122920  | 119800               | 126030               | 2.5                                  | 0.5        | 5.1        |
| 0.0                    | 95501   | 93336                | 97666                | 2.3                                  | 0.5        | 5.0        |
| 5.0                    | 74745   | 73245                | 76244                | 2.0                                  | 0.4        | 4.8        |
| 10.0                   | 58911   | 57877                | 59944                | 1.8                                  | 0.4        | 4.7        |
| 15.0                   | 46745   | 46038                | 47451                | 1.5                                  | 0.3        | 4.6        |
| 20.0                   | 37332   | 36855                | 37808                | 1.3                                  | 0.3        | 4.4        |
| <b>25.0</b>            | <b>30000</b>  | <b>29700</b>         | <b>30300</b>         | <b>1.0</b>                           | <b>0.2</b> | <b>4.3</b> |
| 30.0                   | 24253   | 23945                | 24561                | 1.3                                  | 0.3        | 4.2        |
| 35.0                   | 19720   | 19428                | 20012                | 1.5                                  | 0.4        | 4.1        |
| 40.0                   | 16123   | 15851                | 16395                | 1.7                                  | 0.4        | 4.0        |
| 45.0                   | 13252   | 13002                | 13502                | 1.9                                  | 0.5        | 3.9        |
| 50.0                   | 10949   | 10721                | 11177                | 2.1                                  | 0.6        | 3.8        |
| 55.0                   | 9091  | 8885                 | 9297                 | 2.3                                  | 0.6        | 3.7        |
| 60.0                   | 7584  | 7399                 | 7770                 | 2.4                                  | 0.7        | 3.6        |
| 65.0                   | 6356  | 6189                 | 6523                 | 2.6                                  | 0.8        | 3.5        |
| 70.0                   | 5351  | 5201                 | 5500                 | 2.8                                  | 0.8        | 3.4        |
| 75.0                   | 4524  | 4390                 | 4657                 | 3.0                                  | 0.9        | 3.3        |
| 80.0                   | 3840  | 3720                 | 3960                 | 3.1                                  | 1.0        | 3.2        |
| 85.0                   | 3273  | 3166                 | 3380                 | 3.3                                  | 1.0        | 3.2        |
| 90.0                   | 2800  | 2704                 | 2896                 | 3.4                                  | 1.1        | 3.1        |
| 95.0                   | 2405  | 2319                 | 2491                 | 3.6                                  | 1.2        | 3.0        |
| 100.0                  | 2073  | 1995                 | 2150                 | 3.7                                  | 1.3        | 2.9        |
| 105.0                  | 1792  | 1723                 | 1862                 | 3.9                                  | 1.3        | 2.9        |
| 110.0                  | 1555  | 1493                 | 1618                 | 4.0                                  | 1.4        | 2.8        |
| 115.0                  | 1354  | 1298                 | 1410                 | 4.1                                  | 1.5        | 2.7        |
| 120.0                  | 1182  | 1132                 | 1233                 | 4.3                                  | 1.6        | 2.7        |
| 125.0                  | 1036  | 990.3                | 1081                 | 4.4                                  | 1.7        | 2.6        |
| 130.0                  | 910.0   | 868.9                | 951.0                | 4.5                                  | 1.8        | 2.6        |
| 135.0                  | 801.7   | 764.6                | 838.9                | 4.6                                  | 1.8        | 2.5        |

| <b>B57861S0303F040</b> |  |                           |                           |                         |                               |                 |
|------------------------|--|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8018   |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3964 \text{ K}$ , $R_{25} = 30000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$  | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 140.0                  | 708.3  | 674.6                     | 741.9                     | 4.8                     | 1.9                           | 2.5             |
| 145.0                  | 627.4  | 596.9                     | 658.0                     | 4.9                     | 2.0                           | 2.4             |
| 150.0                  | 557.2  | 529.5                     | 585.0                     | 5.0                     | 2.1                           | 2.3             |
| 155.0                  | 496.1  | 470.9                     | 521.4                     | 5.1                     | 2.2                           | 2.3             |

| <b>B57861S0303H040</b> |  |                           |                           |                         |                               |                 |
|------------------------|--|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8018   |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3964 \text{ K}$ , $R_{25} = 30000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 3\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$  | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 2472200  | 2276300                   | 2668200                   | 7.9                     | 1.1                           | 7.0             |
| -50.0                  | 1750300  | 1618700                   | 1881900                   | 7.5                     | 1.1                           | 6.8             |
| -45.0                  | 1253200  | 1163900                   | 1342600                   | 7.1                     | 1.1                           | 6.6             |
| -40.0                  | 907060   | 845770                    | 968340                    | 6.8                     | 1.1                           | 6.4             |
| -35.0                  | 663280   | 620830                    | 705730                    | 6.4                     | 1.0                           | 6.2             |
| -30.0                  | 489810   | 460140                    | 519480                    | 6.1                     | 1.0                           | 6.0             |
| -25.0                  | 365130   | 344210                    | 386040                    | 5.7                     | 1.0                           | 5.8             |
| -20.0                  | 274640   | 259780                    | 289510                    | 5.4                     | 1.0                           | 5.6             |
| -15.0                  | 208370   | 197730                    | 219020                    | 5.1                     | 0.9                           | 5.4             |
| -10.0                  | 159410   | 151720                    | 167090                    | 4.8                     | 0.9                           | 5.3             |
| -5.0                   | 122920   | 117340                    | 128490                    | 4.5                     | 0.9                           | 5.1             |
| 0.0                    | 95501  | 91426                     | 99576                     | 4.3                     | 0.9                           | 5.0             |
| 5.0                    | 74745  | 71750                     | 77739                     | 4.0                     | 0.8                           | 4.8             |
| 10.0                   | 58911  | 56699                     | 61122                     | 3.8                     | 0.8                           | 4.7             |
| 15.0                   | 46745  | 45103                     | 48386                     | 3.5                     | 0.8                           | 4.6             |
| 20.0                   | 37332  | 36108                     | 38555                     | 3.3                     | 0.7                           | 4.4             |
| <b>25.0</b>            | <b>30000</b>   | <b>29100</b>              | <b>30900</b>              | <b>3.0</b>              | <b>0.7</b>                    | <b>4.3</b>      |
| 30.0                   | 24253  | 23460                     | 25046                     | 3.3                     | 0.8                           | 4.2             |
| 35.0                   | 19720  | 19033                     | 20406                     | 3.5                     | 0.9                           | 4.1             |
| 40.0                   | 16123  | 15528                     | 16717                     | 3.7                     | 0.9                           | 4.0             |
| 45.0                   | 13252  | 12737                     | 13767                     | 3.9                     | 1.0                           | 3.9             |
| 50.0                   | 10949  | 10503                     | 11396                     | 4.1                     | 1.1                           | 3.8             |
| 55.0                   | 9091   | 8703                      | 9479                      | 4.3                     | 1.2                           | 3.7             |
| 60.0                   | 7584   | 7247                      | 7921                      | 4.4                     | 1.2                           | 3.6             |
| 65.0                   | 6356   | 6062                      | 6650                      | 4.6                     | 1.3                           | 3.5             |
| 70.0                   | 5351   | 5094                      | 5607                      | 4.8                     | 1.4                           | 3.4             |
| 75.0                   | 4524   | 4299                      | 4748                      | 5.0                     | 1.5                           | 3.3             |
| 80.0                   | 3840   | 3643                      | 4037                      | 5.1                     | 1.6                           | 3.2             |
| 85.0                   | 3273   | 3100                      | 3446                      | 5.3                     | 1.7                           | 3.2             |
| 90.0                   | 2800   | 2648                      | 2952                      | 5.4                     | 1.8                           | 3.1             |

| <b>B57861S0303H040</b> |   |                      |                      |                                      |         |         |
|------------------------|---|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 8018  |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3964 K, R <sub>25</sub> = 30000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| 95.0                   | 2405  | 2271                 | 2539                 | 5.6                                  | 1.9     | 3.0     |
| 100.0                  | 2073  | 1954                 | 2191                 | 5.7                                  | 1.9     | 2.9     |
| 105.0                  | 1792  | 1687                 | 1897                 | 5.9                                  | 2.0     | 2.9     |
| 110.0                  | 1555  | 1462                 | 1649                 | 6.0                                  | 2.1     | 2.8     |
| 115.0                  | 1354  | 1271                 | 1437                 | 6.1                                  | 2.2     | 2.7     |
| 120.0                  | 1182  | 1108                 | 1257                 | 6.3                                  | 2.3     | 2.7     |
| 125.0                  | 1036  | 969.6                | 1102                 | 6.4                                  | 2.4     | 2.6     |
| 130.0                  | 910.0   | 850.7                | 969.2                | 6.5                                  | 2.5     | 2.6     |
| 135.0                  | 801.7   | 748.5                | 854.9                | 6.6                                  | 2.6     | 2.5     |
| 140.0                  | 708.3   | 660.5                | 756.1                | 6.8                                  | 2.8     | 2.5     |
| 145.0                  | 627.4   | 584.4                | 670.5                | 6.9                                  | 2.9     | 2.4     |
| 150.0                  | 557.2   | 518.4                | 596.1                | 7.0                                  | 3.0     | 2.3     |
| 155.0                  | 496.1   | 461.0                | 531.3                | 7.1                                  | 3.1     | 2.3     |

| <b>B57861S0303J040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 8018  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3964 K, R <sub>25</sub> = 30000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 2472200   | 2226900              | 2717600              | 9.9                                  | 1.4        | 7.0        |
| -50.0                  | 1750300   | 1583700              | 1916900              | 9.5                                  | 1.4        | 6.8        |
| -45.0                  | 1253200   | 1138800              | 1367700              | 9.1                                  | 1.4        | 6.6        |
| -40.0                  | 907060  | 827630               | 986480               | 8.8                                  | 1.4        | 6.4        |
| -35.0                  | 663280  | 607570               | 718990               | 8.4                                  | 1.4        | 6.2        |
| -30.0                  | 489810  | 450340               | 529280               | 8.1                                  | 1.4        | 6.0        |
| -25.0                  | 365130  | 336910               | 393350               | 7.7                                  | 1.3        | 5.8        |
| -20.0                  | 274640  | 254280               | 295000               | 7.4                                  | 1.3        | 5.6        |
| -15.0                  | 208370  | 193560               | 223190               | 7.1                                  | 1.3        | 5.4        |
| -10.0                  | 159410  | 148540               | 170270               | 6.8                                  | 1.3        | 5.3        |
| -5.0                   | 122920  | 114880               | 130950               | 6.5                                  | 1.3        | 5.1        |
| 0.0                    | 95501   | 89516                | 101490               | 6.3                                  | 1.3        | 5.0        |
| 5.0                    | 74745   | 70255                | 79234                | 6.0                                  | 1.2        | 4.8        |
| 10.0                   | 58911   | 55521                | 62301                | 5.8                                  | 1.2        | 4.7        |
| 15.0                   | 46745   | 44168                | 49321                | 5.5                                  | 1.2        | 4.6        |
| 20.0                   | 37332   | 35362                | 39302                | 5.3                                  | 1.2        | 4.4        |
| <b>25.0</b>            | <b>30000</b>  | <b>28500</b>         | <b>31500</b>         | <b>5.0</b>                           | <b>1.2</b> | <b>4.3</b> |
| 30.0                   | 24253   | 22975                | 25531                | 5.3                                  | 1.3        | 4.2        |
| 35.0                   | 19720   | 18639                | 20801                | 5.5                                  | 1.3        | 4.1        |
| 40.0                   | 16123   | 15206                | 17040                | 5.7                                  | 1.4        | 4.0        |
| 45.0                   | 13252   | 12472                | 14032                | 5.9                                  | 1.5        | 3.9        |

| <b>B57861S0303J040</b> |  |                          |                          |                         |                               |                 |
|------------------------|--|--------------------------|--------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 8018   |                          |                          |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3964 \text{ K}$ , $R_{25} = 30000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 5\%$ |                          |                          |                         |                               |                 |
|                        | $R_{\text{nom}}[\Omega]$   | $R_{\text{min}}[\Omega]$ | $R_{\text{max}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 50.0                   | 10949  | 10284                    | 11615                    | 6.1                     | 1.6                           | 3.8             |
| 55.0                   | 9091   | 8521                     | 9660                     | 6.3                     | 1.7                           | 3.7             |
| 60.0                   | 7584   | 7095                     | 8073                     | 6.4                     | 1.8                           | 3.6             |
| 65.0                   | 6356   | 5935                     | 6777                     | 6.6                     | 1.9                           | 3.5             |
| 70.0                   | 5351   | 4987                     | 5714                     | 6.8                     | 2.0                           | 3.4             |
| 75.0                   | 4524   | 4209                     | 4838                     | 7.0                     | 2.1                           | 3.3             |
| 80.0                   | 3840   | 3567                     | 4114                     | 7.1                     | 2.2                           | 3.2             |
| 85.0                   | 3273   | 3035                     | 3511                     | 7.3                     | 2.3                           | 3.2             |
| 90.0                   | 2800   | 2592                     | 3008                     | 7.4                     | 2.4                           | 3.1             |
| 95.0                   | 2405   | 2223                     | 2587                     | 7.6                     | 2.5                           | 3.0             |
| 100.0                  | 2073   | 1912                     | 2233                     | 7.7                     | 2.6                           | 2.9             |
| 105.0                  | 1792   | 1651                     | 1933                     | 7.9                     | 2.7                           | 2.9             |
| 110.0                  | 1555   | 1431                     | 1680                     | 8.0                     | 2.9                           | 2.8             |
| 115.0                  | 1354   | 1244                     | 1464                     | 8.1                     | 3.0                           | 2.7             |
| 120.0                  | 1182   | 1085                     | 1280                     | 8.3                     | 3.1                           | 2.7             |
| 125.0                  | 1036   | 948.9                    | 1123                     | 8.4                     | 3.2                           | 2.6             |
| 130.0                  | 910.0  | 832.5                    | 987.4                    | 8.5                     | 3.3                           | 2.6             |
| 135.0                  | 801.7  | 732.5                    | 870.9                    | 8.6                     | 3.4                           | 2.5             |
| 140.0                  | 708.3  | 646.3                    | 770.3                    | 8.8                     | 3.6                           | 2.5             |
| 145.0                  | 627.4  | 571.8                    | 683.1                    | 8.9                     | 3.7                           | 2.4             |
| 150.0                  | 557.2  | 507.2                    | 607.3                    | 9.0                     | 3.8                           | 2.3             |
| 155.0                  | 496.1  | 451.1                    | 541.2                    | 9.1                     | 4.0                           | 2.3             |

| <b>B57861S0503F040</b> |  |                          |                          |                         |                               |                 |
|------------------------|--|--------------------------|--------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 2901   |                          |                          |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3760 \text{ K}$ , $R_{25} = 50000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                          |                          |                         |                               |                 |
|                        | $R_{\text{nom}}[\Omega]$   | $R_{\text{min}}[\Omega]$ | $R_{\text{max}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 3198400  | 3016900                  | 3379900                  | 5.7                     | 0.9                           | 6.4             |
| -50.0                  | 2308900  | 2186800                  | 2431000                  | 5.3                     | 0.8                           | 6.3             |
| -45.0                  | 1686900  | 1603900                  | 1769900                  | 4.9                     | 0.8                           | 6.1             |
| -40.0                  | 1246300  | 1189400                  | 1303200                  | 4.6                     | 0.8                           | 6.0             |
| -35.0                  | 930550   | 891210                   | 969890                   | 4.2                     | 0.7                           | 5.8             |
| -30.0                  | 701670   | 674280                   | 729050                   | 3.9                     | 0.7                           | 5.6             |
| -25.0                  | 533960   | 514780                   | 553130                   | 3.6                     | 0.7                           | 5.5             |
| -20.0                  | 409900   | 396410                   | 423390                   | 3.3                     | 0.6                           | 5.3             |
| -15.0                  | 315620   | 306130                   | 325100                   | 3.0                     | 0.6                           | 5.1             |
| -10.0                  | 245070   | 238390                   | 251750                   | 2.7                     | 0.5                           | 5.0             |
| -5.0                   | 191050   | 186350                   | 195750                   | 2.5                     | 0.5                           | 4.9             |
| 0.0                    | 150140   | 146830                   | 153450                   | 2.2                     | 0.5                           | 4.7             |



| <b>B57861S0503F040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 2901  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3760 K, R <sub>25</sub> = 50000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| 5.0                    | 119010  | 116680               | 121340               | 2.0                                  | 0.4        | 4.6        |
| 10.0                   | 94998   | 93366                | 96630                | 1.7                                  | 0.4        | 4.5        |
| 15.0                   | 76284   | 75149                | 77418                | 1.5                                  | 0.3        | 4.3        |
| 20.0                   | 61651   | 60871                | 62431                | 1.3                                  | 0.3        | 4.2        |
| <b>25.0</b>            | <b>50000</b>  | <b>49500</b>         | <b>50500</b>         | <b>1.0</b>                           | <b>0.2</b> | <b>4.1</b> |
| 30.0                   | 40839   | 40326                | 41353                | 1.3                                  | 0.3        | 4.0        |
| 35.0                   | 33583   | 33093                | 34073                | 1.5                                  | 0.4        | 3.9        |
| 40.0                   | 27764   | 27304                | 28223                | 1.7                                  | 0.4        | 3.8        |
| 45.0                   | 23048   | 22623                | 23472                | 1.8                                  | 0.5        | 3.7        |
| 50.0                   | 19229   | 18840                | 19619                | 2.0                                  | 0.6        | 3.6        |
| 55.0                   | 16092   | 15737                | 16446                | 2.2                                  | 0.6        | 3.5        |
| 60.0                   | 13534   | 13213                | 13856                | 2.4                                  | 0.7        | 3.4        |
| 65.0                   | 11453   | 11162                | 11745                | 2.5                                  | 0.8        | 3.3        |
| 70.0                   | 9734  | 9471                 | 9997                 | 2.7                                  | 0.8        | 3.2        |
| 75.0                   | 8304  | 8066                 | 8541                 | 2.9                                  | 0.9        | 3.2        |
| 80.0                   | 7111  | 6896                 | 7325                 | 3.0                                  | 1.0        | 3.1        |
| 85.0                   | 6109  | 5916                 | 6302                 | 3.2                                  | 1.1        | 3.0        |
| 90.0                   | 5267  | 5092                 | 5441                 | 3.3                                  | 1.1        | 2.9        |
| 95.0                   | 4562  | 4404                 | 4719                 | 3.4                                  | 1.2        | 2.9        |
| 100.0                  | 3964  | 3822                 | 4106                 | 3.6                                  | 1.3        | 2.8        |
| 105.0                  | 3453  | 3325                 | 3582                 | 3.7                                  | 1.4        | 2.7        |
| 110.0                  | 3017  | 2901                 | 3133                 | 3.8                                  | 1.4        | 2.7        |
| 115.0                  | 2644  | 2539                 | 2749                 | 4.0                                  | 1.5        | 2.6        |
| 120.0                  | 2324  | 2229                 | 2419                 | 4.1                                  | 1.6        | 2.6        |
| 125.0                  | 2049  | 1963                 | 2136                 | 4.2                                  | 1.7        | 2.5        |
| 130.0                  | 1812  | 1733                 | 1890                 | 4.3                                  | 1.8        | 2.4        |
| 135.0                  | 1605  | 1534                 | 1676                 | 4.4                                  | 1.9        | 2.4        |
| 140.0                  | 1425  | 1360                 | 1490                 | 4.6                                  | 1.9        | 2.3        |
| 145.0                  | 1269  | 1209                 | 1328                 | 4.7                                  | 2.0        | 2.3        |
| 150.0                  | 1132  | 1078                 | 1186                 | 4.8                                  | 2.1        | 2.3        |
| 155.0                  | 1012  | 962.2                | 1061                 | 4.9                                  | 2.2        | 2.2        |

| <b>B57861S0503H040</b> |   |                      |                      |                                      |         |         |
|------------------------|---|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 2901  |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 3760 K, R <sub>25</sub> = 50000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| -55.0                  | 3198400   | 2953000              | 3443900              | 7.7                                  | 1.2     | 6.4     |
| -50.0                  | 2308900   | 2140600              | 2477200              | 7.3                                  | 1.2     | 6.3     |
| -45.0                  | 1686900   | 1570200              | 1803600              | 6.9                                  | 1.1     | 6.1     |

| <b>B57861S0503H040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 2901  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3760 K, R <sub>25</sub> = 50000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -40.0                  | 1246300   | 1164500              | 1328200              | 6.6                                  | 1.1        | 6.0        |
| -35.0                  | 930550  | 872600               | 988500               | 6.2                                  | 1.1        | 5.8        |
| -30.0                  | 701670  | 660250               | 743080               | 5.9                                  | 1.1        | 5.6        |
| -25.0                  | 533960  | 504110               | 563810               | 5.6                                  | 1.0        | 5.5        |
| -20.0                  | 409900  | 388210               | 431590               | 5.3                                  | 1.0        | 5.3        |
| -15.0                  | 315620  | 299820               | 331410               | 5.0                                  | 1.0        | 5.1        |
| -10.0                  | 245070  | 233480               | 256650               | 4.7                                  | 0.9        | 5.0        |
| -5.0                   | 191050  | 182530               | 199570               | 4.5                                  | 0.9        | 4.9        |
| 0.0                    | 150140  | 143820               | 156450               | 4.2                                  | 0.9        | 4.7        |
| 5.0                    | 119010  | 114300               | 123720               | 4.0                                  | 0.9        | 4.6        |
| 10.0                   | 94998   | 91466                | 98530                | 3.7                                  | 0.8        | 4.5        |
| 15.0                   | 76284   | 73623                | 78944                | 3.5                                  | 0.8        | 4.3        |
| 20.0                   | 61651   | 59638                | 63664                | 3.3                                  | 0.8        | 4.2        |
| <b>25.0</b>            | <b>50000</b>  | <b>48500</b>         | <b>51500</b>         | <b>3.0</b>                           | <b>0.7</b> | <b>4.1</b> |
| 30.0                   | 40839   | 39509                | 42170                | 3.3                                  | 0.8        | 4.0        |
| 35.0                   | 33583   | 32421                | 34745                | 3.5                                  | 0.9        | 3.9        |
| 40.0                   | 27764   | 26749                | 28778                | 3.7                                  | 1.0        | 3.8        |
| 45.0                   | 23048   | 22162                | 23933                | 3.8                                  | 1.0        | 3.7        |
| 50.0                   | 19229   | 18455                | 20003                | 4.0                                  | 1.1        | 3.6        |
| 55.0                   | 16092   | 15416                | 16768                | 4.2                                  | 1.2        | 3.5        |
| 60.0                   | 13534   | 12942                | 14126                | 4.4                                  | 1.3        | 3.4        |
| 65.0                   | 11453   | 10933                | 11974                | 4.5                                  | 1.4        | 3.3        |
| 70.0                   | 9734  | 9276                 | 10192                | 4.7                                  | 1.5        | 3.2        |
| 75.0                   | 8304  | 7900                 | 8707                 | 4.9                                  | 1.5        | 3.2        |
| 80.0                   | 7111  | 6754                 | 7467                 | 5.0                                  | 1.6        | 3.1        |
| 85.0                   | 6109  | 5793                 | 6424                 | 5.2                                  | 1.7        | 3.0        |
| 90.0                   | 5267  | 4987                 | 5546                 | 5.3                                  | 1.8        | 2.9        |
| 95.0                   | 4562  | 4313                 | 4810                 | 5.4                                  | 1.9        | 2.9        |
| 100.0                  | 3964  | 3743                 | 4186                 | 5.6                                  | 2.0        | 2.8        |
| 105.0                  | 3453  | 3256                 | 3651                 | 5.7                                  | 2.1        | 2.7        |
| 110.0                  | 3017  | 2841                 | 3193                 | 5.8                                  | 2.2        | 2.7        |
| 115.0                  | 2644  | 2486                 | 2802                 | 6.0                                  | 2.3        | 2.6        |
| 120.0                  | 2324  | 2182                 | 2466                 | 6.1                                  | 2.4        | 2.6        |
| 125.0                  | 2049  | 1922                 | 2177                 | 6.2                                  | 2.5        | 2.5        |
| 130.0                  | 1812  | 1697                 | 1926                 | 6.3                                  | 2.6        | 2.4        |
| 135.0                  | 1605  | 1502                 | 1709                 | 6.4                                  | 2.7        | 2.4        |
| 140.0                  | 1425  | 1332                 | 1519                 | 6.6                                  | 2.8        | 2.3        |
| 145.0                  | 1269  | 1184                 | 1353                 | 6.7                                  | 2.9        | 2.3        |
| 150.0                  | 1132  | 1055                 | 1208                 | 6.8                                  | 3.0        | 2.3        |
| 155.0                  | 1012  | 942.0                | 1081                 | 6.9                                  | 3.1        | 2.2        |

| <b>B57861S0503J040</b> |   |                      |                      |                                      |            |            |
|------------------------|---|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 2901  |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 3760 K, R <sub>25</sub> = 50000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]  | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 3198400   | 2889000              | 3507900              | 9.7                                  | 1.5        | 6.4        |
| -50.0                  | 2308900   | 2094500              | 2523400              | 9.3                                  | 1.5        | 6.3        |
| -45.0                  | 1686900   | 1536400              | 1837300              | 8.9                                  | 1.5        | 6.1        |
| -40.0                  | 1246300   | 1139600              | 1353100              | 8.6                                  | 1.4        | 6.0        |
| -35.0                  | 930550  | 853990               | 1007100              | 8.2                                  | 1.4        | 5.8        |
| -30.0                  | 701670  | 646220               | 757120               | 7.9                                  | 1.4        | 5.6        |
| -25.0                  | 533960  | 493430               | 574490               | 7.6                                  | 1.4        | 5.5        |
| -20.0                  | 409900  | 380010               | 439790               | 7.3                                  | 1.4        | 5.3        |
| -15.0                  | 315620  | 293510               | 337720               | 7.0                                  | 1.4        | 5.1        |
| -10.0                  | 245070  | 228580               | 261560               | 6.7                                  | 1.3        | 5.0        |
| -5.0                   | 191050  | 178710               | 203390               | 6.5                                  | 1.3        | 4.9        |
| 0.0                    | 150140  | 140820               | 159450               | 6.2                                  | 1.3        | 4.7        |
| 5.0                    | 119010  | 111920               | 126100               | 6.0                                  | 1.3        | 4.6        |
| 10.0                   | 94998   | 89566                | 100430               | 5.7                                  | 1.3        | 4.5        |
| 15.0                   | 76284   | 72097                | 80470                | 5.5                                  | 1.3        | 4.3        |
| 20.0                   | 61651   | 58405                | 64897                | 5.3                                  | 1.3        | 4.2        |
| <b>25.0</b>            | <b>50000</b>  | <b>47500</b>         | <b>52500</b>         | <b>5.0</b>                           | <b>1.2</b> | <b>4.1</b> |
| 30.0                   | 40839   | 38692                | 42987                | 5.3                                  | 1.3        | 4.0        |
| 35.0                   | 33583   | 31750                | 35417                | 5.5                                  | 1.4        | 3.9        |
| 40.0                   | 27764   | 26194                | 29333                | 5.7                                  | 1.5        | 3.8        |
| 45.0                   | 23048   | 21701                | 24394                | 5.8                                  | 1.6        | 3.7        |
| 50.0                   | 19229   | 18071                | 20388                | 6.0                                  | 1.7        | 3.6        |
| 55.0                   | 16092   | 15094                | 17090                | 6.2                                  | 1.8        | 3.5        |
| 60.0                   | 13534   | 12671                | 14397                | 6.4                                  | 1.9        | 3.4        |
| 65.0                   | 11453   | 10704                | 12203                | 6.5                                  | 2.0        | 3.3        |
| 70.0                   | 9734  | 9082                 | 10387                | 6.7                                  | 2.1        | 3.2        |
| 75.0                   | 8304  | 7734                 | 8873                 | 6.9                                  | 2.2        | 3.2        |
| 80.0                   | 7111  | 6612                 | 7609                 | 7.0                                  | 2.3        | 3.1        |
| 85.0                   | 6109  | 5671                 | 6546                 | 7.2                                  | 2.4        | 3.0        |
| 90.0                   | 5267  | 4882                 | 5651                 | 7.3                                  | 2.5        | 2.9        |
| 95.0                   | 4562  | 4222                 | 4901                 | 7.4                                  | 2.6        | 2.9        |
| 100.0                  | 3964  | 3664                 | 4265                 | 7.6                                  | 2.7        | 2.8        |
| 105.0                  | 3453  | 3187                 | 3720                 | 7.7                                  | 2.8        | 2.7        |
| 110.0                  | 3017  | 2780                 | 3254                 | 7.8                                  | 2.9        | 2.7        |
| 115.0                  | 2644  | 2433                 | 2855                 | 8.0                                  | 3.0        | 2.6        |
| 120.0                  | 2324  | 2136                 | 2512                 | 8.1                                  | 3.2        | 2.6        |
| 125.0                  | 2049  | 1881                 | 2218                 | 8.2                                  | 3.3        | 2.5        |
| 130.0                  | 1812  | 1661                 | 1963                 | 8.3                                  | 3.4        | 2.4        |
| 135.0                  | 1605  | 1469                 | 1741                 | 8.4                                  | 3.5        | 2.4        |

| <b>B57861S0503J040</b> |  |                          |                          |                         |                               |                 |
|------------------------|--|--------------------------|--------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 2901   |                          |                          |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 3760 \text{ K}$ , $R_{25} = 50000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 5\%$ |                          |                          |                         |                               |                 |
|                        | $R_{\text{nom}}[\Omega]$   | $R_{\text{min}}[\Omega]$ | $R_{\text{max}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 140.0                  | 1425   | 1303                     | 1548                     | 8.6                     | 3.6                           | 2.3             |
| 145.0                  | 1269   | 1159                     | 1379                     | 8.7                     | 3.8                           | 2.3             |
| 150.0                  | 1132   | 1032                     | 1231                     | 8.8                     | 3.9                           | 2.3             |
| 155.0                  | 1012   | 921.7                    | 1101                     | 8.9                     | 4.0                           | 2.2             |

| <b>B57861S0104F040</b> |   |                          |                          |                         |                               |                 |
|------------------------|---|--------------------------|--------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 2014  |                          |                          |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 4540 \text{ K}$ , $R_{25} = 100000 \text{ } \Omega$ , $T_R = 25 \text{ } ^\circ\text{C}$ , $\Delta R_R/R_R = \pm 1\%$ |                          |                          |                         |                               |                 |
|                        | $R_{\text{nom}}[\Omega]$  | $R_{\text{min}}[\Omega]$ | $R_{\text{max}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 14200000  | 13258000                 | 15142000                 | 6.6                     | 0.8                           | 7.8             |
| -50.0                  | 9661500   | 9065600                  | 10257000                 | 6.2                     | 0.8                           | 7.6             |
| -45.0                  | 6656200   | 6275300                  | 7037000                  | 5.7                     | 0.8                           | 7.3             |
| -40.0                  | 4640000   | 4394300                  | 4885700                  | 5.3                     | 0.7                           | 7.1             |
| -35.0                  | 3270800   | 3111000                  | 3430600                  | 4.9                     | 0.7                           | 6.9             |
| -30.0                  | 2330200   | 2225500                  | 2435000                  | 4.5                     | 0.7                           | 6.7             |
| -25.0                  | 1677000   | 1607900                  | 1746100                  | 4.1                     | 0.6                           | 6.5             |
| -20.0                  | 1218600   | 1172800                  | 1264400                  | 3.8                     | 0.6                           | 6.3             |
| -15.0                  | 893700  | 863230                   | 924170                   | 3.4                     | 0.6                           | 6.1             |
| -10.0                  | 661250  | 640920                   | 681590                   | 3.1                     | 0.5                           | 5.9             |
| -5.0                   | 493420  | 479840                   | 507010                   | 2.8                     | 0.5                           | 5.8             |
| 0.0                    | 371200  | 362130                   | 380270                   | 2.4                     | 0.4                           | 5.6             |
| 5.0                    | 281450  | 275410                   | 287480                   | 2.1                     | 0.4                           | 5.5             |
| 10.0                   | 215000  | 211010                   | 219000                   | 1.9                     | 0.3                           | 5.3             |
| 15.0                   | 165440  | 162830                   | 168050                   | 1.6                     | 0.3                           | 5.2             |
| 20.0                   | 128190  | 126510                   | 129870                   | 1.3                     | 0.3                           | 5.0             |
| <b>25.0</b>            | <b>100000</b>   | <b>99000</b>             | <b>101000</b>            | <b>1.0</b>              | <b>0.2</b>                    | <b>4.9</b>      |
| 30.0                   | 78514   | 77493                    | 79536                    | 1.3                     | 0.3                           | 4.8             |
| 35.0                   | 62031   | 61073                    | 62989                    | 1.5                     | 0.3                           | 4.7             |
| 40.0                   | 49304   | 48427                    | 50181                    | 1.8                     | 0.4                           | 4.5             |
| 45.0                   | 39417   | 38626                    | 40208                    | 2.0                     | 0.5                           | 4.4             |
| 50.0                   | 31690   | 30984                    | 32396                    | 2.2                     | 0.5                           | 4.3             |
| 55.0                   | 25616   | 24990                    | 26242                    | 2.4                     | 0.6                           | 4.2             |
| 60.0                   | 20815   | 20263                    | 21367                    | 2.6                     | 0.6                           | 4.1             |
| 65.0                   | 17000   | 16515                    | 17484                    | 2.9                     | 0.7                           | 4.0             |
| 70.0                   | 13952   | 13527                    | 14377                    | 3.0                     | 0.8                           | 3.9             |
| 75.0                   | 11505   | 11132                    | 11877                    | 3.2                     | 0.8                           | 3.8             |
| 80.0                   | 9530  | 9204                     | 9856                     | 3.4                     | 0.9                           | 3.7             |
| 85.0                   | 7930  | 7644                     | 8215                     | 3.6                     | 1.0                           | 3.6             |
| 90.0                   | 6626  | 6376                     | 6876                     | 3.8                     | 1.1                           | 3.5             |

| <b>B57861S0104F040</b> |  |                      |                      |                                      |         |         |
|------------------------|--|----------------------|----------------------|--------------------------------------|---------|---------|
| R/T No.                | 2014   |                      |                      |                                      |         |         |
| T (°C)                 | B <sub>25/100</sub> = 4540 K, R <sub>25</sub> = 100000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 1% |                      |                      |                                      |         |         |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C] | α (%/K) |
| 95.0                   | 5560   | 5341                 | 5779                 | 3.9                                  | 1.1     | 3.5     |
| 100.0                  | 4684   | 4492                 | 4877                 | 4.1                                  | 1.2     | 3.4     |
| 105.0                  | 3962   | 3793                 | 4131                 | 4.3                                  | 1.3     | 3.3     |
| 110.0                  | 3363   | 3214                 | 3512                 | 4.4                                  | 1.4     | 3.2     |
| 115.0                  | 2866   | 2735                 | 2997                 | 4.6                                  | 1.4     | 3.2     |
| 120.0                  | 2451   | 2335                 | 2566                 | 4.7                                  | 1.5     | 3.1     |
| 125.0                  | 2103   | 2000                 | 2205                 | 4.9                                  | 1.6     | 3.0     |
| 130.0                  | 1810   | 1719                 | 1901                 | 5.0                                  | 1.7     | 3.0     |
| 135.0                  | 1563   | 1483                 | 1644                 | 5.2                                  | 1.8     | 2.9     |
| 140.0                  | 1354   | 1283                 | 1426                 | 5.3                                  | 1.9     | 2.8     |
| 145.0                  | 1177   | 1113                 | 1241                 | 5.4                                  | 2.0     | 2.8     |
| 150.0                  | 1026   | 968.9                | 1083                 | 5.5                                  | 2.0     | 2.7     |
| 155.0                  | 896.6  | 845.7                | 947.5                | 5.7                                  | 2.1     | 2.7     |

| <b>B57861S0104H040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 2014   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 4540 K, R <sub>25</sub> = 100000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 3% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| -55.0                  | 14200000   | 12974000             | 15426000             | 8.6                                  | 1.1        | 7.8        |
| -50.0                  | 9661500  | 8872400              | 10451000             | 8.2                                  | 1.1        | 7.6        |
| -45.0                  | 6656200  | 6142200              | 7170200              | 7.7                                  | 1.1        | 7.3        |
| -40.0                  | 4640000  | 4301500              | 4978500              | 7.3                                  | 1.0        | 7.1        |
| -35.0                  | 3270800  | 3045600              | 3496000              | 6.9                                  | 1.0        | 6.9        |
| -30.0                  | 2330200  | 2178900              | 2481600              | 6.5                                  | 1.0        | 6.7        |
| -25.0                  | 1677000  | 1574400              | 1779600              | 6.1                                  | 0.9        | 6.5        |
| -20.0                  | 1218600  | 1148400              | 1288700              | 5.8                                  | 0.9        | 6.3        |
| -15.0                  | 893700   | 845360               | 942050               | 5.4                                  | 0.9        | 6.1        |
| -10.0                  | 661250   | 627690               | 694810               | 5.1                                  | 0.9        | 5.9        |
| -5.0                   | 493420   | 469970               | 516880               | 4.8                                  | 0.8        | 5.8        |
| 0.0                    | 371200   | 354710               | 387700               | 4.4                                  | 0.8        | 5.6        |
| 5.0                    | 281450   | 269780               | 293110               | 4.1                                  | 0.8        | 5.5        |
| 10.0                   | 215000   | 206710               | 223300               | 3.9                                  | 0.7        | 5.3        |
| 15.0                   | 165440   | 159520               | 171360               | 3.6                                  | 0.7        | 5.2        |
| 20.0                   | 128190   | 123950               | 132440               | 3.3                                  | 0.7        | 5.0        |
| <b>25.0</b>            | <b>100000</b>  | <b>97000</b>         | <b>103000</b>        | <b>3.0</b>                           | <b>0.6</b> | <b>4.9</b> |
| 30.0                   | 78514  | 75922                | 81106                | 3.3                                  | 0.7        | 4.8        |
| 35.0                   | 62031  | 59832                | 64229                | 3.5                                  | 0.8        | 4.7        |
| 40.0                   | 49304  | 47441                | 51168                | 3.8                                  | 0.8        | 4.5        |
| 45.0                   | 39417  | 37837                | 40996                | 4.0                                  | 0.9        | 4.4        |

| <b>B57861S0104H040</b> |  |                           |                           |                         |                               |                 |
|------------------------|--|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 2014   |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 4540 \text{ K}, R_{25} = 100000 \text{ } \Omega, T_R = 25 \text{ } ^\circ\text{C}, \Delta R_R/R_R = \pm 3\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$  | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| 50.0                   | 31690  | 30350                     | 33030                     | 4.2                     | 1.0                           | 4.3             |
| 55.0                   | 25616  | 24478                     | 26754                     | 4.4                     | 1.1                           | 4.2             |
| 60.0                   | 20815  | 19847                     | 21783                     | 4.6                     | 1.1                           | 4.1             |
| 65.0                   | 17000  | 16175                     | 17824                     | 4.9                     | 1.2                           | 4.0             |
| 70.0                   | 13952  | 13248                     | 14656                     | 5.0                     | 1.3                           | 3.9             |
| 75.0                   | 11505  | 10902                     | 12107                     | 5.2                     | 1.4                           | 3.8             |
| 80.0                   | 9530   | 9013                      | 10047                     | 5.4                     | 1.5                           | 3.7             |
| 85.0                   | 7930   | 7486                      | 8374                      | 5.6                     | 1.5                           | 3.6             |
| 90.0                   | 6626   | 6244                      | 7009                      | 5.8                     | 1.6                           | 3.5             |
| 95.0                   | 5560   | 5230                      | 5891                      | 5.9                     | 1.7                           | 3.5             |
| 100.0                  | 4684   | 4398                      | 4971                      | 6.1                     | 1.8                           | 3.4             |
| 105.0                  | 3962   | 3713                      | 4210                      | 6.3                     | 1.9                           | 3.3             |
| 110.0                  | 3363   | 3147                      | 3580                      | 6.4                     | 2.0                           | 3.2             |
| 115.0                  | 2866   | 2677                      | 3054                      | 6.6                     | 2.1                           | 3.2             |
| 120.0                  | 2451   | 2286                      | 2615                      | 6.7                     | 2.2                           | 3.1             |
| 125.0                  | 2103   | 1958                      | 2247                      | 6.9                     | 2.3                           | 3.0             |
| 130.0                  | 1810   | 1683                      | 1937                      | 7.0                     | 2.4                           | 3.0             |
| 135.0                  | 1563   | 1451                      | 1675                      | 7.2                     | 2.5                           | 2.9             |
| 140.0                  | 1354   | 1256                      | 1453                      | 7.3                     | 2.6                           | 2.8             |
| 145.0                  | 1177   | 1090                      | 1264                      | 7.4                     | 2.7                           | 2.8             |
| 150.0                  | 1026   | 948.4                     | 1103                      | 7.5                     | 2.8                           | 2.7             |
| 155.0                  | 896.6  | 827.8                     | 965.4                     | 7.7                     | 2.9                           | 2.7             |

| <b>B57861S0104J040</b> |  |                           |                           |                         |                               |                 |
|------------------------|--|---------------------------|---------------------------|-------------------------|-------------------------------|-----------------|
| R/T No.                | 2014   |                           |                           |                         |                               |                 |
| T (°C)                 | $B_{25/100} = 4540 \text{ K}, R_{25} = 100000 \text{ } \Omega, T_R = 25 \text{ } ^\circ\text{C}, \Delta R_R/R_R = \pm 5\%$ |                           |                           |                         |                               |                 |
|                        | $R_{\text{nomL}}[\Omega]$  | $R_{\text{minL}}[\Omega]$ | $R_{\text{maxL}}[\Omega]$ | $\Delta R_R/R_R[\pm\%]$ | $\Delta T[\pm^\circ\text{C}]$ | $\alpha (\%/K)$ |
| -55.0                  | 14200000   | 12690000                  | 15710000                  | 10.6                    | 1.4                           | 7.8             |
| -50.0                  | 9661500  | 8679100                   | 10644000                  | 10.2                    | 1.3                           | 7.6             |
| -45.0                  | 6656200  | 6009100                   | 7303300                   | 9.7                     | 1.3                           | 7.3             |
| -40.0                  | 4640000  | 4208700                   | 5071300                   | 9.3                     | 1.3                           | 7.1             |
| -35.0                  | 3270800  | 2980100                   | 3561500                   | 8.9                     | 1.3                           | 6.9             |
| -30.0                  | 2330200  | 2132300                   | 2528200                   | 8.5                     | 1.3                           | 6.7             |
| -25.0                  | 1677000  | 1540900                   | 1813100                   | 8.1                     | 1.3                           | 6.5             |
| -20.0                  | 1218600  | 1124100                   | 1313100                   | 7.8                     | 1.2                           | 6.3             |
| -15.0                  | 893700   | 827490                    | 959920                    | 7.4                     | 1.2                           | 6.1             |
| -10.0                  | 661250   | 614470                    | 708040                    | 7.1                     | 1.2                           | 5.9             |
| -5.0                   | 493420   | 460100                    | 526750                    | 6.8                     | 1.2                           | 5.8             |
| 0.0                    | 371200   | 347280                    | 395120                    | 6.4                     | 1.1                           | 5.6             |

| <b>B57861S0104J040</b> |  |                      |                      |                                      |            |            |
|------------------------|--|----------------------|----------------------|--------------------------------------|------------|------------|
| R/T No.                | 2014   |                      |                      |                                      |            |            |
| T (°C)                 | B <sub>25/100</sub> = 4540 K, R <sub>25</sub> = 100000 Ω, T <sub>R</sub> = 25 °C, ΔR <sub>R</sub> /R <sub>R</sub> = ± 5% |                      |                      |                                      |            |            |
|                        | R <sub>nom</sub> [Ω]   | R <sub>min</sub> [Ω] | R <sub>max</sub> [Ω] | ΔR <sub>R</sub> /R <sub>R</sub> [±%] | ΔT[±°C]    | α (%/K)    |
| 5.0                    | 281450   | 264150               | 298740               | 6.1                                  | 1.1        | 5.5        |
| 10.0                   | 215000   | 202410               | 227600               | 5.9                                  | 1.1        | 5.3        |
| 15.0                   | 165440   | 156210               | 174670               | 5.6                                  | 1.1        | 5.2        |
| 20.0                   | 128190   | 121390               | 135000               | 5.3                                  | 1.1        | 5.0        |
| <b>25.0</b>            | <b>100000</b>  | <b>95000</b>         | <b>105000</b>        | <b>5.0</b>                           | <b>1.0</b> | <b>4.9</b> |
| 30.0                   | 78514  | 74352                | 82676                | 5.3                                  | 1.1        | 4.8        |
| 35.0                   | 62031  | 58592                | 65470                | 5.5                                  | 1.2        | 4.7        |
| 40.0                   | 49304  | 46455                | 52154                | 5.8                                  | 1.3        | 4.5        |
| 45.0                   | 39417  | 37049                | 41785                | 6.0                                  | 1.4        | 4.4        |
| 50.0                   | 31690  | 29716                | 33663                | 6.2                                  | 1.4        | 4.3        |
| 55.0                   | 25616  | 23966                | 27266                | 6.4                                  | 1.5        | 4.2        |
| 60.0                   | 20815  | 19431                | 22199                | 6.6                                  | 1.6        | 4.1        |
| 65.0                   | 17000  | 15835                | 18164                | 6.9                                  | 1.7        | 4.0        |
| 70.0                   | 13952  | 12969                | 14935                | 7.0                                  | 1.8        | 3.9        |
| 75.0                   | 11505  | 10672                | 12337                | 7.2                                  | 1.9        | 3.8        |
| 80.0                   | 9530   | 8823                 | 10237                | 7.4                                  | 2.0        | 3.7        |
| 85.0                   | 7930   | 7327                 | 8532                 | 7.6                                  | 2.1        | 3.6        |
| 90.0                   | 6626   | 6111                 | 7141                 | 7.8                                  | 2.2        | 3.5        |
| 95.0                   | 5560   | 5118                 | 6002                 | 7.9                                  | 2.3        | 3.5        |
| 100.0                  | 4684   | 4304                 | 5064                 | 8.1                                  | 2.4        | 3.4        |
| 105.0                  | 3962   | 3634                 | 4289                 | 8.3                                  | 2.5        | 3.3        |
| 110.0                  | 3363   | 3080                 | 3647                 | 8.4                                  | 2.6        | 3.2        |
| 115.0                  | 2866   | 2620                 | 3112                 | 8.6                                  | 2.7        | 3.2        |
| 120.0                  | 2451   | 2237                 | 2664                 | 8.7                                  | 2.8        | 3.1        |
| 125.0                  | 2103   | 1916                 | 2289                 | 8.9                                  | 2.9        | 3.0        |
| 130.0                  | 1810   | 1647                 | 1973                 | 9.0                                  | 3.0        | 3.0        |
| 135.0                  | 1563   | 1420                 | 1706                 | 9.2                                  | 3.2        | 2.9        |
| 140.0                  | 1354   | 1229                 | 1480                 | 9.3                                  | 3.3        | 2.8        |
| 145.0                  | 1177   | 1066                 | 1288                 | 9.4                                  | 3.4        | 2.8        |
| 150.0                  | 1026   | 927.8                | 1124                 | 9.5                                  | 3.5        | 2.7        |
| 155.0                  | 896.6  | 809.9                | 983.3                | 9.7                                  | 3.6        | 2.7        |

## Cautions and warnings

### General

See "Important notes" at the end of this document.

### Storage

- Store thermistors only in original packaging. Do not open the package before storage.
- Storage conditions in original packaging: storage temperature  $-25\text{ °C} \dots +45\text{ °C}$ , relative humidity  $\leq 75\%$  annual mean, maximum 95%, dew precipitation is inadmissible.
- Do not store SMDs where they are exposed to heat or direct sunlight. Otherwise, the packing material may be deformed or SMDs may stick together, causing problems during mounting.
- Avoid contamination of thermistors surface during storage, handling and processing.
- Avoid storage of thermistor in harmful environments like corrosive gases (SO<sub>x</sub>, Cl etc).
- After opening the factory seals, such as polyvinyl-sealed packages, use the SMDs as soon as possible.
- Solder thermistors after shipment from EPCOS within the time specified:  
SMDs: 12 months  
Leaded components: 24 months

### Handling

- NTC thermistors must not be dropped. Chip-offs must not be caused during handling of NTCs.
- Components must not be touched with bare hands. Gloves are recommended.
- Avoid contamination of thermistor surface during handling.

### Soldering

- Use resin-type flux or non-activated flux.
- Insufficient preheating may cause ceramic cracks.
- Rapid cooling by dipping in solvent is not recommended.
- Complete removal of flux is recommended.

### Mounting

- When NTC thermistors are encapsulated with sealing material or overmolded with plastic material, the precautions given in chapter "Mounting instructions", "Sealing, potting and overmolding" must be observed.
- Electrode must not be scratched before/during/after the mounting process.
- Contacts and housings used for assembly with thermistor have to be clean before mounting.
- During operation, the thermistor's surface temperature can be very high (ICL). Ensure that adjacent components are placed at a sufficient distance from the thermistor to allow for proper cooling of the thermistors.
- Ensure that adjacent materials are designed for operation at temperatures comparable to the surface temperature of the thermistor. Be sure that surrounding parts and materials can withstand this temperature.
- Make sure that thermistors (ICLs) are adequately ventilated to avoid overheating.
- Avoid contamination of thermistor surface during processing.



## Operation

- Use thermistors only within the specified operating temperature range.
- Use thermistors only within the specified voltage and current ranges (ICLs).
- Environmental conditions must not harm the thermistors. Use thermistors only in normal atmospheric conditions.
- Contact of NTC thermistors with any liquids and solvents should be prevented. It must be ensured that no water enters the NTC thermistor (e.g. through plug terminals). For measurement purposes (checking the specified resistance vs. temperature), the component must not be immersed in water but in suitable liquids (e.g. Galden).
- Avoid dewing and condensation.
- Be sure to provide an appropriate fail-safe function to prevent secondary product damage caused by malfunction (e.g. use VDR for limitation of overvoltage condition).

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1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
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