

Surface Mount Thermistors

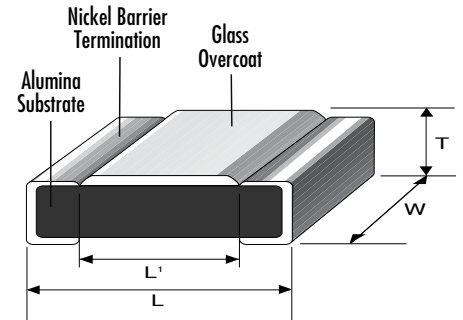
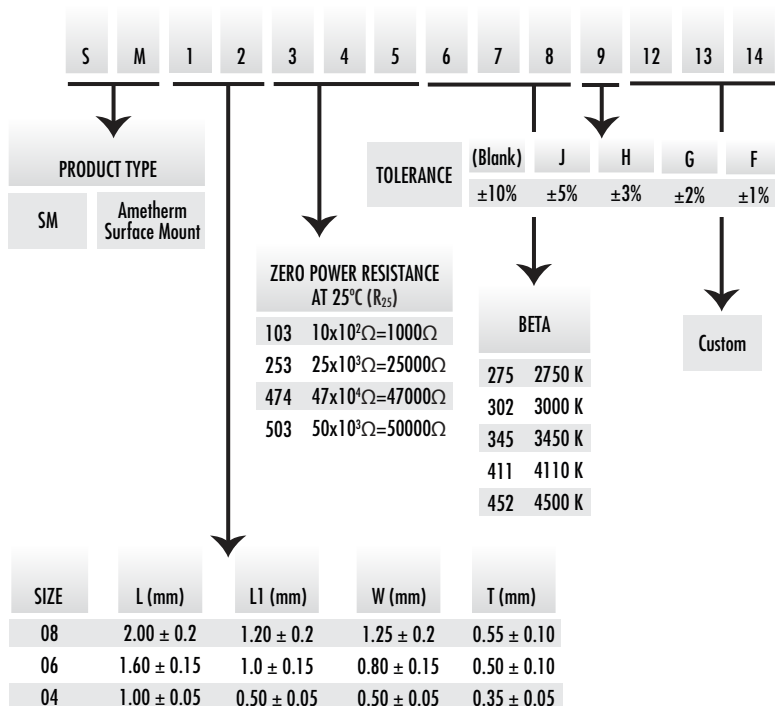
ELECTRICAL SPECIFICATIONS

| TYPE | Resistance Range | Resistance Tolerance | Beta Range | Beta Tolerance | Operating Temp. | Dissipation Constant | Thermal Time Constant | Maximum Power |
|------|---------------------|----------------------|------------|----------------|-----------------|----------------------|-----------------------|---------------|
| SM08 | 2-250 k Ω | 1,2,3,5,10% | 3450-4500 | 3,2,1% | -40°C – +125°C | 2.00mW/°C | 2.5 sec. | 250 mW |
| SM06 | 0.25-470 k Ω | 1,2,3,5,10% | 2750-4500 | 3,2,1% | -40°C – +125°C | 1.50mW/°C | 2.0 sec. | 200 mW |
| SM04 | 0.3-470 k Ω | 1,2,3,5,10% | 2750-4500 | 3,2,1% | -40°C – +125°C | 1.10mW/°C | 1.5 sec. | 125 mW |

MECHANICAL SPECIFICATIONS

| TYPE | L (mm) | L1 (mm) | W (mm) | T (mm) |
|------|-----------------|-----------------|-----------------|-----------------|
| SM08 | 2.00 \pm 0.2 | 1.20 \pm 0.2 | 1.25 \pm 0.2 | 0.55 \pm 0.10 |
| SM06 | 1.60 \pm 0.15 | 1.0 \pm 0.15 | 0.80 \pm 0.15 | 0.50 \pm 0.10 |
| SM04 | 1.00 \pm 0.05 | 0.50 \pm 0.05 | 0.50 \pm 0.05 | 0.35 \pm 0.05 |

PART NUMBERING SYSTEM



APPLICATIONS

- Temperature Compensation Circuits
- Relay Coils
- LCD Controls
- Temperature Measurement

FEATURES

- Nickel Barrier Termination
- Suitable for wave or reflow solder
- Packaging T/R STD QTY 100-5000
- Moisture Sensitivity Level: 2

SOLDERING WAVE OR REFLOW

| TIME | TEMP |
|---------|-------|
| 10 sec. | 270°C |

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Surface Mount Thermistors



SM04

| Part Number | R (K Ω) | Beta ($^{\circ}$ K) | Dissipation Constant (mW/ $^{\circ}$ C) | Thermal Time Constant | Max Power |
|-------------|-----------------|----------------------|---|-----------------------|-----------|
| SM04301275 | 0.3 | 2750 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04501275 | 0.5 | 2750 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04102302 | 1 | 3000 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04202302 | 2 | 3000 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04502345 | 5 | 3450 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04103372 | 10 | 3700 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04103395 | 10 | 3950 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04103411 | 10 | 4111 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04253411 | 25 | 4111 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04503411 | 50 | 4111 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04104411 | 100 | 4111 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04253452 | 25 | 4500 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04503452 | 50 | 4500 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04104452 | 100 | 4500 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |
| SM04474452 | 470 | 4500 | 1.10 mW/ $^{\circ}$ C | 1.5 sec | 125 mW |

SM06

| | | | | | |
|------------|------|------|-----------------------|---------|--------|
| SM06251275 | 0.25 | 2750 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06501302 | 0.5 | 3000 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06102345 | 1 | 3450 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06202345 | 2 | 3450 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06502345 | 5 | 3450 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06103345 | 10 | 3450 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06103372 | 10 | 3700 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06103395 | 10 | 3950 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06253395 | 25 | 3950 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06503395 | 50 | 3950 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06104411 | 100 | 4111 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06154411 | 150 | 4110 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06503452 | 50 | 4500 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06104452 | 100 | 4500 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |
| SM06474452 | 470 | 4500 | 1.50 mW/ $^{\circ}$ C | 2.0 sec | 200 mW |

SM08

| | | | | | |
|------------|-----|------|-----------------------|---------|--------|
| SM08202345 | 2 | 3450 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08502345 | 5 | 3450 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08103345 | 10 | 3450 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08502395 | 5 | 3950 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08103395 | 10 | 3950 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08253395 | 25 | 3950 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08503395 | 50 | 3950 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08103411 | 10 | 4111 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08253411 | 25 | 4111 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08503411 | 50 | 4111 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08104411 | 100 | 4111 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08503452 | 50 | 4500 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08104452 | 100 | 4500 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08154452 | 150 | 4500 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |
| SM08254452 | 250 | 4500 | 2.00 mW/ $^{\circ}$ C | 2.5 sec | 250 mW |

ZERO POWER RESISTANCE CURVE

| Temp ($^{\circ}$ C) | 1k Ω 2750K | 1k Ω 3000K | 1k Ω 3200K | 10k Ω 3450K | 10k Ω 3700K | 10k Ω 3900K | 10k Ω 4100K | 100k Ω 4300K | 100k Ω 4500K | 100k Ω 4700K |
|----------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|
| -40 | 11290 | 14270 | 17200 | 217300 | 274600 | 331000 | 399100 | 4812000 | 5802000 | 6995000 |
| -35 | 9012 | 11130 | 13180 | 162800 | 201100 | 238200 | 282000 | 3339000 | 3954000 | 4682000 |
| -30 | 7248 | 8761 | 10200 | 123300 | 149000 | 173400 | 201800 | 2349000 | 2734000 | 3182000 |
| -25 | 5872 | 6953 | 7959 | 94240 | 111600 | 127700 | 146200 | 1674000 | 1916000 | 2193000 |
| -20 | 4791 | 5561 | 6265 | 72720 | 84410 | 95100 | 107100 | 1207000 | 1360000 | 1532000 |
| -15 | 3935 | 4481 | 4972 | 56620 | 64470 | 71530 | 79370 | 880600 | 977100 | 1084000 |
| -10 | 3253 | 3636 | 3976 | 44450 | 49690 | 54330 | 59400 | 649400 | 710000 | 776300 |
| -5 | 2705 | 2971 | 3202 | 35170 | 38630 | 41640 | 44890 | 483900 | 521600 | 562200 |
| 0 | 2262 | 2443 | 2597 | 28040 | 30280 | 32200 | 34240 | 364000 | 387100 | 411600 |
| 5 | 1902 | 2020 | 2120 | 22520 | 23920 | 25100 | 26340 | 276400 | 290100 | 304400 |
| 10 | 1608 | 1681 | 1742 | 18210 | 19040 | 19730 | 20440 | 211800 | 219400 | 227400 |
| 15 | 1366 | 1406 | 1440 | 14820 | 15260 | 15620 | 15990 | 163600 | 167500 | 171400 |
| 20 | 1166 | 1183 | 1197 | 12140 | 12310 | 12450 | 12600 | 127400 | 128900 | 130400 |
| 25 | 1000 | 1000 | 1000 | 10000 | 10000 | 10000 | 10000 | 100000 | 100000 | 100000 |
| 30 | 861.3 | 849.5 | 840.1 | 8286 | 8172 | 8082 | 7993 | 79050 | 78180 | 77320 |
| 35 | 745 | 725 | 709.4 | 6903 | 6718 | 6573 | 6432 | 62930 | 61580 | 60250 |
| 40 | 647 | 621.5 | 601.8 | 5782 | 5554 | 5378 | 5208 | 50400 | 48840 | 47300 |
| 45 | 564.1 | 535.1 | 513 | 4867 | 4617 | 4426 | 4243 | 40680 | 39000 | 37390 |
| 50 | 493.6 | 462.6 | 439.2 | 4116 | 3858 | 3663 | 3477 | 33020 | 31350 | 29760 |
| 55 | 433.5 | 401.5 | 377.7 | 3498 | 3240 | 3047 | 2866 | 26950 | 25350 | 23840 |
| 60 | 382.1 | 349.9 | 326.1 | 2986 | 2734 | 2548 | 2375 | 22130 | 20620 | 19220 |
| 65 | 337.9 | 306 | 282.6 | 2560 | 2318 | 2141 | 1978 | 18270 | 16880 | 15590 |
| 70 | 299.8 | 268.6 | 246 | 2203 | 1974 | 1808 | 1656 | 15160 | 13880 | 12720 |
| 75 | 266.8 | 236.5 | 214.8 | 1904 | 1688 | 1533 | 1392 | 12650 | 11480 | 10430 |
| 80 | 238.2 | 209 | 188.3 | 1652 | 1450 | 1306 | 1177 | 10600 | 9548 | 8601 |
| 85 | 213.3 | 185.3 | 165.6 | 1439 | 1251 | 1118 | 998.8 | 8927 | 7978 | 7130 |
| 90 | 191.5 | 164.8 | 146.2 | 1258 | 1083 | 960.2 | 851.5 | 7552 | 6698 | 5940 |
| 95 | 172.4 | 147 | 129.4 | 1103 | 940.9 | 828.2 | 729 | 6417 | 5649 | 4972 |
| 100 | 155.7 | 131.5 | 115 | 971.3 | 820.6 | 717.1 | 626.7 | 5476 | 4785 | 4182 |
| 105 | 140.9 | 118 | 102.4 | 857.7 | 718.3 | 623.2 | 540.8 | 4692 | 4072 | 3533 |
| 110 | 127.9 | 106.2 | 91.52 | 759.8 | 630.9 | 543.6 | 468.5 | 4037 | 3479 | 2998 |
| 115 | 116.4 | 95.82 | 82.02 | 675.3 | 555.9 | 475.9 | 407.3 | 3486 | 2984 | 2554 |
| 120 | 106.1 | 86.68 | 73.71 | 601.9 | 491.5 | 418 | 355.4 | 3022 | 2570 | 2186 |
| 125 | 97 | 78.61 | 66.42 | 538.1 | 435.9 | 368.3 | 311.2 | 2630 | 2222 | 1877 |