

Axial Inductors AL Series



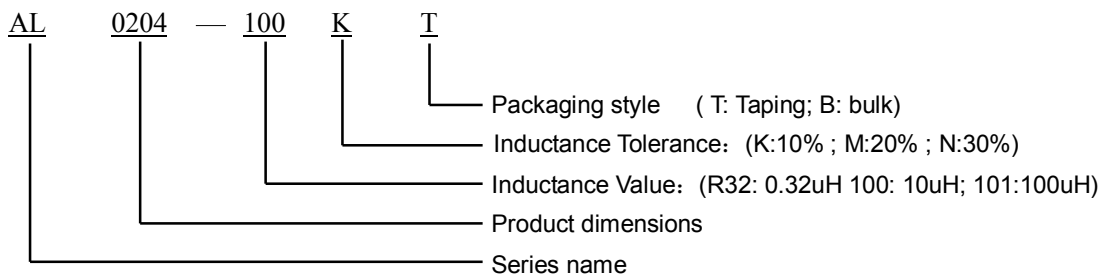
Features

- Design to be compact, small and light-weight. Coating epoxy resin that ensures the humidity resistance to be long life.
- Rugged reliability and performance fixed inductor.

Applications

- Excellent as DC-DC converter boost or buck inductors, Also used for filtering applications.

PRODUCT IDENTIFICATION



SHAPES AND DIMENSIONS Unit:mm

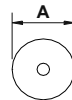
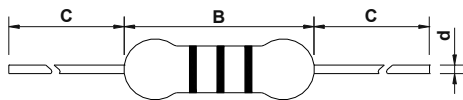


Figure A

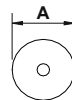
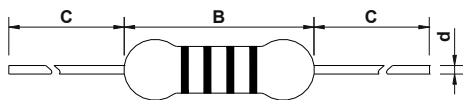


Figure B

| Part Number | A | B | C | D | Figure |
|-------------|---------|------|------|------|--------|
| AL0204 | 2.8 Max | 4.0 | 29.0 | 0.50 | A |
| AL0307 | 3.0 Max | 8.0 | 27.0 | 0.55 | B |
| AL0410 | 4.0 Max | 11.0 | 25.5 | 0.65 | B |
| AL0510 | 5.0 Max | 12.0 | 25.0 | 0.65 | B |

ELECTRICAL CHARACTERISTICS

| Part Number | L(uH) | Q(Min) | Test req.(MHz) | SRF(MHz Min) | DCR Max. (Ω) | Irated(mA) |
|-------------|-------|--------|----------------|--------------|--------------|------------|
| AL0204-R10M | 0.10 | 50 | 25.2 | 250 | 0.030 | 700 |
| AL0204-R12M | 0.12 | 55 | 25.2 | 230 | 0.035 | 660 |
| AL0204-R15M | 0.15 | 55 | 25.2 | 200 | 0.040 | 620 |
| AL0204-R18M | 0.18 | 55 | 25.2 | 180 | 0.045 | 600 |
| AL0204-R22M | 0.22 | 55 | 25.2 | 160 | 0.050 | 400 |
| AL0204-R27M | 0.27 | 50 | 25.2 | 150 | 0.065 | 380 |

| | | | | | | |
|-------------|------|----|-------|------|-------|-----|
| AL0204-R33M | 0.33 | 50 | 25.2 | 150 | 0.075 | 370 |
| AL0204-R39M | 0.39 | 50 | 25.2 | 150 | 0.080 | 350 |
| AL0204-R47M | 0.47 | 60 | 25.2 | 150 | 0.085 | 330 |
| AL0204-R56M | 0.56 | 60 | 25.2 | 150 | 0.090 | 320 |
| AL0204-R68M | 0.68 | 50 | 25.2 | 120 | 0.10 | 310 |
| AL0204-R82M | 0.82 | 50 | 25.2 | 110 | 0.15 | 290 |
| AL0204-1R0K | 1.0 | 50 | 25.2 | 110 | 0.22 | 270 |
| AL0204-1R2K | 1.2 | 40 | 7.96 | 100 | 0.30 | 260 |
| AL0204-1R5K | 1.5 | 40 | 7.96 | 80 | 0.35 | 250 |
| AL0204-1R8K | 1.8 | 40 | 7.96 | 65 | 0.45 | 240 |
| AL0204-2R2K | 2.2 | 40 | 7.96 | 55 | 0.55 | 230 |
| AL0204-2R7K | 2.7 | 40 | 7.96 | 50 | 0.60 | 220 |
| AL0204-3R3K | 3.3 | 40 | 7.96 | 42 | 0.65 | 210 |
| AL0204-3R9K | 3.9 | 45 | 7.96 | 38 | 0.85 | 200 |
| AL0204-4R7K | 4.7 | 45 | 7.96 | 34 | 1.00 | 190 |
| AL0204-5R6K | 5.6 | 45 | 7.96 | 32 | 1.15 | 180 |
| AL0204-6R8K | 6.8 | 40 | 7.96 | 27 | 1.20 | 175 |
| AL0204-8R2K | 8.2 | 40 | 7.96 | 26 | 1.25 | 165 |
| AL0204-100K | 10 | 40 | 7.96 | 24 | 1.50 | 160 |
| AL0204-120K | 12 | 50 | 2.52 | 19 | 2.20 | 150 |
| AL0204-150K | 15 | 50 | 2.52 | 18 | 2.50 | 145 |
| AL0204-180K | 18 | 50 | 2.52 | 17 | 2.80 | 140 |
| AL0204-220K | 22 | 50 | 2.52 | 16.0 | 3.00 | 130 |
| AL0204-270K | 27 | 55 | 2.52 | 14.0 | 3.50 | 80 |
| AL0204-330K | 33 | 55 | 2.52 | 13.0 | 3.80 | 76 |
| AL0204-390K | 39 | 50 | 2.52 | 12.0 | 4.20 | 74 |
| AL0204-470K | 47 | 50 | 2.52 | 11.0 | 5.80 | 70 |
| AL0204-560K | 56 | 50 | 2.52 | 10.0 | 6.40 | 68 |
| AL0204-680K | 68 | 50 | 2.52 | 9.5 | 7.20 | 64 |
| AL0204-820K | 82 | 50 | 2.52 | 9.0 | 8.50 | 46 |
| AL0204-101K | 100 | 50 | 2.52 | 7.2 | 11.0 | 44 |
| AL0204-121K | 120 | 30 | 0.796 | 6.5 | 19.0 | 42 |
| AL0204-151K | 150 | 30 | 0.796 | 6.0 | 22.0 | 39 |
| AL0204-181K | 180 | 30 | 0.796 | 5.2 | 24.0 | 37 |
| AL0204-221K | 220 | 30 | 0.796 | 4.5 | 28.0 | 35 |
| AL0204-271K | 270 | 30 | 0.796 | 3.5 | 29.0 | 28 |
| AL0204-331K | 330 | 30 | 0.796 | 3.0 | 30.0 | 26 |
| AL0204-391K | 390 | 30 | 0.796 | 2.7 | 32.0 | 25 |
| AL0204-471K | 470 | 30 | 0.796 | 2.6 | 35.0 | 24 |
| AL0204-561K | 560 | 30 | 0.796 | 2.5 | 40.0 | 23 |
| AL0204-681K | 680 | 30 | 0.796 | 2.2 | 42.0 | 22 |
| AL0204-821K | 820 | 30 | 0.796 | 2.1 | 46.0 | 21 |
| AL0204-102K | 1000 | 30 | 0.796 | 2.0 | 52.0 | 20 |

| Part Number | L(μ H) | Q(Min) | Test req.(MHz) | SRF(MHz Min) | DCR Max. (Ω) | Irated(mA) |
|-------------|-------------|--------|----------------|--------------|-----------------------|------------|
| AL0307-R10K | 0.10 | 40 | 25.2 | 470 | 0.08 | 700 |
| AL0307-R12K | 0.12 | 40 | 25.2 | 450 | 0.08 | 700 |
| AL0307-R15K | 0.15 | 40 | 25.2 | 430 | 0.09 | 700 |
| AL0307-R18K | 0.18 | 40 | 25.2 | 410 | 0.1 | 700 |
| AL0307-R22K | 0.22 | 40 | 25.2 | 380 | 0.12 | 700 |
| AL0307-R27K | 0.27 | 40 | 25.2 | 360 | 0.15 | 680 |
| AL0307-R33K | 0.33 | 40 | 25.2 | 350 | 0.16 | 680 |
| AL0307-R39K | 0.39 | 40 | 25.2 | 320 | 0.18 | 680 |
| AL0307-R47K | 0.47 | 40 | 25.2 | 300 | 0.26 | 650 |
| AL0307-R56K | 0.56 | 40 | 25.2 | 280 | 0.38 | 500 |
| AL0307-R68K | 0.68 | 40 | 25.2 | 250 | 0.42 | 500 |

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|-------------|------|----|-------|------|------|-----|
| AL0307-R82K | 0.82 | 40 | 25.2 | 200 | 0.55 | 450 |
| AL0307-1R0K | 1.0 | 65 | 25.2 | 180 | 0.12 | 700 |
| AL0307-1R2K | 1.2 | 50 | 7.96 | 165 | 0.18 | 700 |
| AL0307-1R5K | 1.5 | 50 | 7.96 | 150 | 0.20 | 700 |
| AL0307-1R8K | 1.8 | 70 | 7.96 | 125 | 0.23 | 655 |
| AL0307-2R2K | 2.2 | 50 | 7.96 | 85 | 0.25 | 630 |
| AL0307-2R7K | 2.7 | 60 | 7.96 | 80 | 0.28 | 595 |
| AL0307-3R3K | 3.3 | 60 | 7.96 | 75 | 0.30 | 575 |
| AL0307-3R9K | 3.9 | 60 | 7.96 | 65 | 0.32 | 555 |
| AL0307-4R7K | 4.7 | 50 | 7.96 | 45 | 0.35 | 530 |
| AL0307-5R6K | 5.6 | 50 | 7.96 | 36 | 0.40 | 500 |
| AL0307-6R8K | 6.8 | 50 | 7.96 | 30 | 0.45 | 470 |
| AL0307-8R2K | 8.2 | 50 | 7.96 | 28 | 0.55 | 425 |
| AL0307-100K | 10 | 50 | 7.96 | 22 | 0.72 | 370 |
| AL0307-120K | 12 | 50 | 2.52 | 20 | 0.80 | 350 |
| AL0307-150K | 15 | 50 | 2.52 | 16 | 0.88 | 335 |
| AL0307-180K | 18 | 50 | 2.52 | 15 | 1.00 | 315 |
| AL0307-220K | 22 | 60 | 2.52 | 13 | 1.20 | 285 |
| AL0307-270K | 27 | 60 | 2.52 | 11 | 1.35 | 270 |
| AL0307-330K | 33 | 50 | 2.52 | 10 | 1.5 | 255 |
| AL0307-390K | 39 | 50 | 2.52 | 9.5 | 1.7 | 240 |
| AL0307-470K | 47 | 50 | 2.52 | 8.5 | 2.3 | 205 |
| AL0307-560K | 56 | 55 | 2.52 | 7.5 | 2.6 | 195 |
| AL0307-680K | 68 | 55 | 2.52 | 6.5 | 3.2 | 185 |
| AL0307-820K | 82 | 55 | 2.52 | 6.00 | 3.5 | 175 |
| AL0307-101K | 100 | 60 | 2.52 | 5.50 | 3.8 | 165 |
| AL0307-121K | 120 | 75 | 0.796 | 5.40 | 3.8 | 160 |
| AL0307-151K | 150 | 75 | 0.796 | 4.75 | 4.4 | 150 |
| AL0307-181K | 180 | 75 | 0.796 | 4.35 | 5.0 | 140 |
| AL0307-221K | 220 | 75 | 0.796 | 4.00 | 5.7 | 130 |
| AL0307-271K | 270 | 70 | 0.796 | 3.70 | 6.5 | 120 |
| AL0307-331K | 330 | 70 | 0.796 | 3.40 | 9.5 | 100 |
| AL0307-391K | 390 | 70 | 0.796 | 2.80 | 10.5 | 95 |
| AL0307-471K | 470 | 70 | 0.796 | 2.40 | 12.5 | 90 |
| AL0307-561K | 560 | 70 | 0.796 | 2.20 | 14.5 | 85 |
| AL0307-681K | 680 | 70 | 0.796 | 2.00 | 18.0 | 75 |
| AL0307-821K | 820 | 60 | 0.796 | 1.60 | 23.7 | 65 |
| AL0307-102K | 1000 | 60 | 0.796 | 1.15 | 30.0 | 60 |

| Part Number | L(μ H) | Q(Min) | Test req.(MHz) | SRF(MHz Min) | DCR Max. (Ω) | I _{rated} (mA) |
|-------------|-------------|--------|----------------|--------------|-----------------------|-------------------------|
| AL0410-R10K | 0.1 | 50 | 25.2 | 470 | 0.04 | 900 |
| AL0410-R12K | 0.12 | 50 | 25.2 | 450 | 0.06 | 900 |
| AL0410-R15K | 0.15 | 50 | 25.2 | 430 | 0.07 | 890 |
| AL0410-R18K | 0.18 | 50 | 25.2 | 410 | 0.07 | 890 |
| AL0410-R22K | 0.22 | 50 | 25.2 | 380 | 0.08 | 880 |
| AL0410-R27K | 0.27 | 50 | 25.2 | 340 | 0.09 | 800 |
| AL0410-R33K | 0.33 | 50 | 25.2 | 300 | 0.10 | 750 |
| AL0410-R39K | 0.39 | 50 | 25.2 | 280 | 0.12 | 680 |
| AL0410-R47K | 0.47 | 50 | 25.2 | 250 | 0.16 | 650 |
| AL0410-R56K | 0.56 | 50 | 25.2 | 230 | 0.18 | 600 |
| AL0410-R68K | 0.68 | 50 | 25.2 | 210 | 0.22 | 550 |
| AL0410-R82K | 0.82 | 50 | 25.2 | 172 | 0.24 | 980 |
| AL0410-1R0K | 1.0 | 50 | 25.2 | 157 | 0.09 | 920 |
| AL0410-1R2K | 1.2 | 50 | 7.96 | 144 | 0.10 | 880 |
| AL0410-1R5K | 1.5 | 55 | 7.96 | 131 | 0.23 | 830 |
| AL0410-1R8K | 1.8 | 60 | 7.96 | 121 | 0.25 | 790 |

| | | | | | | |
|-------------|------|----|-------|------|------|-----|
| AL0410-2R2K | 2.2 | 80 | 7.96 | 110 | 0.28 | 750 |
| AL0410-2R7K | 2.7 | 85 | 7.96 | 100 | 0.30 | 720 |
| AL0410-3R3K | 3.3 | 90 | 7.96 | 94 | 0.34 | 670 |
| AL0410-3R9K | 3.9 | 90 | 7.96 | 86 | 0.37 | 640 |
| AL0410-4R7K | 4.7 | 90 | 7.96 | 80 | 0.39 | 620 |
| AL0410-5R6K | 5.6 | 80 | 7.96 | 74 | 0.43 | 590 |
| AL0410-6R8K | 6.8 | 80 | 7.96 | 58 | 0.48 | 550 |
| AL0410-8R2K | 8.2 | 85 | 7.96 | 53 | 0.52 | 530 |
| AL0410-100K | 10 | 85 | 7.96 | 45 | 0.58 | 500 |
| AL0410-120K | 12 | 75 | 2.52 | 30 | 0.63 | 480 |
| AL0410-150K | 15 | 75 | 2.52 | 20 | 0.72 | 460 |
| AL0410-180K | 18 | 70 | 2.52 | 14 | 0.77 | 430 |
| AL0410-220K | 22 | 65 | 2.52 | 7.9 | 0.84 | 410 |
| AL0410-270K | 27 | 65 | 2.52 | 7.6 | 0.94 | 390 |
| AL0410-330K | 33 | 55 | 2.52 | 6.3 | 1.03 | 370 |
| AL0410-390K | 39 | 55 | 2.52 | 6.3 | 1.12 | 350 |
| AL0410-470K | 47 | 45 | 2.52 | 6.3 | 1.22 | 340 |
| AL0410-560K | 56 | 45 | 2.52 | 6.2 | 1.34 | 320 |
| AL0410-680K | 68 | 40 | 2.52 | 5.7 | 1.47 | 305 |
| AL0410-820K | 82 | 35 | 2.52 | 5.3 | 1.62 | 290 |
| AL0410-101K | 100 | 30 | 2.52 | 4.8 | 1.8 | 275 |
| AL0410-121K | 120 | 70 | 0.796 | 3.8 | 3.7 | 185 |
| AL0410-151K | 150 | 80 | 0.796 | 3.5 | 4.2 | 175 |
| AL0410-181K | 180 | 80 | 0.796 | 3.3 | 4.6 | 165 |
| AL0410-221K | 220 | 70 | 0.796 | 3.0 | 5.1 | 155 |
| AL0410-271K | 270 | 70 | 0.796 | 2.8 | 5.8 | 145 |
| AL0410-331K | 330 | 65 | 0.796 | 2.6 | 6.4 | 137 |
| AL0410-391K | 390 | 65 | 0.796 | 2.4 | 7.0 | 133 |
| AL0410-471K | 470 | 60 | 0.796 | 2.25 | 7.7 | 126 |
| AL0410-561K | 560 | 60 | 0.796 | 2.10 | 8.5 | 120 |
| AL0410-681K | 680 | 55 | 0.796 | 1.95 | 9.4 | 113 |
| AL0410-821K | 820 | 55 | 0.796 | 1.85 | 12 | 100 |
| AL0410-102K | 1000 | 50 | 0.252 | 1.40 | 17 | 100 |

| Part Number | L(uH) | Q(Min) | Test req.(MHz) | SRF(MHz Min) | DCR Max. (Ω) | Irated(mA) |
|-------------|-------|--------|----------------|--------------|-----------------------|------------|
| AL0510-122K | 1.2 | 1KHz | 80 | 252 | 9 | 75 |
| AL0510-152K | 1.5 | 1KHz | 80 | 252 | 10 | 69 |
| AL0510-182K | 1.8 | 1KHz | 80 | 252 | 11 | 60 |
| AL0510-222K | 2.2 | 1KHz | 80 | 252 | 14 | 58 |
| AL0510-272K | 2.7 | 1KHz | 80 | 252 | 18 | 52 |
| AL0510-332K | 3.3 | 1KHz | 80 | 252 | 22 | 48 |
| AL0510-392K | 3.9 | 1KHz | 80 | 252 | 26 | 45 |
| AL0510-472K | 4.7 | 1KHz | 80 | 252 | 32 | 40 |
| AL0510-562K | 5.6 | 1KHz | 70 | 252 | 34 | 37 |
| AL0510-682K | 6.8 | 1KHz | 70 | 252 | 45 | 34 |
| AL0510-822K | 8.2 | 1KHz | 50 | 252 | 60 | 31 |
| AL0510-103K | 10 | 1KHz | 50 | 79.6 | 70 | 28 |
| AL0510-123K | 12 | 1KHz | 50 | 79.6 | 82 | 24 |
| AL0510-153K | 15 | 1KHz | 50 | 79.6 | 89 | 22 |
| AL0510-183K | 18 | 1KHz | 40 | 79.6 | 141 | 14 |
| AL0510-223K | 22 | 1KHz | 40 | 79.6 | 170 | 12 |
| AL0510-253K | 25 | 1KHz | 40 | 79.6 | 185 | 11 |
| AL0510-273K | 27 | 1KHz | 40 | 79.6 | 210 | 9.5 |
| AL0510-333K | 33 | 1KHz | 40 | 79.6 | 250 | 8.0 |

- Irated: DC current at which the inductance drops 10% from its value without current.
Or Current that causes a 40°C temperature rise from 25°C ambient.