



5 mm Tunable Inductor - 164, 165 Series



- These tunables offer the compactness of a 5 mm coil and the low drift reliability of an insert molded coil.
- Inductance values from 9 to over 280 nH
- Optional plated brass cans provide integral shielding.
- Can be ordered without cores for use as fixed inductors.

Designer's Kit M305 contains 2 each of all parts

Core material Aluminum, 0.187" (4.75 mm) long.

Terminations Leads: RoHS compliant tin-silver over copper. Other terminations available at additional cost. Shield can tabs: Tin-silver over nickel over brass

Weight

164 series unshielded: 0.16 – 0.31 g; with shield can: 0.45 – 0.60 g
165 series unshielded: 0.15 – 0.25 g; with shield can: 0.43 – 0.54 g

Ambient temperature –40°C to +85°C

Storage temperature Component: –40°C to +85°C.

Packaging tubes: –40°C to +80°C

Resistance to soldering heat: Wave solder only. Recommended maximum board surface temperature of 168°C (334°F) for no more than three seconds. Pre-heating is recommended to minimize time over the solder nozzle.

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

Two per billion hours / 1/2 billion hours, calculated per Telcordia SR-332

Packaging 50 parts per tube

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

TRITUNER 3 TOOLS IN 1
SEE INDEX
TUNING WRENCH

Unshielded Styles



Shielded Styles



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Document 110-1 Revised 08/31/09

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5 mm Tunable Inductor–Unshielded

| Part number ¹ | Color | Turns | No core | | at L max ³ | | at L min ⁴ | | Freq (MHz) | No core SRF min (MHz) | Irms ⁶ (A) |
|--------------------------|--------|-------|---------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|------------|-----------------------|-----------------------|
| | | | L (nH) ² | Q min ⁵ | L (nH) ² | Q min ⁵ | L (nH) ² | Q min ⁵ | | | |
| 164-01A06L | Brown | 1½ | 19 | 145 | 19 | 145 | 16 | 112 | 150 | 2000 | 7.2 |
| 164-02A06L | Red | 2½ | 34 | 138 | 34 | 138 | 26 | 96 | 150 | 1260 | 5.1 |
| 164-03A06L | Orange | 3½ | 55 | 130 | 55 | 130 | 38 | 79 | 150 | 960 | 4.4 |
| 164-04A06L | Yellow | 4½ | 77 | 119 | 77 | 119 | 52 | 72 | 150 | 850 | 3.7 |
| 164-05A06L | Green | 5½ | 101 | 108 | 99 | 86 | 65 | 64 | 150 | 770 | 3.6 |
| 164-06A06L | Blue | 6½ | 128 | 107 | 126 | 75 | 83 | 60 | 100 | 730 | 3.3 |
| 164-07A06L | Violet | 7½ | 156 | 106 | 150 | 68 | 97 | 57 | 100 | 640 | 3.1 |
| 164-08A06L | Gray | 8½ | 183 | 100 | 178 | 62 | 112 | 53 | 100 | 570 | 2.9 |
| 164-09A06L | White | 9½ | 216 | 100 | 190 | 62 | 131 | 53 | 100 | 540 | 2.7 |
| 164-10A06L | Black | 10½ | 248 | 92 | 223 | 55 | 148 | 51 | 100 | 490 | 2.5 |
| 164-11A06L | Brown | 11½ | 281 | 92 | 246 | 55 | 170 | 51 | 100 | 360 | 2.3 |
| 165-00A06L | Black | ½ | 9 | 147 | 9 | 147 | 9 | 131 | 150 | 6000 | 8.1 |
| 165-01A06L | Brown | 1½ | 18 | 145 | 18 | 145 | 15 | 112 | 150 | 2850 | 6.5 |
| 165-02A06L | Red | 2½ | 32 | 143 | 32 | 143 | 25 | 92 | 150 | 1860 | 4.9 |
| 165-03A06L | Orange | 3½ | 48 | 138 | 45 | 135 | 33 | 84 | 150 | 1410 | 4.2 |
| 165-04A06L | Yellow | 4½ | 64 | 133 | 60 | 114 | 43 | 76 | 150 | 1130 | 3.8 |
| 165-05A06L | Green | 5½ | 83 | 125 | 78 | 110 | 54 | 73 | 150 | 820 | 3.6 |
| 165-06A06L | Blue | 6½ | 103 | 120 | 90 | 94 | 68 | 70 | 150 | 800 | 3.4 |
| 165-07A06L | Violet | 7½ | 122 | 115 | 105 | 92 | 79 | 69 | 150 | 770 | 3.1 |

Notes:

- To order fixed inductance parts without cores, eliminate the "A06", e.g. 164-01.
- Inductance measured on Agilent/HP 4286A Impedance Analyzer with 16092A Spring Clip Fixture.
- L max measured with core halfway out top of form.
- L min measured with core centered in winding.
- Q measured on Agilent/HP 4286A with 16092A fixture, direct connect to Agilent/HP 4342A Q-Meter and Meguro MQ-171 Q-Meter with 0.5" bus bars.
- Current that causes a 15°C rise above 25°C ambient.
- Electrical specifications 25°C.

Typical Q vs Frequency

164 Series No Core



164 Series Al Core



165 Series No Core



165 Series Al Core



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5 mm Tunable Inductor–Shielded

TRITUNER 3 TOOLS IN 1
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TUNING WRENCH

| Part number ¹ | Color | Turns | No core | | at L max ³ | | at L min ⁴ | | Freq (MHz) | No core SRF min (MHz) | Irms ⁶ (A) |
|--------------------------|--------|-------|---------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|------------|-----------------------|-----------------------|
| | | | L (nH) ² | Q min ⁵ | L (nH) ² | Q min ⁵ | L (nH) ² | Q min ⁵ | | | |
| 164-01A06SL | Brown | 1½ | 16 | 124 | 16 | 124 | 14 | 106 | 150 | 2100 | 7.2 |
| 164-02A06SL | Red | 2½ | 27 | 108 | 27 | 108 | 22 | 89 | 150 | 1300 | 5.1 |
| 164-03A06SL | Orange | 3½ | 41 | 92 | 41 | 92 | 32 | 72 | 150 | 1100 | 4.4 |
| 164-04A06SL | Yellow | 4½ | 56 | 86 | 56 | 84 | 43 | 66 | 150 | 940 | 3.7 |
| 164-05A06SL | Green | 5½ | 71 | 80 | 71 | 79 | 53 | 60 | 150 | 980 | 3.6 |
| 164-06A06SL | Blue | 6½ | 88 | 79 | 80 | 77 | 65 | 59 | 150 | 800 | 3.3 |
| 164-07A06SL | Violet | 7½ | 105 | 75 | 101 | 70 | 76 | 54 | 100 | 750 | 3.1 |
| 164-08A06SL | Gray | 8½ | 122 | 74 | 117 | 64 | 87 | 54 | 100 | 580 | 2.9 |
| 164-09A06SL | White | 9½ | 141 | 71 | 134 | 62 | 100 | 53 | 100 | 550 | 2.7 |
| 164-10A06SL | Black | 10½ | 160 | 69 | 150 | 60 | 113 | 51 | 100 | 490 | 2.5 |
| 164-11A06SL | Brown | 11½ | 179 | 69 | 164 | 60 | 127 | 51 | 100 | 400 | 2.3 |
| 165-00A06SL | Black | 1½ | 9 | 138 | 9 | 138 | 9 | 121 | 150 | 6000 | 8.1 |
| 165-01A06SL | Brown | 1½ | 16 | 124 | 16 | 124 | 14 | 104 | 150 | 2570 | 6.5 |
| 165-02A06SL | Red | 2½ | 25 | 110 | 25 | 110 | 21 | 87 | 150 | 1670 | 4.9 |
| 165-03A06SL | Orange | 3½ | 35 | 104 | 33 | 102 | 28 | 78 | 150 | 1230 | 4.2 |
| 165-04A06SL | Yellow | 4½ | 46 | 97 | 41 | 90 | 35 | 69 | 150 | 1150 | 3.8 |
| 165-05A06SL | Green | 5½ | 57 | 92 | 50 | 82 | 43 | 67 | 150 | 820 | 3.6 |
| 165-06A06SL | Blue | 6½ | 68 | 86 | 59 | 75 | 52 | 65 | 150 | 800 | 3.4 |
| 165-07A06SL | Violet | 7½ | 80 | 85 | 70 | 74 | 60 | 64 | 150 | 770 | 3.1 |

Notes:

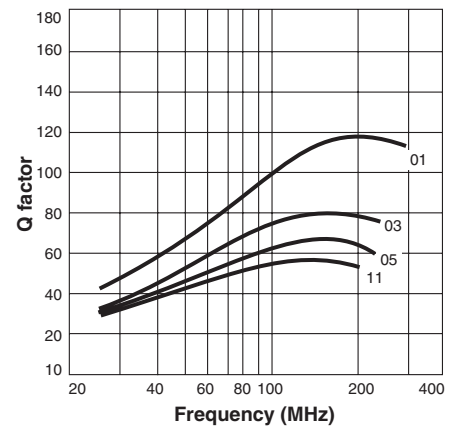
- To order fixed inductance parts without cores, eliminate the "A06", e.g. 164-01S.
- Inductance measured on Agilent/HP 4286A Impedance Analyzer with 16092A Spring Clip Fixture.
- L max measured with core halfway out top of form.
- L min measured with core centered in winding.
- Q measured on Agilent/HP 4286A with 16092A fixture, direct connect to Agilent/HP 4342A Q-Meter and Meguro MQ-171 Q-Meter with 0.5" bus bars.
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- Electrical specifications 25°C.

Typical Q vs Frequency

164 Series No Core



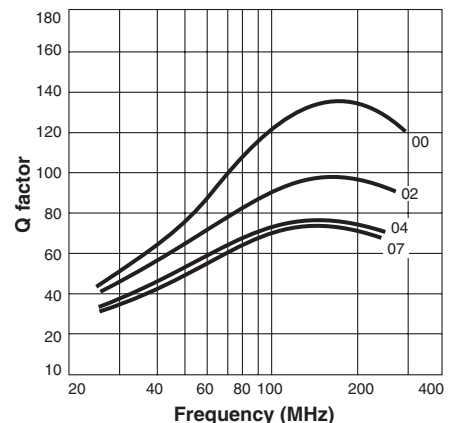
164 Series Al Core



165 Series No Core



165 Series Al Core



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