INCH-POUND

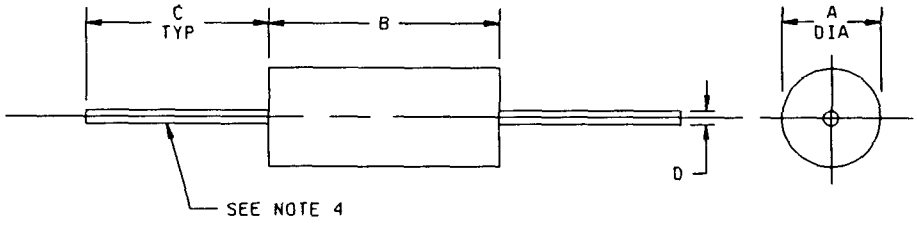
MS21390D(USAF)
14 September 1994
SUPERSEDING
MS21390C(85)
9 September 1988

MILITARY SPECIFICATION SHEET

# COILS, RADIO FREQUENCY, MOLDED, FIXED, SUBMINIATURE, IRON CORE, TYPES LT4K

This specification is approved for use by the Electronic Support Flight Division, Department of the Air Force, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-15305.




| Ltr | Dimensions in inches with metric equivalents (mm) in parentheses | |
|---|---|---|
| | Minimum | Maximum |
| A | .168 (4.27) | (D) .193 (4.90) |
| B | .420 (10.67) | .440 (11.18) |
| C | 1.300 (33.02) | |
| D | .023 (0.58) | .027 (0.69) |

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. These coils are intended to be supported by their leads.
4. Tinned copper lead wire, AWG 22.

FIGURE 1. Dimensions and configurations.

(D) denotes changes


DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

REQUIREMENTS:

Design, construction and physical dimensions: See figure 1.

Style: LT4
Grade: 1
Class: B

(D) Weight: 0.03 ounce maximum.

Operating temperature range: -55°C to +125°C.

Ambient temperature: 90°C maximum.

Temperature rise: 35°C maximum.

Power dissipation: .33 watt maximum.

Terminal pull: 5 pounds minimum.

Altitude: 60,000 feet.

Shock, specified pulse: MIL-STD-202, method 213, test condition I, is applicable.

Vibration (high frequency): MIL-STD-202, method 204, test condition G.

Dielectric withstanding voltage (sea level): MIL-STD-202, method 301, test voltage 700 V rms minimum.

Barometric pressure (reduced): MIL-STD-202, method 105, test condition C, test voltage 100 V rms minimum.

Electrical characteristics: See tables I and II.

Inductance: See table I.

Q values: See table I.

Self-resonant frequency (SRF): See table I.

DC resistance (DCR): See table I.

(D) Part or Identifying Number (PIN): MS21390-(dash number from table I).

TABLE I. Electrical characteristics (initial).

| Dash no. | Type designation | Inductance (µH) | Test frequency (MHz) | | Q (min) | 1/ SRF min (MHz) | Maximum DCR (ohms) | Rated DC current (mA) |
|---|---|---|---|---|---|---|---|---|
| | | | Q | L | | | | |
| 01 | LT4K | 2.7 ±10% | 10 | 7.9 | 55 | 110 | .12 | 1600 |
| 02 | LT4K | 3.3 ±10% | 10 | 7.9 | 55 | 100 | .15 | 1400 |
| 03 | LT4K | 3.9 ±10% | 10 | 7.9 | 60 | 95 | .23 | 1200 |
| 04 | LT4K | 4.7 ±10% | 7.9 | 7.9 | 70 | 90 | .30 | 1000 |
| 05 | LT4K | 5.6 ±10% | 7.9 | 7.9 | 65 | 80 | .45 | 900 |
| 06 | LT4K | 6.8 ±10% | 7.9 | 7.9 | 65 | 70 | .55 | 800 |
| 07 | LT4K | 8.2 ±10% | 7.9 | 7.9 | 60 | 65 | .65 | 720 |
| 08 | LT4K | 10 ±10% | 5 | 7.9 | 60 | 60 | .73 | 650 |
| 09 | LT4K | 12 ±10% | 5 | 2.5 | 65 | 53 | 1.1 | 590 |
| 10 | LT4K | 15 ±10% | 2.5 | 2.5 | 80 | 47 | 1.4 | 500 |
| 11 | LT4K | 18 ±10% | 2.5 | 2.5 | 75 | 43 | 1.6 | 460 |
| 12 | LT4K | 22 ±10% | 2.5 | 2.5 | 75 | 40 | 1.8 | 430 |
| 13 | LT4K | 27 ±5% | 2.5 | 2.5 | 75 | 36 | 2.7 | 360 |
| 14 | LT4K | 33 ±5% | 2.5 | 2.5 | 85 | 32 | 3.5 | 300 |
| 15 | LT4K | 39 ±5% | 2.5 | 2.5 | 80 | 26 | 3.8 | 290 |
| 16 | LT4K | 47 ±5% | 2.5 | 2.5 | 80 | 22 | 4.0 | 275 |
| 17 | LT4K | 56 ±5% | 2.5 | 2.5 | 75 | 19 | 4.4 | 265 |
| 18 | LT4K | 68 ±5% | 2.5 | 2.5 | 75 | 16 | 4.7 | 250 |
| 19 | LT4K | 82 ±5% | 2.5 | 2.5 | 75 | 13 | 5.3 | 235 |
| 20 | LT4K | 100 ±5% | 1.5 | 2.5 | 75 | 10 | 6.0 | 220 |
| 21 | LT4K | 120 ±5% | .79 | .79 | 65 | 7.2 | 5.0 | 170 |
| 22 | LT4K | 150 ±5% | .79 | .79 | 65 | 6.7 | 5.8 | 164 |
| 23 | LT4K | 180 ±5% | .79 | .79 | 65 | 6.3 | 6.6 | 158 |
| 24 | LT4K | 220 ±5% | .79 | .79 | 65 | 5.9 | 7.4 | 155 |
| 25 | LT4K | 270 ±5% | .79 | .79 | 65 | 5.6 | 8.0 | 150 |
| 26 | LT4K | 300 ±5% | .79 | .79 | 65 | 5.3 | 8.6 | 145 |
| 27 | LT4K | 330 ±5% | .79 | .79 | 65 | 5.0 | 8.9 | 142 |
| 28 | LT4K | 360 ±5% | .79 | .79 | 65 | 4.7 | 9.6 | 137 |
| 29 | LT4K | 390 ±5% | .79 | .79 | 65 | 4.5 | 9.9 | 135 |
| 30 | LT4K | 430 ±5% | .79 | .79 | 65 | 4.3 | 10.4 | 131 |
| 31 | LT4K | 470 ±5% | .79 | .79 | 65 | 4.0 | 10.9 | 128 |
| 32 | LT4K | 510 ±5% | .79 | .79 | 65 | 3.8 | 11.6 | 124 |
| 33 | LT4K | 560 ±5% | .79 | .79 | 60 | 3.6 | 11.8 | 123 |
| 34 | LT4K | 620 ±5% | .79 | .79 | 60 | 3.5 | 12.5 | 120 |
| 35 | LT4K | 680 ±5% | .79 | .79 | 60 | 3.4 | 13.5 | 115 |
| 36 | LT4K | 750 ±5% | .79 | .79 | 60 | 3.3 | 14.0 | 113 |
| 37 | LT4K | 820 ±5% | .79 | .79 | 60 | 3.1 | 15.0 | 110 |
| 38 | LT4K | 910 ±5% | .79 | .79 | 60 | 3.0 | 15.5 | 107 |
| 39 | LT4K | 1000 ±5% | .79 | .79 | 60 | 2.8 | 16.5 | 104 |

1/ Minimum self resonant frequency to be not less than 80 percent of the specified value.

(D) TABLE II. Electrical characteristics (final). 1/

| Inspection group | Allowable variation from initial measurement | | Allowable percent from specified minimum value in electrical characteristics (initial) table | |
|---|---|---|---|---|
| | Inductance (percent) | DC resistance | Self-resonant frequency | Q |
| Qualification inspection | | | | |
| Group II | ±2 | --- | --- | -10 |
| Group III | ±5 | ±(3% +.001 ohm) | -8 | -10 |
| Group IV | ±5 | ±(2% +.001 ohm) | -10 | -10 |
| Quality conformance inspection group C | | | | |
| Subgroup I | ±2 | --- | --- | -10 |
| Subgroup II | ±5 | ±(2% +.001 ohm) | -10 | -10 |
| Subgroup III | ±5 | ±(3% +.001 ohm) | -8 | -10 |

1/ Test fixture allowance of +.01 µH shall be added to all change in inductance limits ±( _ percent +.01 µH).

CONCLUDING MATERIAL

Preparing activity:
Air force - 85

Agent
DLA - ES

(Project 5950-F246)