

INCH-POUND

MS21400B
 24 August 2007
 SUPERSEDING
 MS21400A
 3 August 1979

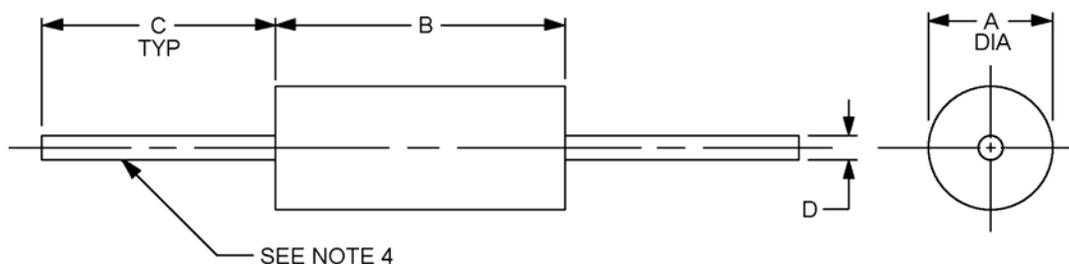
MILITARY SPECIFICATION SHEET

COILS, RADIO FREQUENCY, MOLDED, FIXED,
 MICRO-MINIATURE, MAGNETICALLY SHIELDED,
 (IRON CORE-IRON SLEEVE), LT10K469 TO LT10K482 INCL

Inactive for new design
 after 21 February 2003

This specification is approved for use by all Depart-
 ments and Agencies of the Department of Defense.

The requirements for acquiring the products described
 herein shall consist of this specification and MIL-PRF-15305.



| Ltr | Dimensions in inches with metric equivalents (mm) in parentheses | |
|-----|--|---------------|
| | Minimum | Tolerance |
| A | .136 (3.45) | Max |
| B | .335 (8.51) | ± .010 (0.25) |
| C | 1.438 (36.53) | ± .188 (4.78) |
| D | .020 (0.51) | ± .002 (0.05) |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. These coils are intended to be supported by their leads.
4. Tinned copper lead wire, AWG number 24.

FIGURE 1. Dimensions and configuration.

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REQUIREMENTS:

Design, construction, and physical dimensions: See figure 1.

Style: LT10

Grade: 1
Class: A

Weight: .50 grams, maximum.

Operating temperature range: -55° to +105°C.

Ambient temperature: + 90°C maximum.

Temperature rise: 15°C.

Terminal pull: 5 pounds minimum.

Altitude: 70,000 feet.

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

Dielectric withstanding voltage:

At sea level: Method 301 of MIL-STD-202, test voltage 700 V rms for a minimum of 60 seconds.

At reduced barometric pressure: Method 105 of MIL-STD-202, test condition C, test voltage 100 V rms for a minimum of 60 seconds.

Percent coupling: 3 percent, maximum.

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. DC resistance shall be the last measurement taken in the electrical characteristics test sequence.

Part or Identifying Number (PIN): MS21400 - (dash number from table I).

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TABLE 1. Electrical characteristics (initial).

| Dash number 1/ | Inductance (μ H) $\pm 10\%$ | Q (min) | Test frequency (MHz) | SRF min (MHz) | DC resistance at 25°C max (ohms) | Max rated DC current (mA) |
|-------------------|--|------------|----------------------------|---------------------|---|------------------------------------|
| -01 | 1.0 | 38 | 25 | 135 | .170 | 678 |
| -02 | 1.2 | 38 | 7.9 | 124 | .177 | 664 |
| -03 | 1.5 | 38 | 7.9 | 114 | .212 | 607 |
| -04 | 1.8 | 38 | 7.9 | 105 | .242 | 568 |
| -05 | 2.2 | 38 | 7.9 | 95 | .263 | 545 |
| -06 | 2.7 | 38 | 7.9 | 85 | .300 | 510 |
| -07 | 3.3 | 38 | 7.9 | 78 | .345 | 476 |
| -08 | 3.9 | 42 | 7.9 | 74 | .411 | 436 |
| -09 | 4.7 | 42 | 7.9 | 68 | .562 | 373 |
| -10 | 5.6 | 42 | 7.9 | 62 | .742 | 324 |
| -11 | 6.8 | 45 | 7.9 | 55 | 1.00 | 280 |
| -12 | 8.2 | 47 | 7.9 | 51 | 1.20 | 255 |
| -13 | 10 | 51 | 7.9 | 45 | 1.84 | 206 |
| -14 | 12 | 51 | 2.5 | 41 | 2.60 | 173 |

1/ The dash number added to the MS military standard number constitutes the MS part number, for example, MS21400-01

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 | ± 5 | --- | --- | -10 |
| Group III | ± 5 | $\pm(3\% + .001 \text{ ohm})$ | -8 | -10 |
| Group IV | ± 5 | $\pm(2\% + .001 \text{ ohm})$ | -5 | -10 |
| Conformance inspection group C | | | | |
| Subgroup I | ± 5 | --- | --- | -10 |
| Subgroup II | ± 5 | $\pm(2\% + .001 \text{ ohm})$ | -5 | -10 |
| Subgroup III | ± 5 | $\pm(3\% + .001 \text{ ohm})$ | -8 | -10 |

1/ After the overload test is performed, a period of 24 hours shall elapse prior to taking electrical characteristics (final) measurements.

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Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Referenced documents.

MIL-PRF-15305
MIL-STD-202

Custodians:

Army – CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:

DLA – CC

(Project 5950-2007-020)

Review activities:

Air Force – 19

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.