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INCH-POUND

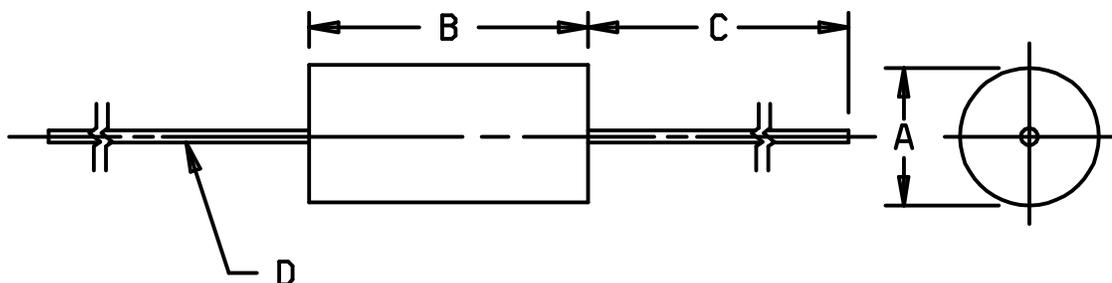
MIL-PRF-39010/1E  
 27 August 1997  
 SUPERSEDING  
 MIL-C-39010/1D  
 4 January 1994

PERFORMANCE SPECIFICATION SHEET

COILS, FIXED, RADIO FREQUENCY, MOLDED, MICROMINIATURE, MAGNETICALLY SHIELDED (PHENOLIC CORE-IRON SLEEVE), ESTABLISHED RELIABILITY AND NONESTABLISHED RELIABILITY

This specification is approved 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 MIL-PRF-39010.



| Letter | Dimensions are in inches with metric equivalents (mm) in parentheses |               |
|--------|--|---------------|
|        | Minimum  | Maximum       |
| A      | .152 (3.86)  | .172 (4.37)   |
| B      | .390 (9.91)  | .430 (10.92)  |
| C      | 1.250 (31.75)  | 1.626 (41.30) |
| D      | .023 (0.58)  | .027 (0.69)   |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.

FIGURE 1. Dimensions and configuration.

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REQUIREMENTS:

Interface and physical dimensions: See figure 1.

Material: Phenolic core with iron sleeve.

Weight: 0.03 ounce maximum.

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

Dielectric withstanding voltage: Method 301 of MIL-STD-202; test voltage of 1,000 V rms.

Barometric pressure: Method 105 of MIL-STD-202, test condition C, 70,000 feet with a test voltage of 200 V rms.

Electrical characteristics: See table I and table II.

Inductance: See table I.

Inductance tolerance: See table I.

Q values: See table I.

Self-resonant frequency: See table I.

Percent coupling: 3 percent maximum.

DC resistance: See table I.

Temperature rise: 15°C.

Terminal pull: 5 pounds.

Part or Identifying Number (PIN): M39010/01 (dash number from table I).

Supersession data: This specification supersedes MS75087 dated 4 September 1985.

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TABLE I. Electrical characteristics (initial) and dash numbers.

| Dash number<br><u>1/</u> | Inductance<br>$\mu$ H | Inductance tolerance<br>$\pm$ percent | Q minimum | Test frequency (MHz) | Self-resonant frequency minimum (MHz) | DC resistance (25°C) maximum (ohms) | Rated dc current (mA)<br><u>2/</u> |
|--------------------------|-----------------------|---------------------------------------|-----------|----------------------|---------------------------------------|-------------------------------------|------------------------------------|
| AR10**                   | .10                   | 5, 10                                 | 50        | 25                   | 250                                   | .025                                | 1,790                              |
| AR11**                   | .11                   | 5                                     | 50        | 25                   | 250                                   | .034                                | 1,530                              |
| AR12**                   | .12                   | 5, 10                                 | 50        | 25                   | 250                                   | .034                                | 1,530                              |
| AR13**                   | .13                   | 5                                     | 50        | 25                   | 250                                   | .037                                | 1,470                              |
| AR15**                   | .15                   | 5, 10                                 | 50        | 25                   | 250                                   | .037                                | 1,470                              |
| AR16**                   | .16                   | 5                                     | 50        | 25                   | 250                                   | .047                                | 1,300                              |
| AR18**                   | .18                   | 5, 10                                 | 50        | 25                   | 250                                   | .047                                | 1,300                              |
| AR20**                   | .20                   | 5                                     | 49        | 25                   | 250                                   | .067                                | 1,100                              |
| AR22**                   | .22                   | 5, 10                                 | 49        | 25                   | 250                                   | .067                                | 1,100                              |
| AR24**                   | .24                   | 5                                     | 47        | 25                   | 250                                   | .11                                 | 853                                |
| AR27**                   | .27                   | 5, 10                                 | 47        | 25                   | 250                                   | .11                                 | 853                                |
| AR30**                   | .30                   | 5                                     | 46        | 25                   | 250                                   | .13                                 | 780                                |
| AR33**                   | .33                   | 5, 10                                 | 46        | 25                   | 250                                   | .13                                 | 780                                |
| AR36**                   | .36                   | 5                                     | 44        | 25                   | 250                                   | .18                                 | 670                                |
| AR39**                   | .39                   | 5, 10                                 | 44        | 25                   | 250                                   | .18                                 | 670                                |
| AR43**                   | .43                   | 5                                     | 44        | 25                   | 235                                   | .25                                 | 565                                |
| AR47**                   | .47                   | 5, 10                                 | 44        | 25                   | 235                                   | .25                                 | 565                                |
| AR51**                   | .51                   | 5                                     | 43        | 25                   | 210                                   | .33                                 | 490                                |
| AR56**                   | .56                   | 5, 10                                 | 43        | 25                   | 210                                   | .33                                 | 490                                |
| AR62**                   | .62                   | 5                                     | 42        | 25                   | 190                                   | .45                                 | 420                                |
| AR68**                   | .68                   | 5, 10                                 | 42        | 25                   | 190                                   | .45                                 | 420                                |
| AR75**                   | .75                   | 5                                     | 40        | 25                   | 180                                   | .59                                 | 370                                |
| AR82**                   | .82                   | 5, 10                                 | 40        | 25                   | 180                                   | .59                                 | 370                                |

1/ The complete dash number will include two additional letters (indicated by \*\*). The first additional letter will indicate the inductance tolerance and the second additional letter will indicate the product level (e.g., C, M, P, R, S) and will be added to the end of the dash number.

2/ The rated dc current is based on 90°C ambient temperature with a 15°C rise.

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 IV                       | ±5   | ±(3% +.001 ohm) | <u>2/</u>  | -10 |
| Group V                        | ±5   | ±(2% +.001 ohm) | <u>2/</u>  | -10 |
| Quality conformance inspection |  |                 |  |     |
| Group B                        |  |                 |  |     |
| Subgroup 1                     | ±5   | ±(2% +.001 ohm) | <u>2/</u>  | -10 |
| Subgroup 3                     | ±5   |                 |  | -10 |
| Subgroup 4                     | ±5   | ±(3% +.001 ohm) | <u>2/</u>  | -10 |

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

2/ The self-resonant frequency shall be not less than the value specified in table I.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:  
 Army - CR  
 Navy - EC  
 Air Force - 85

Preparing activity:  
 Army - CR

Agent:  
 DLA - CC

Review activities:  
 Army - AR, CR4, MI  
 Navy - AS, CG, MC, OS, SH  
 Air Force - 17, 19, 99  
 DLA - CC

(Project 5950-0945)