SUPERSEDING
MIL-F-15733/39G
12 July 1982

DEC 22 1986
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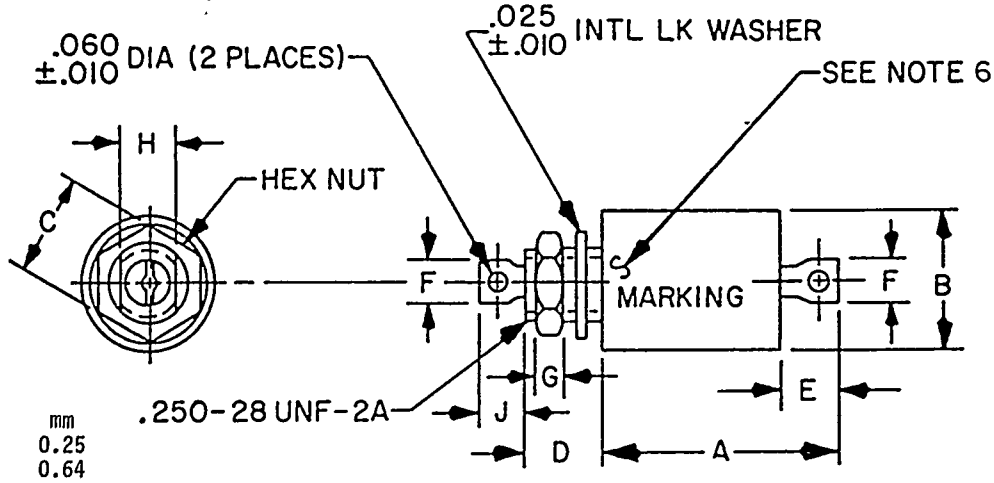
# MILITARY SPECIFICATION SHEET

## FILTERS, RADIO FREQUENCY INTERFERENCE, HERMETICALLY SEALED, STYLE FL91

(H) Part numbers M15733/39-0007, -0008, -0011, -0013, are inactive for new design as of 19 August 1981. For new design, use M15733/25-0005 and -0008 of MIL-F-15733/25 for M15733/39-0007 and -0008; M15733/39-0012 for M15733/39-0011; and M15733/49-0006 of MIL-F-15733/49 for M15733/39-0013.

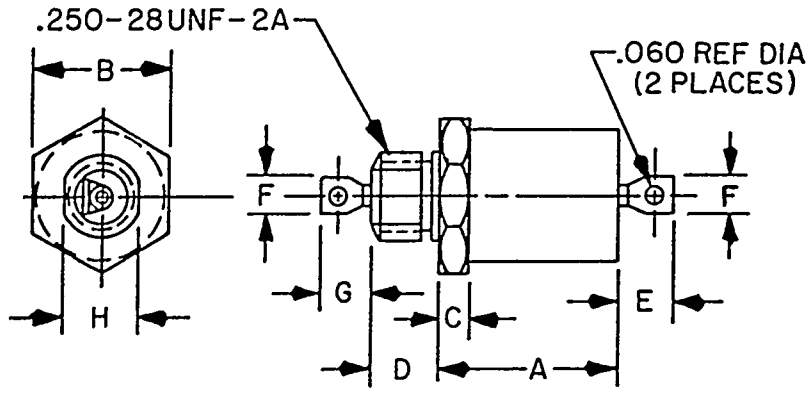
This specification is approved for use by all Departments and Agencies of the Department of the Defense.

The complete requirements for acquiring the filters described herein shall consist of this specification sheet and the latest issue of MIL-F-15733.




| Inches | mm |
|---|---|
| .010 | 0.25 |
| .025 | 0.64 |
| .060 | 1.52 |
| .250 | 6.35 |

DASH NOS 0001 THRU 0014, 0016 THRU 0018




DASH NO 0015

FIGURE 1. Case dimensions and circuit diagrams.

(H) denotes changes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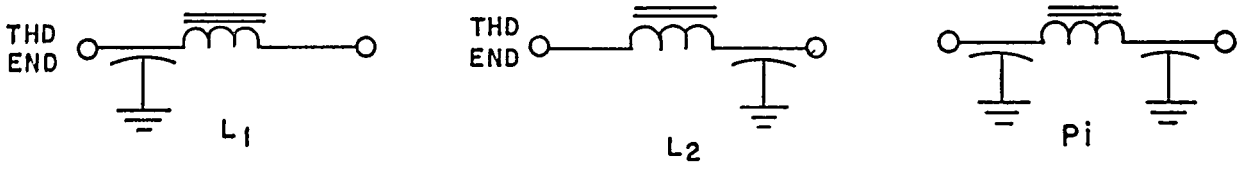
| Dash no. | A Max | B Max | C Min | C Max | D Min | D Max | E Min | E Max | F Min | F Max | G Min | G Max | H Min | H Max | J Max | Maximum weight (grams) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0001 | .760 (19.30) | .385 (9.78) | .302 (7.67) | .322 (8.18) | .177 (4.50) | .197 (5.00) | .140 (3.56) | .190 (4.83) | .083 (2.11) | .130 (3.30) | .088 (2.24) | .098 (2.49) | .190 (4.83) | .210 (5.33) | .150 (3.81) | 28.4 |
| 0002 | | | | | | | | | | | | | | | | |
| 0003 | | | | | | | | | | | | | | | | |
| 0004 | | | | | | | | | | | | | | | | |
| 0005 | | | | | | | | | | | | | | | | |
| 0006 | | | | | | | | | | | | | | | | |
| 0007 1/ | | | | | | | | | | | | | | | | |
| 0008 1/ | | | | | | | | | | | | | | | | |
| 0009 | | | | | | | | | | | | | | | | |
| 0010 | | | | | | | | | | | | | | | | |
| 0011 1/ | | | | | | | | | | | | | | | | |
| 0012 | .760 (19.30) | .385 (9.78) | | | .177 (4.50) | .197 (5.00) | .140 (3.56) | .190 (4.83) | .083 (2.11) | .130 (3.30) | .088 (2.24) | .098 (2.49) | .190 (4.83) | .210 (5.33) | .150 (3.81) | |
| 0013 1/ | .760 (19.30) | .385 (9.78) | | | .302 (7.67) | .322 (8.18) | ---- | .190 (4.83) | ---- | .115 (2.92) Ref | .091 (2.31) | .096 (2.44) | .190 (4.83) | .210 (5.33) | .150 (3.81) | |
| 0014 | .760 (19.30) | .385 (9.78) | .302 (7.67) | .322 (8.18) | .302 (7.67) | .322 (8.18) | ---- | .190 (4.83) Ref | ---- | .115 (2.92) Ref | .091 (2.31) | .096 (2.44) | .190 (4.83) | .210 (5.33) | .150 (3.81) | |
| 0015 (H) | .509 (12.93) | .385 (9.78) | .120 (3.05) | .130 (3.30) | .302 (7.67) | .322 (8.18) | ---- | .190 (4.83) Ref | ---- | .115 (2.92) Ref | ---- | .150 (3.81) | .190 (4.83) | .210 (5.33) | ---- | |
| 0016 | .80 (20.3) | .416 (10.57) | ---- | ---- | .180 (4.57) | .200 (5.08) | ---- | .357 (9.07) | .099 (2.51) Ref | .119 (3.02) Ref | ---- | ---- | .190 (4.83) | .210 (5.33) | ---- | 10.0 |
| 0017 | .80 (20.3) | .416 (10.57) | ---- | ---- | .180 (4.57) | .200 (5.08) | ---- | .357 (9.07) | .099 (2.51) Ref | .119 (3.02) Ref | ---- | ---- | .190 (4.83) | .210 (5.33) | ---- | 10.0 |
| 0018 | .80 (20.3) | .416 (10.57) | ---- | ---- | .180 (4.57) | .200 (5.08) | ---- | .357 (9.07) | .099 (2.51) Ref | .119 (3.02) Ref | ---- | ---- | .190 (4.83) | .210 (5.33) | ---- | 10.0 |

1/ Inactive for new design.

FIGURE 1. Case dimensions and circuit diagrams - Continued.




CIRCUIT DIAGRAMS

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are in parentheses.
3. Metric equivalents are given for general information only.
4. Circuit diagram is for information only.
5. Filters shall be supplied with mounting hardware.
6. Terminal identification (nonsymmetrical filters): The case shall be marked at the threaded end of the filter, with the symbol "C" or the symbol "L", as follows:

| Circuit | | Symbol |
|---|---|---|
| $L_1$ | ---------- | C |
| $L_2$ | ---------- | L |

7. Recommended mounting torque: 48 in-oz.

FIGURE 1. Case dimensions and circuit diagrams - Continued.

TABLE I. Electrical characteristics.

| Rated dc voltage (volts) | Circuit diagram | Max current (amperes) | Max Voltage drop (volts) | Capacitance µF GMV (H) | Minimum insertion loss (dB) in accordance with MIL-STD-220 1/ | | | | | | | | | | | | | | | Dash no. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | At +25°C | | | | | | | | At -55°C and +125°C | | | | | | | |
| | | | | | 30 kHz | 100 kHz | 150 kHz | 300 kHz | 1 MHz | 10 MHz | 100 MHz | 1 GHz | 30 kHz | 100 kHz | 150 kHz | 300 kHz | 1 MHz | 10 MHz | 100 MHz | 1 GHz | |
| 100 | $L_1$ | .5 | 1.0 | .66 | 6 | - | 28 | 40 | 60 | 60 | 60 | 70 | 4 | - | 26 | 38 | 58 | 58 | 60 | 70 | 0001 |
| " | $L_2$ | .5 | 1.0 | .66 | " | - | 28 | 40 | 60 | " | " | " | " | - | 26 | 38 | 58 | " | " | " | 0002 |
| " | $L_1$ | 1.0 | .25 | " | " | - | 20 | 30 | 50 | " | " | " | " | - | 18 | 28 | 48 | " | " | " | 0003 |
| " | $L_2$ | 1.0 | .25 | " | " | - | " | 30 | 50 | " | " | " | " | - | " | 28 | 48 | " | " | " | 0004 |
| " | $L_1$ | 2.0 | .14 | " | " | - | " | 26 | 40 | " | " | " | " | - | " | 24 | 38 | " | " | " | 0005 |
| " | $L_2$ | 2.0 | .14 | " | " | - | " | " | 40 | " | " | " | " | - | " | " | 38 | " | " | " | 0006 |
| " | $L_1$ | 5.0 | .075 | " | " | - | " | " | 35 | " | " | " | " | - | " | " | 33 | " | " | " | 0007 2/ |
| " | $L_2$ | 5.0 | .075 | " | " | - | " | " | " | " | " | " | " | - | " | " | " | " | " | " | 0008 2/ |
| " | $L_1$ | 10.0 | .03 | " | " | - | " | " | " | 56 | " | " | " | - | " | " | " | 54 | " | " | 0009 |
| " | $L_2$ | " | " | " | " | - | " | " | " | 56 | " | " | " | - | " | " | " | 54 | " | " | 0010 |
| " | Pi | " | " | .99 | 9 | - | 24 | 29 | 40 | 70 | 70 | " | 7 | - | 22 | 27 | 38 | 68 | 70 | " | 0011 2/ |
| " | " | " | " | .99 | 9 | - | 24 | 29 | 40 | 70 | 70 | " | 7 | - | 22 | 27 | 38 | 68 | 70 | " | 0012 |
| " | " | " | " | 1.5 | 9 | - | 24 | 29 | 40 | 70 | 70 | " | 7 | - | 22 | 27 | 38 | 68 | 70 | " | 0015 |
| 100 | " | .25 | .38 | " | - | 58 | - | 76 | 80 | 80 | 80 | 80 | - | 56 | - | 74 | 78 | 78 | 80 | 80 | 0016 |
| 100 | " | 3.0 | .18 | " | - | 14 | - | 41 | 76 | 80 | 80 | 80 | - | 12 | - | 39 | 74 | 78 | 80 | 80 | 0017 |
| 100 | " | 5.0 | .20 | " | - | - | - | 28 | 68 | 80 | 80 | 80 | - | - | - | 26 | 66 | 78 | 80 | 80 | 0018 |
| 50 | $L_2$ | 10.0 | .03 | " | 14 | - | 28 | 34 | 44 | 52 | 70 | 70 | 12 | - | 26 | 32 | 42 | 50 | 70 | 70 | 0013 2/ |
| | | | | 1.4 | | | | | | | | | | | | | | | | | |
| 50 | $L_1$ | 10.0 | .03 | 1.4 | 14 | - | 28 | 34 | 44 | 52 | 70 | 70 | 12 | - | 26 | 32 | 42 | 50 | 70 | 70 | 0014 |

1/ Insertion loss measurements shall be made under full load over the frequency range of 100 kHz to 10 MHz. Insertion loss measurements above or below this frequency range shall be made under no load.

2/ Inactive for new design.

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Weight: See figure 1.

Seal: Metal-to-glass.

Terminals: Solderable.

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

Rated voltage: See table I.

Rated current: See table I.

Insertion loss: See table I.

Creepage and clearance: Not applicable.

Seal: Method 112, test condition A, MIL-STD-202.

(H) Capacitance to ground: See table I and the dissipation factor shall be 3.0 percent maximum.
Temperature rise: +25°C, maximum.

Barometric pressure (reduced): Method 105, MIL-STD-202, test condition D (100,000 ft) for -0001 thru -0010; test condition C (70,000 ft) for -0011 thru -0015; and test condition B (50,000 ft) for -0016 thru -0018.

Insulation resistance: At 25°C the insulation resistance shall not be less than 1000 megohms. At +125°C the insulation resistance shall not be less than 100 megohms.

Voltage drop: See table I.

(H) Insertion loss: In accordance with MIL-F-15733 at 25°C and at temperature extremes and table I.

Terminal strength: Method 211, test condition A (pull), MIL-STD-202.

Force: 5 pounds.

Salt spray (corrosion): Method 101, test condition A, MIL-STD-202.

Shock (specified pulse): Method 213, MIL-STD-202, test condition I (-0001 thru -0014 and -0016 thru -0018), and test condition A (-0015).

Electrical load: 100 percent of the rated dc voltage shall be applied between terminals and case.

Vibration, high frequency: Method 204, test condition D (20G), MIL-STD-202.

Electrical load: Rated dc voltage and current shall be applied continuously during test.

Temperature conditioning: Prior to vibration, filters shall be heated in an oven to +125°C plus one-half the temperature rise. Vibration in each plane shall begin within 5 minutes after removal of filters from the oven.

Test during vibration: During the last cycle in each direction, an electrical measurement shall be made to determine intermittent open or short-circuiting.

After vibration test: Filters shall be subjected to and shall meet the initial requirements of the insertion loss (check test).



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QUALITY ASSURANCE PROVISIONS:

(H) Extent of qualifications:

Qualification testing and approval to M15733/39-0014 shall be sufficient to grant qualification approval to M15733/39-0013 and -0014.

Qualification testing and approval to M15733/39-0012 and M15733/39-0016 shall be sufficient to grant qualification approval to M15733 /39-0001 thru -0012 and M15733/39-0015 thru -0018.

Part number: M15733/39-(dash number from table I).

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

Review activities:
Army - MI, AR, SL
Navy - SH
Air Force - 11, 99
DLA - ES

User activities:
Army - AT, AV, ME, WC
Navy - AS, CG, MC, OS
Air Force - 19

Preparing activity:
Navy - EC

Agent:
DLA - ES

(Project 5915-0292)