

INCH-POUND

MIL-PRF-15733/43F
3 March 2015
SUPERSEDING
MIL-PRF-15733/43E
W/AMENDMENT 1
21 April 2008

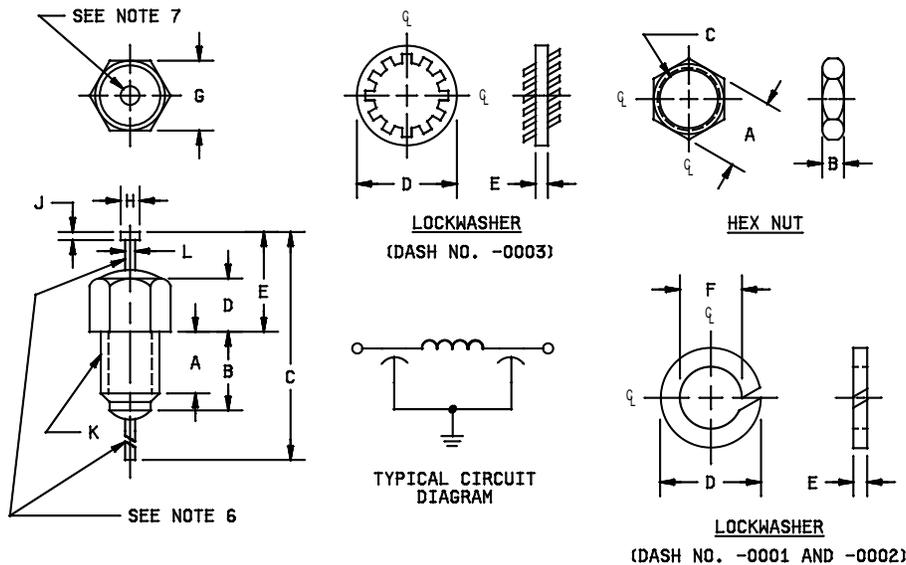
PERFORMANCE SPECIFICATION SHEET

FILTERS, RADIO FREQUENCY INTERFERENCE,
STYLE FL70

Part or Identifying Numbers (PINs) M15733/43-0001 and M15733/43-0002 are inactive for new design after 2 December 1982. For new design use M15733/61-0002 for M15733/43-0001 and M15733/61-0008 for M15733/43-0002.

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

The requirements for acquiring the filters described herein shall consist of this specification sheet and [MIL-PRF-15733](#).



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Circuit diagram is for information only.
4. Recommended mounting torque: 3 in-lb (-0001) and 6 in-lb (-0002 and -0003) maximum.
5. Mounting hardware (lockwasher and hex nut) will be supplied with each filter.
6. Leads shall be silver coated or solder coated copper.
7. Turret head is optional.

FIGURE 1. Case and circuit diagram.



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Filter dimensions.

Dash number	Dimension									
	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
0001	.208 (5.28)	.228 (5.79)	.271 (6.88)	.291 (7.39)	.781 (19.84)	.843 (21.41)	.177 (4.50)	.197 (5.00)	.349 (8.86)	.369 (9.37)
0002	.206 (5.23)	.226 (5.74)	.256 (6.50)	.276 (7.01)	.859 (21.82)	.921 (23.39)	.083 (2.11)	.103 (2.62)	.281 (7.14)	.343 (8.71)
0003	.203 (5.16)	.233 (5.92)	.266 (6.76)	.296 (7.52)	.750 (19.05)	.874 (22.20)	.172 (4.37)	.202 (5.13)	.328 (8.33)	.390 (9.91)

Dash number	Dimension									
	G		H		J		K	L		
	Min	Max	Min	Max	Min	Max	Thread	Min	Max	
0001	.240 (6.10)	.260 (6.60)	.050 (1.27)	.070 (1.78)	.010 (0.25)	.030 (0.76)	.216-28 UNF-2A	.027 (0.69)	.037 (0.94)	
0002	.177 (4.50)	.197 (5.00)	.050 (1.27)	.070 (1.78)	.010 (0.25)	.030 (0.76)	.164-32 UNC-2A	.027 (0.69)	.037 (0.94)	
0003	.235 (5.97)	.265 (6.73)	.050 (1.27)	.070 (1.78)	.010 (0.25)	.030 (0.76)	.216-32 UNEF-2A	.035 (0.89)	.045 (1.14)	

Hardware dimensions

Dash number	Hex nut					Lockwasher					
	A		B		C	D		E		F	
	Min	Max	Min	Max	Thread	Min	Max	Min	Max	Min	Max
0001	.240 (6.10)	.260 (6.60)	.070 (1.78)	.080 (2.03)	.216-28 UNF-2B	.351 (8.92)	.369 (9.37)	.045 (1.14)	.051 (1.30)	.219 (5.56)	.229 (5.82)
0002	.240 (6.10)	.260 (6.60)	.073 (1.85)	.078 (1.98)	.164-32 UNC-2B	.263 (6.68)	.273 (6.93)	.034 (0.86)	.038 (0.97)	.168 (4.27)	.176 (4.47)
0003	.302 (7.67)	.322 (8.18)	.070 (1.78)	.080 (2.03)	.216-32 UNEF-2B	.371 (9.42)	.381 (9.68)	.020 (0.51)	.024 (0.61)	N/A	N/A

FIGURE 1. Case and circuit diagram - Continued.

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TABLE I. Electrical characteristics.

Dash no.	Rated voltage		Capacitance pF minimum	Minimum insertion loss (dB) in accordance with MIL-STD-220 <u>2/</u>											
	DC volts	AC <u>1/</u> rms volts		+25°C						-55°C, +125°C					
				10 MHz	30 MHz	100 MHz	200 MHz	300 MHz	1-10 GHz	10 MHz	30 MHz	100 MHz	200 MHz	300 MHz	1-10 GHz
0001 <u>3/</u>	200	140	1500	---	---	---	45	45	45	---	---	---	28	45	45
0002 <u>3/</u>	100	70	1500	---	---	---	50	50	50	---	---	---	28	50	50
0003	500	N/A	2500	12	20	45	---	60	70	4	11	25	---	50	70

1/ DC to 400 Hz.

2/ Full-load insertion loss measurements shall be performed at 10 MHz. Measurements above this frequency shall be performed at no-load.

3/ Inactive for new design.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figure 1.

Case: Metal.

Case and hardware finish: In accordance with MIL-PRF-15733. Pure tin finish is prohibited.

Weight: 2.6 grams, maximum.

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

Rated voltage: See table I.

Rated current: 10 amperes maximum.

Voltage drop: 0.10 volts maximum.

Voltage conditioning (conformance inspection only). Voltage conditioning test shall be performed as follows:

Test temperature: 125°C.

Test voltage: 200 percent of the rated dc voltage. Charging current shall not exceed 50 mA.

Current load: Not applicable.

Points of application of test voltage: Between either terminal and case.

Duration of exposure to test voltage: 100 ±4 hours.

Seal: Not applicable.

Capacitance to ground: In accordance with MIL-PRF-15733. The following details shall apply:

Test voltage: 0.5 V rms at 25°C.

Measured capacitance shall be as specified in table I.

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Temperature rise: 25°C, maximum.

Dielectric withstanding voltage: In accordance with [MIL-PRF-15733](#). The following exceptions shall apply:

The test voltage shall be three times the rated dc voltage applied for 1 to 5 seconds.

Barometric pressure (reduced): In accordance with [MIL-PRF-15733](#). The following exceptions shall apply:

Test condition E, [Method 105](#) of [MIL-STD-202](#).

Dielectric withstanding voltage: In accordance with initial requirements, except that the test voltage shall be 120 percent of the rated dc voltage applied for 1 to 5 seconds.

Insulation resistance: In accordance with [MIL-PRF-15733](#). Insulation resistance shall be measured at 25°C between either terminal and case, and shall be not less than 10,000 megohms.

Insertion loss at +25°C and temperature extremes: In accordance with [MIL-PRF-15733](#) and table I.

Overload: In accordance with [MIL-PRF-15733](#). The following exception shall apply:

Measurements at 25°C after test:

Insulation resistance only shall be measured and shall meet initial requirements.

Terminal strength: In accordance with [MIL-PRF-15733](#) and [Method 211](#), [MIL-STD-202](#); test condition A.

Applied force: 5 pounds.

Salt atmosphere (corrosion): In accordance with [MIL-PRF-15733](#) and [Method 101](#), [MIL-STD-202](#); test condition B.

Thermal shock and immersion: Not applicable.

Shock (specified pulse): In accordance with [MIL-PRF-15733](#) and [Method 213](#), [MIL-STD-202](#); test condition C.

Vibration, high frequency: In accordance with [MIL-PRF-15733](#) and [Method 204](#), [MIL-STD-202](#); test condition C. The following exceptions shall apply:

Part 2 of the test shall be 20 g's.

Duration shall be 3 hours each in two mutually perpendicular planes.

Moisture resistance: Not applicable.

Life: In accordance with [MIL-PRF-15733](#) and [Method 108](#), [MIL-STD-202](#); test condition D. The following details and exceptions shall apply:

Test voltage: 2 times rated dc voltage with no load at 125°C for 1,000 hours.

Measurements after test:

Dielectric withstanding voltage initial voltage applied for 1 to 5 seconds and shall meet initial requirements.

Insulation resistance shall be not less than 1,000 megohms.

Capacitance to ground and insertion loss shall be measured and shall meet the initial requirements.

Part or Identifying Number (PIN): M15733/43- (dash number from table I and figure 1).

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Marking: Each filter shall be marked with the military PIN, as shown on figure 2. In addition, full marking in accordance with method I requirements of MIL-STD-1285 shall be marked on each unit package.

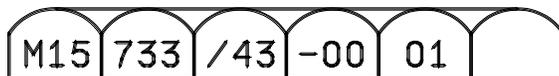


FIGURE 2. Hex flats-expanded view, part marking.

Conformance inspection: In accordance with MIL-PRF-15733 except as follows:

Group A inspection for all dash numbers shall be in accordance with table II. Lots having greater than 10 percent rejects shall be considered reject lots. Reject lots, at the option of the manufacturer, may be reworked and submitted to group A inspection of table II.

TABLE II. Group A inspection.

Test or inspection	Sampling procedure
Voltage conditioning	100%
Capacitance to ground	100%
Dielectric withstanding voltage	100%
Insulation resistance	100%
Voltage drop ^{1/}	100%
Insertion loss	100%
Visual and mechanical inspection	See MIL-PRF-15733, group A inspection

^{1/} DC voltage drop/dc resistance test for dc rated filters shall be performed on a sample basis in accordance with MIL-PRF-15733, group A inspection.

Application note: These nonhermetically sealed filters may be susceptible to moisture intrusion when subjected to repeated thermal cycling. If these items are to be utilized in applications enduring harsh environments, the user should consider placing them within hermetic enclosures.

Referenced documents. In addition to [MIL-PRF-15733](#), this document also references the following:

[MIL-STD-202](#)
[MIL-STD-220](#)
[MIL-STD-1285](#)

The margins of this specification sheet are marked with vertical lines to indicate where modifications from this revision 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.

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:

DLA - CC

(Project 5915-2015-011)

Review activities:

Army - AR, AT, MI
Navy - AS, MC, OS
Air Force - 19, 99

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