

INCH-POUND

MS75089D
7 September 2007
SUPERSEDING
MS75089C
3 March 1999

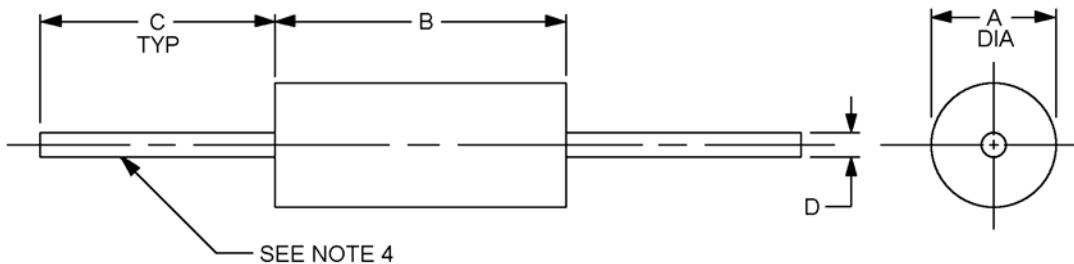
MILITARY SPECIFICATION SHEET

COILS, RADIO FREQUENCY, MOLDED, FIXED, MICRO-MINIATURE,
MAGNETICALLY SHIELDED, (FERRITE CORE – FERRITE SLEEVE),
TYPES LT10K217 TO LT10K263, INCLUSIVE

Inactive for new design, after 4 September 1985.
For new design, use MIL-PRF-39010/3.

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	Dash numbers –01 through -47		Dash numbers –48 through -94	
	Dimensions in inches with metric Equivalents (mm) in parentheses		Dimensions in inches with metric Equivalents (mm) in parentheses	
	Minimum	Maximum	Minimum	Maximum
A	.152 (3.86)	.172 (4.37)	.152 (3.86)	.197 (5.00)
B	.390 (9.91)	.430 (10.92)	.390 (9.91)	.447 (11.35)
C	1.250 (31.75)	1.626 (41.30)	1.250 (31.75)	1.626 (41.30)
D	.023 (0.58)	.027 (0.69)	.023 (0.58)	.027 (0.69)

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 bodies.
4. Solderable/weldable lead wire, number 22 AWG.

FIGURE 1. Dimensions and configuration.

REQUIREMENTS:

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

Style: LT10

Grade: 1
Class: A

Weight: 0.035274 ounce, maximum.

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

Ambient temperature: +90°C ±5°C.

Temperature rise: 15 °C, maximum.

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 1,000 V rms for a minimum of 60 seconds.

At reduced barometric pressure: Method 301 of MIL-STD-202, test voltage of 200 V rms
for a minimum of 60 seconds.

Barometric pressure (reduced): Method 105 of MIL-STD-202, test condition C, is applicable.

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.

Part or Identifying Number (PIN): MS75089 - (dash number from table I).

TABLE 1. Electrical characteristics (initial).

<u>1/</u> Dash Number MS75089-	Superseded MS PIN	Inductance (μ H) $\pm 10\%$	Test Frequency (MHz)	Q (min)	SRF Min (MHz)	DC resistance (ohms)	Rated DC current (mA)	Incremental Current (mA)
01, 48	MS90537-27	15.0	2.5	45	49	.80	315	250
02, 49	MS90537-28	18.0	2.5	45	45	.89	300	235
03, 50	MS90537-29	22.0	2.5	45	41	.96	290	220
04, 51	MS90537-30	27.0	2.5	45	38	1.19	260	200
05, 52	MS90537-31	33.0	2.5	45	34	1.37	240	190
06, 53	MS90537-32	39.0	2.5	50	29	1.93	205	180
07, 54	MS90537-33	47.0	2.5	50	27	2.11	195	175
08, 55	MS90537-34	56.0	2.5	50	25	2.23	190	160
09, 56	MS90537-35	68.0	2.5	50	21	2.70	170	150
10, 57	MS90537-36	82.0	2.5	50	10.5	2.44	180	140
11, 58	MS90537-37	100.0	2.5	50	10.0	3.12	160	120
12, 59	MS90537-38	120.0	.79	55	9.7	3.60	150	95
13, 60	MS90537-39	150.0	.79	55	8.5	4.10	140	90
14, 61	MS90537-40	180.0	.79	55	8.0	4.40	135	85
15, 62	MS90537-41	220.0	.79	55	7.5	5.00	125	80
16, 63	MS90537-42	270.0	.79	55	7.0	5.80	115	70
17, 64	MS90537-43	330.0	.79	55	6.5	6.40	110	65
18, 65	MS90537-44	390.0	.79	60	6.2	7.40	105	60
19, 66	MS90537-45	470.0	.79	60	5.7	9.50	92	58
20, 67	MS90537-46	560.0	.79	60	4.7	10.5	90	55
21, 68	MS90537-47	680.0	.79	60	4.5	11.8	80	50
22, 69	MS90537-48	820.0	.79	60	4.2	13.0	80	45
23, 70	MS90537-49	1,000.0	.79	60	3.8	17.5	70	40
24, 71	MS90537-50	1,200.0	.25	45	1.5	22.1	60	35
25, 72	MS90537-51	1,500.0	.25	45	1.2	26.5	55	33
26, 73	MS90537-52	1,800.0	.25	45	1.0	29.9	50	30
27, 74	MS90537-53	2,200.0	.25	45	.97	33.8	50	27
28, 75	MS90537-54	2,700.0	.25	45	.92	47.3	40	25
29, 76	MS90537-55	3,300.0	.25	45	.84	53.0	40	22
30, 77	MS90537-56	3,900.0	.25	45	.80	73.8	35	20
31, 78	MS90537-57	4,700.0	.25	45	.74	81.6	31	19
32, 79	MS90537-58	5,600.0	.25	44	.73	98.9	28	17
33, 80	MS90537-59	6,800.0	.25	40	.66	111.0	27	16
34, 81	MS90537-60	8,200.0	.25	40	.54	119.0	26	15
35, 82	MS90537-61	10,000.0	.25	40	.47	137.0	24	14
36, 83	MS90537-62	12,000.0	.079	30	.33	143.0	23	13
37, 84	MS90537-63	15,000.0	.079	30	.29	157.0	22	12
38, 85	MS90537-64	18,000.0	.079	30	.28	225.0	21	10
39, 86	MS90537-65	22,000.0	.079	27	.25	274.0	17	9
40, 87	MS90537-66	27,000.0	.079	27	.21	308.0	16	8
41, 88	MS90537-67	33,000.0	.079	27	.19	343.0	15	7.5
42, 89	MS90537-68	39,000.0	.079	27	.17	376.0	15	6.0
43, 90	MS90537-69	47,000.0	.079	23	.16	473.0	13	5.5
44, 91	MS90537-70	56,000.0	.079	23	.14	512.0	13	5.0
45, 92	MS90537-71	68,000.0	.079	23	.13	580.0	12	4.0
46, 93	MS90537-72	82,000.0	.079	21	.12	618.0	11	3.5
47, 94	MS90537-73	100,000.0	.079	18	.11	678.0	11	3.0

1/ The coils specified herein are substitutes for the inactive coils on MS90537, providing the small decrease in physical dimensions are not a factor. The decrease in maximum operating temperature from 125°C to 105°C does not downgrade these coils but assures satisfactory operation at 105°C for a minimum of 2,000 hours of life, rather than a shorter period of operation at 125°C.

TABLE II. Electrical characteristics (final).

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	±10	±(5% +.001 ohm)	-15	-20
Group IV	±5	±(2% +.001 ohm)	-5	-20
Conformance inspection group C				
Subgroup I	±5	---	---	-10
Subgroup II	±5	±(2% +.001 ohm)	-5	-20
Subgroup III	±10	±(4% +.001 ohm)	-15	-20

Application notes:

1. After the overload test is performed, a period of 24 hours shall elapse prior to taking electrical characteristics (final) measurements.
2. DC resistance shall be the last measurement taken in the electrical characteristics test sequence.

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 5950-2007-041

Review activities:

Army – AR, CR4, MI
Navy – AS, MC, OS, SH
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>.