

INCH-POUND

MS90537B  
 7 September 2007  
 SUPERSEDING  
 MS90537A  
 7 March 1973

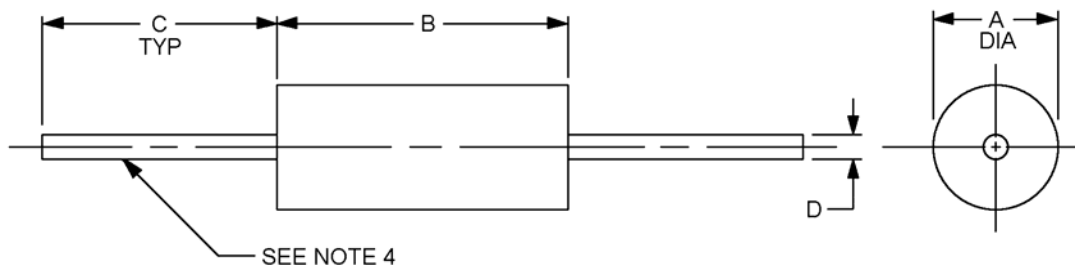
## MILITARY SPECIFICATION SHEET

COILS, RADIO FREQUENCY, MOLDED, SUBMINIATURE,  
 SHIELDED, MAGNETIC, TYPES LT4K242 TO LT4K314

Inactive for new design, after 7 March 1973.  
 For new design, use MS75087, MS75088 and MS75089.

This specification is approved for use by all Departments 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	
	Dimensions	Tolerance
A	.157 (3.99)	±.010 (±0.25)
B	.395 (10.03)	±.020 (±0.51)
C	1.438 (36.53)	±.188 (±4.78)
D	.025 (0.64)	±.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 bodies.
4. Solderable/weldable lead wire, tinned copper wire, number 22 AWG.

FIGURE 1. Dimensions and configuration.

## MS90537B

### REQUIREMENTS:

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

Style: LT4

Grade: 1

Class: B

Weight: .750 grams or less.

Maximum operating temperature: +125°C.

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

Ambient temperature: +90°C ±5°C.

Temperature rise: 35°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 700 V rms.

At reduced barometric pressure: Method 105 of MIL-STD-202, test condition C, test voltage 180 V rms.

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): MS90537 - (dash number from table I).

## MS90537B

TABLE I. Electrical characteristics (initial).

Dash Number MS90537	Inductance ( $\mu$ H) $\pm 10\%$	Q Min.	Test frequency (MHz)	SRF Minimum (MHz)	DC resistance max (Ohms)	1/ Rated DC current, (mA)	Incremental current (mA)
-1	0.10	50	25	250	.025	2900	2900
-2	0.12	51	25	250	.034	2800	2800
-3	0.15	51	25	250	.037	2750	2750
-4	0.18	50	25	250	.047	2200	2200
-5	0.22	49	25	250	.067	1700	1700
-6	0.27	47	25	250	0.11	1500	1500
-7	0.33	46	25	250	0.13	1300	1300
-8	0.39	44	25	250	0.18	1100	1100
-9	0.47	44	25	235	0.25	1000	1000
-10	0.56	43	25	210	0.33	900	900
-11	0.68	42	25	190	0.45	750	750
-12	0.82	40	25	180	0.59	600	600
-13	1.00	47	25	140	0.07	1900	1900
-14	1.20	46	7.9	130	.093	1600	1600
-15	1.50	45	7.9	115	0.12	1300	1300
-16	1.80	43	7.9	105	0.14	1200	1200
-17	2.20	45	7.9	100	0.19	1100	1100
-18	2.70	46	7.9	92	0.28	950	950
-19	3.30	44	7.9	85	0.35	800	800
-20	3.90	44	7.9	75	0.40	750	750
-21	4.70	44	7.9	70	0.55	650	650
-22	5.60	47	7.9	65	0.72	550	550
-23	6.80	50	7.9	55	1.02	500	500
-24	8.20	50	7.9	50	1.32	475	475
-25	10.0	49	7.9	46	1.62	450	450
-26	12.0	55	2.5	44	2.00	400	400
-27	15.0	44	2.5	49	0.80	620	250
-28	18.0	45	2.5	45	0.89	610	235
-29	22.0	46	2.5	41	0.96	600	220
-30	27.0	49	2.5	38	1.19	500	200
-31	33.0	45	2.5	34	1.37	490	190
-32	39.0	53	2.5	29	1.93	410	180
-33	47.0	52	2.5	27	2.11	400	175
-34	56.0	49	2.5	25	2.23	380	160
-35	68.0	51	2.5	21	2.70	370	150
-36	82.0	45	2.5	10.5	2.44	360	140
-37	100.0	52	2.5	10.0	3.12	325	120
-38	120.0	57	.79	9.7	3.60	290	95
-39	150.0	56	.79	8.5	4.10	275	90
-40	180.0	60	.79	8.0	4.40	260	85
-41	220.0	58	.79	7.5	5.00	250	80
-42	270.0	60	.79	7.0	5.80	240	70
-43	330.0	54	.79	6.5	6.40	225	65
-44	390.0	67	.79	6.2	7.40	200	60
-45	470.0	60	.79	5.7	9.50	180	58
-46	560.0	60	.79	4.7	10.5	174	55
-47	680.0	60	.79	4.5	11.8	168	50
-48	820.0	57	.79	4.2	13.0	152	45
-49	1,000.0	65	.79	3.8	17.5	135	40
-50	1,200.0	45	.25	1.5	22.1	115	35

See footnote at end of table.

## MS90537B

TABLE I. Electrical characteristics (initial) – Continued.

Dash Number MS90537	Inductance ( $\mu$ H) $\pm 10\%$	Q Min.	Test frequency (MHz)	SRF Minimum (MHz)	DC resistance max (Ohms)	1/ Rated DC current, (mA)	Incremental current (mA)
-51	1,500.0	49	.25	1.2	26.5	110	33
-52	1,800.0	47	.25	1.0	29.9	105	30
-53	2,200.0	50	.25	0.97	33.8	99	27
-54	2,700.0	47	.25	0.92	47.3	83	25
-55	3,300.0	43	.25	0.84	53.0	80	22
-56	3,900.0	43	.25	0.80	73.8	67	20
-57	4,700.0	44	.25	0.74	81.6	63	19
-58	5,600.0	45	.25	0.73	98.9	56	17
-59	6,800.0	43	.25	0.66	111.0	54	16
-60	8,200.0	42	.25	0.54	119.0	52	15
-61	10,000.0	39	.25	0.47	137.0	49	14
-62	12,000.0	31	.079	0.33	143.0	46	13
-63	15,000.0	31	.079	0.29	157.0	45	12
-64	18,000.0	31	.079	0.28	225.0	41	10
-65	22,000.0	27	.079	0.25	274.0	33	9
-66	27,000.0	27	.079	0.21	308.0	31	8
-67	33,000.0	27	.079	0.19	343.0	30	7.5
-68	39,000.0	27	.079	0.17	376.0	27	6.0
-69	47,000.0	23	.079	0.16	473.0	26	5.5
-70	56,000.0	23	.079	0.14	512.0	25	5.0
-71	68,000.0	23	.079	0.13	580.0	24	4.0
-72	82,000.0	21	.079	0.12	618.0	23	3.5
-73	100,000.0	18	.079	0.11	678.0	22	3.0

1/ For the overload test, direct current shall be used. The value of this current shall be 1.5 times the rated current.

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

MS90537B

Application Notes:

1. Life test is not applicable.

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 5950-2007-044

Review activities:

Army – MI

Air Force – 99

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>.