

INCH-POUND

MS21401D  
 31 August 2007  
 SUPERSEDING  
 MS21401C  
 3 August 1979

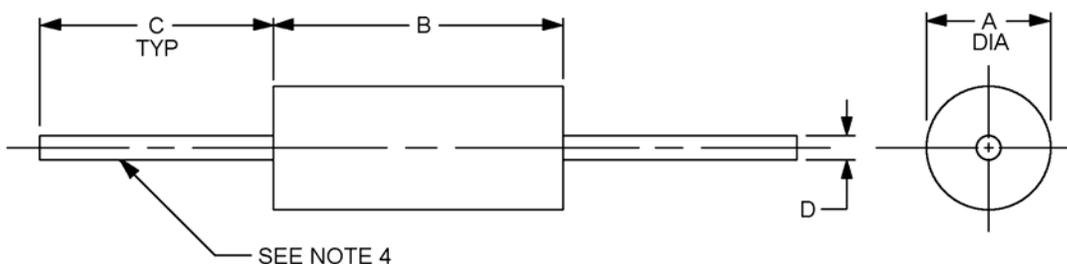
## MILITARY SPECIFICATION SHEET

COILS, RADIO FREQUENCY, MOLDED, FIXED,  
 MICRO-MINIATURE, MAGNETICALLY SHIELDED,  
 (FERRITE CORE-FERRITE SLEEVE), TYPES LT10K483 TO LT10K517 INCL.

Inactive for new design.  
 after 21 February 2003

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	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Tolerance
A	.136 (3.45)	Max
B	.335 (8.51)	± .010 (0.25)
C	1.438 (36.53)	± .188 (4.78)
D	.020 (0.51)	± .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 leads.
4. Tinned copper wire lead, AWG number 24.

FIGURE 1. Dimensions and configuration.

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REQUIREMENTS:

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

Style: LT10

Grade: 1  
Class: A

Weight: .50 grams, maximum.

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

Ambient temperature: + 90°C maximum.

Temperature rise: 15°C.

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 for a minimum of 60 seconds.

At reduced barometric pressure: Method 105 of MIL-STD-202, test condition C, test voltage 100 V rms for a minimum of 60 seconds.

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. DC resistance shall be the last measurement taken in the electrical characteristics test sequence.

Part or Identifying Number (PIN): MS21401 - (dash number from table I).

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TABLE 1. Electrical characteristics (initial).

Dash number MS21401	Type Designation	Inductance ( $\mu$ H) $\pm 10\%$	Q (min)	Test frequency (MHz)	SRF min (MHz)	DC resistance at 25°C max (ohms)	Max rated DC current (mA)	Incremental current (mA)
-01	LT10K483	15	35	2.5	48	.635	314	200
-02	LT10K484	18	35	2.5	44	.728	293	175
-03	LT10K485	22	35	2.5	37	.825	275	160
-04	LT10K486	27	35	2.5	32	.950	256	155
-05	LT10K487	33	36	2.5	30	1.26	223	150
-06	LT10K488	39	36	2.5	27	1.42	210	145
-07	LT10K489	47	36	2.5	23	1.72	191	140
-08	LT10K490	56	38	2.5	21	2.03	175	130
-09	LT10K491	68	38	2.5	18.5	2.29	165	120
-10	LT10K492	82	36	2.5	17.0	2.55	157	115
-11	LT10K493	100	36	2.5	15.5	2.92	146	100
-12	LT10K494	120	43	0.79	14.5	3.30	154	80
-13	LT10K495	150	43	0.79	13.0	4.30	147	68
-14	LT10K496	180	43	0.79	11.5	5.40	120	64
-15	LT10K497	220	45	0.79	10.0	6.65	108	60
-16	LT10K498	270	47	0.79	9.50	7.60	101	58
-17	LT10K499	330	47	0.79	8.50	8.50	96	56
-18	LT10K500	390	47	0.79	8.00	10.0	88	54
-19	LT10K501	470	47	0.79	7.20	13.5	76	52
-20	LT10K502	560	51	0.79	6.40	14.5	73	50
-21	LT10K503	680	51	0.79	5.80	16.0	70	48
-22	LT10K504	820	48	0.79	5.30	19.0	64	47
-23	LT10K505	1000	48	0.79	4.80	21.5	60	45
-24	LT10K506	1200	45	0.25	2.90	23	52	40
-25	LT10K507	1500	45	0.25	2.80	30	46	35
-26	LT10K508	1800	45	0.25	2.60	33	44	32
-27	LT10K509	2200	45	0.25	2.55	40	40	30
-28	LT10K510	2700	45	0.25	2.40	43	38	28
-29	LT10K511	3300	45	0.25	2.00	58	33	26
-30	LT10K512	3900	45	0.25	1.95	76	29	23
-31	LT10K513	4700	45	0.25	1.85	85	27	20
-32	LT10K514	5600	45	0.25	1.75	100	25	18
-33	LT10K515	6800	40	0.25	1.58	127	22	15
-34	LT10K516	8200	40	0.25	1.55	150	20	12
-35	LT10K517	10000	40	0.25	1.45	190	18	10

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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 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

1/ After the overload test is performed, a period of 24 hours shall elapse prior to taking electrical characteristics (final) measurements.

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 5950-2007-021)

Review activities:  
Army – AR, MI  
Air Force – 19, 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>.