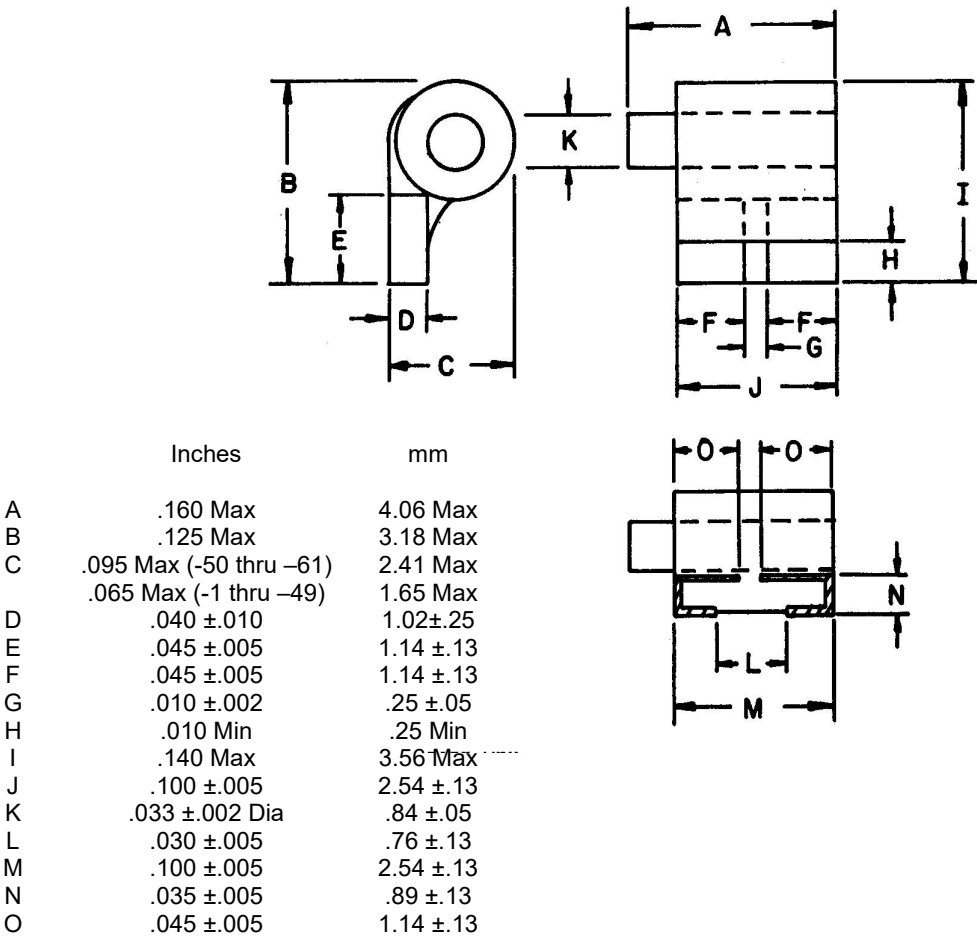


PERFORMANCE SPECIFICATION SHEET

COILS, RADIO FREQUENCY, CHIP, FIXED

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-83446](#).



- NOTES:
1. Dimensions are in inches.
 2. Metric equivalents are given for general information only.

FIGURE 1. Fixed chip coil.

REQUIREMENTS:

Dimensions and configuration: See [figure 1](#).

Case: Epoxy.

Weight: 0.5 gram, maximum.

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

Temperature rise (at 90°C): 35°C.

Maximum operating temperature: 125°C.

Altitude: 70,000 feet.

Dielectric withstanding voltage: [MIL-STD-202-301](#), test voltage 700 volts rms.

Barometric pressure: [MIL-STD-202-105](#), test condition C, (70,000 feet), test voltage 200 volts rms.

Electrical characteristics (initial): See [table I](#).

Electrical characteristics (final): See [table II](#).

Part or Identifying Number (PIN): The part number shall be in the following form.

M83446/15-

04

Sequentially assigned dash numbers
(see [table I](#))

B

Termination finish
(see MIL-PRF-83446)

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TABLE I. Electrical characteristics (initial).

Dash number	Inductance $\pm 10\%$ (μH)	Q (min)	Q (type)	Test frequency (MHz) 1/	Self resonant frequency (min) MHz	DC resistance (max) ohms	Current (max) mA 2/	Incremental current 3/
01	0.010	36	60	200	1200	0.020	750	----
02	0.012	30	60	200	1200	0.025	750	----
03	0.015	30	60	200	1200	0.035	750	----
04	0.018	30	60	200	1200	0.040	750	----
05	0.022	45	60	200	1000	0.045	750	----
06	0.027	30	60	200	1000	0.050	750	----
07	0.033	30	60	200	1000	0.055	640	----
08	0.039	30	55	200	1000	0.060	600	----
09	0.047	30	55	100	1000	0.065	550	----
10	0.056	30	55	100	1000	0.060	520	----
11	0.068	20	55	100	800	0.060	480	----
12	0.082	20	55	100	800	0.060	470	----
13	0.100	30	50	25.0	750	0.160	460	----
14	0.120	32	50	25.0	700	0.170	455	----
15	0.150	40	50	25.0	650	0.190	450	----
16	0.180	30	50	25.0	600	0.200	430	----
17	0.220	42	50	25.0	570	0.300	350	----
18	0.270	40	50	25.0	500	0.350	310	----
19	0.330	36	50	25.0	400	0.720	280	----
20	0.390	35	50	25.0	380	0.800	250	----
21	0.470	38	50	25.0	450	1.26	230	----
22	0.560	40	50	25.0	400	1.30	220	----
23	0.680	40	50	25.0	300	1.40	210	----
24	0.820	40	45	25.0	250	1.50	200	----
25	1.0	37	45	25.0	220	1.60	200	----
26	1.2	35	45	7.90	175	1.70	200	----
27	1.5	31	45	7.90	135	2.50	190	----
28	1.8	30	45	7.90	120	3.00	185	----
29	2.2	40	45	7.90	95	3.30	180	----

* See footnotes at the end of the table.

TABLE I. Electrical characteristics (initial) – Continued.

Dash number	Inductance $\pm 10\%$ (μH)	Q (min)	Q (typ)	Test Frequency (MHz) <u>1/</u>	Self resonant frequency (min) MHz	DC resistance (max) ohms	Current (max) mA <u>2/</u>	Incremental current <u>3/</u>
30	2.7	32	45	7.90	85	3.65	175	----
31	3.3	32	50	7.90	70	4.00	170	----
32	3.9	32	50	7.90	60	2.10	165	----
33	4.7	32	45	7.90	50	2.30	165	----
34	5.6	35	45	7.90	40	2.30	165	----
35	6.8	43	50	7.90	30	1.30	165	----
36	8.2	40	45	7.90	22	4.00	120	----
37	10.0	40	45	7.90	20	2.90	105	58
38	12.0	35	45	2.50	15	3.50	91	53
39	15.0	35	40	2.50	13	2.30	87	50
40	18.0	35	45	2.50	12	3.70	81	46
41	22.0	35	45	2.50	10	4.00	77	37
42	27.0	38	45	2.50	9.0	5.00	73	34
43	33.0	35	45	2.50	9.0	5.70	69	32
44	39.0	35	45	2.50	6.5	6.50	65	29
45	47.0	35	45	2.50	6.2	6.00	63	29
46	56.0	35	40	2.50	6.0	6.30	60	28
47	68.0	30	45	2.50	5.8	6.70	57	26
48	82.0	35	45	2.50	5.2	7.50	55	23
49	100	33	40	2.50	4.0	13.0	50	20
50	120	33	40	0.790	4.0	14.0	40	20
51	150	35	40	0.790	3.9	16.0	36	20
52	180	35	40	0.790	3.5	18.0	33	19
53	220	35	40	0.790	3.2	21.0	28	18
54	270	35	40	0.790	3.1	23.0	25	17
55	330	35	40	0.790	2.8	37.0	20	16
56	390	35	40	0.790	2.5	39.0	17	16
57	470	35	40	0.790	2.3	45.0	15	15
58	560	35	40	0.790	2.2	47.0	13	14
59	680	35	40	0.790	2.1	62.0	12	13
60	820	35	40	0.790	2.1	78.0	11	11
61	1000	33	40	0.790	1.1	96.0	10	10

1/ Test frequency range 0.25 through 25 MHz: For electrical characteristics measurements, use the HP260-A Q Meter, HP4342A, HP250B RX Meter, or equivalent with the TF-301 test fixture, or equivalent ([see figure 2](#)). Fixture inductance (approximately 0.038 μH) and residual Q-meter inductance (approximately 0.01 μH) should be subtracted from indicated inductance.

Test frequency range 25 through 150 MHz: For electrical characteristics measurements, use the HP190-A Q Meter, HP260-A Q Meter, HP4342A, HP250B RX Meter, or equivalent with the TF-301 test fixture, or Equivalent ([see figure 2](#)). Fixture inductance (approximately 0.009 μH) should be subtracted from indicated inductance.

2/ Maximum current allowed is not to exceed the specified temperature rise.

3/ Applicable to ferrite core only.

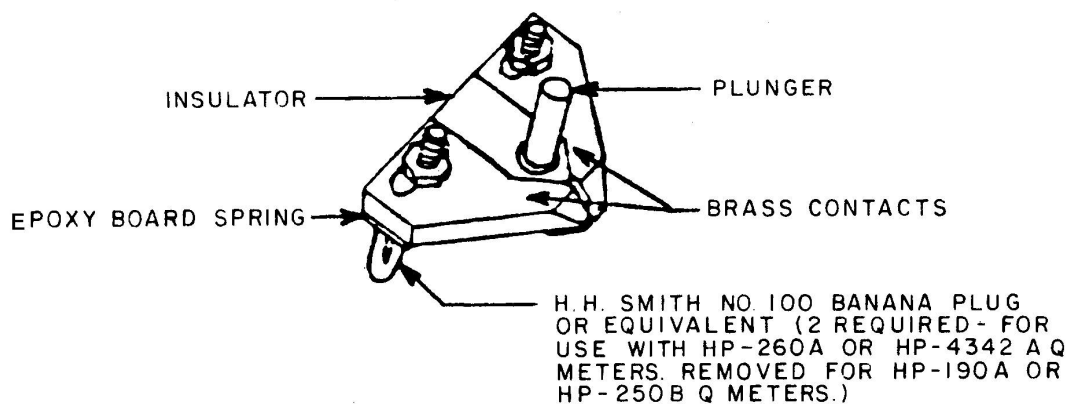


FIGURE 2. Typical chip coil test fixture (TF-301, or equivalent).

TABLE II. Electrical characteristics (final).

Inspection group	Allowable variation from initial measurements			
	Inductance (Percent)	DC resistance	Self-resonant frequency (Percent)	Q (Percent)
Qualification inspection				
Group II	±5	±(3% +.001 ohm)	-8	-10
Group IV	±5	±(2% +.001 ohm)	-10	-10
Group V	±2	---	---	-10
Conformance inspection group C				
Subgroup II	±5	±(3% +.001 ohm)	-8	-10
Subgroup IV	±5	±(3% +.001 ohm)	-8	-10

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w/AMENDMENT 3

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

Referenced documents. In addition to [MIL-PRF-83446](#), this document references the following:

[MIL-STD-202-105](#) [MIL-STD-202-301](#)

Custodians:

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

Preparing activity:
DLA – CC

(Project 5950-2025-046)

Review activities:

Army – MI
Navy – AS, OS
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 <https://assist.dla.mil>.