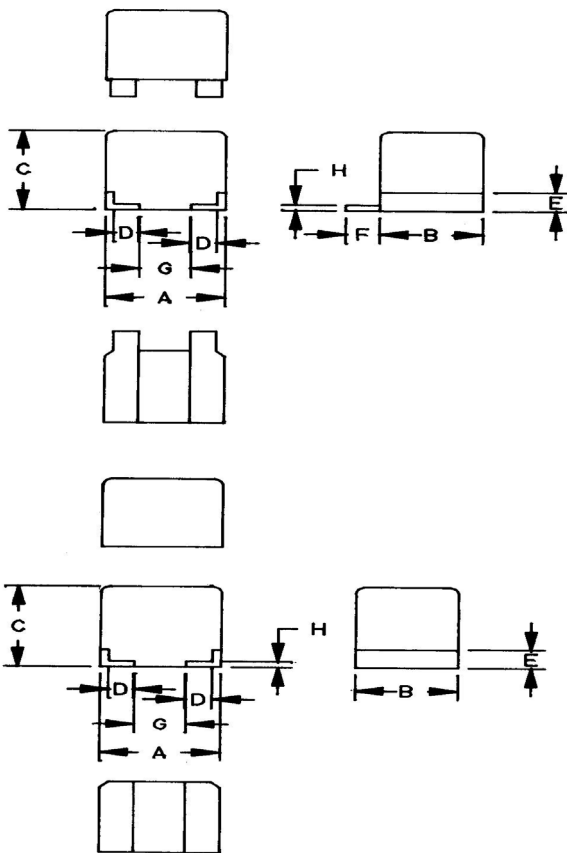


PERFORMANCE SPECIFICATION SHEET

COILS, RADIO FREQUENCY, CHIP, SHIELDED, 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](#).



For dash numbers 01 through 61 (with tabs)		
Ltr	Inches	mm
A	.155 ±.008	3.94 ±.20
B	.125 ±.008	3.18 ±.20
C	.130 max	3.30 max
D	.037 ±.003	0.94 ±.08
E	.020 ±.005	0.51 ±.13
F	.040 +.015 -.010	1.02 +.38 -.25
G	.073 Min	1.85 Min
H	.005 ±.002	0.13 ±.05

For dash numbers 62 through 122 (without tabs)		
Ltr	Inches	mm
A	.155 ±.008	3.94 ±.20
B	.125 ±.008	3.18 ±.20
C	.140 max	3.556 max
D	.037 +.003 -.012	0.94 +.08 -.31
E	.020 ±.005	0.51 ±.13
G	.073 Min	1.85 Min
H 1/	.005 ±.002	0.13 ±.05

1/ Applies to lead frame design only.

FIGURE 1. Fixed, shielded, chip coil.

NOTES:

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



REQUIREMENTS:

Dimensions and configuration: See figure 1.

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 500 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.

Percent coupling: 3 percent maximum, mounted with the X-Y surfaces, side by side but not touching.

Electrical characteristics (final): See table II.

Supersession data: A new part numbering system with codes for termination materials was incorporated with Revision A, superseding MIL-I-83446/11, dated 1 March 1979.

M83446/11-(dash number from table I) supersedes M83446/11-(dash number from table I).

Examples:

M83446/11-21A supersedes M83446/11-21.

M83446/11-03A supersedes M83446/11-3.

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

M83446/11-

04

Sequentially assigned dash
Numbers (see table I and II)

B

Termination finish
(see MIL-PRF-83446)

TABLE I. Electrical characteristics (initial) and dash numbers.

Dash number	Inductance ±10% (μH)	Q (min)	Q (typ)	Test Frequency (MHz) 1/	Self resonant frequency (min) MHz	DC resistance (max) ohms	Current (max) mA 2/	Incremental current mA (max) 3/
01, 62	0.10	90	100	25	600	0.03	1000	280
02, 63	0.12	90	100	25	520	0.03	1000	280
03, 64	0.15	90	100	25	490	0.03	1000	280
04, 65	0.18	90	100	25	460	0.04	1000	280
05, 66	0.22	90	100	25	430	0.04	1000	280
06, 67	0.27	100	113	25	370	0.04	1000	280
07, 68	0.33	105	120	25	310	0.05	750	200
08, 69	0.39	115	130	25	280	0.05	750	200
09, 70	0.47	115	130	25	260	0.05	750	200
10, 71	0.56	115	130	25	240	0.06	700	190
11, 72	0.68	115	130	25	200	0.06	700	190
12, 73	0.82	115	130	25	185	0.06	700	190
13, 74	1.0	115	130	25	175	0.09	650	170
14, 75	1.2	90	100	7.9	150	0.09	650	170
15, 76	1.5	100	115	7.9	135	0.14	600	150
16, 77	1.8	100	115	7.9	120	0.20	500	130
17, 78	2.2	100	115	7.9	105	0.30	400	100
18, 79	2.7	100	115	7.9	85	0.40	350	88
19, 80	3.3	100	115	7.9	80	0.46	330	83
20, 81	3.9	105	120	7.9	64	0.52	310	78
21, 82	4.7	115	130	7.9	56	0.54	300	75
22, 83	5.6	115	130	7.9	49	0.60	285	72
23, 84	6.8	115	130	7.9	45	0.66	270	68
24, 85	8.2	115	130	7.9	41	1.00	225	57
25, 86	10.0	115	130	7.9	39	1.20	200	50
26, 87	12.0	100	113	2.5	34	1.5	180	43
27, 88	15.0	100	113	2.5	30	1.8	170	41
28, 89	18.0	100	113	2.5	26	1.9	160	38
29, 90	22.0	105	120	2.5	23	2.1	150	36

See footnotes at end of table.

TABLE I. Electrical characteristics (initial) and dash numbers.

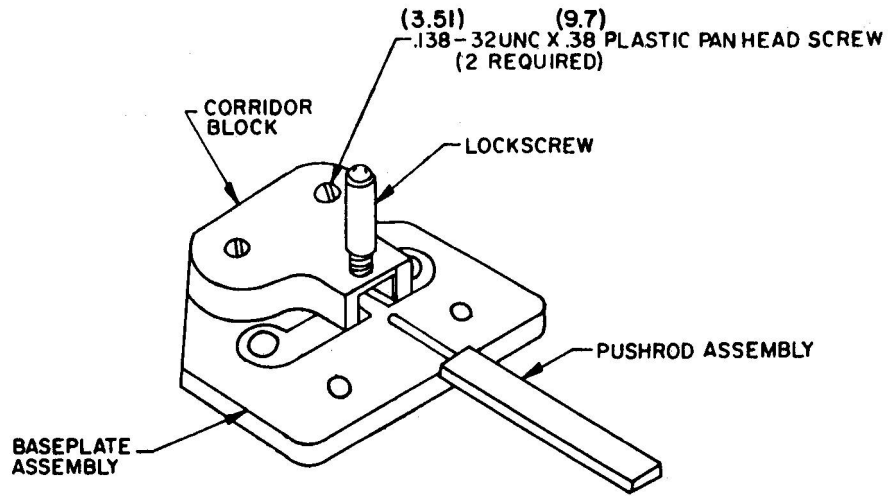
Dash number	Inductance $\pm 10\%$ (μH)	Q (min)	Q (typ)	Test Frequency (MHz) <u>1/</u>	Self resonant frequency (min) MHz	DC resistance (max) ohms	Current (max) mA <u>2/</u>	Incremental Current mA (max) <u>3/</u>
30, 91	27.0	110	125	2.5	20	2.4	140	34
31, 92	33.0	115	130	2.5	18	2.7	130	32
32, 93	39.0	115	130	2.5	17	3.1	125	29
33, 94	47.0	115	130	2.5	16	3.2	125	29
34, 95	56.0	110	125	2.5	14	3.5	120	28
35, 96	68.0	110	125	2.5	12	4.0	111	26
36, 97	82.0	110	125	2.5	10	4.8	102	23
37, 98	100.0	110	125	2.5	9.4	5.7	93	20
38, 99	120.0	85	95	0.79	8.0	6.2	89	20
39, 100	150.0	85	95	0.79	8.0	6.3	89	20
40, 101	180.0	85	95	0.79	6.9	6.4	88	19
41, 102	220.0	85	95	0.79	6.1	7.4	82	18
42, 103	270.0	85	95	0.79	5.2	8.1	78	17
43, 104	330.0	100	113	0.79	4.6	8.8	75	16
44, 105	390.0	100	113	0.79	4.0	9.7	72	16
45, 106	470.0	100	113	0.79	3.6	10.0	69	15
46, 107	560.0	100	113	0.79	2.8	11.0	66	14
47, 108	680.0	100	113	0.79	2.3	12.0	64	13
48, 109	820.0	95	106	0.79	2.1	17.0	53	11
49, 110	1000.0	95	106	0.79	2.0	22.0	47	10
50, 111	1200.0	75	87	0.25	1.7	24.0	45	9
51, 112	1500.0	75	87	0.25	1.6	25.0	44	9
52, 113	1800.0	75	87	0.25	1.5	27.0	43	9
53, 114	2200.0	75	87	0.25	1.4	30.0	40	8
54, 115	2700.0	75	87	0.25	1.3	34.0	38	8
55, 116	3300.0	75	87	0.25	1.2	39.0	35	7.5
56, 117	3900.0	75	87	0.25	1.1	56.0	29	5.5
57, 118	4700.0	75	87	0.25	1.0	70.0	26	5.0
58, 119	5600.0	75	87	0.25	0.90	80.0	25	5.0
59, 120	6800.0	75	85	0.25	0.80	90.0	23	4.5
60, 121	8200.0	75	85	0.25	0.70	100.0	22	4.5
61, 122	10000.0	75	85	0.25	0.70	110.0	21	4.0

1/ Test frequency range 0.25 through 25 MHz: For electrical characteristics measurements, use the TF-260Q-1 test fixture, or equivalent (see figure 3). Fixture inductance (approximately 0.028 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 TF-250RX-1 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.

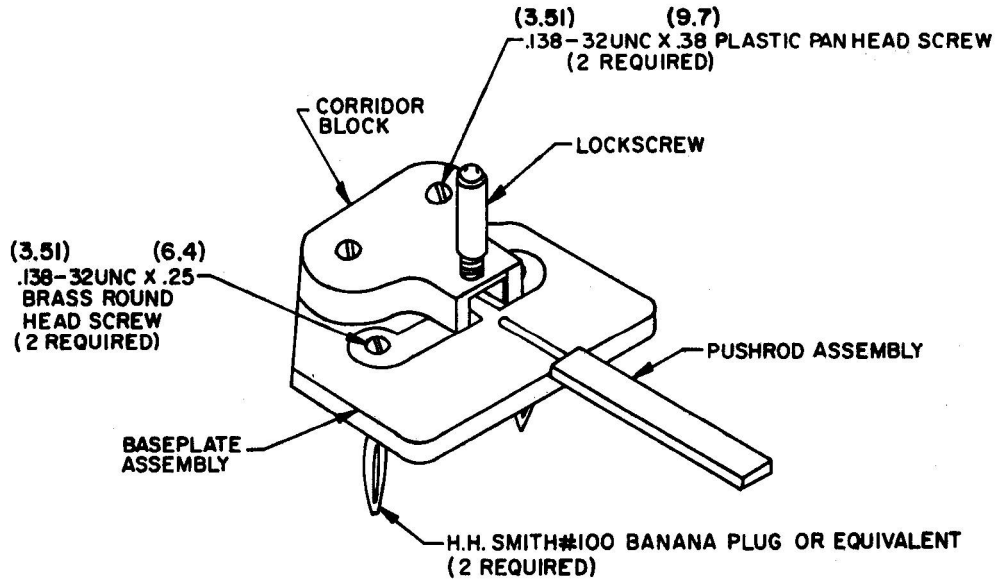
3/ Applicable to ferrite core only.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 2. Typical chip coil test fixture (TF-250RX-1, or equivalent).



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 3. Typical chip coil test fixture TF-260Q-1, 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	±10	±(5% +.001 ohm)	-10	-20
Group IV	±10	±(3% +.001 ohm)	-15	-20
Group V	±5	---	---	-20
Conformance inspection group C				
Subgroup II	±10	±(5% +.001 ohm)	-15	-20
Subgroup IV	±10	±(5% +.001 ohm)	-15	-20

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 5950-2024-009)

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>.