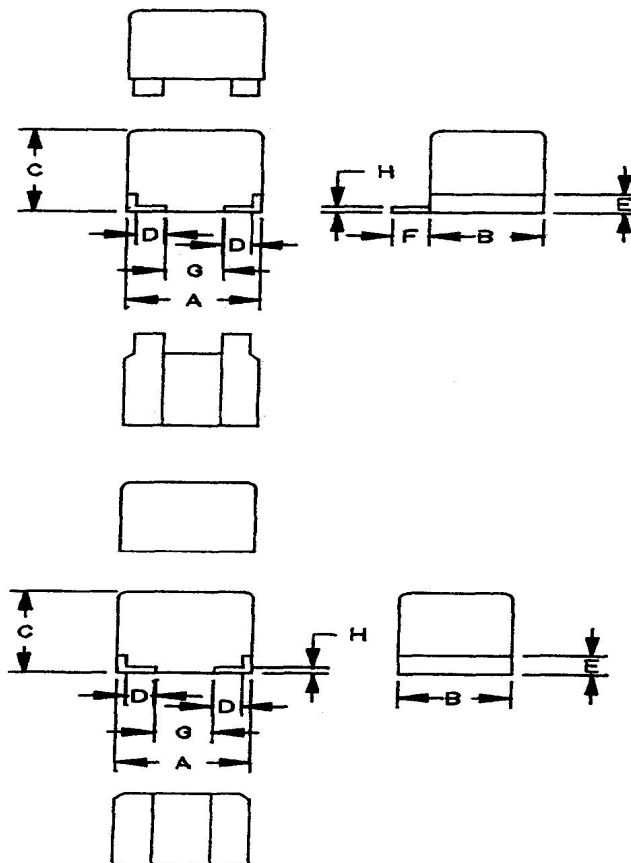


PERFORMANCE SPECIFICATION SHEET

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.

AMSC N/A

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

FSC 5950



For dash numbers	01 through 61	(with tabs)
Ltr	Inches	mm
A	.155 ±.008	3.94 ±0.20
B	.125 ±.008	3.18 ±0.20
C	.130 max	3.30 max
D	.037 ±.003	0.94 ±0.08
E	.020 ±.005	0.51 ±0.13
F	.040 +.015 -.010	1.02 +0.38 -0.25
G	.073 Min	1.85 Min
H	.005 ±.002	0.13 ±0.05

For dash numbers	62 through 122	(without tabs)
Ltr	Inches	mm
A	.155 ±.008	3.94 ±0.20
B	.125 ±.008	3.18 ±0.20
C	.140 max	3.556 max
D	.037 +.003 -.012	0.94 +0.0762 -0.3048
E	.020 ±.005	0.51 ±0.13
G	.070 Min	1.778 Min
H ^{1/}	.005 ±.002	0.13 ±0.05

^{1/} Applies to lead frame designs only

FIGURE 1. Fixed, chip coil – continued.

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.

MIL-PRF-83446/10C
w/AMENDMENT 2

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-83446/10, dated 1 March 1979.

M83446/10-(dash number from table I) C supersedes M83446/10-(dash number from table I).

Examples:

M83446/10-21C supersedes M83446/10-21.

M83446/10-03C supersedes M83446/10-3.

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

M83446/10-

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) <u>1/</u>	Self resonant frequency (min) MHz	DC resistance (max) ohms	Current (max) mA <u>2/</u>
01, 62	0.010	60	65	150	2000	0.04	1000
02, 63	0.012	70	82	150	1800	0.04	1000
03, 64	0.015	75	87	150	1500	0.04	1000
04, 65	0.018	75	87	150	1500	0.04	1000
05, 66	0.022	60	65	100	1300	0.05	1000
06, 67	0.027	60	70	100	1300	0.05	1000
07, 68	0.033	60	70	100	1000	0.05	1000
08, 69	0.039	60	70	100	1000	0.06	900
09, 70	0.047	65	75	100	800	0.06	900
10, 71	0.056	65	75	100	760	0.06	900
11, 72	0.068	65	75	100	700	0.07	840
12, 73	0.082	65	75	100	650	0.07	840
13, 74	0.100	65	77	50	570	0.07	840
14, 75	0.120	65	77	50	520	0.07	840
15, 76	0.150	75	87	50	400	0.08	790
16, 77	0.180	75	87	50	360	0.08	790
17, 78	0.220	70	80	50	320	0.08	790
18, 79	0.270	70	80	50	270	0.10	700
19, 80	0.330	70	80	50	240	0.10	700
20, 81	0.390	70	80	50	220	0.10	700
21, 82	0.470	70	80	25	190	0.14	590
22, 83	0.560	70	82	25	170	0.19	510
23, 84	0.680	70	83	25	160	0.26	430
24, 85	0.820	75	84	25	150	0.30	400
25, 86	1.00	75	87	25	130	0.34	380
26, 87	1.20	65	73	7.90	120	0.45	330
27, 88	1.50	65	73	7.90	110	0.57	290
28, 89	1.80	65	73	7.90	100	0.72	260
29, 90	2.20	65	73	7.9	80	0.9	230

See footnotes at end of table.

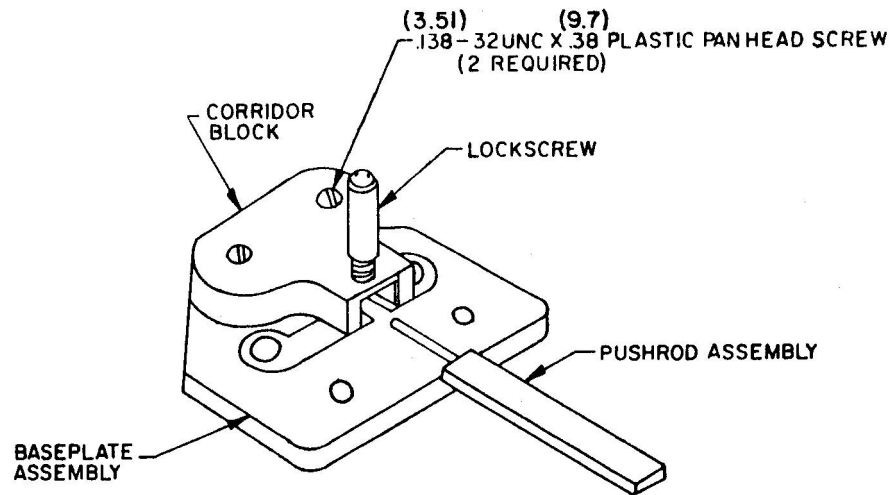
TABLE I. Electrical characteristics (initial) and dash numbers.

Dash number	Inductance ±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>
30, 91	2.70	65	73	7.9	60	1.1	210
31, 92	3.30	60	70	7.9	50	1.2	200
32, 93	3.90	60	70	7.9	45	1.4	180
33, 94	4.70	60	70	7.9	42	1.6	170
34, 95	5.60	65	75	7.9	40	1.8	160
35, 96	6.80	65	75	7.9	37	2.4	140
36, 97	8.20	65	75	7.9	34	3.0	130
37, 98	10.0	65	75	7.9	29	3.5	120
38, 99	12.0	60	70	2.5	27	3.6	118
39, 100	15.0	60	70	2.5	22	3.7	115
40, 101	18.0	60	72	2.5	17	3.8	114
41, 102	22.0	60	72	2.5	16	3.9	113
42, 103	27.0	65	75	2.5	15	4.0	110
43, 104	33.0	65	75	2.5	14	5.0	100
44, 105	39.0	65	75	2.5	13	7.0	84
45, 106	47.0	70	78	2.5	12	8.0	79
46, 107	56.0	70	78	2.5	11	10.0	70
47, 108	68.0	65	75	2.5	10	11.0	67
48, 109	82.0	60	72	2.5	9	12.0	64
49, 110	100.0	60	70	2.5	8	13.0	62
50, 111	120.0	40	48	0.79	7	14.0	59
51, 112	150.0	40	48	0.79	6	16.0	56
52, 113	180.0	40	48	0.79	5	18.0	52
53, 114	220.0	40	48	0.79	4	24.0	45
54, 115	270.0	40	48	0.79	3.3	25.0	44
55, 116	330.0	40	48	0.79	3.1	29.0	41
56, 117	390.0	40	48	0.79	2.9	32.0	39
57, 118	470.0	35	45	0.79	2.4	35.0	37
58, 119	560.0	35	45	0.79	2.1	45.0	33
59, 120	680.0	35	40	0.79	1.9	55.0	30
60, 121	820.0	30	36	0.79	1.8	70.0	26
61, 122	1000.0	30	36	0.79	1.7	80.0	25

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.

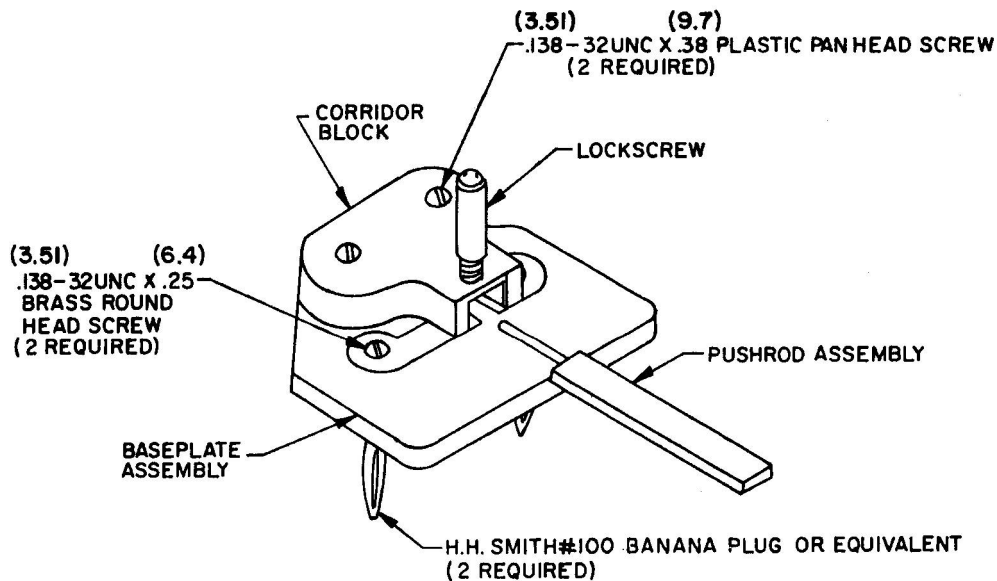
2/ Maximum current allowed is not to exceed the specified temperature rise.



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	±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

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 5950-2023-014)

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>.