

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

INCH-POUND

MIL-PRF-83446/5D
 6 July 1993
 SUPERSEDING
 MIL-C-83446/5C
 25 February 1988

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 product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-83446.

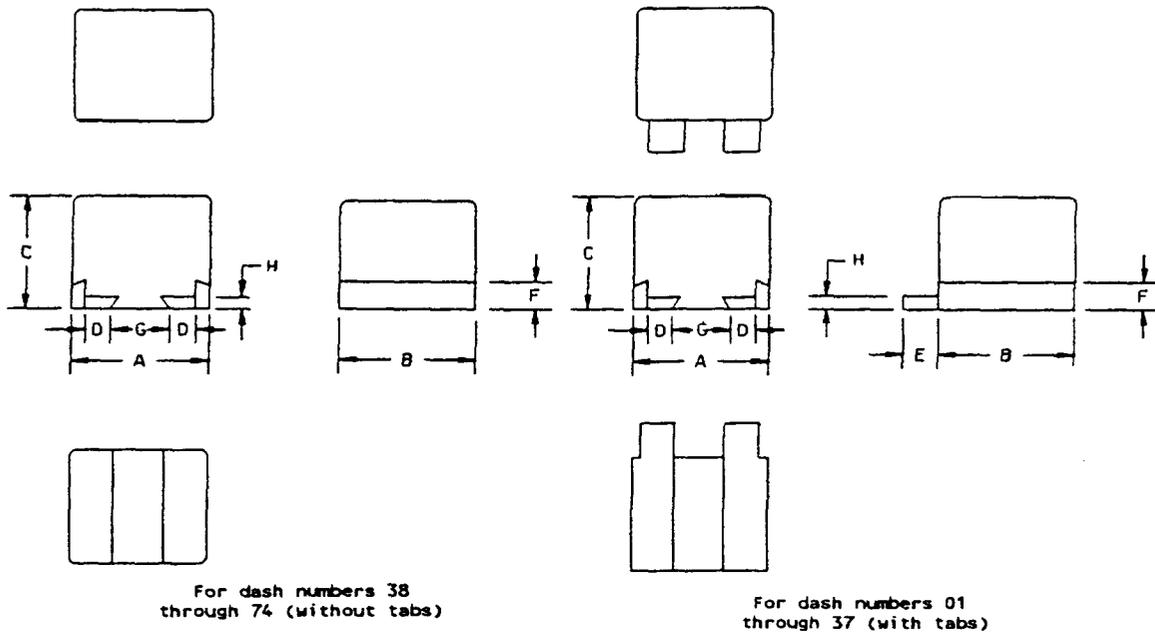


FIGURE 1. Fixed chip coil.

ⓓ denotes changes.

For dash numbers 01 through 37 (with tabs)		
Ltr	Inches	mm
A	.110 max	2.79 max
B	.105 max	2.67 max
C	.085 max	2.16 max
D	.030 ±.005	0.76 ±0.13
E	.040 ±.010	1.02 ±0.25
F	.018 ±.005	0.46 ±0.13
G	.038 ±.010	0.97 ±0.25
H	.005 ±.002	0.13 ±0.05

For dash numbers 38 through 74 (without tabs)		
Ltr	Inches	mm
A	.110 max	2.79 max
B	.105 max	2.67 max
C	.085 max	2.16 max
D	.030 ±.005	0.76 ±0.13
F	.018 ±.005	0.46 ±0.13
G	.038 ±.010	0.97 ±0.25
H	.005 ±.002	0.13 ±0.05

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information 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: Method 301 of MIL-STD-202, test voltage 300 volts rms.

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

Electrical characteristics (initial): See table I.

Electrical characteristics (final): See table II.

Supersession data: A new part numbering system with code for termination materials was incorporated with revision A, superseding MIL-I-83446/5, dated 1 March 1979.

M83446/05-(dash number from table I) supersedes M83446/5-(dash number from table I).

Examples:

M83446/05-21C supersedes M83446/5-21.

M83446/05-03C supersedes M83446/5-3.

Ⓓ Part or Identifying Number (PIN): The PIN shall be in the following form:

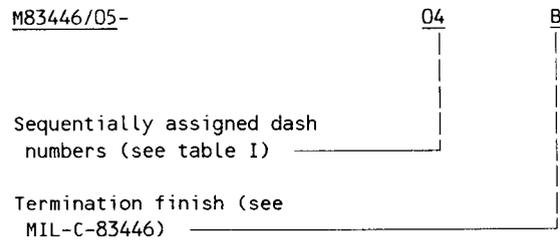


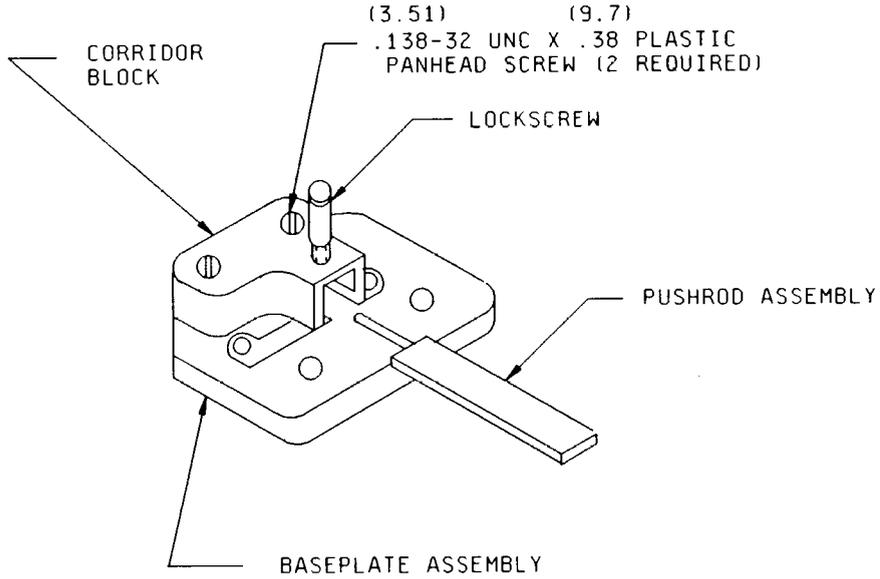
TABLE I. Electrical characteristics (initial) and dash numbers.

Dash number	Inductance $\pm 10\%$ (μH)	Q (min) Ⓚ	Q (typ) Ⓚ	Test frequency (MHz) 1/	Self- resonant frequency (min) (MHz)	DC resistance (max) (Ohms)	Current (max) (mA) 2/
01, 38	0.010	50	55	150	2000	0.025	750
02, 39	0.012	50	55	150	2000	0.025	750
03, 40	0.015	50	55	150	1800	0.040	750
04, 41	0.018	50	55	150	1500	0.040	750
05, 42	0.022	45	50	100	1400	0.040	750
06, 43	0.027	45	50	100	1200	0.040	750
07, 44	0.033	47	55	100	1200	0.050	640
08, 45	0.039	47	55	100	1200	0.070	600
09, 46	0.047	47	55	100	1000	0.080	550
10, 47	0.056	47	55	100	900	0.090	520
11, 48	0.068	47	55	100	900	0.10	480
12, 49	0.082	47	55	100	750	0.11	470
13, 50	0.100	47	55	50	700	0.11	470
14, 51	0.120	47	55	50	600	0.11	470
15, 52	0.150	47	55	50	500	0.12	450
16, 53	0.180	51	60	50	450	0.14	430
17, 54	0.220	51	60	50	420	0.20	350
18, 55	0.270	51	60	50	400	0.25	310
19, 56	0.330	51	60	50	320	0.30	280
20, 57	0.390	47	55	50	270	0.45	240
21, 58	0.470	47	55	25	250	0.50	230
22, 59	0.560	52	60	25	200	0.55	220
23, 60	0.680	52	60	25	180	0.58	210
24, 61	0.820	52	60	25	150	0.60	200
25, 62	1.00	52	60	25	120	0.65	190
26, 63	1.20	42	50	7.90	110	0.75	180
27, 64	1.50	42	50	7.90	100	1.1	160
28, 65	1.80	48	55	7.90	95	1.2	150
29, 66	2.20	48	55	7.90	90	1.3	140
30, 67	2.70	48	55	7.90	65	1.5	130
31, 68	3.30	48	55	7.90	55	1.8	120
32, 69	3.90	48	55	7.90	45	2.0	110
33, 70	4.70	48	55	7.90	43	2.3	100
34, 71	5.60	48	55	7.90	40	2.5	100
35, 72	6.80	46	53	7.90	38	2.6	98
36, 73	8.20	46	53	7.90	35	2.8	95
37, 74	10.0	46	53	7.90	33	3.3	87

1/ Test frequency range 0.25 through 25 MHz: For electrical characteristics measurements, use the TF-260Q-1 test fixture, or equal (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 equal (see figure 2). Fixture inductance (approximately 0.009 μH) should be subtracted from calculated inductance.

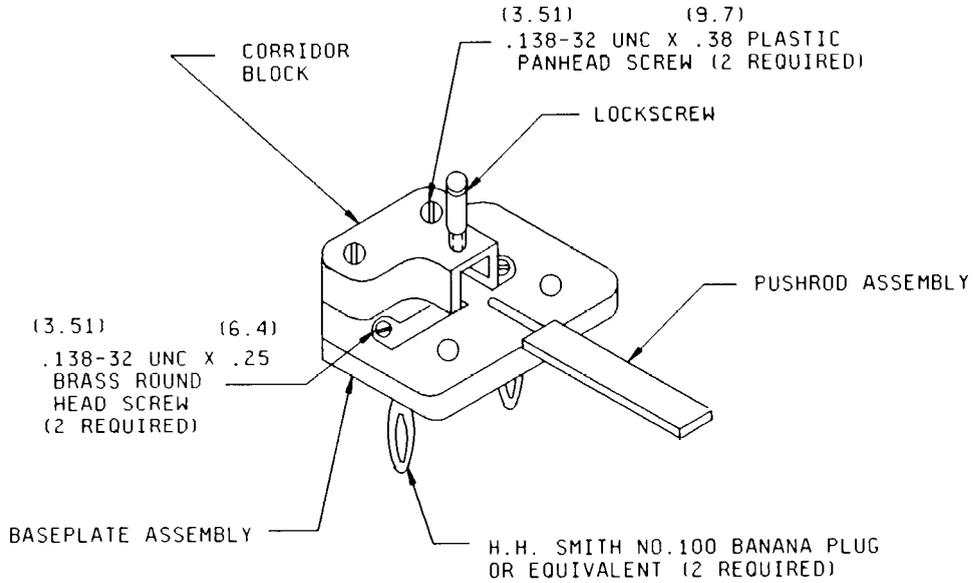
2/ Maximum current allowed is not to exceed the specified temperature rise.



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.
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FIGURE 3. Typical chip coil test fixture (TF-260Q-1, or equivalent).

TABLE II. Electrical characteristics (final).

Inspection group	Allowable variation from the initial measurements			
	Inductance	DC resistance	Self-resonant frequency	Q
Qualification inspection	<u>Percent</u>		<u>Percent</u>	<u>Percent</u>
Group II	±5	±(3% +0.001 ohm)	-8	-10
Group IV	±5	±(2% +0.001 ohm)	-10	-10
Group V	±2	-----	---	-10
Quality conformance inspection				
Group C				
Subgroup II	±5	±(3% +0.001 ohm)	-8	-10
Subgroup IV	±5	±(3% +0.001 ohm)	-8	-10

CONCLUDING MATERIAL

Custodians:

Army - ER
 Navy - EC
 Air Force - 85
 NASA - NA

Review activities:

Army - MI
 Navy - AS
 Air Force - 19

User activity:

Navy - OS

Preparing activity:

Army - ER

Agent:

DLA - ES

(Project 5950-0816-01)