INCH - POUND

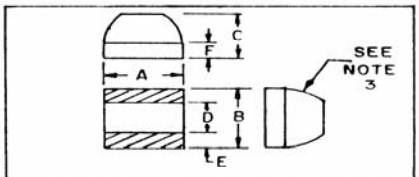
MIL-PRF-83446/4D
25 August 2006
SUPERSEDING
MIL-C-83446/4C
7 February 1984

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.



Dim.	Inches	Millimeters
A	.100 ±.010	2.54 ±.25
B	.100 ±.010	2.54 ±.25
C	.085 max.	2.16 max.
D	.030 min.	.762 min.
E	.015 min. 2 PL	.38 min.
F	.020 max. 2 PL.	.51 max.

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Shape of curved portion optional provided dimensions A, B, and C are met.

FIGURE 1. Fixed, chip coil.

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.

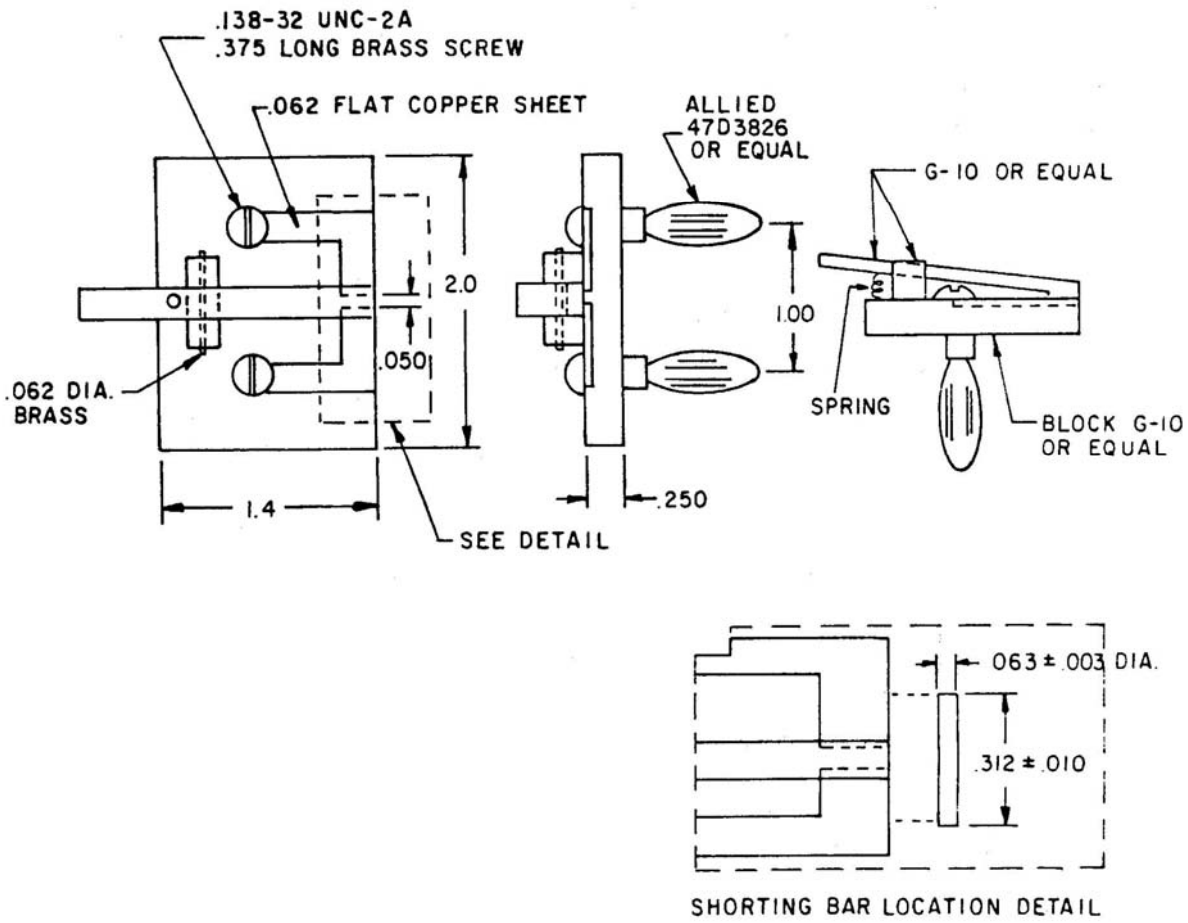
Maximum operating temperature: 125°C.

Altitude: 70,000 feet.

Dielectric withstanding voltage: Method 301 of MIL-STD-202, test voltage 200 volts rms.

Barometric pressure: Method 105, test condition C, MIL-STD-202, (70,000 feet), test voltage 80 volts rms.

Electrical characteristics (initial): See table I. Test fixture shall be as shown on figure 2.



INCHES	MM
.003	.08
.010	.25
.050	1.27
.062	1.57
.063	1.60
.138	3.51
.250	6.35
.312	7.92
.375	9.52
1.000	25.40
1.400	35.56
2.000	50.80

NOTE: Shorting bar shall be a brass rod.

FIGURE 2. Typical coil test fixture, (TF-283, or equivalent).

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

Dash Number	Inductance (±10%) μH	Q (min)	Test frequency (MHz)	Self 1/ resonant frequency (min) MHz	DC resistance (max) ohms	2/ 3/ Current (max) mA
01	0.12	30	25	750	0.125	880
02	0.15	25	25	650	0.175	745
03	0.18	25	25	550	0.200	695
04	0.22	25	25	450	0.220	665
05	0.27	25	25	375	0.230	650
06	0.33	25	25	300	0.235	645
07	0.39	22	25	235	0.240	635
08	0.47	22	25	215	0.260	610
09	0.56	22	25	195	0.278	590
10	0.68	22	25	175	0.520	435
11	0.82	22	25	160	0.530	430
12	1.0	22	25	145	0.540	425
13	1.2	22	7.9	130	0.740	360
14	1.5	22	7.9	115	0.840	340
15	1.8	22	7.9	105	0.920	325
16	2.2	22	7.9	85	1.00	310
17	2.7	24	7.9	77	1.15	290
18	3.3	24	7.9	70	1.40	260
19	3.9	24	7.9	68	1.55	250
20	4.7	24	7.9	60	1.80	230
21	5.6	22	7.9	55	2.00	220
22	6.8	22	7.9	50	2.20	210
23	8.2	22	7.9	48	2.50	195
24	10.0	24	7.9	40	3.45	165
25	12.0	25	2.5	35	3.80	160
26	15.0	25	2.5	30	5.60	135
27	18.0	25	2.5	28	5.80	130
28	22.0	25	2.5	25	6.40	125
29	27.0	25	2.5	22	6.90	120
30	0.010 ±20%	60	50	2700	0.060	1270
31	0.015 ±20%	55	50	2200	0.078	1110
32	0.022 ±20%	50	50	1800	0.108	950
33	0.033 ±20%	48	50	1450	0.120	900
34	0.047 ±20%	42	50	1220	0.145	820
35	0.068 ±20%	36	50	1000	0.195	705
36	0.100 ±20%	32	50	830	0.230	650
37	0.010 ±10%	60	50	2700	0.060	1270
38	0.012 ±10%	57	50	2450	0.069	1190
39	0.015 ±10%	55	50	2200	0.078	1110
40	0.018 ±10%	52	50	2000	0.093	1030
41	0.022 ±10%	50	50	1800	0.108	950
42	0.027 ±10%	49	50	1625	0.114	925
43	0.033 ±10%	48	50	1450	0.120	900
44	0.039 ±10%	45	50	1335	0.133	860
45	0.047 ±10%	42	50	1220	0.145	820
46	0.056 ±10%	39	50	1110	0.170	760
47	0.068 ±10%	36	50	1000	0.195	705
48	0.082 ±10%	34	50	915	0.212	675
49	0.100 ±10%	32	50	830	0.230	650

1/ When self-resonant frequency (SRF) is measured for –01 through –06 and –30 through –49, any value 250 MHz or higher is acceptable. The specified minimum values of SRF over 250 MHz are estimates and to be used for design reference only.
2/ Maximum current allowed not to exceed the specified temperature rise.
3/ These values are also the maximum incremental current applicable to ferrite cores only.

Electrical characteristics (final): See table II.

TABLE II. Electrical characteristics (final).

Inspection group	Allowable variation from initial measurements			
	Inductance (Percent)	DC resistance	Self-resonant frequency 1/ (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

1/ Not applicable to self-resonant frequencies exceeding 250 MHz.

Supersession data: A new part numbering system with codes for termination materials was incorporated by previous revision, superseding the part numbering system of MIL-I-83446/4, dated October 1978.

M83446/04-(dash number from table I) A
Supersedes M83446/4-(dash number from table I).

Examples:

M83446/04-21A supersedes M83446/4-21.
M83446/04-03A supersedes M83446/4-3.

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

M83446/04- 04 B

04: Sequentially assigned dash Numbers (see table I)

B: Termination finish (see MIL-PRF-83446)

NOTE: The Government shall not stock the 20 percent tolerance coils. Dash numbers 30 through 36 shall not be stocked. For Government reacquisition's and stocking, use dash numbers 38, 40, 42, 44, 46, 48, and 50, respectively. Dash numbers 30 through 36 shall be listed as secondary reference numbers under the respective national stock number.

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-83446
MIL-STD-202

Custodians:
Army – CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA – CC

(Project 5950-2006-007)

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 http://assist.daps.dla.mil.