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**INCH-POUND**  
 MIL-PRF-83446/6D  
 24 October 1996  
 SUPERSEDING  
 MIL-C-83446/6C  
 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.

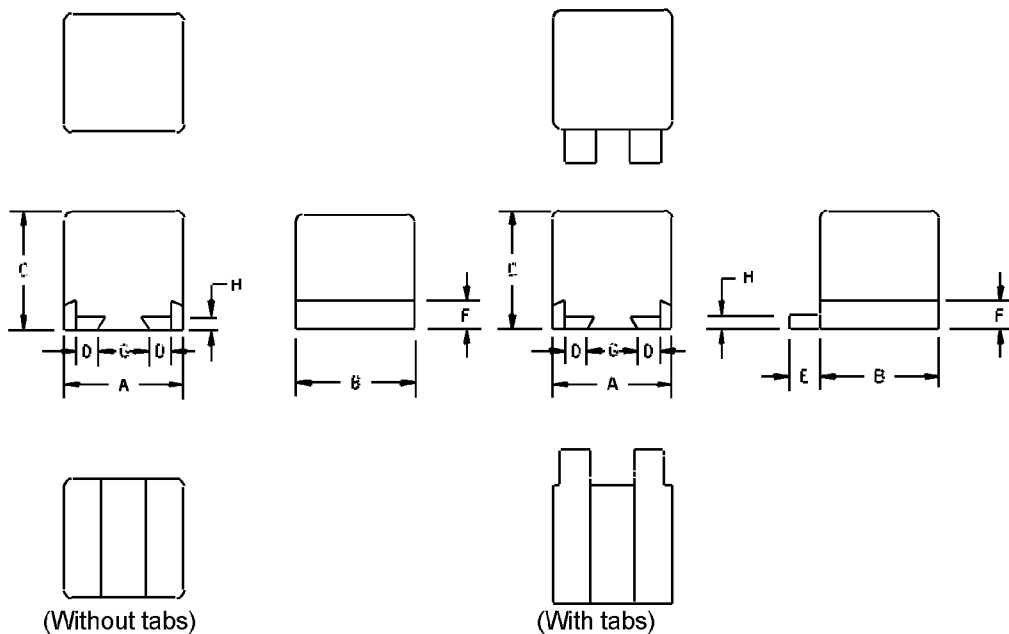


FIGURE 1. Fixed chip coil.

Ⓛ denotes changes

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	Dimension for dash number -01 thru -24 (With tabs)		Dimension for dash number -25 thru -48 (Without tabs)		Ⓢ Dimension for dash number -49 thru -87 (With tabs)		Ⓢ Dimension for dash number -88 thru -126 (Without tabs)	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm
A	.110 max	2.79 max	.110 max	2.79 max	.074 ±.006	1.88 ±0.15	.074 ±.006	1.88 ±0.15
B	.105 max	2.67 max	.105 max	2.67 max	.084 ±.006	2.13 ±0.15	.084 ±.006	2.13 ±0.15
C	.100 max	2.54 max	.100 max	2.54 max	.050 max	1.27 max	.050 max	1.27 max
D	.030 ±.005	0.76 ±0.13	.030 ±.005	0.76 ±0.13	.021 ±.003	0.53 ±0.07	.021 ±.003	0.53 ±0.07
E	.040 ±.010	1.02 ±0.25	---	---	.040 ±.006	1.02 ±0.15	---	---
F	.018 ±.005	0.46 ±0.13	.018 ±.005	0.46 ±0.13	.020 ±.006	0.51 ±0.15	.020 ±.006	0.51 ±0.15
G	.038 ±.010	0.97 ±0.25	.038 ±.010	0.97 ±0.25	.022 ±.004	0.56 ±0.10	.022 ±.004	0.56 ±0.10
H	.005 ±.002	0.13 ±0.05	.005 ±.002	0.13 ±0.05	.004 ±.002	0.10 ±0.05	.004 ±.002	0.10 ±0.05

NOTES:

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

FIGURE 1. Fixed chip coil - Continued.

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REQUIREMENTS:

Dimensions and configuration: See figure 1.

ⓓ Weight: 0.02 ounce 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 and table II.

Electrical characteristics (final): See table III.

Supersession data: A new part numbering system with code for termination finish was incorporated with revision A, superseding MIL-I-83446/6, dated 1 March 1979.

M83446/06-(dash number from table I) supersedes M83446/6-(dash number from table I).

Examples:

M83446/06-21C supersedes M83446/6-21.

M83446/06-03C supersedes M83446/6-3.

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

<u>M83446/06-</u>	<u>04</u>	<u>B</u>
	*	*
	*	*
	*	*
Sequentially assigned dash	*	*
numbers (see tables I and II) ) ) ) ) ) ) ) ) -		*
		*
Termination finish (see		*
MIL-C-83446) -		

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TABLE I. Electrical characteristics (initial) for dash numbers 01 through 48.

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/
01, 25	12.0	42	50	2.5	26	2.0	110
02, 26	15.0	44	52	2.5	24	2.2	105
03, 27	18.0	44	52	2.5	21	2.8	100
04, 28	22.0	48	55	2.5	20	3.5	85
05, 29	27.0	49	57	2.5	19	4.3	75
06, 30	33.0	50	58	2.5	14	5.5	68
07, 31	39.0	52	60	2.5	12	6.5	61
08, 32	47.0	53	62	2.5	11	8.5	54
09, 33	56.0	56	64	2.5	10	12.0	46
10, 34	68.0	53	62	2.5	9	13.0	42
11, 35	82.0	49	57	2.5	8	15.0	40
12, 36	100.0	49	57	2.5	7	18.0	36
13, 37	120.0	37	45	.790	6	21.0	34
14, 38	150.0	30	38	.790	5	26.0	31
15, 39	180.0	30	38	.790	5	28.0	29
16, 40	220.0	26	32	.790	4.5	32.0	28
17, 41	270.0	26	32	.790	4.0	36.0	26
18, 42	330.0	24	30	.790	3.7	42.0	24
19, 43	390.0	24	30	.790	3.5	46.0	23
20, 44	470.0	24	30	.790	3.0	68.0	19
21, 45	560.0	22	28	.790	2.8	77.0	18
22, 46	680.0	20	26	.790	2.5	85.0	17
23, 47	820.0	16	22	.790	2.0	100.0	16
24, 48	1000.0	12	18	.790	1.5	120.0	15

1/ Test frequency range: 0.25 through 25 MHz:

For electrical characteristics measurements, use the test fixture as shown in figure 2 or equivalent. Fixture inductance (approximately 0.028 μH) and residual Q-meter inductance (approximately 0.01 μH) should be subtracted from indicated inductance.

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

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Ⓣ TABLE II. Electrical characteristics (initial) for dash numbers 49 through 126.

Dash number	Inductance ±10% (μH) 1/	Q (min)	Q (typ)	Test frequency (MHz) 2/	Self-resonant frequency (min) (MHz)	DC resistance (max) (Ohms)	Current (max) (mA) 3/
49, 88	0.005	32	40	200	1900	0.10	750
50, 89	0.008	32	40	200	1800	0.10	750
51, 90	0.010	32	40	150	1700	0.10	750
52, 91	0.012	32	40	150	1500	0.10	750
53, 92	0.015	29	37	150	1300	0.10	750
54, 93	0.018	29	37	150	1100	0.10	750
55, 94	0.022	35	43	100	900	0.10	750
56, 95	0.027	34	42	100	900	0.10	750
57, 96	0.033	32	41	100	800	0.10	600
58, 97	0.039	32	41	100	750	0.10	550
59, 98	0.047	32	41	100	750	0.10	500
60, 99	0.056	32	41	100	700	0.10	450
61, 100	0.068	32	41	100	700	0.12	400
62, 101	0.082	32	40	100	700	0.13	350
63, 102	0.10	32	40	50	600	0.14	350
64, 103	0.12	32	40	50	500	0.17	350
65, 104	0.15	32	40	50	500	0.18	350
66, 105	0.18	32	40	50	450	0.25	300
67, 106	0.22	32	40	50	400	0.30	300
68, 107	0.27	30	39	50	330	0.40	300
69, 108	0.33	30	39	50	270	0.50	300
70, 109	0.39	24	31	50	250	0.90	250
71, 110	0.47	24	31	25	200	0.90	250
72, 111	0.56	24	31	25	180	1.10	250
73, 112	0.68	24	31	25	150	1.20	250
74, 113	0.82	24	31	25	130	1.40	250
75, 114	1.0	24	31	25	110	1.40	250
76, 115	1.2	21	28	7.9	110	1.50	200
77, 116	1.5	21	28	7.9	110	1.50	200
78, 117	1.8	21	28	7.9	100	1.60	200
79, 118	2.2	21	28	7.9	90	1.60	150
80, 119	2.7	21	28	7.9	80	1.60	150
81, 120	3.3	21	28	7.9	75	1.60	150
82, 121	3.9	21	28	7.9	70	2.90	100
83, 122	4.7	21	28	7.9	63	2.90	100
84, 123	5.6	21	28	7.9	60	3.00	100
85, 124	6.8	21	28	7.9	50	3.75	100
86, 125	8.2	21	28	7.9	40	4.50	100
87, 126	10.0	21	28	7.9	30	5.60	100

1/ Tolerance for dash numbers 49, 88, 50 and 89 shall be ±20 percent.

2/ Test frequency range: 7.9 through 200 MHz:

For electrical characteristics measurements of -49 through -126 use the test fixture as shown on figure 3 or equivalent.

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



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TABLE III. 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

Ⓧ Extent of qualification:

For manufacturers qualified to dash numbers M83446/06-01 through MIL-C-83446/06-48, qualification to MIL-C-83446/06-49 through MIL-C-83446/06-126 can be granted by testing 24 samples of dash number MIL-C-83446/06-87 to qualification inspection of MIL-C-83446.

CONCLUDING MATERIAL

Custodians:  
 Army - CR  
 Navy - EC  
 Air Force - 85

Preparing activity:  
 DLA - ES

(Project 5950-0911)

Review activities:  
 Army - MI  
 Navy - AS, OS  
 Air Force - 11, 19