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INCH POUND

MIL-PRF-83446B
AMENDMENT 5
22 September 1998
SUPERSEDING
AMENDMENT 4
3 October 1994

PERFORMANCE SPECIFICATION

COILS, CHIP, FIXED OR VARIABLE, GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-PRF-83446B, dated 3 October 1994, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

- * Title: Delete and substitute "COILS, RADIO FREQUENCY, CHIP, FIXED OR VARIABLE, GENERAL SPECIFICATION FOR.

TABLE I, code A, method of assembly: Delete "Weldable" and substitute "Solderable/weldable".

TABLE I, code column: Add new code "F".

TABLE I, final finish for code F: Add "Tin-lead".

TABLE I, method of assembly for code F: Add "Solderable".

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- * 2.1, SPECIFICATIONS, FEDERAL, delete:

"QQ-S-571 - Solder, Tin Alloy: Tin-Lead Alloy; and Lead Alloy.
J-W-1177 - Wire, Magnet, Electrical."

- * 2.1, SPECIFICATIONS, MILITARY, delete:

"MIL-F-14256 - Flux, Soldering, Liquid (Rosin Base).
MIL-C-45662 - Calibration System Requirements.
MIL-M-55565 - Microcircuits, Preparation for Delivery of."

- * 2.1, STANDARDS, MILITARY, delete:

"MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-883 - Test Methods and Procedures for Microelectronics."

- * Following "STANDARDS, MILITARY" list of documents, add:

"2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

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AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- ANSI/J-STD-006 - Requirements for Electronic Grade Solder Alloys and Fluxed and Non-fluxed Solid Solders for Electronic Soldering Applications.
- ANSI/NCSL Z540-1 - Calibration Laboratories and Measuring Equipment-General Requirements.

INTERNATIONAL ORGANIZATION FOR STANDARDS (ISO)

- ISO 10012-1 - Quality Assurance Requirements for Measuring Equipment-Part 1: Metrological Confirmation System for Measuring Equipment.

(Application for copies should be addressed to American National Standards Institute, 11 West 42nd Street, New York, NY 10036)."

- * Following 2.2, add:

"2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for related associated detail specifications, specification sheets, or MS standards), the text of this specification shall take precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained."

- * 3.3.1, delete and substitute:

"3.3.1 Solder and soldering flux. Solder and Soldering flux, when used, shall be selected to enable the part to meet the requirements of this specification. Additional information and guidance on solder and soldering flux is provided in 6.8."

- * 3.3.3, delete and substitute:

"3.3.3 Magnet wire. Magnet wire, when used, shall be selected to enable the part to meet the requirements of this specification. Additional information and guidance on magnet wire is provided in 6.9."

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3.4.2, line 5: Delete "codes B through E" and substitute "codes A through F".

Add the following:

"3.4.6 Tin plated finishes. Use of tin plating is prohibited as a final finish and as an undercoat effective 6 months from the date of this specification (see 6.7). Use of tin-lead (Sn-Pb) finishes are acceptable provided that the minimum lead content is 3 percent."

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3.11, delete and substitute:

"3.11 Turning torque. When variable coils are tested as specified in 4.6.8, the torque required to rotate the tuning core shall be .05 ounce-inch minimum, .50 ounce-inch maximum unless otherwise specified (see 3.1). The tuning screw threads of the variable coils shall not shed conductive or magnetic particles."

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- * 4.1.1, line six, delete "MIL-STD-45662" and substitute "ANSI/NCSL Z540-1, ISO 10012-1, or equivalent as approved by the qualifying activity".

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4.5.1.2.1, delete and substitute:

"4.5.1.2.1 Sampling plan. If, during the 100 percent inspection of subgroup I, screening requires that if over 10 percent of the coils be discarded, the lot shall be rejected. For subgroup II a sample of parts shall be randomly selected from each inspection lot in accordance with table III-1, if one or more defects are found, the lot shall be rescreened and defects removed. After screening and removal of defects, a new sample of parts shall be randomly selected in accordance with table III-1, if one or more defects are found in the second sample, the lot shall be rejected and shall not be supplied to this specification."

4.5.1.2.2, delete and substitute:

"4.5.1.2.2 Rejected lots (subgroup I). A rejected lot can be screened and resubmitted one time, a resubmitted lot will also have a PDA requirement of 10 percent, however if a lot is rejected after the second submission it shall be rejected and not supplied to this specification."

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TABLE III, subgroup II, delete "AQL (percent defective)", "Major", "Minor" and all related information in last two columns.

After table III, add the following:

"TABLE III-1. Sampling plan.

Lot size	Group A		Group B
	Subgroup I	Subgroup II	
1 to 5	100 percent	100 percent	100 percent
6 to 13	100 percent	100 percent	5
14 to 50	100 percent	13	5
51 to 90	100 percent	13	7
91 to 150	100 percent	13	11
151 to 280	100 percent	20	13
281 to 500	100 percent	29	16
501 to 1,200	100 percent	34	19
1,201 to 3,200	100 percent	42	23
3,201 to 10,000	100 percent	50	29
10,001 to 35,000	100 percent	60	35
35,001 to 150,000	100 percent	74	40
150,001 to 500,000	100 percent	90	40
500,001 and over	100 percent	102	40

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- * 4.5.1.3, delete.
- * 4.5.1.3.1, delete.
- 4.5.1.3.2, delete.
- * 4.5.1.3.3, delete.
- * TABLE IV, group B inspection: Delete.
- * 4.5.2, delete "and B".

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- * 4.5.2.1, delete "and B".
- * Add the following to Table IV, group C inspection, after Thermal shock:

Inspection	Requirement paragraph	Method paragraph	Number of sample units to be inspected	Number of failures permitted
<u>Subgroup II (quarterly)</u>				
Dielectric withstanding voltage	3.7	4.6.4] 12] 1
Barometric pressure (when applicable)	3.8	4.6.5		
Insulation resistance	3.9	4.6.6		

TABLE V, subgroup II, Moisture resistance: Delete "Electrical characteristics" and substitute "Electrical characteristics (final)".

PAGE 12

- * 4.6.1, last sentence, delete.

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4.6.7.1.1, first sentence, delete and substitute:

"The tests shall be performed using a Q meter such as Hewlett Packard model 260A, HP4342A, HP250RX, or equivalent at appropriate test frequencies as listed in the instructions for the test equipment."

4.6.7.1.1, line 6: Delete "Test frequency, MHz" and substitute "Reference test frequency (MHz) for 260 A".

4.6.7.1.1, last sentence: Delete "inductor" and substitute "coil".

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4.6.7.1.2, line 5: Delete "Test frequency, MHz" and substitute "Reference test frequency (MHz) for 260 A".

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4.6.10, line 1: Delete "~~(not applicable to weldable terminations)~~".

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4.6.16b., delete and substitute:

"b. Mounting - For termination finish codes B, C, and F, mounting shall be as specified in 4.6.1.2a. For termination finish codes A, D, and E, mounting shall be as specified in 4.6.1.2b."

* 5.1, delete and substitute:

"5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity."

6.1, line 1: Delete "thin or thick film".

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* 6.7, delete and substitute:

"6.7 Tin plated finishes. Tin plating is prohibited (see 3.4.6) since it may result in tin whisker growth. Tin whisker growth could adversely affect the operation of electronic equipment systems. For additional information on this matter, refer to ASTM B545 (Standard Specification for Electrodeposited Coatings of Tin).

"6.8 Solder and soldering flux (see 3.3.1). It is recommended that solder and soldering flux to be in accordance with J-STD-004, J-STD-005 and J-STD-006.

"6.9 Magnet wire (see 3.3.3). It is recommended that MW-1000 to be considered for magnet wire.

"6.10 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes. "

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20.1.2, last line: Delete "qualification" and substitute "certification".

Add the following:

"20.1.3 Alternate termination finish. When qualification has been granted in accordance with 20.1.1 or 20.1.2 and qualification is sought for an alternate termination finish, the following procedures shall be used.

"20.1.3.1 Single-type submission. A sample of six sample units of the alternate termination finish is required. Submit three sample units to the tests of groups I and VI of table II. Submit the remaining three samples to the tests of group III of table II.

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"20.1.3.2 Combined-type submission. A sample of nine sample units of the alternate termination finish is required. Submit six sample units (three of the highest and three of the lowest inductance value) to the tests of groups I and VI of table II. Submit the remaining three sample units to the tests of group III of table II."

30., Termination table, delete and substitute the following:

" TABLE VII. Terminations.

Termination	Will qualify termination
A	A
B	B, C, F
C	C, B, F
D	D, E
E	E, D
F	B, C

"

The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment 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 amendment.

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