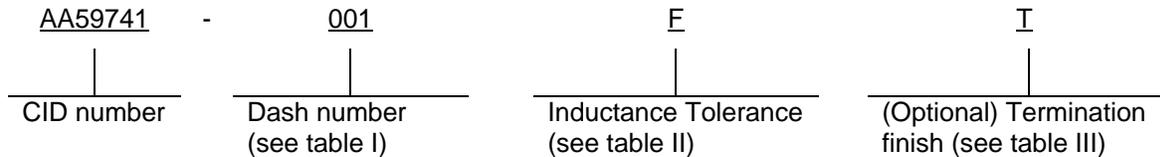


## COMMERCIAL ITEM DESCRIPTION

INDUCTOR, POWER, SHIELDED, ULTRAMINIATURE,  
SURFACE MOUNT

The General Services Administration has authorized the use of this commercial item description (CID) for all federal agencies.

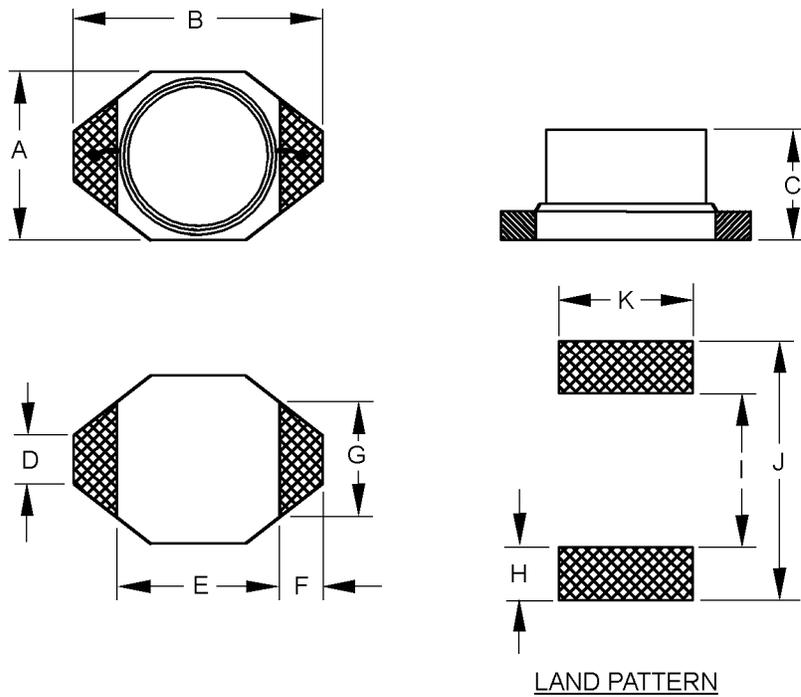
1. **SCOPE.** This CID covers the general requirements for a power inductor. Inductors covered by this CID are intended for commercial/industrial applications.
2. **CLASSIFICATION.** This CID uses a classification system, which is included in the Part Identification Number (PIN) as shown in the following example (see 7.1).



## 3. SALIENT CHARACTERISTICS.

- 3.1 Interface and physical dimensions. Inductors supplied to this CID shall be as specified herein. (see figure 1).
- 3.2 Electrical characteristics. The electrical characteristics shall be as specified in table I.
- 3.3 Weight. The weight shall be no greater than 0.5 gram maximum.
- 3.4 Operating temperature range. The operating temperature range is  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- 3.5 Temperature rise. DC current rating for a  $30^{\circ}\text{C}$  rise.
- 3.6 Altitude. The maximum altitude is 70,000 feet.
- 3.7 Marking. Inductors supplied to this CID shall be marked with the manufacturer's standard commercial PIN.
- 3.8 Pure tin. The use of pure tin, as an underplate or final finish is prohibited both internally and externally. Tin content of transformer components and solder shall not exceed 97 percent, by mass. Tin shall be alloyed with a minimum of 3 percent lead, by mass.
- 3.9 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.
- 3.10 Workmanship. Coils shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

Beneficial comments recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be addressed to: DLA Land and Maritime, Columbus, ATTN: VAT, P.O. Box 3990, Columbus OH 43218-3990, or email ([transformers@dla.mil](mailto:transformers@dla.mil)). Since contact information can change you may want to verify the currency of the address information using the ASSIST Online database at <https://assist.dla.mil>.



Dimension	Inches	mm	Dimension	Inches	mm
A	.175 Max	4.45 Max	G	.090	2.29
B	.260 Max	6.60 Max	H	.055	1.40
C	.115 Max	2.92 Max	I	.160	4.06
D	.050	1.27	J	.270	6.86
E	.170	4.32	K	.140	3.56
F	.040	1.02			

NOTES:

1. Dimensions are in Inches.
2. Metric equivalents (in parenthesis) are listed for general information only.

FIGURE 1. Configuration and dimensions.

TABLE I. Electrical characteristics.

CID dash number AA59741-	L ( $\mu$ H)	Q min	DCR Max (Ohms)	SRF typ (MHz)	Current Max (A)
001	1.0	30 @ 200 KHz	.040	250	1.4
002	1.5	30 @ 200 KHz	.045	125	.93
003	2.2	40 @ 200 KHz	.050	120	.92
004	3.3	40 @ 200 KHz	.055	120	.75
005	4.7	40 @ 200 KHz	.060	105	.58
006	6.8	40 @ 200 KHz	.065	50	.58
007	8.2	40 @ 200 KHz	.070	42	.47
008	10	40 @ 200 KHz	.075	38	.37
009	15	40 @ 100 KHz	.090	33	.31
010	22	40 @ 100 KHz	.11	25	.30
011	33	40 @ 100 KHz	.19	20	.30
012	47	40 @ 100 KHz	.23	20	.24
013	68	40 @ 100 KHz	.29	15	.17
014	100	40 @ 100 KHz	.48	10	.13
015	150	40 @ 100 KHz	.59	9	.10
016	220	40 @ 100 KHz	.77	6	.10
017	330	40 @ 100 KHz	1.4	5	.07
018	470	40 @ 100 KHz	1.8	4	.06
019	680	40 @ 100 KHz	2.2	3	.055
020	1000	40 @ 100 KHz	3.4	2	.045
021	1500	50 @ 100 KHz	4.2	2	.035
022	2200	50 @ 100 KHz	8.5	2	.028
023	3300	50 @ 100 KHz	11.0	1	.024
024	4700	50 @ 100 KHz	13.9	1	.021
025	6800	50 @ 100 KHz	25.0	1	.019
026	10000	50 @ 100 KHz	32.8	.8	.017

TABLE II. Inductance tolerances

Code	Tolerance (percentage)
M	$\pm 20$

TABLE III. Termination finish.

Code	Termination finish
Leave blank	Tin-lead
L	RoHS compliant, gold over nickel over moly-manganese
T	RoHS, tin-silver-copper (95.5/4/0.5)

4. **REGULATORY REQUIREMENTS.** The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

#### 5. PRODUCT CONFORMANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Market acceptance. The following market acceptance criteria are necessary to document the quality of the product to be provided under this CID:

- a. The company producing the item must have been producing a product meeting the requirements of this CID for at least 2 years.
- b. The company must have sold 1,000 units meeting this CID in the commercial marketplace over the past 2 years.

6. **PACKAGING.** Preservation, packing, and marking shall be as specified in the contract or order.

#### 7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmentally Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals is available on their website at <http://www.epa.gov/epaoswer/hazwaste/minimize/chemlist.htm>. Further information is available at the following EPA site: <http://www.epa.gov/epaoswer/hazwaste/minimize/>. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of the materials on the list should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these inductors to DSCC under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

#### 7.4 Source of documents.

##### FEDERAL REGULATIONS

FAR - Federal Acquisition Regulations (FAR)

(Copies of these documents are available online at [www.acquisition.gov/comp/far/index.html](http://www.acquisition.gov/comp/far/index.html) or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401.)

7.5 Tin whisker growth. The use of alloys with tin content greater than 97 percent, by mass, may exhibit tin whisker growth problems after manufacture. Tin whiskers may occur anytime from a day to years after manufacture and can develop under typical operating conditions, on products that use such materials. Conformal coatings applied over top of a whisker-prone surface will not prevent the formation of tin whiskers. Alloys of 3 percent lead, by mass, have shown to inhibit the growth of tin whiskers. For additional information on this matter, refer to ASTM-B545 (Standard Specification for Electrodeposited Coatings of Tin).

7.6 Ordering data. The contract or order should specify the following:

- a. CID document number, revision, and CID PIN.
- b. Product conformance provisions.
- c. Packaging requirements.

7.7 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict procurement to only the manufacturers shown.)

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
02113	Coilcraft Inc 1102 Silver Lake Road Cary, Illinois 60013-1658 Phone number (847) 639-2361 Uniform Resource Locator (URL): <a href="http://www.coilcraft.com">www.coilcraft.com</a>

7.8 Part number (P/N) supersession data. This CID supersedes the following manufacturers' P/N's as shown. This information is being provided to assist in reducing proliferation in the government inventory system.

TABLE IV. P/N supersession data. 1/

CID dash number (see table I) AA59741-	Vendor commercial PIN CAGE 02113 2/	CID dash number (see table I) AA59741-	Vendor commercial PIN CAGE 02113 2/
001	DS1608C-102ML*	014	DS1608C-104ML*
002	DS1608C-152ML*	015	DS1608C-154ML*
003	DS1608C-222ML*	016	DS1608C-224ML*
004	DS1608C-332ML*	017	DS1608C-334ML*
005	DS1608C-472ML*	018	DS1608C-474ML*
006	DS1608C-682ML*	019	DS1608C-684ML*
007	DS1608C-822ML*	020	DS1608C-105ML*
008	DS1608C-103ML*	021	DS1608C-155ML*
009	DS1608C-153ML*	022	DS1608C-225ML*
010	DS1608C-223ML*	023	DS1608C-335ML*
011	DS1608C-333ML*	024	DS1608C-475ML*
012	DS1608C-473ML*	025	DS1608C-685ML*
013	DS1608C-683ML*	026	DS1608C-106ML*

1/ When "\*" is used for coded values, it's the contractors responsibility to select those options allowed by the CID.

2/ The manufacturer's P/N shall not be used for procurement to the requirements of this CID. At the time of preparation of this CID, the aforementioned commercial products were reviewed and could be replaced by the CID P/N shown.

7.9 Government users. To acquire information on obtaining these coils from the Government inventory system, contact DLA Land and Maritime ATTN: FMTC, Post Office Box 3990, Columbus, OH 43218-3990, or telephone (614) 692-7727.

7.10 Changes from previous issue. The margins of this CID 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.

MILITARY INTERESTS:

Custodians:  
Navy - EC  
DLA - CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - 7FXE

Preparing Activity:

DLA - CC

Project 5950-2013-020

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> .