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LAND AND MARITIME  
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MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

November 2, 2016

SUBJECT: Initial Draft(s) of: MIL-DTL-21097G, /2, /3, /4, /5, /14, /15  
Project Number(s): 5935-2017-006, -007, -008, -009, -010, -011, -012

These initial draft(s) for these subject document(s), are now available for viewing and downloading from the DLA Land and Maritime-VA Web site:

<https://landandmaritimeapps.dla.mil/programs/milspec/default.aspx>

Major changes to these document(s) include:

MIL-DTL-21097G – 1. Amend NGSs - replace ASTM B488 with MIL-DTL-45204, amend EIA577 to SAE, IPC-D275 to IPC-2221, and NCSL-Z540.1 to Z540.3.

2. Amend URLs.

3. Remove EPA paragraph 6.6.

4. Replace AF 11 with AF 85.

5. Apply MIL-STD-961 updates.

MIL-DTL-DTL-21097/2/3/4/5/14/15 - Amend ASTM B488 to MIL-DTL-45204. Update Assist URL and AF 11 to AF 85.

MIL-DTL-21097/3/14/15 - Amend IPC-D275 with IPC-2221.

Concurrence or comments are required at this Center within 45 days from the date of this letter. Late comments will be held for the next coordination of the document. Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians of this office, as applicable, in sufficient time to allow for consolidating the department reply. Lack of response to this draft will be construed as concurrence. **Since Navy-EC is the custodian for this document, all Navy review activities should forward their comments directly to this Center.**

If these document(s) are of interest to you, please provide your comments or suggested changes. The point of contact for this document is Ed Wypasek, phone number 614-692-0530, facsimile transmission, 614-692-6939, e-mail [edmund.wypasek@dla.mil](mailto:edmund.wypasek@dla.mil), or may be mailed via the US Postal Service to DLA LAND AND MARITIME, ATTN: VAI (Attention: Ed Wypasek), P.O. Box 3990, Columbus, OH 43218-3990.

Sincerely,

/ *SIGNED* /

ABDONASSER M. ABDOUNI  
Chief,  
Interconnection Branch

Note: This draft dated 2 November 2016, prepared by DLA Land and Maritime-VAI has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project 5935-2017-010)

INCH-POUND

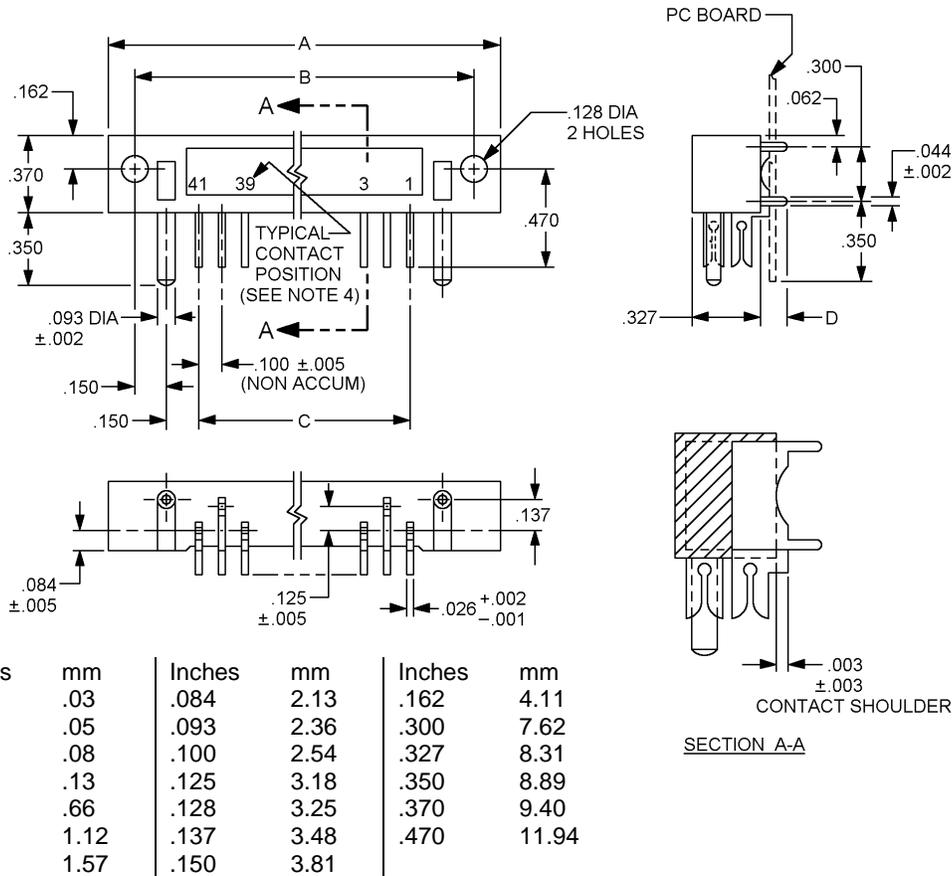
MIL-DTL-21097/5G  
w/AMENDMENT 1  
DATE  
SUPERSEDING  
MIL-DTL-21097/5G  
23 JUNE 2008

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, PRINTED WIRING BOARD  
MALE ADAPTER, CONTACT SPACING (.200) ALTERNATE  
DUAL ROW, TYPE CS

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 MIL-DTL-21097.

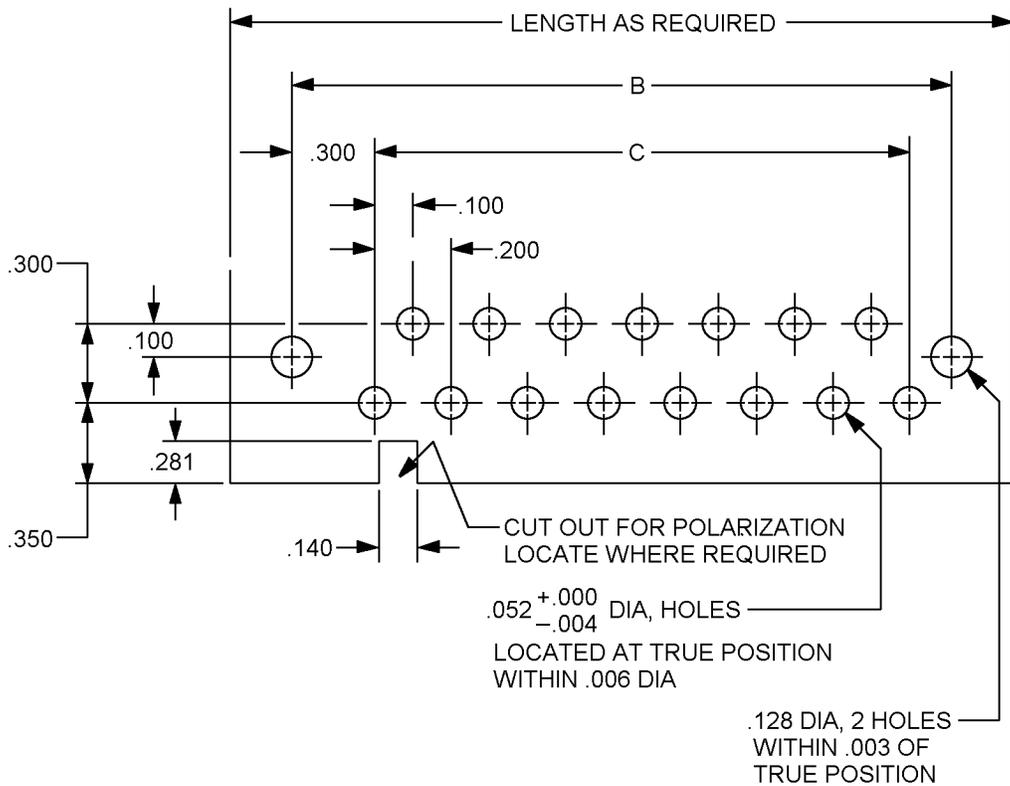


NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is  $\pm .010$  (.25 mm) for three place decimals.
3. Metric equivalents are given for information only.
4. Contacts shall be designated on the connector using numerals in the location shown.

FIGURE 1. Alternate dual row contacts, type CS.

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Inches	mm
.003	.08
.004	.10
.006	.15
.052	1.32
.100	2.54
.128	3.25
.140	3.56
.200	5.08
.281	7.14
.300	7.62
.350	8.89

NOTES:

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FIGURE 2. Printed circuit board mounting and hole pattern.

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TABLE I. Connector, electrical, male adapter, type CS, class b, no mounting provision A.

Dash number	Style	Size	Dimensions (inches) <u>1/</u> <u>2/</u>			
			A (maximum)	B ±0.015 (0.38)	C ±0.005 (0.13)	D ±0.010 (0.25)
01	17	2	2.470 (62.74)	2.200 (55.88)	1.600 (40.64)	.122 (3.10)
02	17	3	2.470 (62.74)	2.200 (55.88)	1.600 (40.64)	.153 (3.89)
03	23	2	3.070 (77.98)	2.800 (71.12)	2.200 (55.88)	.122 (3.10)
04	23	3	3.070 (77.98)	2.800 (71.12)	2.200 (55.88)	.153 (3.89)
05	29	2	3.670 (93.22)	3.400 (86.36)	2.800 (71.12)	.122 (3.10)
06	29	3	3.670 (93.22)	3.400 (86.36)	2.800 (71.12)	.153 (3.89)
07	35	2	4.270 (108.46)	4.000 (101.6)	3.400 (86.36)	.122 (3.10)
08	35	3	4.270 (108.46)	4.000 (101.6)	3.400 (86.36)	.153 (3.89)
09	41	2	4.870 (123.70)	4.600 (116.84)	4.000 (101.6)	.122 (3.10)
10	41	3	4.870 (123.70)	4.600 (116.84)	4.000 (101.6)	.153 (3.89)
11	47	2	5.470 (138.94)	5.200 (132.08)	4.600 (116.84)	.122 (3.10)
12	47	3	5.470 (138.94)	5.200 (132.08)	4.600 (116.84)	.153 (3.89)

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

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REQUIREMENTS

Dimensions and configurations: See figure 1, figure 2, and table I.

Mating receptacles: Shall be in accordance with MIL-DTL-21097/4.

Finish: Gold plating in accordance with ~~ASTM B488~~ MIL-DTL-45204, type II, ~~code~~ grade C, class 1-27, over nickel plating in accordance with Appendix A of MIL-DTL-38999, class 2, 30 to 150 microinches.

Part or Identifying Number (PIN): M21097/5-(dash number from table I).

Qualification: Not required.

First article testing: First article testing shall be as specified in table II, tests shall be in accordance with MIL-DTL-21097.

Sample size: 8 connectors shall be subjected to the first article testing. All sample units shall be subjected to the inspections in group I. The sample units shall be divided equally into 2 groups of four and subjected to the inspection for their particular groups.

TABLE II. First article tests .

Inspection
<u>Group I</u> (8 samples)
Visual and mechanical inspection
Permeability
Insulation resistance
Dielectric withstanding voltage
Contact resistance
<u>Group II</u> (4 samples)
Temperature cycling
Shock
Bond strength, body assembly
Contact retention
Resistance to soldering heat
Resistance to solvents
<u>Group III</u> (4 samples)
Salt spray (corrosion)
Low-signal level contact resistance
Contact resistance
Bond strength, body assembly

Failures: One or more failures shall be cause for refusal to grant first article approval.

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Amendment notations. The margins of this specification are marked with vertical lines to indicate where modifications from this 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 previous issue.

Referenced documents. In addition to MIL-DTL-21097, this document references the following:

MIL-DTL-21097/4  
MIL-DTL-38999  
ASTM B488  
MIL-DTL-45204

CONCLUDING MATERIALS

Custodians:

Army – CR  
Navy – EC  
Air Force – 85  
DLA – CC

Preparing activity:  
DLA - CC

(Project 5935-2017-010)

Review activities:

Army – AR, AT, AV, CR4, MI  
Navy – AS, MC, OS, SH

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.daps-dla.mil>.