

1. INTRODUCTION

This specification covers the requirements for application of AMP* CHAMP .050 Series I connectors. The connectors are used for internal board-to-board interconnections. Vertical and right-angle plugs and receptacles are available for parallel, perpendicular, and in-line interconnections. The connectors are available in 30 through 200 selected positions. The 1.57 mm [.062-in.] contact row spacing on receptacle connectors allows them to serve as card-edge connectors.

NOTE

All dimensions in this specification are in millimeters [with inch equivalents in brackets].

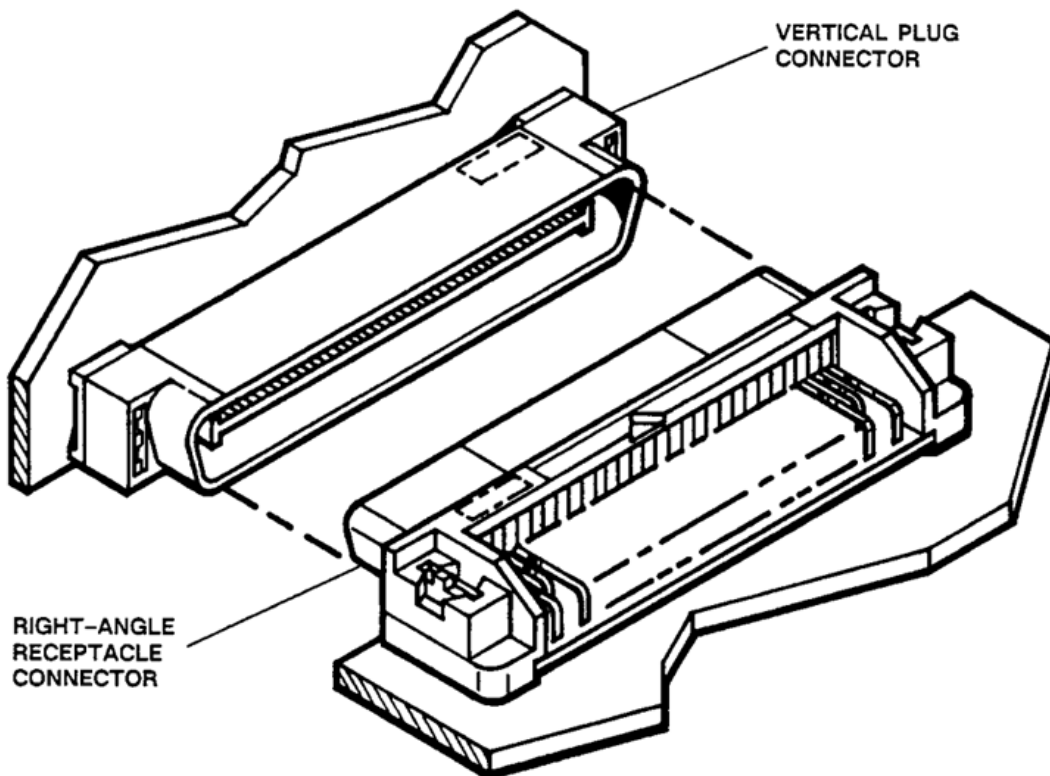


Fig. 1. Product Features

Revision Summary

Revisions to this application specification include:

- Changed company name and logo
- Modified Paragraph 2.1

2. REFERENCE MATERIAL

2.1. Customer Assistance

Reference Product Base Part Number 1734099 and Product Code 0682 are representative of CHAMP .050 Series I Board-to-Board Connectors. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local Representative.

2.2. Engineering Drawings

Customer Drawings for specific products are available from the responsible Engineering Department via the service network. The information contained in the Customer Drawings takes priority if there is a conflict with this specification or with any other technical documentation supplied

2.3. Product Specification

Product Specification 108-1367 provides performance criteria for these connectors.

2.4. Instructional Material

Bulletin No. 52 is available upon request and can be used as a guide in soldering. This bulletin provides information on various flux types and characteristics along with the commercial designation and flux removal procedures. A checklist is attached to the bulletin as a guide for information on soldering problems.

3. REQUIREMENTS

3.1. Printed Circuit (PC) Board

A. Material

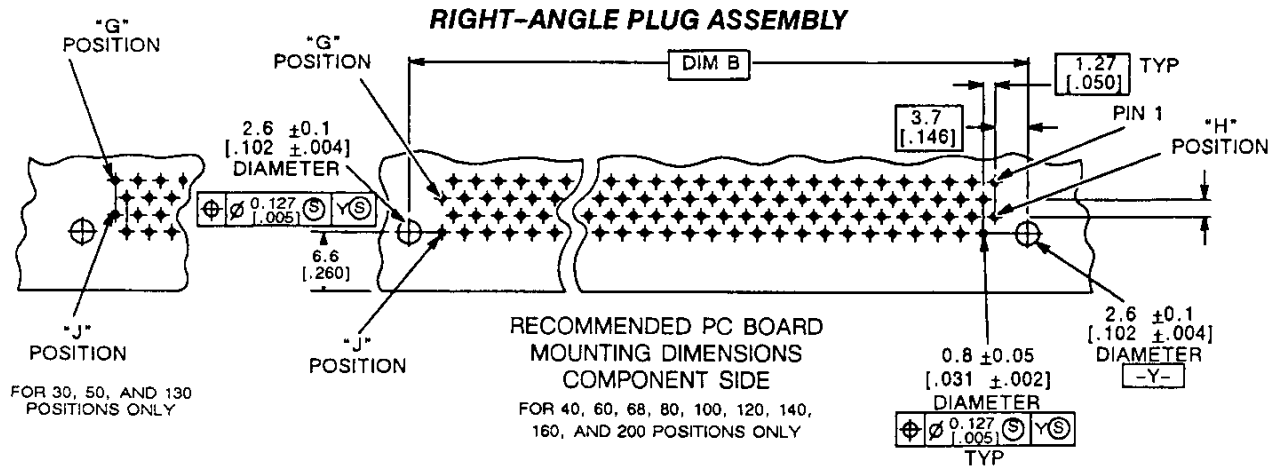
The board should be composed of glass/epoxy material; use of less dimensionally stable material may present problems when inserting the components.

B. Thickness

The connectors may be installed on 0.79 to 1.58 [.031 to .062] thick pc boards for vertical- and right-angle-mount connectors and on 1.57 [.062] thick pc boards for card-edge connectors. Board thickness may vary depending upon application; however, terminal length becomes important for wave solder operations. A recommended minimum of 1.02 [.040] terminal should protrude through the pc board.

C. PC Board Layouts

PC board layouts shall be as shown in Figure 3.



NO. OF POS.	DIMENSIONS		PIN POSITION		
	B		G	H	J
30	25.18	[.991]	15	16	30
40	31.53	[1.241]	20	21	40
50	37.88	[1.491]	25	26	50
60	44.23	[1.741]	30	31	60
68	49.31	[1.941]	34	35	68
80	56.93	[2.241]	40	41	80
100	69.63	[2.741]	50	51	100
120	82.33	[3.241]	60	61	120
130	88.68	[3.491]	65	66	130
140	95.03	[3.741]	70	71	140
160	107.73	[4.241]	80	81	160
200	133.13	[5.241]	100	101	200

RIGHT-ANGLE RECEPTACLE ASSEMBLY

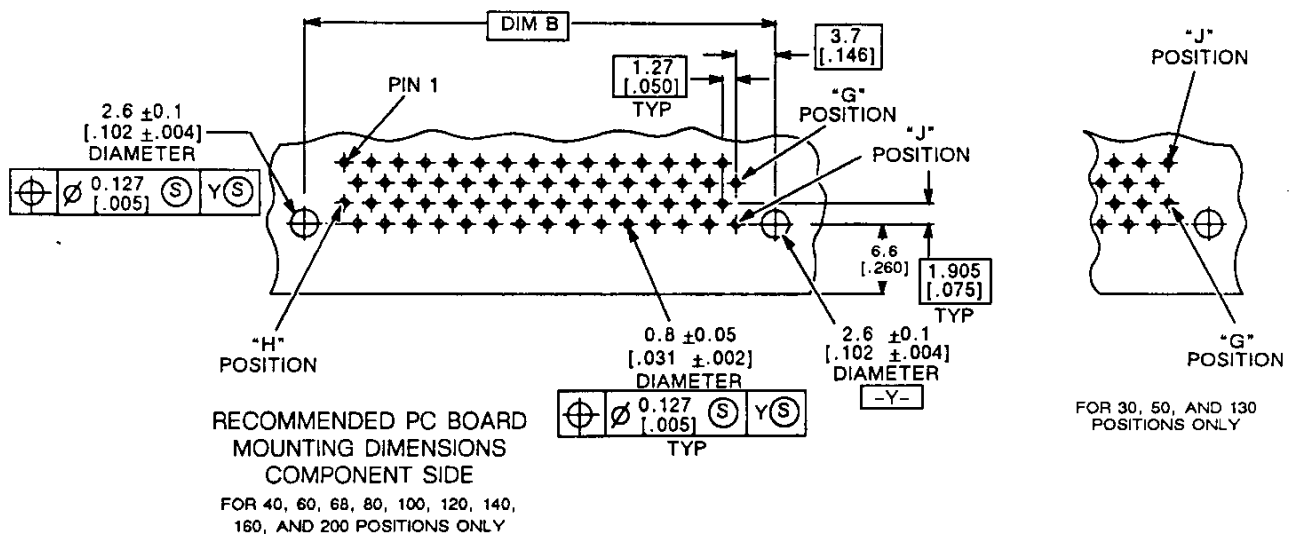
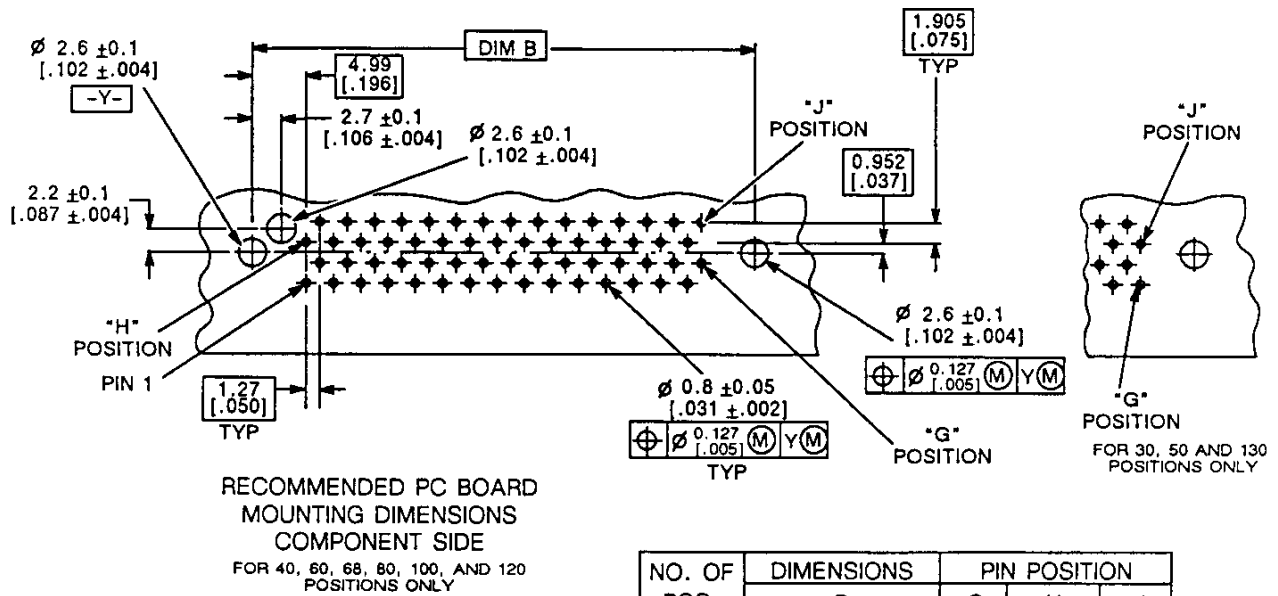
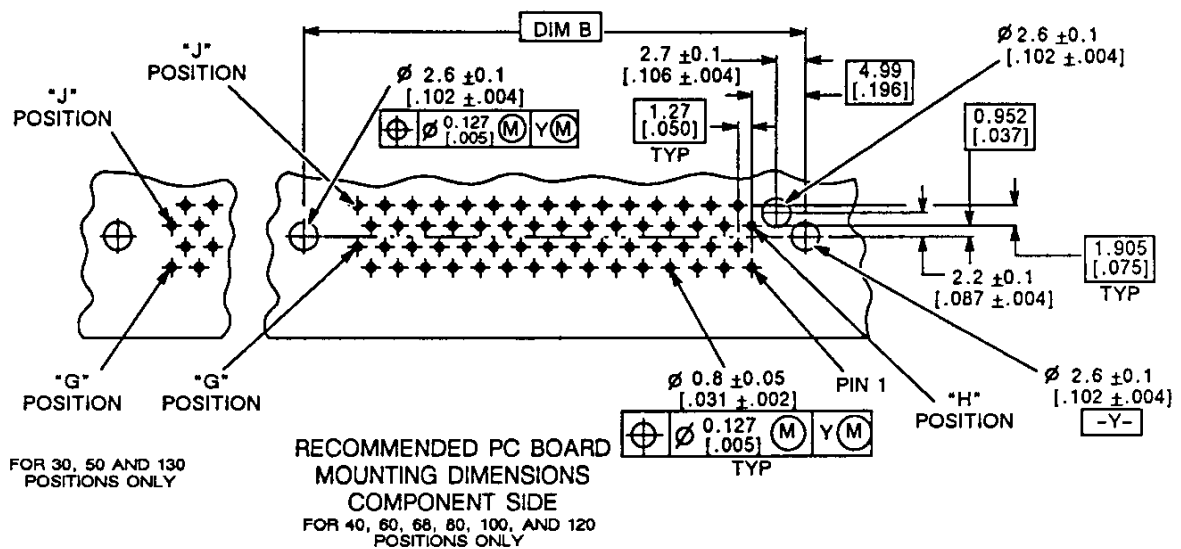


Fig. 2. PC BOARD LAYOUTS (CONT)

VERTICAL PLUG ASSEMBLY

VERTICAL RECEPTACLE ASSEMBLY

Fig. 2. PC BOARD LAYOUTS (END)

3.2. Mating Dimensions

The dimensions in Figure 3 are required to assure full mating of connectors. This dimension must be considered when determining the method of mounting and the thickness of the pc board when the connector is to be mounted.

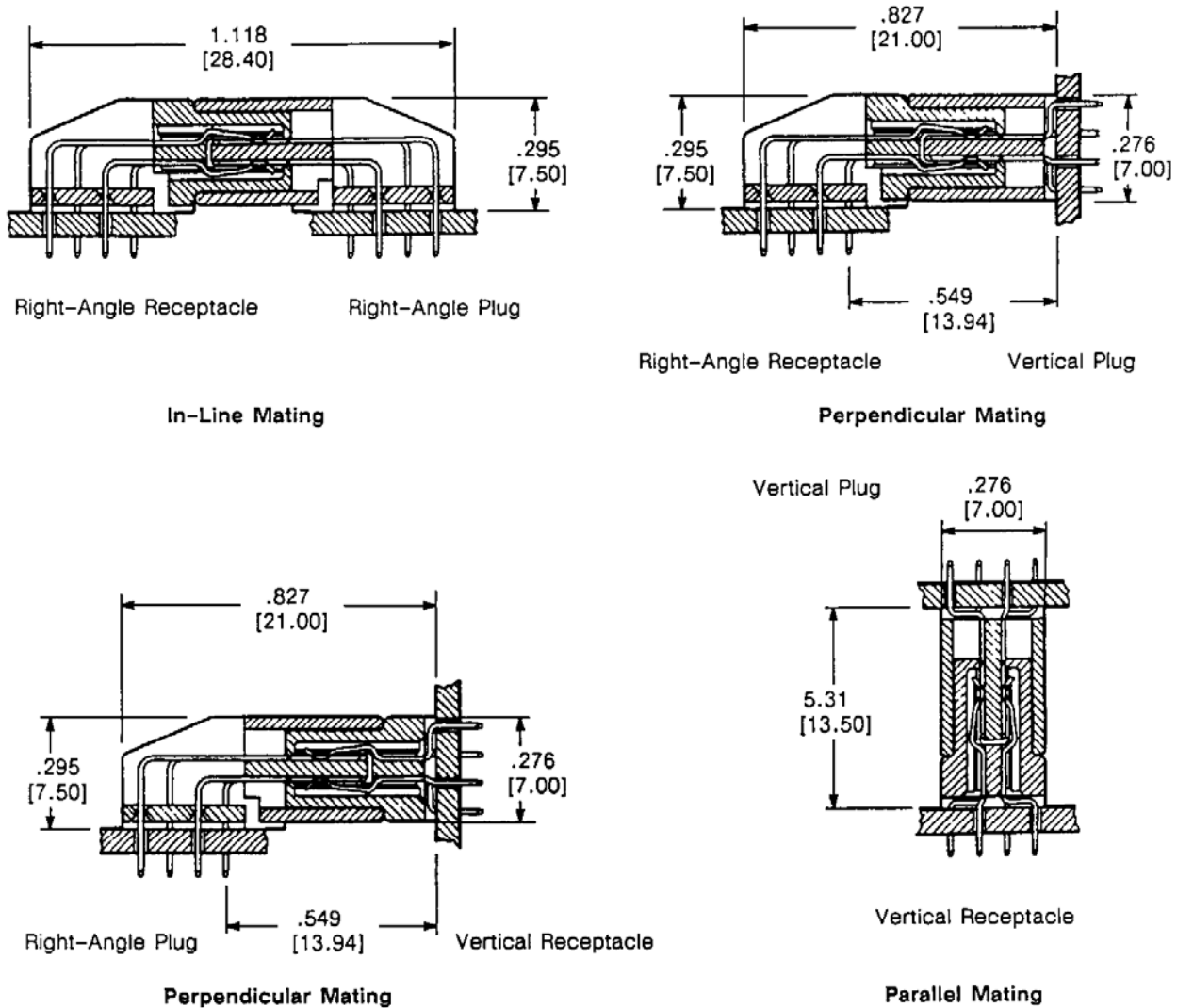


Fig. 3. Mating

3.3. Polarizing

The connector is inherently polarized. The keystone configuration of the mating face prohibits the accidental inversion of a mating connector. The polarized post on the bottom of the vertical housing assemblies assures positive alignment.

3.4. Methods Of Attaching Connector To PC Board

The connector can be secured to the pc board prior to soldering. This can be done by specifying connector with or without board retention legs in all positions.

3.5. Soldering

A. Flux Selection

The solder tails and attaching hardware (if applicable) must be fluxed prior to soldering with a rosin base flux. Selection of the proper flux will depend on the type of printed circuit board and other components mounted on the board. Additionally, the flux will have to be compatible with the wave solder line, manufacturing, and safety requirements.

B. Cleaning

After soldering, removal of fluxes, residues, and activators is necessary. Consult with the supplier of the solder and flux for recommended cleaning solvents. The following list of common cleaning solvents will not affect the connectors for a period of 5 minutes at 105 F.

1,1,1-Trichloroethane	Freon TMS	Freon TF
Dow Prelete	Freon TA	Freon TMC
Allied Genesolv	Freon TE	

Dow Prelete and Allied Genesolv are trademarks of their respective owners.

Freon is a trademark of E.I. du Pont de Nemours and Company Corporation.

C. Drying

When drying cleaned assemblies and printed circuit boards, make certain that temperature limitations of -55 to 105 F are not exceeded. Excessive temperatures may cause housing degradation.

D. Soldering Guidelines

Refer to Paragraph 2.4. for instructional material that is available for establishing soldering guidelines.

3.6. Unmating Connectors

CAUTION

Improper unmating procedures may cause deformation of the plug and receptacle housings.

The connectors must be unmated by rocking them apart. It is recommended that one end should be free, but should not be pulled more than 5° before rocking the same end back. This will release the opposite end, and the two connectors will be freed or separated. See Figure 4.

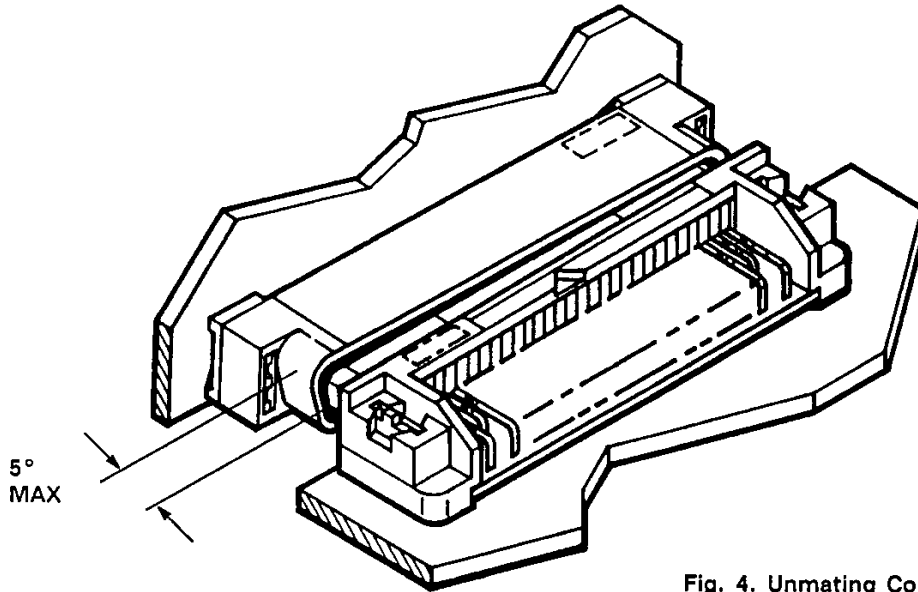


Fig. 4. Unmating Connectors

4. VISUAL AID

Figure 5 depicts typical CHAMP .050 Series I Connectors after they have been installed and soldered onto a pc board. The illustration shows visual conditions that production personnel should check to ensure a proper installation. For dimensional inspection, refer to the details in the preceding pages of this specification.

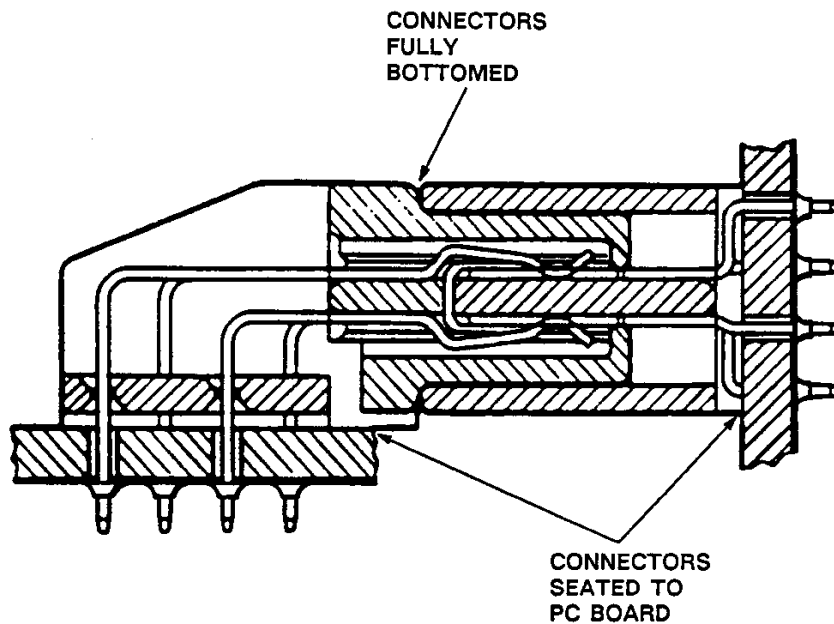


FIG. 5. VISUAL AID