

## Receptacle Assemblies, Double Row, Vertical Mount

### Closed Top Entry

#### Material and Finish:

**Housing**—Black thermoplastic, 94V-0 rated

**Receptacle Contacts**—Phosphor bronze, duplex plated as follows:

**A**—0.00020 [.000008] min. gold on contact area, 0.00100 [.000039] min. tin-lead on solder area, with entire contact underplated 0.00130 [.000051] min. nickel

**B**—0.00076 [.000030] min. gold on contact area, 0.00100 [.000039] min. tin-lead on solder area, with entire contact underplated 0.00130 [.000051] min. nickel

#### Related Product Data:

**Mateable Headers**—pages 4 thru 12

**Performance Specifications**—page 20

#### Technical Documents (page 20):

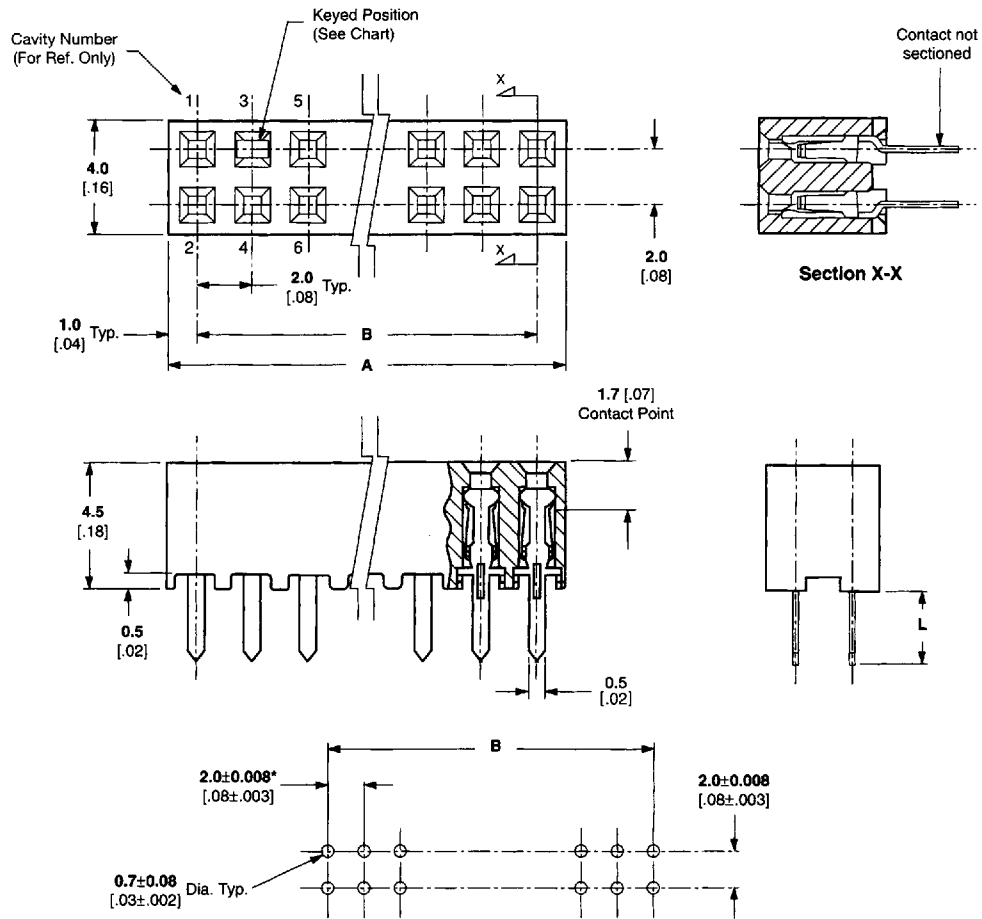
**AMP Product Specification**

108-5296

**AMP Packaging Specification**

107-5137-2

**Packaging Method**—Tray



Recommended PC Board Hole Layout

\* Hole centerline to be 2.0±0.08 [.08±.003]; tolerances not to accumulate within one connector pattern.

No. of Positions	Dimensions		Receptacle Assembly Part Numbers			
			Lead Length L = 1.2 [.05]**		Lead Length L = 2.6 [.10]**	
	A	B	Contact Plating		Contact Plating	
			Duplex A	Duplex B	Duplex A	Duplex B
4	4.0 .16	2.0 .08	176135-1	2-176135-5	1-176135-3	3-176135-7
6	6.0 .24	4.0 .16	4-176135-9	5-176135-5	5-176135-2	5-176135-8
8	8.0 .31	6.0 .24	176135-2	2-176135-6	1-176135-4	3-176135-8
10	10.0 .39	8.0 .31	176135-3	2-176135-7	1-176135-5	3-176135-9
12	12.0 .47	10.0 .39	176135-4	2-176135-6	1-176135-6	4-176135-0
14	14.0 .55	12.0 .47	176135-5	2-176135-9	1-176135-7	4-176135-1
16	16.0 .63	14.0 .55	176135-6	3-176135-0	1-176135-8	4-176135-2
18	18.0 .71	16.0 .63	176135-7	3-176135-1	1-176135-9	4-176135-3
20	20.0 .79	18.0 .71	176135-8	3-176135-2	2-176135-0	4-176135-4

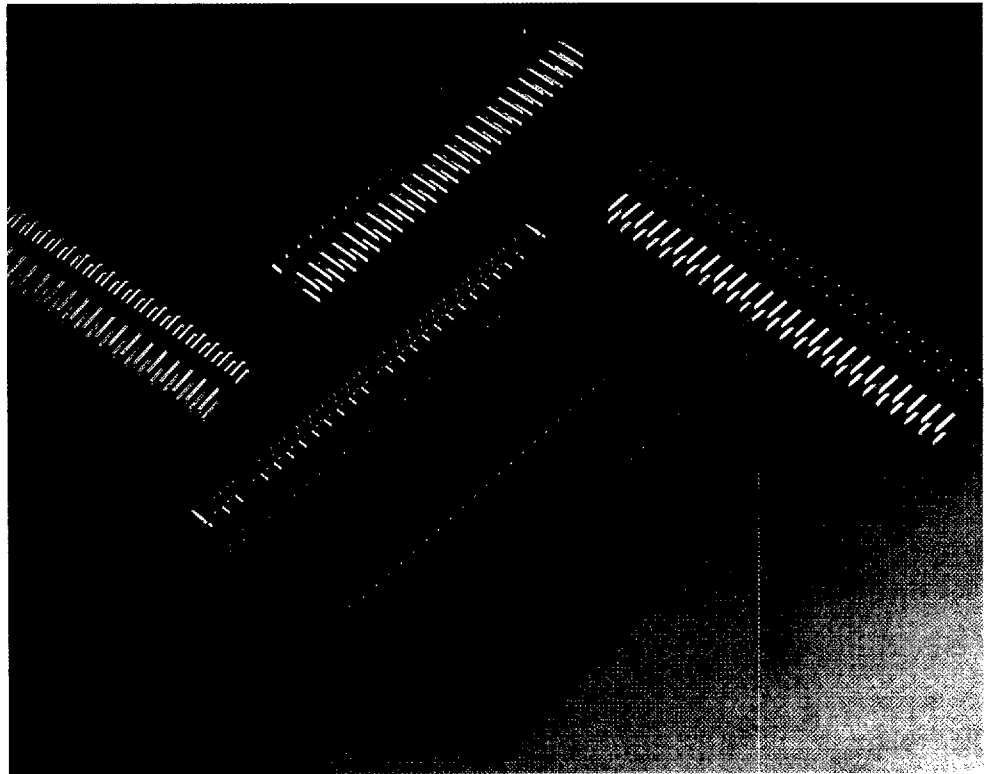
\*\*1.2 [.05] lead length for use with 0.3 [.01] max. thick PC boards;  
2.6 [.10] lead length for use with 1.6 [.062] thick PC boards.

### Product Facts

- 2.0 x 2.0 [.08 x .08] centerline spacing
- Two-piece, double-row connector system
- Unshrouded header styles include; breakaway, wide body and surface-mount
- All headers with 0.5 [.02] square posted contacts
- Surface-mount right-angle headers available in four mating pin-to-PC board dimensional relationships
- Surface-mount right-angle headers compatible with standard surface-mount processing (VPR, IR)
- Closed top-entry receptacle assemblies include; vertical mount, raised vertical mount and right-angle
- Receptacle contacts employ dual cantilever beams for two-point electrical stability
- Duplex (gold/tin-lead) plated posted contacts and receptacle contacts
- Low cost alternative gold/palladium duplex plating available on surface-mount headers
- Thermoplastic housing material, 94V-0 rated
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189
- Produced under a Quality Management System certified to ISO 9001



A copy of the certificate is available upon request.



AMPMODU 2mm connectors reliably and economically meet the packaging and inter-connection requirements of today's miniature sophisticated electronics. They are ideal for "Lap Top" and "Note Book" personal computers and disk drive applications.

This versatile double-row connector system is comprised of various straight and right-angle posted headers for thru-hole and surface mounting and several closed top-entry receptacle assemblies for vertical and horizontal mounting. Headers and receptacle assemblies are available in selected sizes ranging from 4 through 64 positions.

Thru-hole breakaway headers feature brass straight or right-angle posts with a post length of 4.0 [.16] and a lead length of 2.6

[.10]. The thru-hole wide body headers use copper alloy right-angle posts with a post length of 4.0 [.16] and lead lengths of 1.5 [.06] or 2.6 [.1].

Surface-mount right-angle headers are designed to allow low profile or mid-mount PC board orientation for customer low profile applications. Four mating pin-to-PC board dimensional relationships are offered.

These headers are available with 0.00076 [.000030] gold or gold flash over palladium-nickel plating options. Also, two metallic spring hold-downs on each side of the header work with the plastic location features for PC board retention prior to solder reflow. The header housings are made of a high temperature material compatible with standard surface-mount processing (VPR and IR).

The receptacle assemblies employ phosphor bronze contacts with dual cantilever beams and built-in anti-overstress. This feature, coupled with duplex (gold/tin-lead) plating of the header posts and receptacle contacts, provide superior electrical performance as well as excellent solderability.

### Need more information?

Call the AMP Product Information Center:  
**1-800-522-6752.**

The Product Information Center is staffed with specialists well versed in all AMP products. The Center can provide you with:

- Engineering Support
- Catalogs
- Technical Documents
- Product Samples
- AMP Authorized Distributor Locations
- AMP Fax Service . . . . 24 hours a day

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Dimensions are shown for reference purposes only. Customer drawings are available upon request.

Dimensions are in millimeters and inches unless specified otherwise. Values in brackets are equivalent U.S. customary units. Chart dimensions are in millimeters over inches.

For drawings, technical data or samples, contact your AMP sales engineer or call the AMP Product Information Center: 1-800-522-6752.

Specifications subject to change. Consult AMP Incorporated for latest specifications.

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**Performance Specifications**

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**Voltage Rating:** 200 VAC**Current Rating:** 1.0 ampere per contact**Operating Temperature Range:** -40°C to +105°C  
(including temperature rise due to load current)**Dielectric Withstanding Voltage:** 650 VAC**Termination Resistance:** 15 milliohms max. (initial)**Insulation Resistance:** 1000 megohms min. (initial)**Mating Force:** 170 g [6 oz] max. per contact**Unmating Force:** 20 g [.7 oz] min. per contact**Durability (Tested to):** 100 cycles min. for 0.00076 [.000030] gold plated contacts  
50 cycles min. for 0.00020 [.000008] gold plated contacts

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**Technical Documents**

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Various technical documents are available for your use.

**Product Specifications** describe technical performance characteristics and verification tests. They are intended for the Design, Component and Quality Engineer.

108-5296 AMPMODU 2mm Pitch Board-to-Board Connector

108-51001 AMPMODU 2mm Pitch Board-to-Board Connector

108-51004 AMPMODU 2mm Pitch Connector, SMT Type Post Header, Board-to-Board

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**Part Number Index**

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**Note:** This part number index lists all cataloged parts by base number only. Complete part numbers (with prefixes and/or suffixes) are shown on the pages indicated.

Part No.	Page No.
84022	6, 7
84023	6, 7
84024	6, 7
84025	6, 7
84094	8
84104	9
84108	10
84110	11
84129	17
84140	19
84156	12
84198	18
176135	14, 15
176136	16, 17
176264	2, 3
176837	4, 5
178698	4, 5
178751	2, 3

## Receptacle Assemblies, Double Row, Vertical Mount (Continued)

### Closed Top Entry

No. of Positions	Dimensions		Receptacle Assembly Part Numbers			
			Lead Length L = 1.2 [.05]**		Lead Length L = 2.6 [.10]**	
	A	B	Contact Plating		Contact Plating	
			Duplex A	Duplex B	Duplex A	Duplex B
22	22.0 .87	20.0 .79	176135-9	3-176135-3	2-176135-1	4-176135-5
24	24.0 .94	22.0 .87	1-176135-0	3-176135-4	2-176135-2	4-176135-6
26	26.0 1.02	24.0 .94	1-176135-1	3-176135-5	2-176135-3	4-176135-7
28	28.0 1.10	26.0 1.02	5-176135-0	5-176135-6	5-176135-3	5-176135-9
30	30.0 1.18	28.0 1.10	5-176135-1	5-176135-7	5-176135-4	6-176135-0
32	32.0 1.26	30.0 1.18	1-176135-2	3-176135-6	2-176135-4	4-176135-8
34	34.0 1.34	32.0 1.26	6-176135-1	6-176135-7	6-176135-4	7-176135-0
36	36.0 1.42	34.0 1.34	7-176135-3	8-176135-5	7-176135-9	9-176135-1
38	38.0 1.50	36.0 1.42	7-176135-4	8-176135-6	8-176135-0	9-176135-2
40	40.0 1.57	38.0 1.50	6-176135-2	6-176135-8	6-176135-5	7-176135-1
42	42.0 1.65	40.0 1.57	7-176135-5	8-176135-7	8-176135-1	9-176135-3
44	44.0 1.73	42.0 1.65	7-176135-6	8-176135-8	8-176135-2	9-176135-4
46	46.0 1.81	44.0 1.73	7-176135-7	8-176135-9	8-176135-3	9-176135-5
48	48.0 1.89	46.0 1.81	7-176135-8	9-176135-0	8-176135-4	9-176135-6
50	50.0 1.97	48.0 1.89	6-176135-3	6-176135-9	6-176135-6	7-176135-2

\*\*1.2 [.05] lead length for use with 0.3 [.01] max. thick PC boards;  
2.6 [.10] lead length for use with 1.6 [.062] thick PC boards.