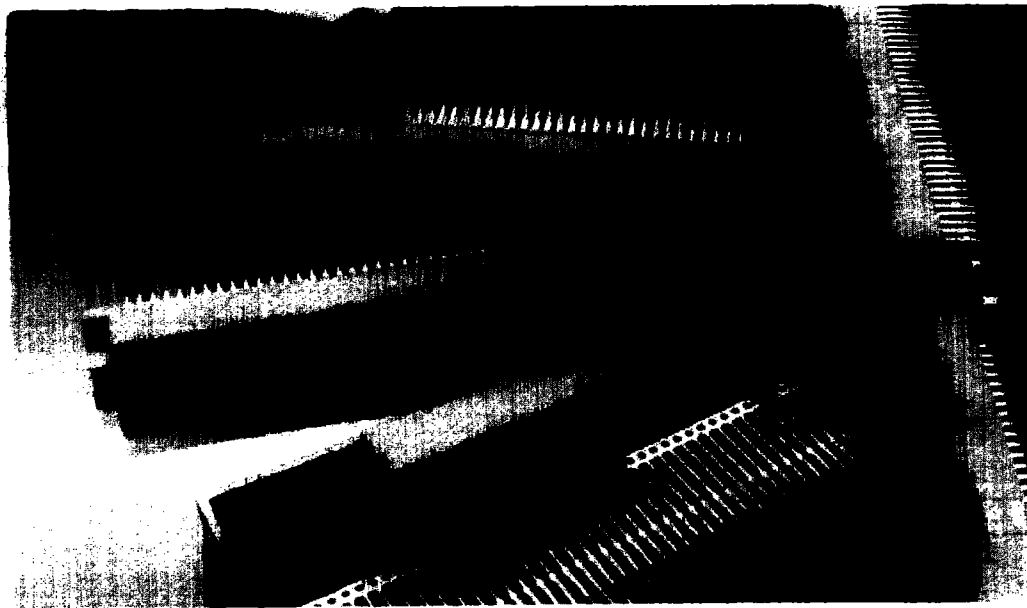


Board to Board Connectors
AMP HD-Mini Board to Board Connectors

Features

- Compact and rugged high-density multiposition interconnection system.
- Capable of connecting printed circuit boards in parallel with or at a right angle to one another.
- Receptacle connector is preloaded with cantilever receptacle contacts designed to mate posts with a short spring and a long spring members.
- Vertical mounting connector is a 160 position connector with posts of either 5mm or 13.7mm long.
- Horizontal mounting connectors are available in three sizes of 160 positions with contacts preloaded in 4 rows, 120 positions with contacts in 3 rows and 80 positions with contacts in 2 rows.
- Though having 4 rows of contacts, connector can provide a 3-dimensional packaging as close as 12.7mm of spacing between boards.
- Posts are of ACTION PIN design and come in reeled strip form or as a 40-pin comb.
- ACTION PIN can be reinserted into the board hole up to three times and is capable of being replaced at each circuit position.
- Insertion of pins into the back board can be fully automated because post housing is applied after posts have been inserted into the board.



- For mounting two or more horizontal-type connectors onto the board, positioning projections are provided at the bottom of mounting sections to ensure high dimensional accuracy between connectors.

AMP HD-Mini Board to Board Connectors are versatile interconnection systems that connect printed circuit boards in parallel with or at a right angle to one another. They consist of a Receptacle Connector for either vertical or horizontal mounting and a Post Header of AMP's unique ACTION PIN design to mate with it. These connectors features an extremely low insertion and withdrawal forces despite their being multi-contact connectors. The Receptacle Connector is preloaded with receptacle contacts with soldering post which mate with

the posts with a short spring member and a long spring member, producing a good electrical connection with the mating posts. The Post Header installation is made in two steps — firstly ACTION PIN posts are inserted into board holes (finished hole dia. : 0.8mm) then the post housing is installed. Posts are available either in strip form or as a 40-pin comb. This ACTION PIN can be reinserted into the board hole up to three times and is capable of being replaced at each circuit position. The vertical-type Receptacle Connector is a 160-position connector with a choice of post length of 5mm or 13.7mm. The horizontal-type Receptacle Connector is available in three sizes, 160 positions with contacts preloaded in 4 rows, 120 positions with contacts in 3 rows and 80 positions with contacts in 2 rows.

Performance Data

Voltage rating : 350V DC, 250V AC

Current rating : 15A max. per contact

Operating temperature : -20 to +85° C (including connector temperature rise)

Connector durability : 100 cycles max.

Low level resistance : (max.mΩ)

Measuring location	Init.	Final
A Row	15	20
B Row	13	18
C Row	11	16
D Row	10	15

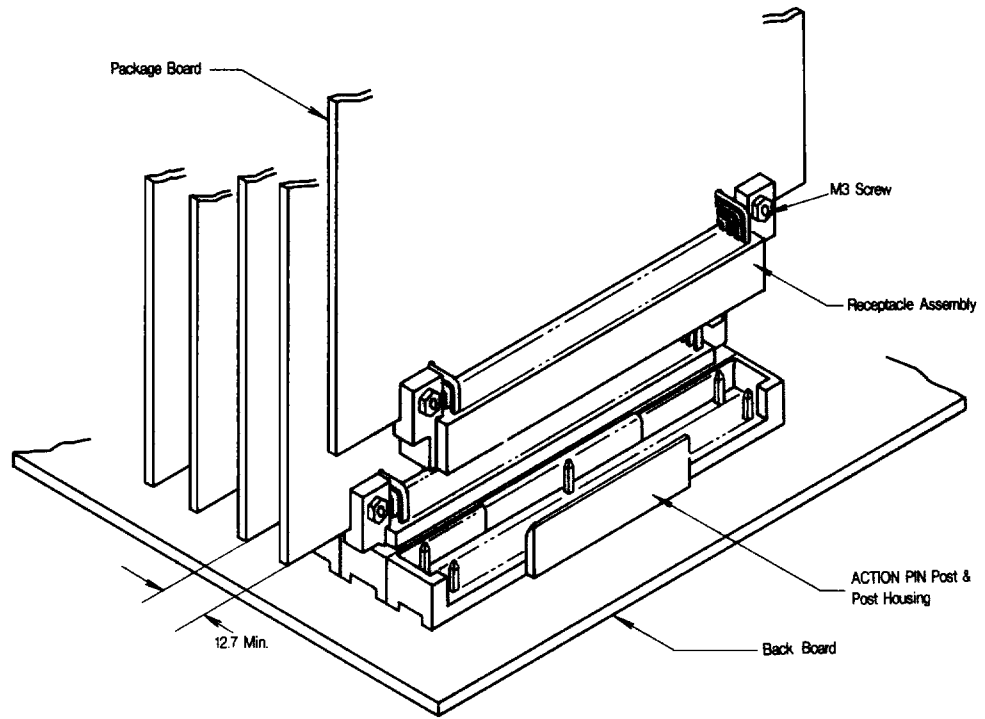
Insuration resistance : 1.000MΩ max.(DC500V)

Dielectric withstanding voltage : 1.000V AC for 1 minute min.

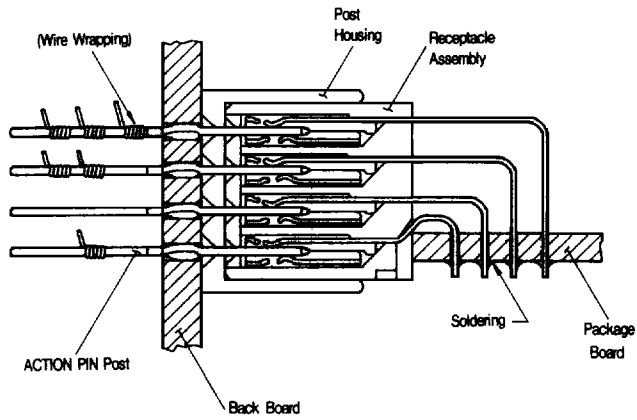
■ **Product Spec.:** 108-5135

Board to Board Connectors
AMP HD-Mini Board to Board Connectors

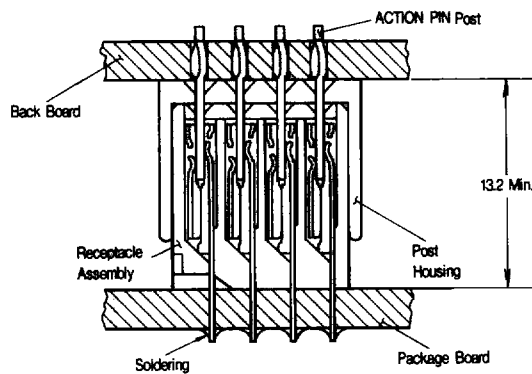
Typical Applications



Horizontal Mount Type



Vertical Mount Type

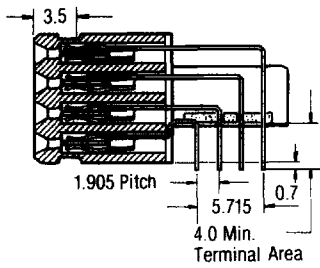


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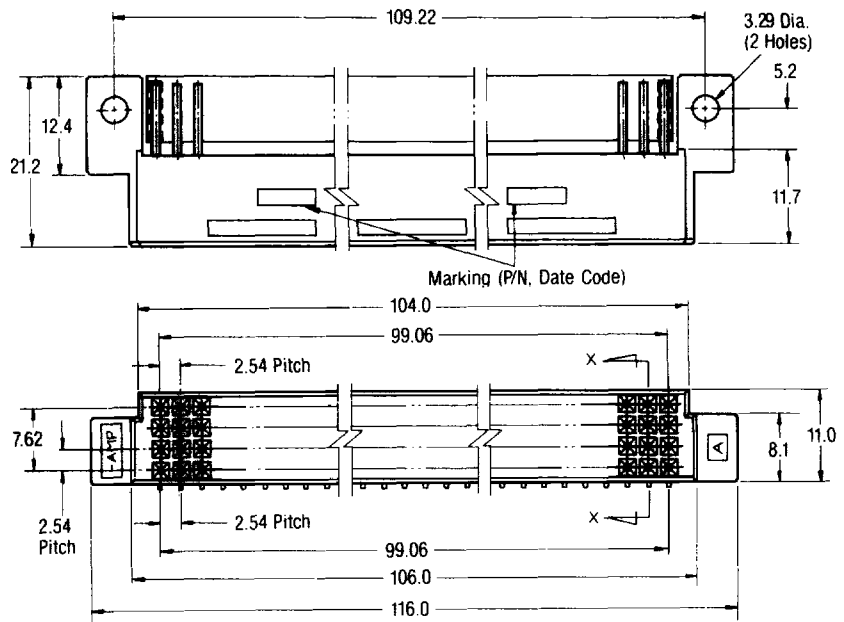
Board to Board Connectors
AMP HD-Mini Board to Board Connectors

Horizontal Mount Type Receptacle Assemblies

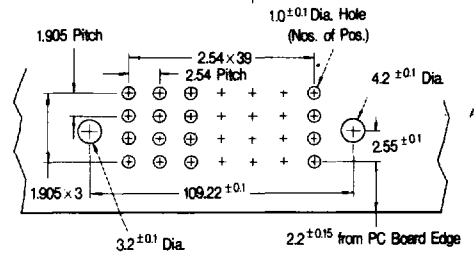
Material & Finish :
 Housing—P.B.T., Green
 Contact—Phosphor bronze,
 0.8μm gold over 1.3μm
 nickel underplate



Section X-X



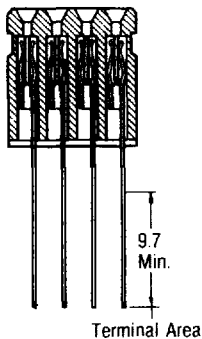
Nos. of Position	Part Nos. of Receptacle Assemblies
80 (Loaded 2 Rows)	174311-3
120 (Loaded 3 Rows)	174311-2
160 (Loaded All of 4 Rows)	174311-1



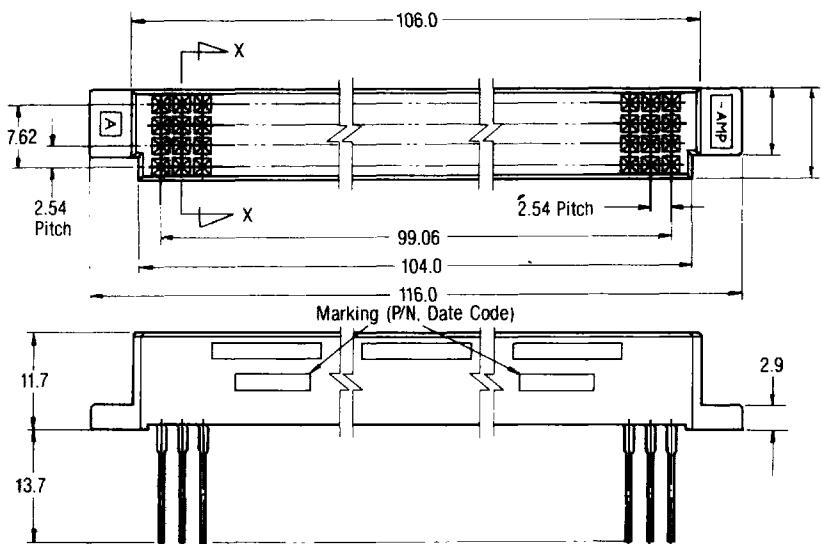
PC Board Layout
 (Connector Mounting Side)
 PC Board Thickness : 2.5mm Max.

Vertical Mount Type Receptacle Assemblies
160 Positions

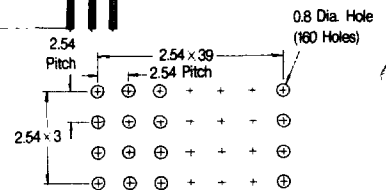
Material & Finish :
 Housing—P.B.T., Green
 Contact—Phosphor bronze
 0.8μm gold over 1.3μm
 nickel underplate



Section X-X



Post Length Dim. A	Part Nos. of Receptacle Assemblies
13.7	175665-1



PC Board Layout
 PC Board Thickness : 3.5mm Max.

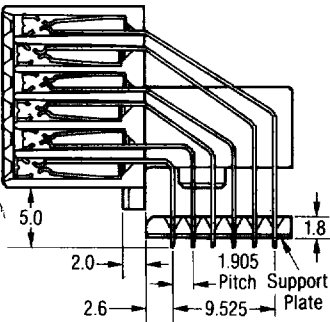
Board to Board Connectors
AMP HD-Mini Board to Board Connectors

Horizontal Mount
Type, 240 Positions
Receptacle Assemblies

Part Number: 172844-1

Material & Finish:

Housing—Glass-filled PBT green
 Contact—THK. 0.32 Phosphor bronze, 0.8µm gold over contact area, nickel under plated.



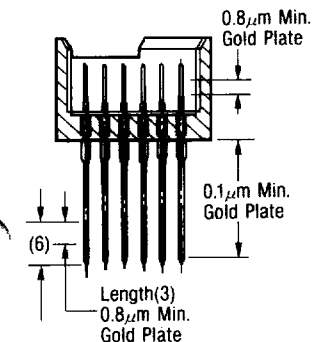
Section X-X

Vertical Mount
Type, 240 Positions
Post Header
Assemblies

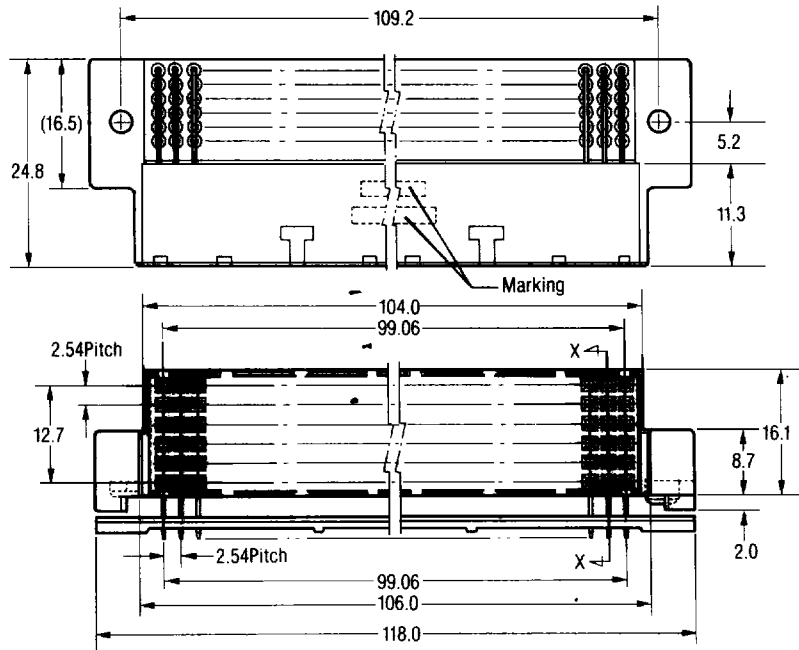
Part Number: 176922-1

Material & Finish:

Housing—PBT, green
 Contact—Copper alloy, zone "C": 0.1µm gold, zone "D": 0.8µm gold, all over nickel 1.3µm min.

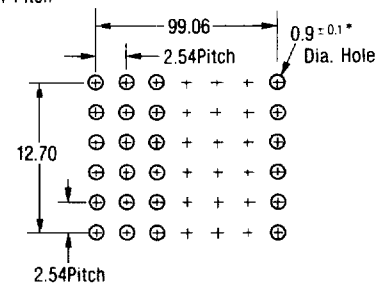
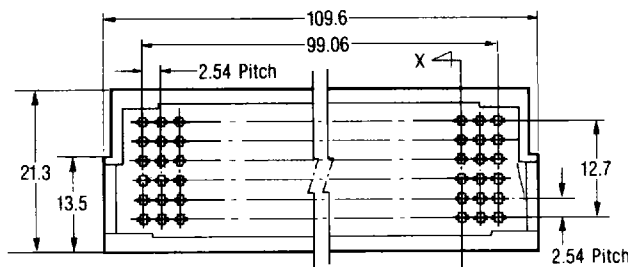
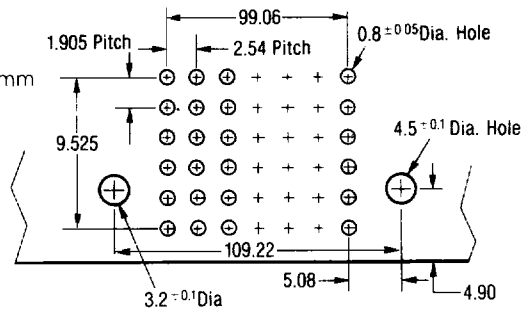


Section X-X



PC Board Layout

(Connector Mounting Side)
 PC Board Thickness: 1.6~4.0mm



PC Board Layout

(Connector Mounting Side)
 PC Board Thickness: 3.2mm Max.

* Drill hole 1.0±0.025 dia.
 Plated through hole 0.9±0.05 dia.



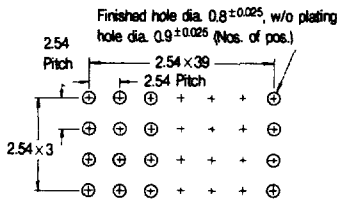
Board to Board Connectors
AMP HD-Mini Board to Board Connectors

ACTION PIN Posts

Material & Finish: CA-725

- ① 1.3μm (min.) nickel plating E.
 Gold flash over C.
 0.8μm (min.) gold plating over B.
 Gold strike plating over minimum D.
- ② 0.5μm (min.) gold plating over B.
 Other sections plate as in ①.

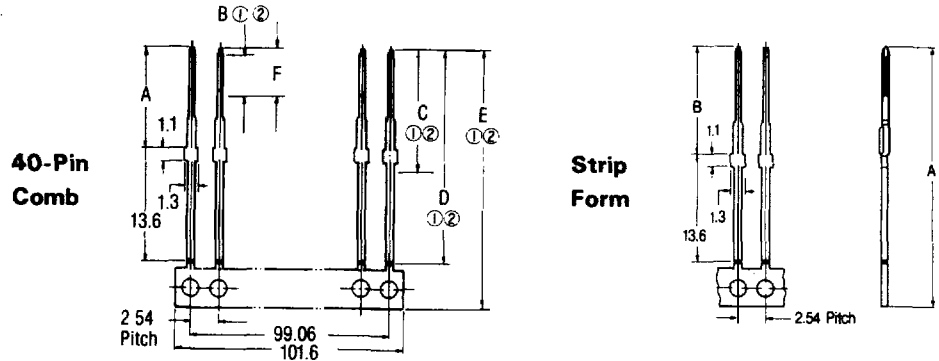
Manual Pin Insertion Tool
Part No. : 752705-1



PC Board Layout
 (Connector Mount Side)
 PC Board Thk.: 2.4~3.8mm

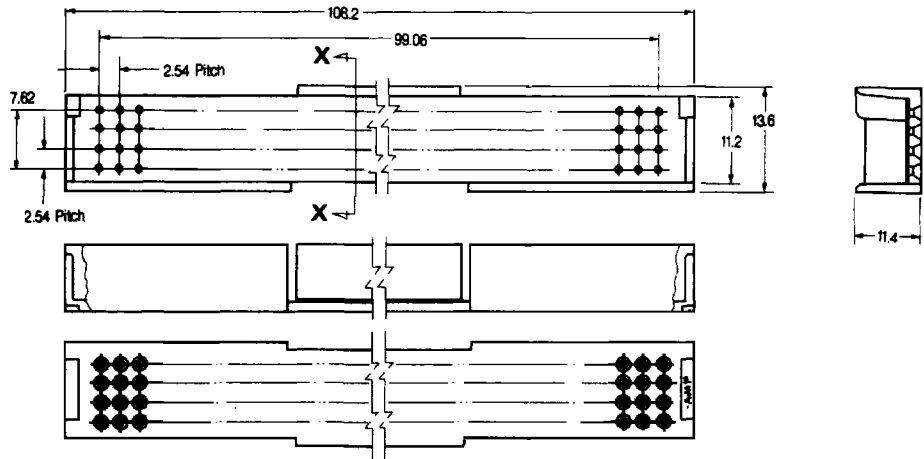
Post Housing

Material : P.B.T., Green
Part No. : 172152-2



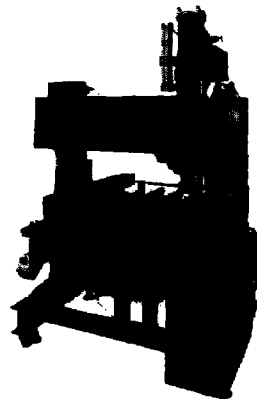
Dimensions						Plating Cord	Part Nos. of ACTION PIN Posts	
A	B	C	D	E	F		40-Pin Comb	Strip Form
11.8	6.0	11.8	25.4	29.4	6.0	①	172148-3	172147-4
						Unplated version of P/N □-3		
						②	172148-7	172147-7
13.7	5.5	13.7	27.3	31.3	7.0	①		172147-8
						②	172148-6	172147-9

*Tape mounted 40-pin comb



Application Tooling

AMP H Frame
Connector
Insertion Machine
P/N: 918000



Note: We under take work of applying ACTION PIN posts and post housings to the printed circuit board under customer's specifications at his expense.
 For details, please contact our Sales Department.