Specifications subject to change.
For latest design specifications...
1-800-522-6752

Micro-Strip Interconnection System

(.050 x .100 [1.27 x 2.54] centerline)

AMP Micro-Strip connectors are a high density controlled impedance connector family, compatible with requirements of high density and high speed data transmission technologies.

Each signal line within the mated connector is located at a specific distance from an integral, separable bus bar serving as a ground plane in a Micro Strip configuration. Selection of housing dielectric, spacing from signal contact to ground plane and conductor geometry provide a characteristic impedance plus very low inductance and capacitance.

Discontinuities resulting from connector structure and solder interfaces are dimensionally small and therefore appear transparent to high speed signals. Both vertical and right angle cable to board connector versions of AMP Micro-Strip connectors share a normal impedance of 50 ohms.

Each one inch length of connector houses two electrically isolated high current contacts. When soldered to the PCB ground plane, that ground plane is extended through the mated connector.

Resistance is minimized by a large contact area and short electrical length, providing signal return paths with negligible ground loop voltages. Since signal return is via the bus bars, signal-ground-signal alternation, common to high speed applications, becomes unnecessary. All contacts can be dedicated to signal transmission, effectively doubling connector density.

Product Facts

- Designed for High Speed Applications
- Provides controlled impedance
- Low inductance
- High density
- Board to Board parallel and right angle to board configurations available in 40 to 240 positions
- Cable to board system in sizes 20 to 120 positions
- Vertical and right angle board mount receptacles for cable connectors
- Connector housings are keyed
- Latching and Keying options available
- Board mount product is compatible with standard through-hole flow solder and vapor phase reflow solder processes
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189
- Product Specifications 108-1252 (Cable to Board) 108-1272 (Board to Board)

Dimensioning:
Dimensions are in inches and millimeters. Values in brackets are metric equivalents.

Board to Board Application

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches and millimeters. Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimeters.

Vertical Plug

Housing Material:

Black, high temperature thermoplastic, flame retardant

Bus Bar Material and Finish:

Phosphor bronze alloy plated .000030 [0.00076] gold over .000050 [0.00127] nickel in the mating area, .00015 [0.00381] 60/40 tin-lead over .00025 [0.00635] nickel in terminating area over .00050 [0.0127] nickel plate on the entire bus

Signal Pin Material and Finish:

Phosphor bronze alloy plated .000030 [0.00076] gold over .000050 [0.00127] nickel in the mating area, .00015 [0.00381] 60/40 tin-lead over .00025 [0.00635] nickel in terminating area over .00050 [0.0127] nickel plate on the entire contact

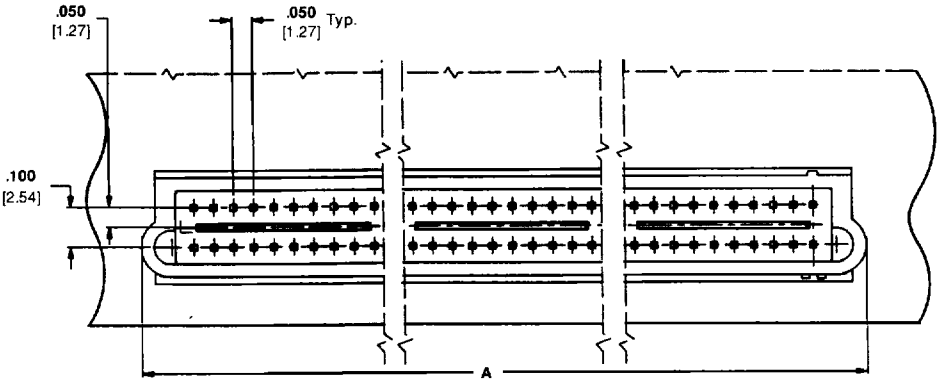
Related Product Data:

Mates with Receptacles — pages 3415 & 3416

Connector — Impedance, 50 ohms ±10% at 1 ns

Configuration — .100 [2.54] signal row to signal row, .050 [1.27] signal to ground, .050 [1.27] signal to signal

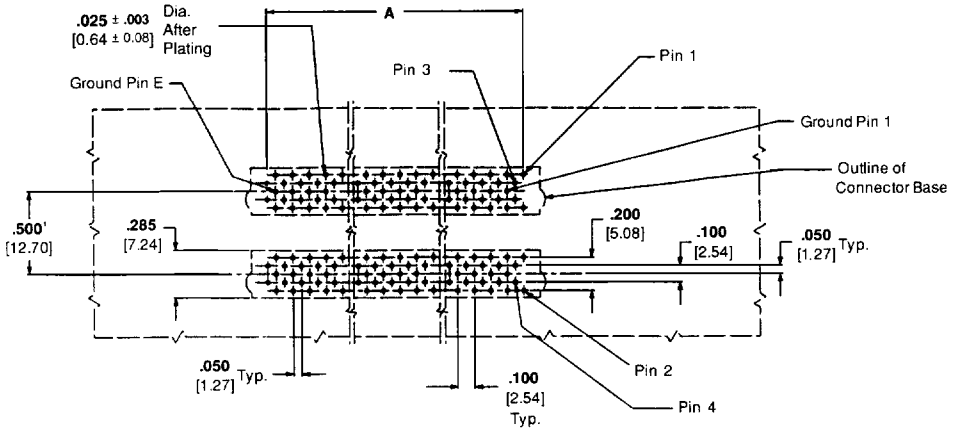
Electrical Testing — Contact AMP Incorporated for crosstalk and impedance profiles



Component Side

No. of Positions	Dimensions A	Dimensions B	Part Numbers .062 [1.58] Thk. PC Board	Part Numbers .125 [3.18] Thk. PC Board
40	**1.21** 30.73	**.950** 24.13	121344-1	2-121344-3
60	**1.71** 43.43	**1.450** 36.83	121344-2	2-121344-4
100	**2.71** 68.83	**2.450** 62.23	121344-4	2-121344-6
140	**3.71** 94.23	**3.450** 87.63	121344-6	2-121344-8
160	**4.21** 106.93	**3.950** 100.33	121344-7	2-121344-9

Recommended PC Board Layout



Component Side of Board

'Min. functional spacing when mated with a Right Angle Receptacle mounted to a .062 [1.58] pc board.

Board to Board Application

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches and millimeters. Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimeters.

Vertical Receptacle

Housing Material:

Black, high temperature thermoplastic, flame retardant

Bus Receptacle Material and Finish:

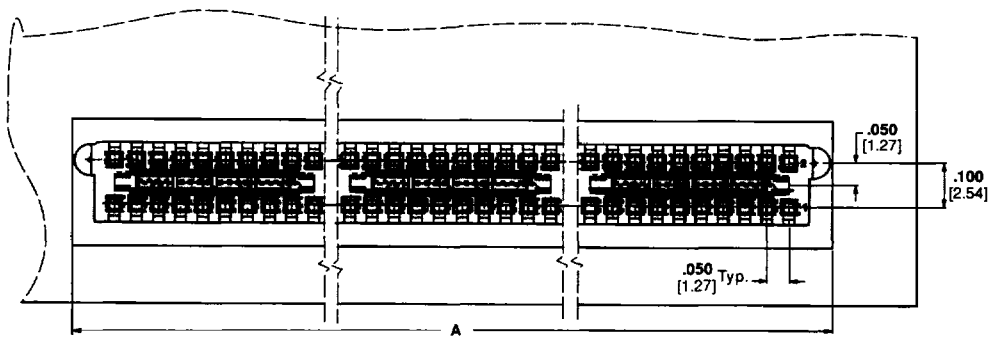
Phosphor bronze alloy plated .000030 [0.00076] gold over .000050 [0.00127] nickel in the mating area, .00015 [0.00381] 60/40 tin-lead over .00025 [0.00635] nickel in terminating area over .00050 [0.0127] nickel plate on the entire bus

Receptacle Contact Material and Finish:

Beryllium copper alloy ½ HM .0070 ±.0004 [0.178 ±0.010] plated .000030 [0.00076] gold over .000050 [0.00127] nickel with .00050 [0.0127] nickel plate on the entire contact

Related Product Data:

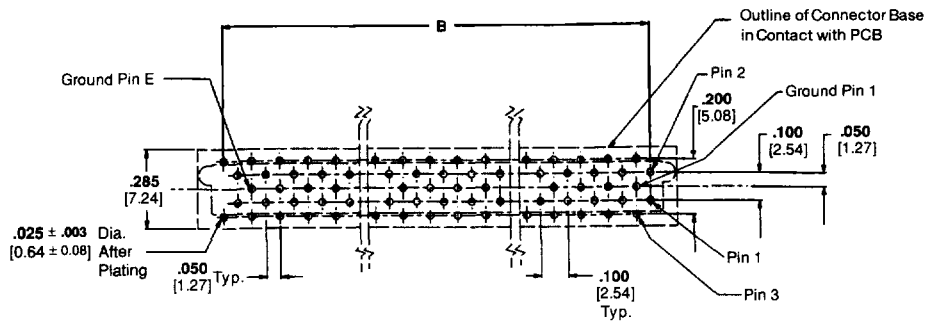
Mates with Plug — page 3414
Connector — Impedance, 50 ohms ±10% at 1 ns
Configuration — .100 [2.54] signal row to signal row, .050 [1.27] signal to ground, .050 [1.27] signal to signal
Electrical Testing — Contact AMP Incorporated for crosstalk and impedance profiles



Component Side

No. of Positions	Dimensions A	Dimensions B	Part Numbers .062 [1.58] Thk. PC Board	Part Numbers .125 [3.18] Thk. PC Board
40	**1.140** 28.96	**.950** 24.13	121340-1	2-121340-3
60	**1.640** 41.66	**1.450** 36.83	121340-2	2-121340-4
100	**2.640** 67.06	**2.450** 62.23	121340-4	2-121340-6

Recommended PC Board Layout



Component Side of Board

Right-Angle Receptacle

Bus Receptacle Material and Finish:

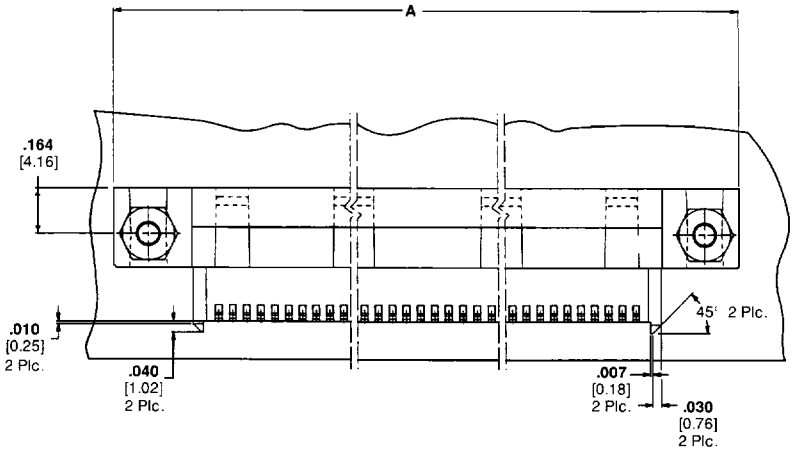
Phosphor bronze alloy plated .000030 [0.00076] gold over .000050 [0.00127] nickel in the mating area, .00015 [0.00381] 60/40 tin-lead over .00025 [0.00635] nickel in terminating area over .00050 [0.0127] nickel plate on the entire bus

Receptacle Contact Material and Finish:

Beryllium copper alloy 1/2 HM .0070 ±.0004 [0.178 ±0.010] plated .000030 [0.00076] gold over .000050 [0.00127] nickel with .00050 [0.0127] nickel plate on the entire contact

Related Product Data:

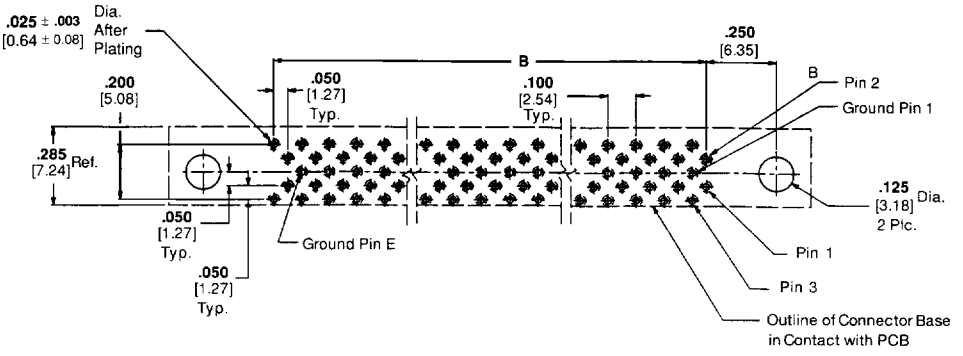
Mates with Plug — Plug, page 3414
Connector — Impedance, 50 ohms ±10% at 1 ns
Configuration — .100 [2.54] signal row to signal row, .050 [1.27] signal to ground, .050 [1.27] signal to signal
Electric Testing — Contact AMP Incorporated for crosstalk and impedance profiles



Component Side

No. of Positions	Dimensions A	Dimensions B	Part Numbers .062 [1.58] Thk. PC Board	Part Numbers .125 [3.18] Thk. PC Board
40	**1.700** 43.18	**.950** 24.13	121330-1	2-121330-3
140	**4.200** 27.94	**3.455** 9.02	121330-6	2-121330-8
160	**4.700** 35.56	**3.950** 9.40	121330-7	2-121330-9

Recommended PC Board Layout



Component Side of Board

Cable to Board Application

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches and millimeters. Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimeters.

Vertical Receptacle

Housing Material:

Black, high temperature thermoplastic, flame retardant

Bus Receptacle Material and Finish:

Phosphor bronze alloy plated .000030 [0.00076] gold over .000050 [0.00127] nickel in the mating area, .00015 [0.00381] 60/40 tin-lead over .00025 [0.00635] nickel in terminating area over .00050 [0.0127] nickel plate on the entire bus

Contact Material and Finish:

Beryllium copper alloy plated .000030 [0.00076] gold min. in contact area over .000050 [0.00127] min. nickel on the entire contact

Related Product Data:

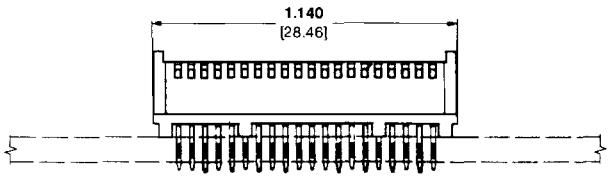
Cable Assembly Ordering Information — page 3420

Connector — Impedance, 50 ohms ±10% at 1 ns

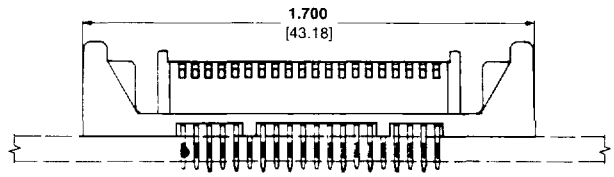
Configuration — .100 [2.54] signal row to signal row, .050 [1.27] signal to ground, .050 [1.27] signal to signal

Electrical Testing — Contact AMP Incorporated for crosstalk and impedance profiles

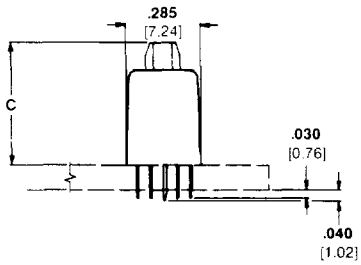
40 Position



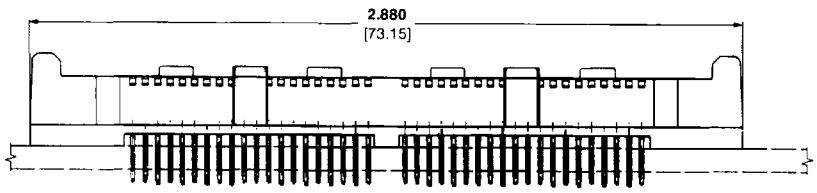
Plain



With Locking Latch

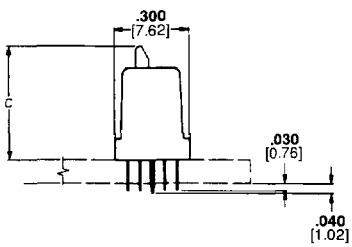


80 Position

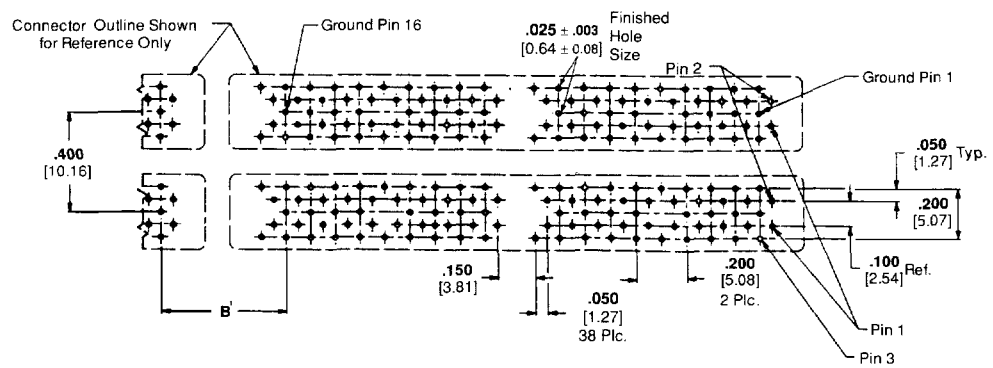


With Locking Latch

No. of Positions	Dimensions B	Dimensions C	Part Numbers .062 [1.58] Thk. PC Board	Part Numbers .125 [3.18] Thk. PC Board
40 Plain	.950 24.13	.320 8.13	121286-1	121286-3
40 W/Latch	1.100 27.94	.355 9.02	121286-6	121286-8
80 W/Latch	1.400 35.56	.370 9.40	121288-6	121288-8



Recommended PC Board Layout — 80 Position Connector



Component Side of Board

[1]Min. functional spacing.

3 Printed Circuit Board Connectors

Cable to Board Application

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches and millimeters. Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimeters.

Right Angle Receptacle

Housing Material:

Black, high temperature thermoplastic, flame retardant

Bus Receptacle Material and Finish:

Phosphor bronze alloy plated .000030 [0.00076] gold over .000050 [0.00127] nickel in the mating area, .00015 [0.00381] 60/40 tin-lead over .00025 [0.00635] nickel in terminating area over .00050 [0.0127] nickel plate on the entire bus

Contact Material and Finish:

Beryllium copper alloy plated .000030 [0.00076] gold min. in contact area over .000050 [0.00127] min. nickel on the entire contact

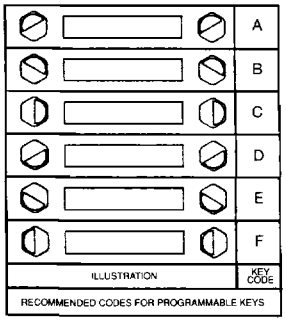
Related Product Data:

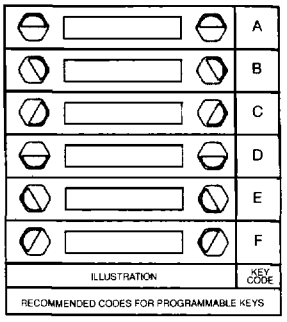
Cable Assembly Ordering Information — page 3420

Connector — Impedance, 50 ohms ±10% at 1 ns

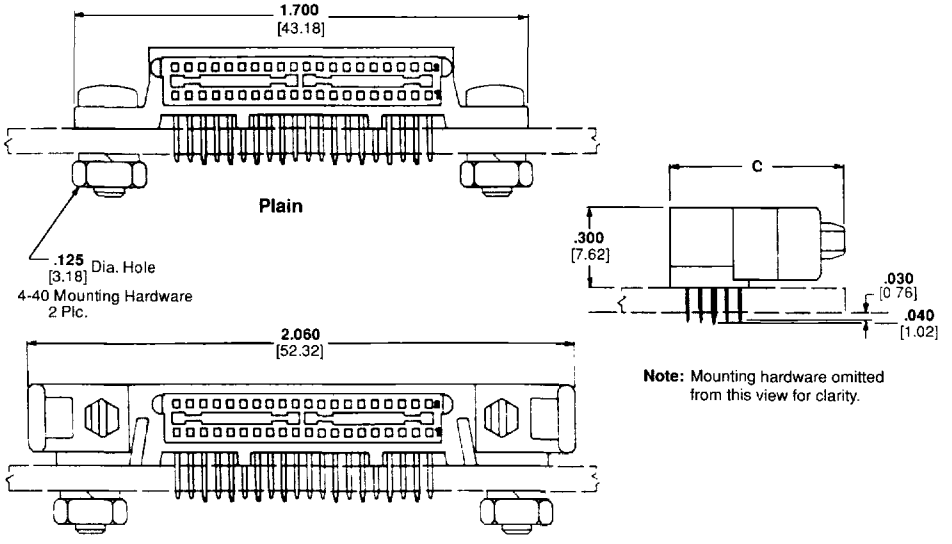
Configuration — .100 [2.54] signal row to signal row, .050 [1.27] signal to ground, .050 [1.27] signal to signal

Electrical Testing — Contact AMP Incorporated for crosstalk and impedance profiles





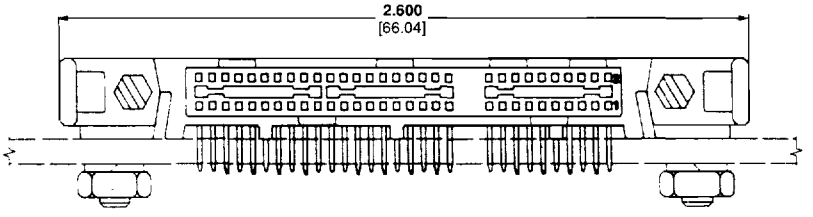
40 Position



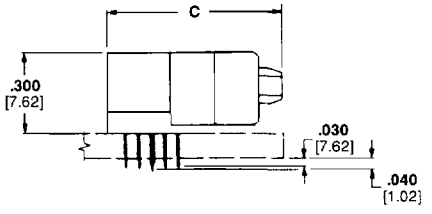
Note: Mounting hardware omitted from this view for clarity.

With Locking Latch & Programmable Key

60 Position



With Locking Latch & Programmable Key



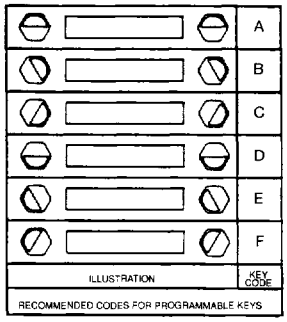
Note: Mounting hardware omitted from this view for clarity.

No. of Positions	Dimensions B	Dimensions C	Part Numbers .062 [1.58] Thk. PC Board	Part Numbers .125 [3.18] Thk. PC Board
40 Plain	.950 24.13	.520 13.21	121281-1	121281-3
40 W/Latch, Key	1.700 43.18	.665 16.89	1-121281-1	1-121281-3
60 W/Latch, Key	1.700 43.18	.665 16.89	1-121282-1	1-121282-3

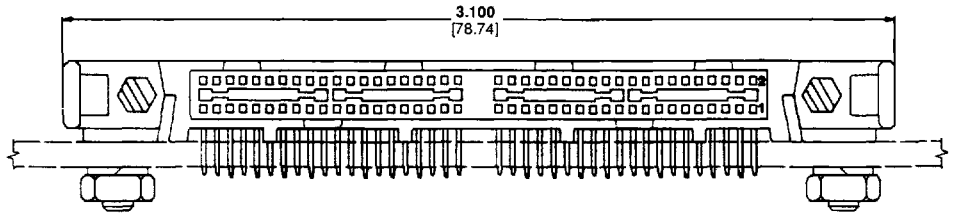
Cable to Board Application
(Continued)

Specifications subject to change.
For latest design specifications...
1-800-522-6752

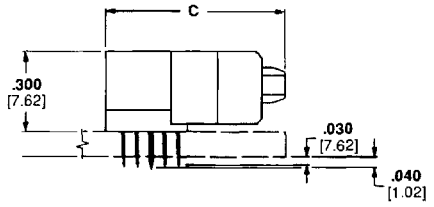
Dimensioning:
Dimensions are in inches and millimeters.
Values in brackets are metric equivalents.



80 Position

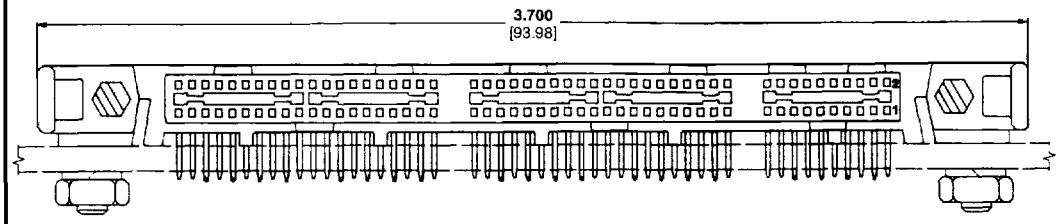


With Locking Latch & Programmable Key



Note: Mounting hardware omitted from this view for clarity.

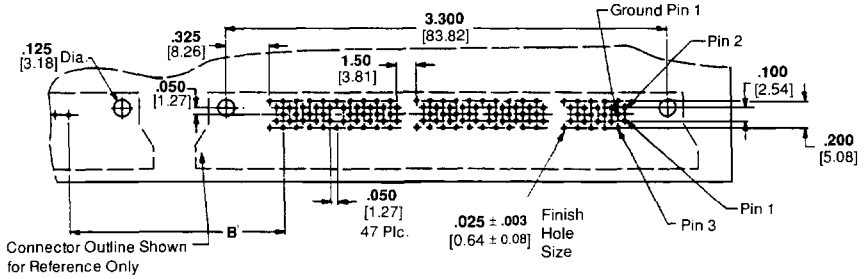
100 Position



With Locking Latch & Programmable Key

No. of Positions	Dimensions B	Dimensions C	Part Numbers .062 [1.58] Thk. PC Board	Part Numbers .125 [3.18] Thk. PC Board
80 W/Latch, Key	1.700 43.18	.665 16.89	1-121283-1	1-121283-3
100 W/Latch, Key	1.700 43.18	.665 16.89	1-121284-1	1-121284-3

Recommended PC Board Layout



Component Side of Board

[1]Min. functional spacing.

3 Printed Circuit Board Connectors

Cable Assembly

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches and millimeters. Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimeters.

Material Specifications

Housing Material:

Black, high temperature thermoplastic, flame retardant

Signal Contacts:

Phosphor bronze with .000030 [.000762] min. select gold over .000030 [.000762] min. nickel plate, in contact area

Ground Bus:

Brass with .000030 [.000762] min. select gold plate over .000030 [.000762] min. nickel plate, in contact area

Electrical Specifications

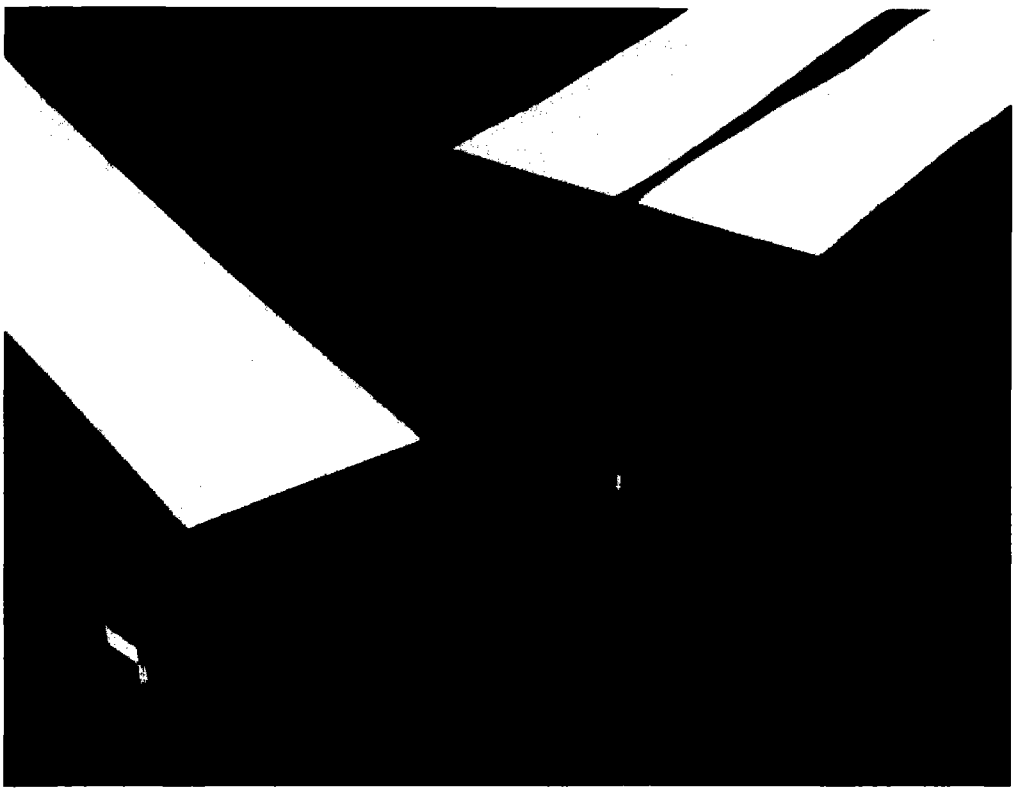
Impedance — 50 ohms ±10% at 1 ns

Propagation delay — 1.45±.03 ns/ft [4.757±.098 ns/m]

Cable insulation material — FEP or equivalent

Conductor resistance — .144 ohms/ft [.472 ohms/m]

Configuration — Signal ground signal (Planar Transmission) Signals are on .025 [0.64] spacing

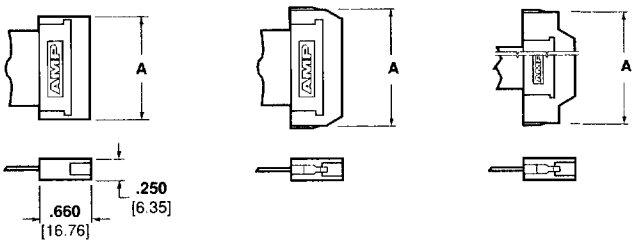


Cable Assembly Ordering Information

No. of Pos.	Dimension A		
	Plain	Latch	Latch/Key
20	—	—	**1.420** 36.07
40	**1.320** 33.50	**1.500** 38.10	**1.920** 48.77
60	—	—	**2.460** 62.48
80	—	**2.620** 66.55	**2.960** 75.18
100	—	**3.220** 81.79	**3.560** 90.42

Notes: 1. Assembly length is measured from mating face to mating face of cable connector.
2. Minimum cable assembly length is 3.00 [76.2].
3. Cable assemblies mate with cable-to-board receptacles only.

20, 40 Position



Plain Latch Latch/Key

60, 80, 100 Position