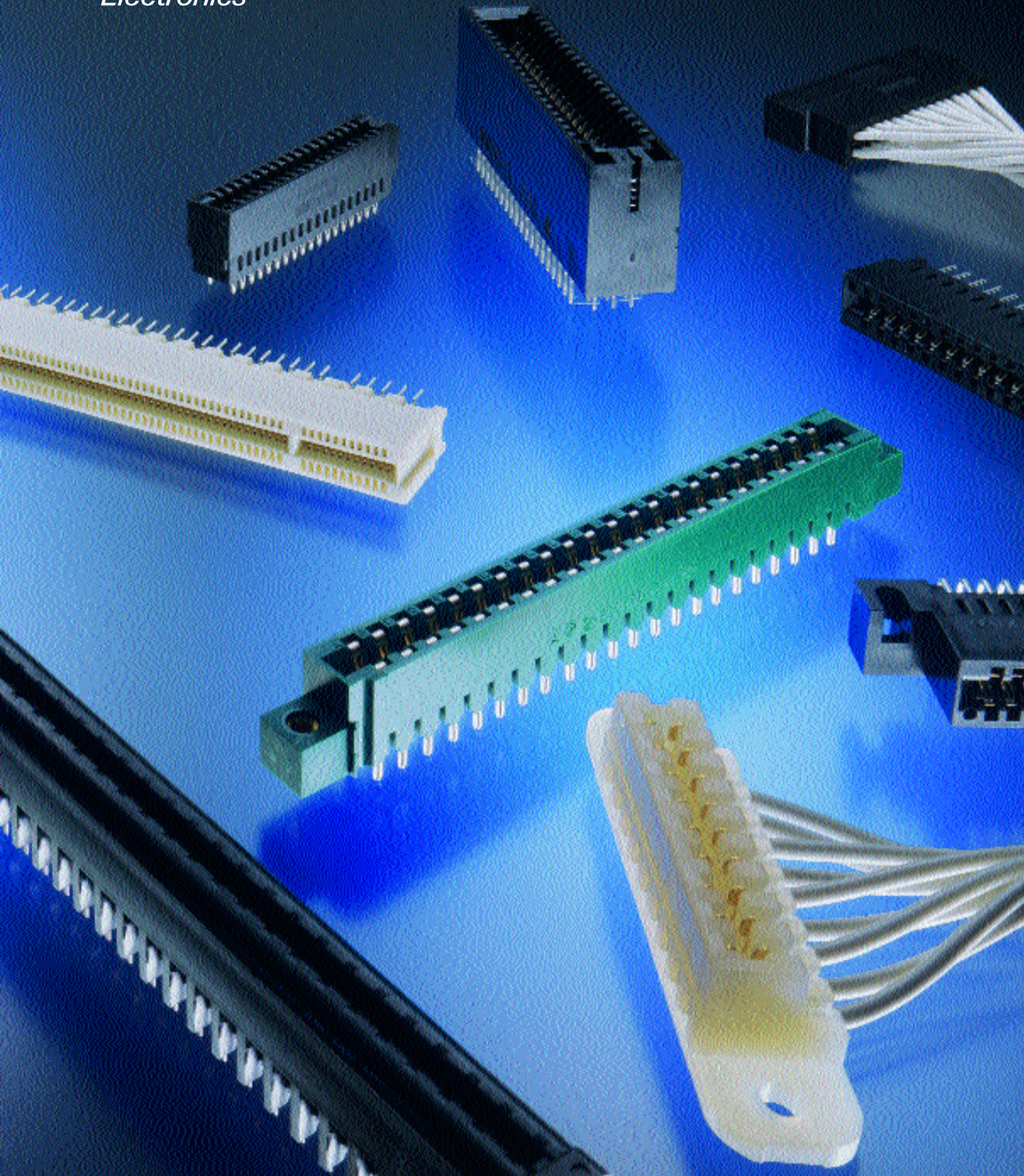


tyco

Electronics

Card Edge Connectors
Catalog 1654080 Issued 7-03

AMP



Introduction

This catalog contains product descriptions of AMP Card Edge Connectors. These connectors are presented in three groups: Solder Type Board-to-Board, Press-fit Board-to-Board, and Wire-to-Board connectors.

To assist you in the selection of the appropriate connector for your application, a selection guide is provided at the beginning of each section. See the Table of Contents on the following page for the exact location.

A comprehensive description and features of a partic-

ular printed circuit board connector family are provided at the beginning of that section. Various technical documents are referenced in the connector family sections and are listed and described at the rear of this catalog.

The Tyco Electronics products presented in this catalog are designed and manufactured according to the highest possible standards of quality and craftsmanship. They offer optimum reliability at the lowest possible cost.

Need more information?

Call Technical Support at the numbers listed at the bottom of the catalog pages.

Technical Support is staffed with specialists well versed in Tyco Electronics products. They can provide you with:

- Technical Support
- Catalogs
- Technical Documents
- Product Samples
- Tyco Electronics Authorized Distributor Locations

Dimensioning:

Dimensions are in inches and millimeters unless specified otherwise. Values in brackets are metric equivalents.

Metric symbols used are:

- m (meter)
- mm (millimeter)
- mm² (square millimeter)
- kg (kilogram)
- C (Celsius)
- N (newton)

Note: Dimensions in this catalog are for reference purposes only. Customer drawings are available upon request.

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Table of Contents

Solder Type Board-to-Board Connectors

Introduction2
 Selection Guide4-6

Standard Edge Series Connectors

Standard Edge .050 PCI Card Edge Connectors7-10
 Standard Edge .050 Series Connectors11-14
 Standard Edge II Connectors15-27

Cantilever Beam Dip Solder Tails Overview

.....28
 .100" [2.54] Centerline29-34
 .125" [3.18] Centerline35-37
 .156" [3.96] Centerline38-40

Modified Bellows Contact Overview

.....41
 .100" [2.54] Centerline42-47
 .125" [3.18] Centerline48-52
 .156" [3.96] Centerline53-56

Polarization Keys

.....57

Standard Daughter Card Layout

.....57

Low Profile Connectors

.....58-63

Twin Leaf Mother Board Connectors

.....64-72

Rotary Cam ZIF Connectors

.....73-82

Linear ZIF Connectors

.....83-96

Press-Fit Board-to-Board Connectors

ACTION PIN Press-Fit Contacts97
 AMP PACE Connectors98-115
 TELEDENSITY Connectors116-118
 ECONOMATE Connectors119-126

Cantilever Beam Press-Fit Connectors Overview

.....127
 .050" [1.27] High Density128-129
 .100" [2.54] Centerline130-140
 .125" [3.18] Centerline141-144
 .156" [3.96] Centerline145-148
 Application Tooling149-151

Wire-to-Board Connectors

Introduction152
 Selection Guide153
 Crimp Snap Twin Leaf Connectors154-163
 AMP-LEAF Connectors164-172
 High Current Connectors173-176
 DUO-TYNE Flag Connectors177-180
 Printed Circuit Board Connector Hood Assemblies181-183
 Application Tooling184,185

Technical Documents

.....186,187

Part Number Index

.....188-201

Tyco Electronics Related Product Information

.....202

Selection Guide, Board-to-Board Connectors

Selection Guide

Introduction

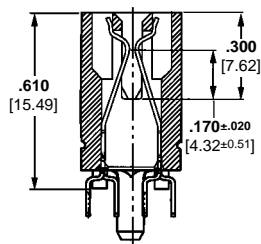
Board-to-board (mother/daughter board) connectors are ideally suited to back-plane wiring or any other application requiring the circuit connection of one printed circuit board to another. Designed to shorten manufacturing time and reduce applied costs, these one-step, pre-assembled connectors are ready for mounting and mass insertion.

Many of the connectors are available with the proven and reliable ACTION PIN contact. This unique contact has superior electrical and physical characteristics that are top of the line in the industry.

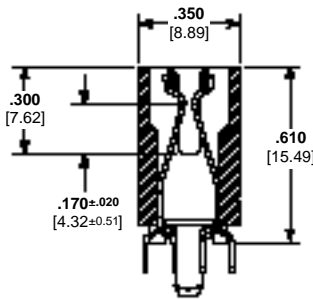
Board-to-board connectors come in a range of contact centerline spacings of .050 [1.27] to .156 [3.96]. A wide range of dual position sizes and post styles are available. One family of connectors features zero insertion force of the daughter board, along with a choice of actuating devices. A variety of housing and contact materials further expands the choice of connectors available to meet many application requirements.

To help in choosing a connector for your application, a Selection Guide is provided on pages 4 through 6.

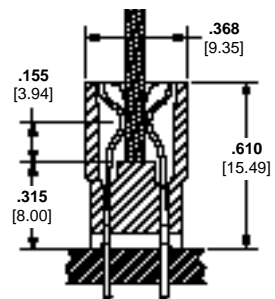
Standard Edge .050 Series PCI Connectors (Pages 7-10)



Standard Edge .050 Series Connectors (Pages 11-14)



Standard Edge II Connectors (.100 and .125 Centerline) (Pages 15-27)



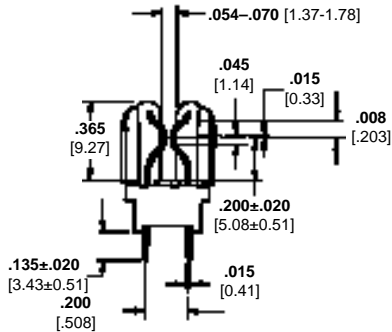
Centerlines

| | | | |
|-------------|---|---|---|
| .050 [1.27] | X | X | |
| .100 [2.54] | | | X |
| .125 [3.18] | | | X |
| .150 [3.81] | | | |
| .156 [3.96] | | | |

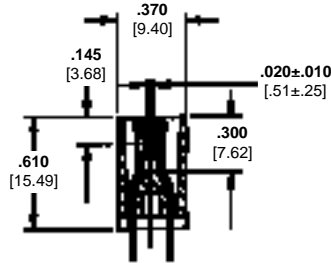
Tail Styles

| | | | |
|--------------------|---|---|---|
| Solder | X | X | X |
| Right-Angle Solder | | | X |
| Wrap-Type | | | X |
| Card Extender | | | X |
| Solder Eyelet | | | |
| Press-Fit | | | |
| Surface-Mount | | | |

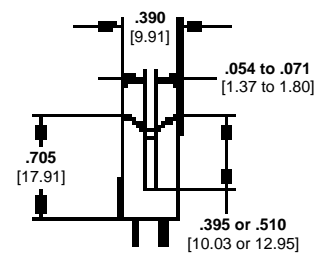
Standard Edge II Connectors (.150 Centerline)
(Pages 15-27)



Cantilever Beam Connectors Standard Housing
(Pages 28-40)



Cantilever Beam Connectors Scoop Housing
(Pages 28-40)



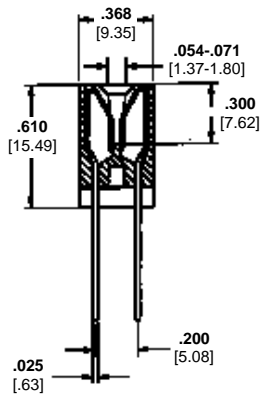
Centerlines

| | | | |
|---|---|---|---------------|
| | | | .050 [1.27] |
| | | | .0625 [1.588] |
| | X | X | .100 [2.54] |
| | X | X | .125 [3.18] |
| X | | | .150 [3.81] |
| | X | X | .156 [3.96] |

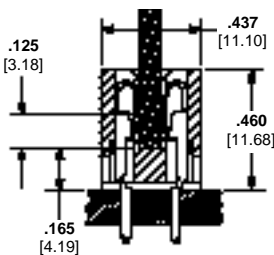
Tail Styles

| | | | |
|--|---|---|--------------------|
| | | X | Solder |
| | | | Right-Angle Solder |
| | | | Wrap-Type |
| | | | Card Extender |
| | | | Solder Eyelet |
| | X | X | Press-Fit |
| | | | Surface-Mount |

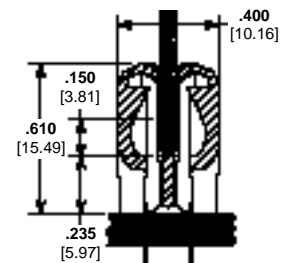
Modified Bellows Connector
(Pages 41-56)



Low Profile Connectors
(Pages 58-63)



Twin Leaf Mother Board Connectors
(Pages 64-72)



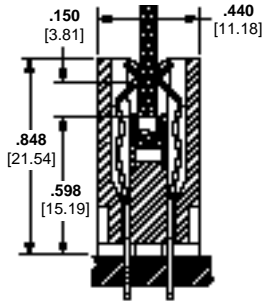
Centerlines

| | | | |
|---|---|---|-------------|
| | | | .050 [1.27] |
| | X | X | .100 [2.54] |
| | X | X | .125 [3.18] |
| | | X | .150 [3.81] |
| X | | X | .156 [3.96] |

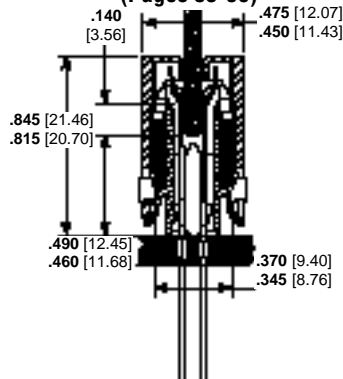
Tail Styles

| | | | |
|--|---|---|--------------------|
| | X | X | Solder |
| | X | | Right-Angle Solder |
| | X | | Wrap-Type |
| | | | Card Extender |
| | | X | Solder Eyelet |
| | | | Press-Fit |
| | | | Surface-Mount |

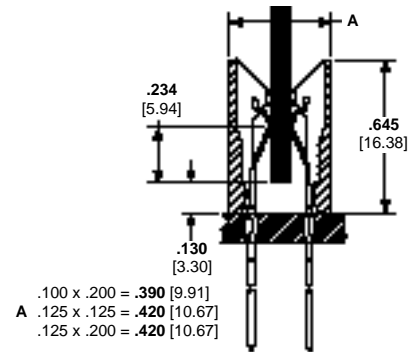
Rotary Cam ZIF Connectors (Pages 73-82)



Linear ZIF Connectors (Pages 83-96)



AMP PACE Connectors, Card Scoop Housing (Pages 98-115)



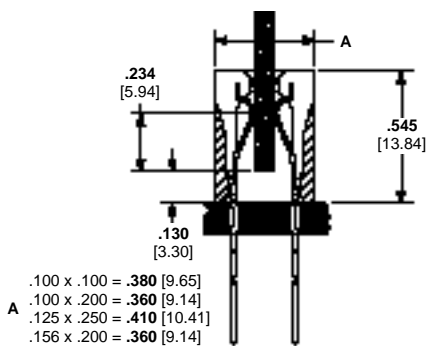
Centerlines

| | | | |
|---------------|---|---|---|
| .050 [1.27] | | | |
| .0625 [1.588] | | | |
| .100 [2.54] | X | | X |
| .125 [3.18] | X | X | X |
| .150 [3.81] | | | |
| .156 [3.96] | X | | |

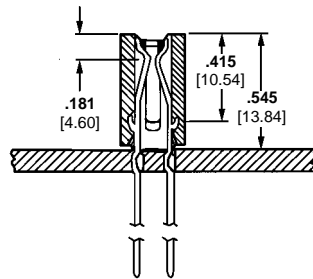
Tail Styles

| | | | |
|--------------------|---|---|---|
| Solder | X | X | |
| Right-Angle Solder | X | | |
| Wrap-Type | X | X | X |
| Card Extender | | | |
| Solder Eyelet | | | |
| Press-Fit | | X | X |
| Surface-Mount | | | |

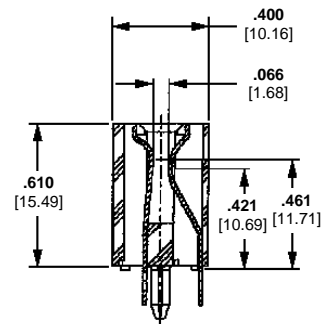
AMP PACE Connectors, Standard Housing (Pages 98-115)



ECONOMATE Connectors (Pages 119-126)



High Density Press Fit Connector For .093 Cards (Pages 128-129)



Centerlines

| | | | |
|---------------|---|---|--|
| .050 [1.27] | | | |
| .0625 [1.588] | | | |
| .100 [2.54] | X | X | |
| .125 [3.18] | X | | |
| .150 [3.81] | | | |
| .156 [3.96] | X | X | |

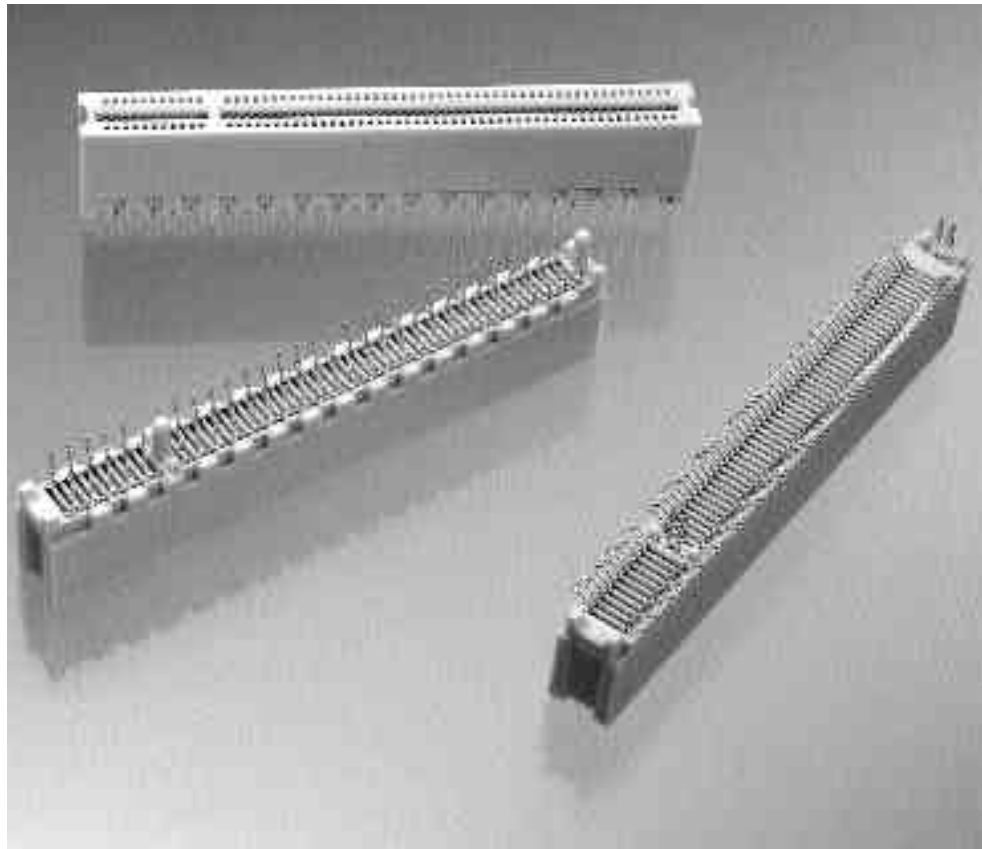
Tail Styles

| | | | |
|--------------------|---|---|---|
| Solder | | | |
| Right-Angle Solder | | | |
| Wrap-Type | X | | |
| Card Extender | | | |
| Solder Eyelet | | | |
| Press-Fit | X | X | X |
| Surface-Mount | | | |

Standard Edge .050 Series PCI Card Edge Connectors

Product Facts

- High density .050 [1.27] centerline contact spacing
- Easy mating of high circuit count daughter boards
- Polarizing web for positive board-to-connector registration
- Choice of plastic pylons or metal holddowns



Connectors that support PCI expansion cards are derived from those on the MicroChannel Architecture (MCA) bus. The MCA connectors are well defined and have proven value and reliability.

There are four connectors that can be used depending upon the PCI implementation. The differences between these connectors are 32 bit and 64 bit, and the 5 volt and 3.3 volt signaling environments. PCI-X is a version of PCI at 133 MHz which is under development and employs standard PCI connectors. PCI-X is limited to 1 slot versus 4 slots of PCI.

A key differentiates the signaling environment voltages. The same physical connector is used for the 32 bit signaling environments. In one orientation, the key accepts 5 volt boards. When rotated 180°, the connector accepts 3.3 volt signaling boards. The pin numbering of the connector changes for the different signaling environments to maintain the same relative position of signals on the connector.

Performance Specifications:

- Durability**—Tested to 100 mating cycles
- Mating Force**—8 oz [2.22 N] max. per contact pair
- Unmating Force**—.5 oz [0.14 N] min. per contact pair
- Contact Resistance**—20 milliohms max. (initial) 30 milliohms max. (final)
- Insulation Resistance**—1000 megohms min.
- Dielectric Withstanding Voltage**—500 VAC (at sea level)
- Capacitance**—2 picofarads max.
- Current Rating**—1 ampere max.
- Voltage Rating**—203 VAC
- Thermal Shock**—-55°C to +85°C for 5 cycles
- Mixed Flowing Gas**—Class II with mated board for 20 days

Technical Documents:

- Product Specification**
108-14034
- Application Specification**
114-26012
- Qualification Test Report**
501-203

Standard Edge .050 Series PCI Card Edge Connectors

Solder Type Board-to-Board Connectors

64 Bit, 5 Volt Signaling

92 Dual Positions with 3 Plastic Pylons or 3 Metal Holddowns

Material and Finish:

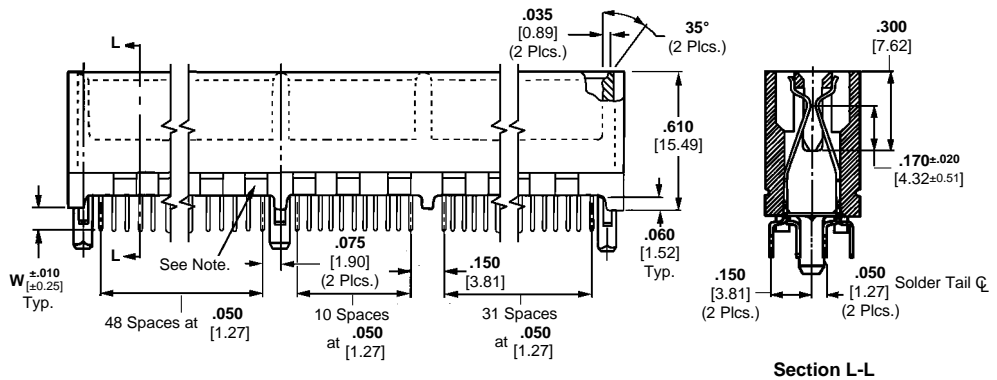
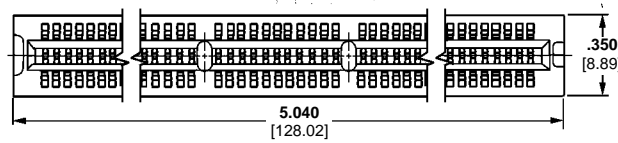
Housing—High temperature thermo-plastic 94V-0 rated, white

Contacts—Phosphor bronze, plated as follows:

Plating B—Duplex plated .000015 [0.00038] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

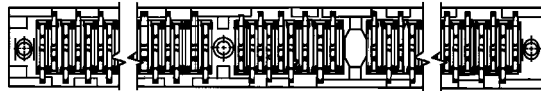
Plastic Pylons



Section L-L

Related Product Data:

Performance Specifications—page 7

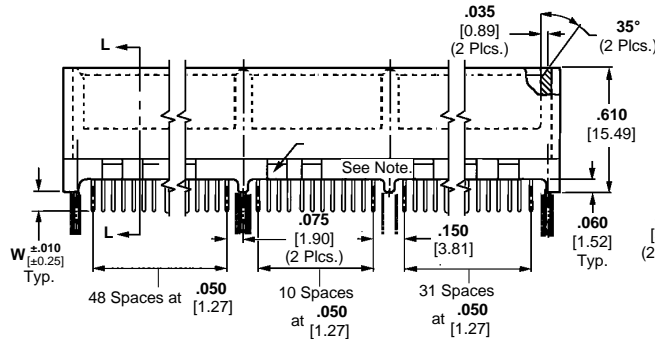


Technical Documents:

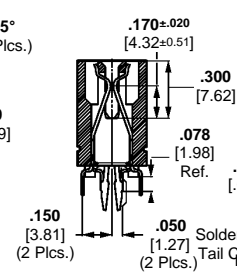
Product Specification
108-14034

Application Specification
114-26012

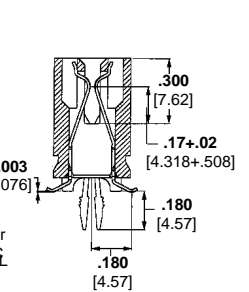
Metal Holddowns



Through Hole



Surface Mount



Section L-L

| W (Post Length) | Contact Finish | Part Numbers | |
|--------------------|-------------------|------------------|-------------------|
| | | 3 Plastic Pylons | 3 Metal Holddowns |
| .100 2.54 | Plating B | 145166-2 | — |
| | Plating C | 145166-4 | 145169-4 |
| .125 3.18 | Plating C | 145166-8 | 145169-8 |
| Surface Mount | Plating C | — | 145113-1 |

Notes: 1. Connectors are supplied with either cored (shown above) or solid side walls.
2. Other connector sizes can be made available, consult Tyco Electronics.

Standard Edge .050 Series PCI Card Edge Connectors

32 Bit, 3.3 and 5 Volt Signaling

60 Dual Positions with 2 Plastic Pylons or 2 Metal Holddowns

Material and Finish:

Housing Y—High temperature thermo-plastic 94V-0 rated, white

Housing Z—Nylon 6/6, white

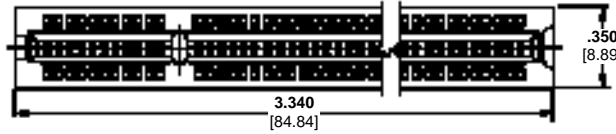
Contacts—Phosphor bronze, plated as follows:

Plating A—Duplex plated gold flash in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating B—Duplex plated .000015 [0.00038] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plastic Pylons



Related Product Data:

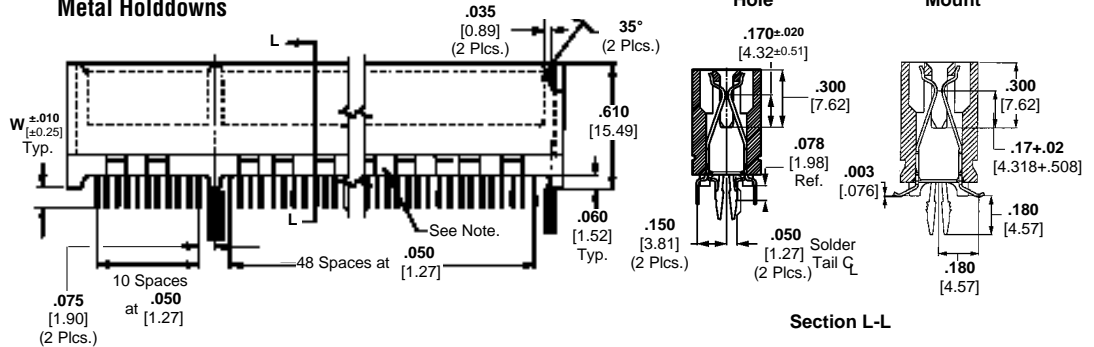
Performance Specifications—page 7

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012

Metal Holddowns



Through Hole

Surface Mount

| W (Post Length) | Housing Material | Contact Finish | Part Numbers | |
|--------------------|------------------|----------------|------------------|-------------------|
| | | | 2 Plastic Pylons | 2 Metal Holddowns |
| .100 2.54 | Y | Plating A | 145154-1 | 145167-1 |
| | | Plating B | 145154-2 | — |
| | | Plating C | 145154-4 | 145167-4 |
| .118 3.00 | Z | Plating A | 11299-1 | — |
| | | Plating B | 11299-6 | — |
| .125 3.18 | Y | Plating C | 145154-8 | — |
| Surface Mount | Y | Plating C | — | 145098-1 |

Notes: 1. Connectors are supplied with either cored (shown above) or solid side walls.
2. Other connector sizes can be made available, consult Tyco Electronics.

Standard Edge .050 Series PCI Card Edge Connectors

64 Bit, 3.3 Volt Signaling

92 Dual Positions with 3 Plastic Pylons or 3 Metal Holddowns

Material and Finish:

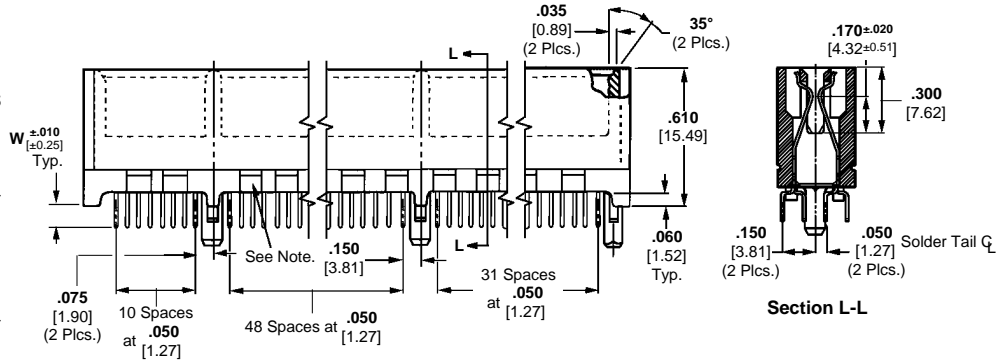
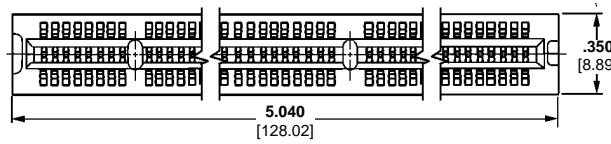
Housing—High temperature thermo-plastic 94V-0 rated, white

Contacts—Phosphor bronze, plated as follows:

Plating B—Duplex plated .000015 [0.00038] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

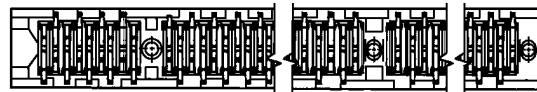
Plastic Pylons



Section L-L

Related Product Data:

Performance Specifications—page 7

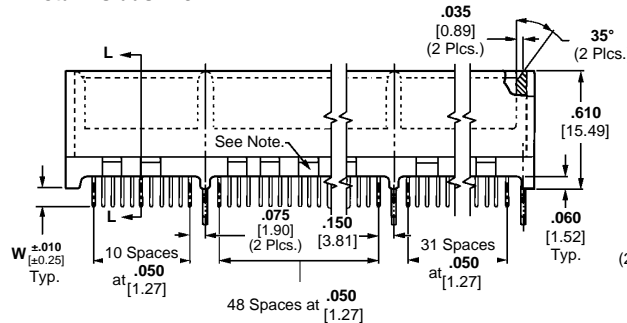


Technical Documents:

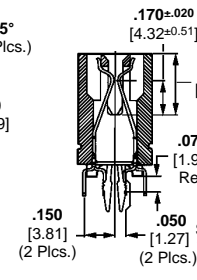
Product Specification
108-14034

Application Specification
114-26012

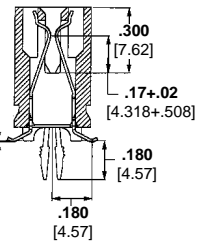
Metal Holddowns



Through Hole



Surface Mount



Section L-L



| W (Post Length) | Contact Finish | Part Numbers | |
|--------------------|-------------------|------------------|-------------------|
| | | 3.3 Volt | |
| | | 3 Plastic Pylons | 3 Metal Holddowns |
| .100 2.54 | Plating B | — | 145168-2 |
| | Plating C | 145165-4 | 145168-4 |
| .125 3.18 | Plating C | 145165-8 | — |
| Surface Mount | Plating C | — | 145246-1 |

Notes: 1. Connectors are supplied with either cored (shown above) or solid side walls.
2. Other connector sizes can be made available, consult Tyco Electronics.

Solder Type Board-to-Board Connectors

Standard Edge .050 Series Connectors

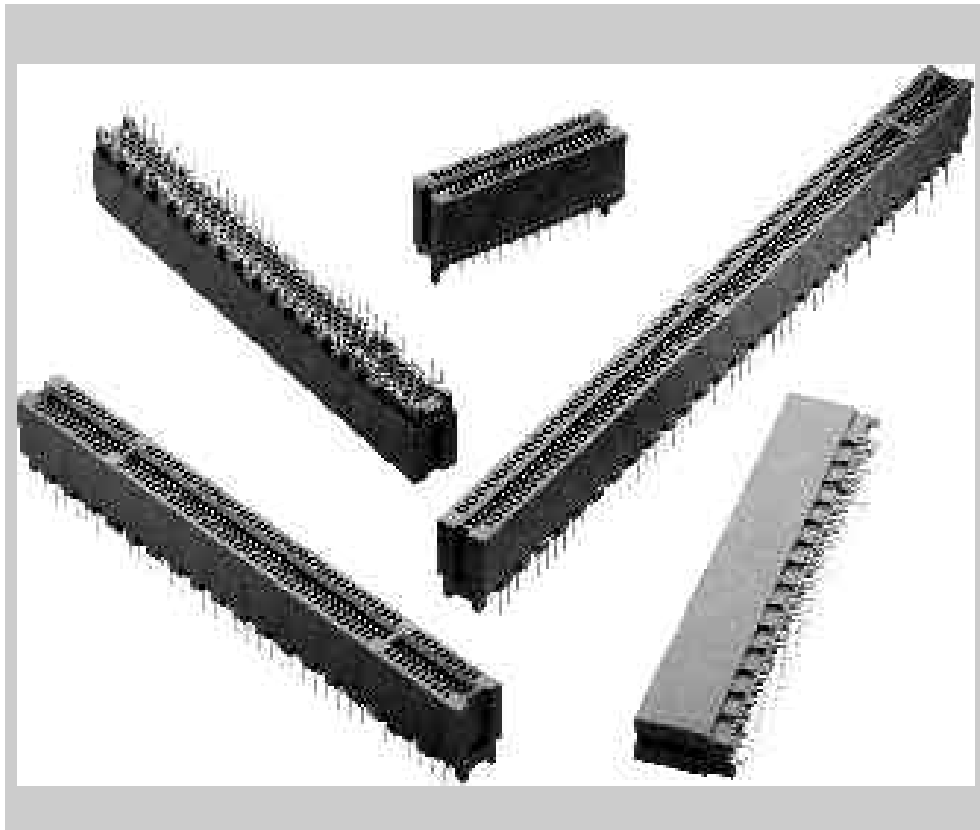
Product Facts

- High density .050 [1.27] centerline spacing of contacts
- Easy mating of high-circuit count daughter boards
- Compatible with infrared reflow (IR) soldering techniques
- Polarizing web for positive board-to-connector registration
- Choice of plastic pylons or metal holddowns
- Recognized under the Component Program of Underwriter Laboratories Inc.  File No. E28476
- Certified by Canadian Standards Association,  File No. LR 7189

Performance Specifications:

- Contact Current Rating*** — 1 ampere
- Termination Resistance** —
20 milliohms max. (initial)
30 milliohms max. (final)
- Dielectric Withstanding Voltage** —
500 VAC min.
- Insulation Resistance** — 1000 megohms min.
- Mating Force** — .5 oz. [0.14 N] per contact pair
- Unmating Force** — 1 oz. [0.3 N] per contact pair
- Durability (Tested to)** — 100 mating cycles
- Application Temperature** —
+215°C for 120 seconds max.
- Temperature Range** —
-55°C to +85°C

*Consult Tyco Electronics engineering when paralleling contacts for power applications.

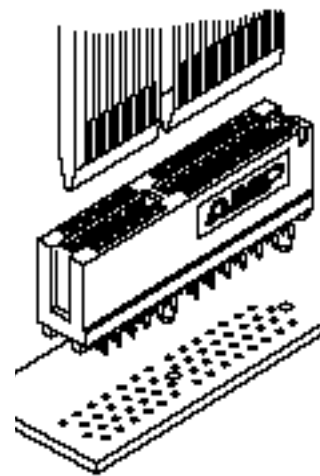


The need to conserve space and pack more function into a given area has demanded that .050 [1.27] centerline spacing become a reality. AMP Standard Edge .050 Series connectors are the ideal vehicle for mother/daughter board applications requiring this real estate.

These rugged connectors have two rows of contacts on .050 [1.27] centerlines. Polarizing webs provide positive board-to-connector registration, while insertion force allows even high circuit-count daughter boards to mate easily. The connectors accept .054 to .070 [1.37 to 1.78] thick daughter boards and feature an overstress protected contact design.

AMP Standard Edge .050 Series connectors are ideal for fast automated robotic assembly with registration features and dimensional tolerancing for more accurate pickup and placement, and are packaged in robotics-compatible trays.

Plastic guide posts or metal holddowns align the connector with the mother board and retain it for soldering. To make circuit routing easy, connector solder posts are arranged in a four-row .100 [2.54] staggered grid. High-temperature tolerant materials promote that these connectors withstand infrared reflow (IR) soldering, while standoffs ease flux cleaning.



High Density for DataBus Applications

Solder Type Board-to-Board Connectors

Standard Edge .050 Series Connectors

**Configuration;
1 Key—2 Plastic Pylons**

Material and Finish:

Housing—High temperature thermo-plastic, brown

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

Performance Specifications—page 11

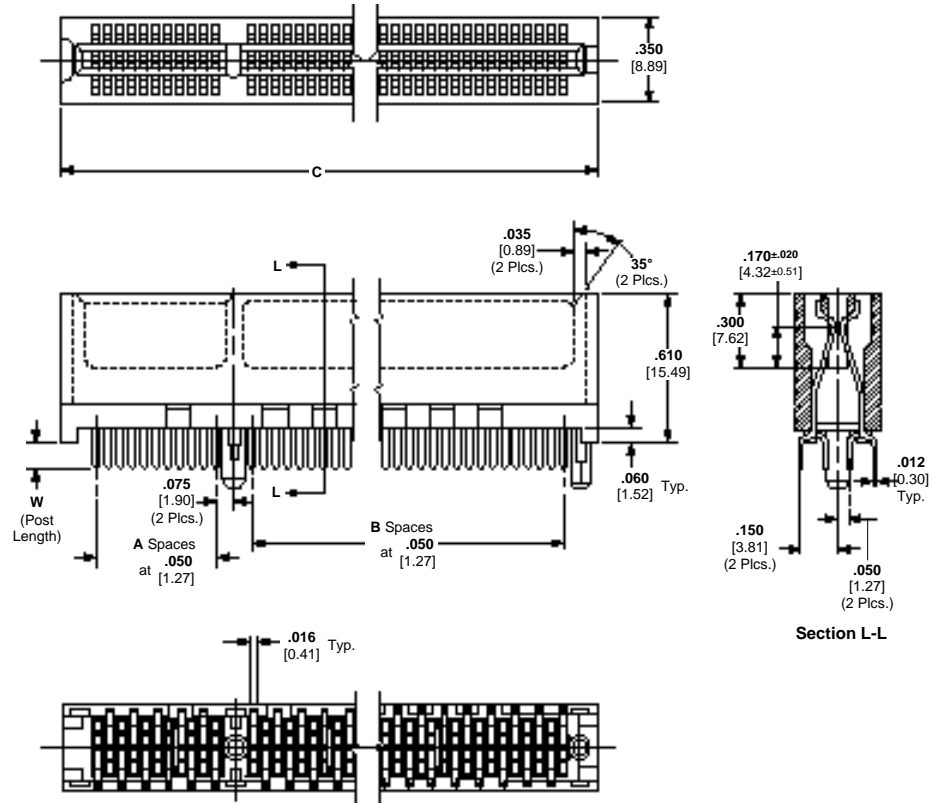
Technical Documents:

Product Specification

108-14034

Application Specification

114-26012



| No. of Dual Positions | Dimensions | | | W (Post Length) | PC Board Hole Layout | Connector Part Numbers |
|-----------------------|------------|----|-----------------|-----------------|----------------------|------------------------|
| | A | B | C | | | |
| 23 | 10 | 11 | 1.490 37.85 | .100 2.54 | A | 650090-7 |
| 30 | 10 | 18 | 1.840 46.74 | .100 2.54 | B | 650090-6 |
| 40 | 10 | 28 | 2.340 59.44 | .100 2.54 | B | 650090-3 |
| | | | | .140 3.56 | B | 650181-2 |
| 45 | 10 | 33 | 2.590 65.79 | .100 2.54 | A | 650090-2 |
| 56 | 10 | 44 | 3.140 79.76 | .100 2.54 | B | 650090-11 |
| | | | | .140 3.56 | B | 650181-1 |
| 80 | 37 | 41 | 4.340 110.24 | .100 2.54 | C | 650090-9 |
| 91 | 41 | 48 | 4.890 124.21 | .100 2.54 | A | 650092-12 |
| | | | | .140 3.56 | A | 650092-2 |

¹ Connector used for VLocal Bus and MCA Bus applications.
² Connector used for MCA Bus applications.
Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
 2. .125 [3.18] post length is available, consult Tyco Electronics.

Solder Type Board-to-Board Connectors

Standard Edge .050 Series Connectors

Solder Type Board-to-Board Connectors

**Configuration;
1 Key—2 Plastic Pylons**

Material and Finish:

Housing—High temperature thermo-plastic, brown

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

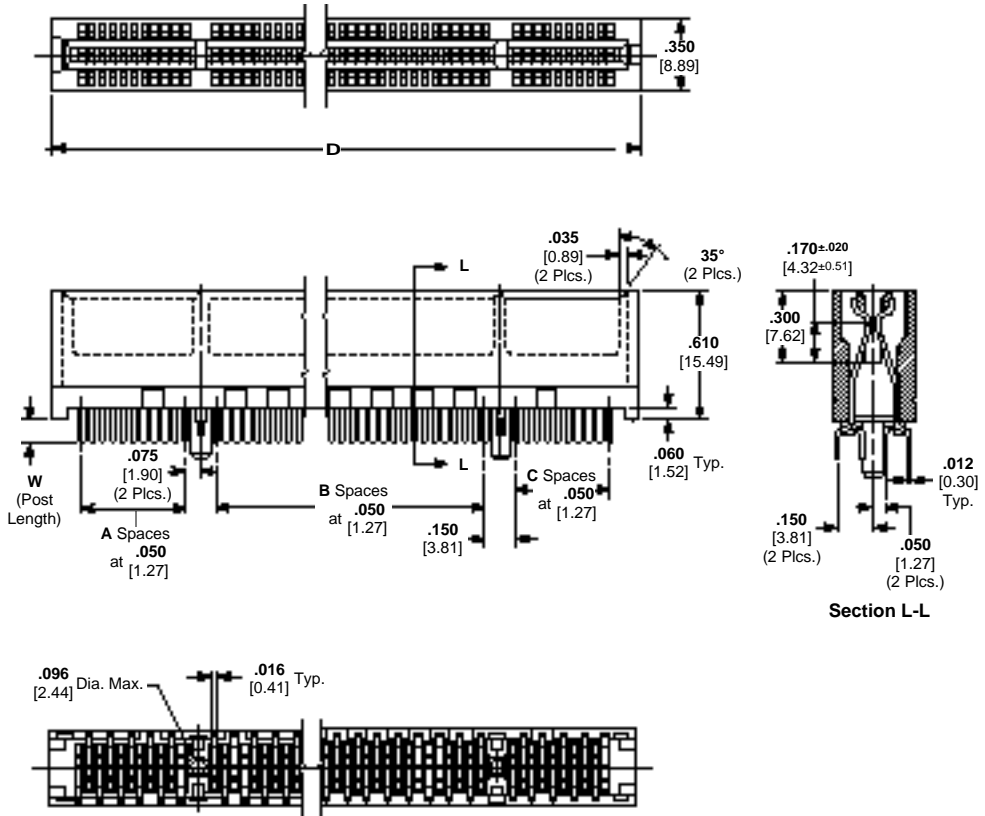
Related Product Data:

Performance Specifications—page 11

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012



| No. of Dual Positions | Dimensions | | | | W (Post Length) | PC Board Hole Layout | Connector Part Numbers |
|-----------------------|------------|----|---|-------|-----------------|----------------------|------------------------|
| | A | B | C | D | | | |
| 66 | 10 | 44 | 9 | 3.740 | .100 | A | 650091-1* |
| | | | | 95.00 | .140 | A | 650091-2 |

*Connectors used for MCA Bus applications.

- Notes:** 1. Other connector sizes can be made available, consult Tyco Electronics.
2. .125 [3.18] post length is available, consult Tyco Electronics.

Standard Edge .050 Series Connectors

Configuration;
1 Key/1 Web —3 Metal
Holddowns

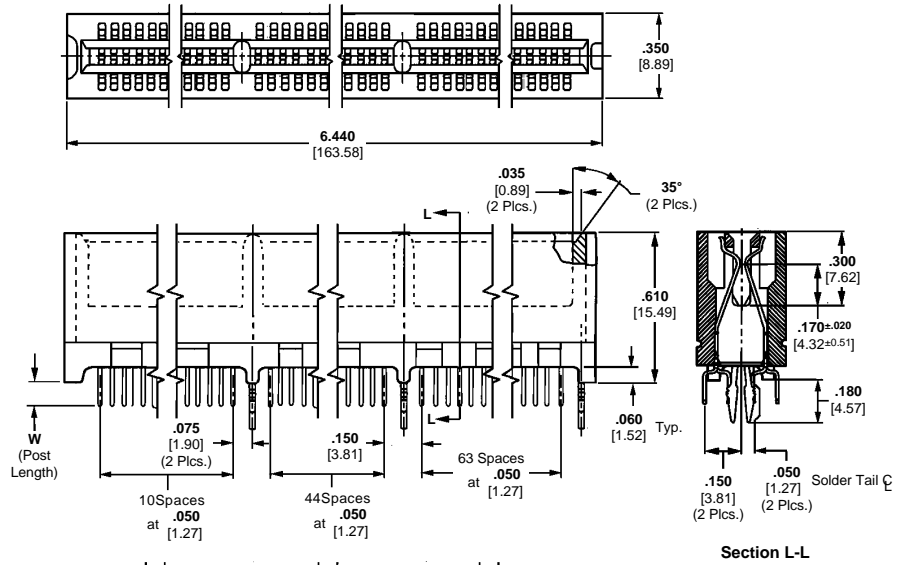
120 Dual Positions

Material and Finish:

Housing—High temperature thermo-plastic, brown

Holddowns—Brass, plated .000150 [0.00381] min. tin-lead over .000050 [0.00127] min. nickel

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel



Related Product Data:

Performance Specifications—
page 11

Technical Documents:

Product Specification
104-14034

Application Specification
114-26012

| No. of Dual Positions | W (Post Length) | Connector Part Numbers |
|-----------------------|-----------------|------------------------|
| 120 | .140 3.56 | 145031-3 |

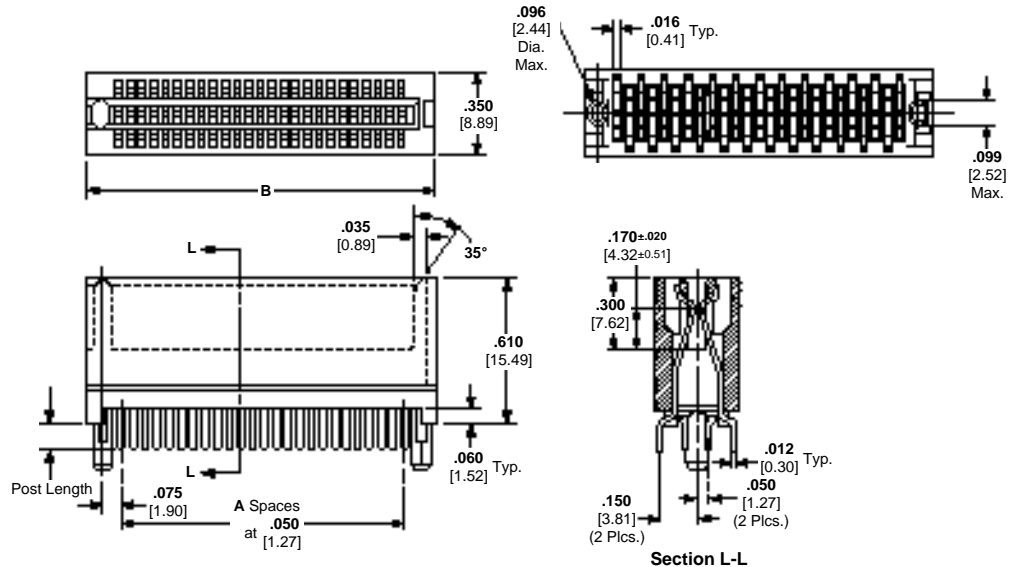
Note: Other connector sizes can be made available, consult Tyco Electronics.

Configuration; End Key

Material and Finish:

Housing—High temperature thermo-plastic, brown

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel



Related Product Data:

Performance Specifications—
page 11

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012



| No. of Dual Positions | Dimensions | | | | Post Length | Connector Part Numbers |
|-----------------------|------------|----------------|----------------|----------------|--------------|------------------------|
| | A | B | C | D | | |
| 25 | 24 | 1.480 37.59 | 1.350 34.29 | 1.310 33.27 | .100 2.54 | 650719-1 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Standard Edge II Connectors

Solder Type Board-to-Board Connectors

Product Facts

- **Maximum number of dual positions**
.100 [2.54] Centerlines-70,
.125 [3.18] Centerlines-50,
.150 [3.81] Centerlines-31
- **Selective gold plating of contacts for high performance at low cost**
- **.025 [0.64] square solid posts meet standard wrap-type specifications**
- **For flow solder applications**
- **Glass-filled polyester housing is 94V-0 rated**
- **Accepts double sided PC boards, .054-.070 [1.27-1.78] thick**
- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476** 
- **Certified by Canadian Standards Association, File No. LR 7189** 

Performance Specifications

- Contact Rating***: 3 amperes continuous (UL and CSA)
- Contact Resistance**: 10 milliohms max.
- Operating Temperature**: -55°C to +85°C
- Voltage Rating (Sea Level)**:
.100 [2.54] centerline—1000 VAC (test)
.125 [3.18] centerline—1500 VAC (test)
.150 [3.81] centerline—1500 VAC (test)
- Insulation Resistance**: 5000 megohms min., after exposure to humidity
- Vibration Tolerance**: 10 to 500 hertz
- Contact Engagement Force**: 12 oz [3.3 N] average per pair with .062 [1.57] PC board
- Contact Separation Force**: 2 oz [0.6 N] average per pair with .062 [1.57] PC board
- Humidity Tolerance**: 90%-95% for 96 hours

*Consult Tyco Electronics engineering when paralleling contacts for power applications.



AMP Standard Edge II Connectors provide high reliability and economy in packages compatible with industry standards for double sided printed circuit boards.

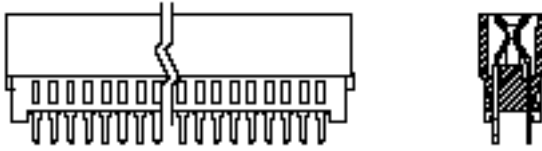
Tyco Electronics offers Standard Edge II Connectors with or without mounting ears, for rack mounting and soldering. Contacts are arranged on .100 [2.54] centers, .125 [3.18] centers, .150 [3.81] centers, .200 [5.08] row-to-row; and .250 [6.35] row-to-row.

Right-angle connectors are also available with contacts arranged on .100 [2.54] centers, .150 [3.81] row-to-row or .200 [5.08] row-to-row.

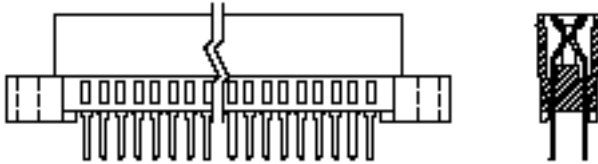
Card extenders with contacts on .100 [2.54] and .125 [3.18] centers also are available.

Precision formed phosphor bronze contacts are selectively gold plated. Phosphor bronze has excellent strength characteristics which help the connector absorb load deflection movement of a PC board while maintaining sufficient contact force for good electrical connection. Bifurcated cantilever beam contacts provide redundant contact.

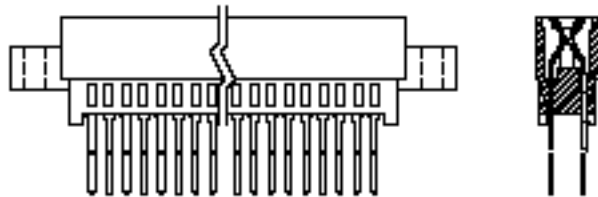
.100 [2.54] and .125 [3.18] Centerline Solder Posts without Mounting Ears
Pages 17 and 18



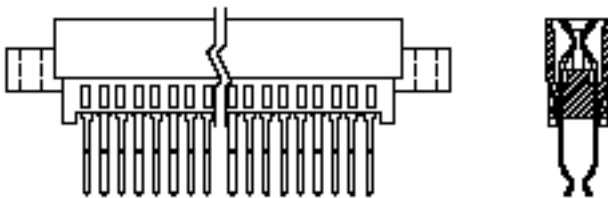
.100 [2.54] and .125 [3.18] Centerline Solder Posts with Low and Mid-High Mounting Ears
Page 20



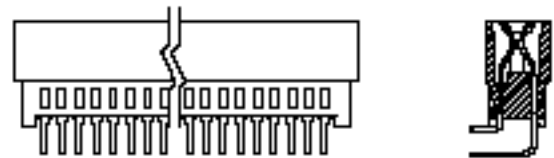
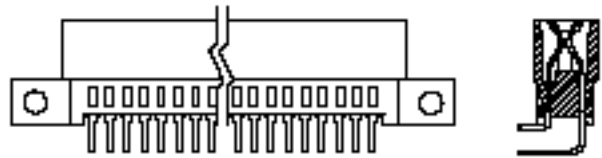
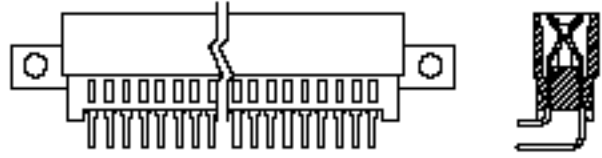
.100 [2.54] and .125 [3.18] Centerline Wrap-Type Posts with Mid-High Mounting Ears
Page 21



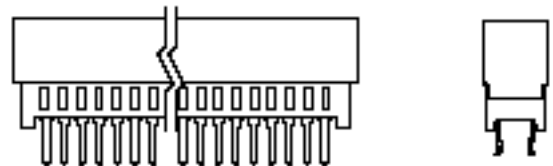
.100 [2.54] and .125 [3.18] Centerline Card Extenders
Page 22



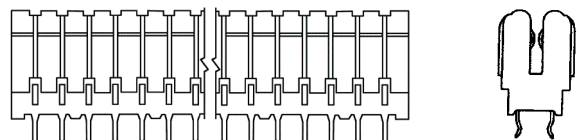
.100 [2.54] Centerline Right-Angle Posts with Low and No Mounting Ears
Page 23



.100 [2.54] Centerline Solder Posts with Board Retention Feature, without Mounting Ears
Page 24



.150 [3.81] Centerline Solder Posts (with Board Retention Feature), without Mounting Ears
Page 19



Standard Edge II Card Edge Connectors

.100 [2.54] Centerline, Vertical Solder Posts, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, duplex plated as follows:

Plating A—.000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Plating B—.000015 [0.00038] gold in contact area, tin on posts, with entire contact nickel underplated

Plating C—Gold flash in contact area, tin on posts, with entire contact nickel underplated

Technical Documents:

Product Specification

108-9039

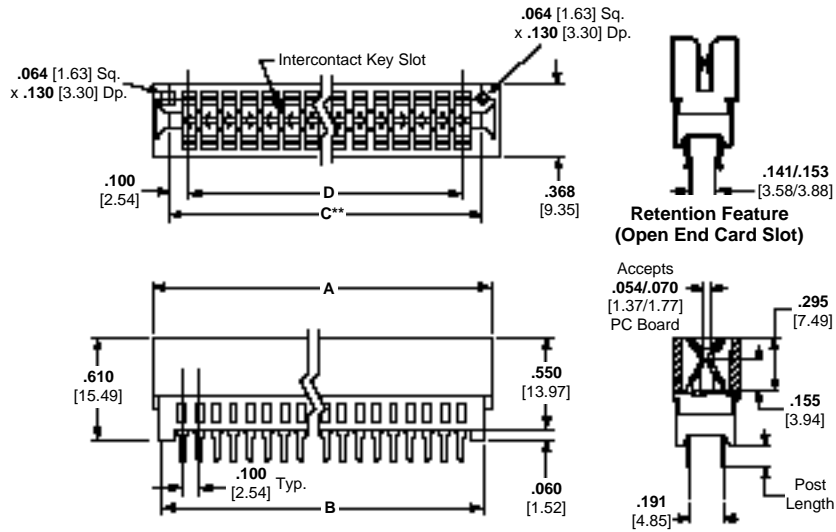
Intercontact Keying Plug

Material:

Natural color polyester



Part Number 650025-2
(.100 [2.54] Centerline)



| No. of Dual Positions | Dimensions | | | | Post Length* | Part Numbers | | |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|--------------------------|------------|-----------|
| | A | B | C** | D | | Plating A | Plating B | Plating C |
| 3 | .560 14.22 | .450 11.43 | Open End | .200 5.08 | .125 | 650263-11 | — | — |
| 6 | .860 21.84 | .750 19.05 | .700 17.78 | .500 12.70 | .125 .187 | 7-530843-5 7-530843-6 | — | — |
| 10 | 1.260 32.00 | 1.150 29.21 | 1.100 27.94 | .900 22.86 | .125 .187 | 5-530843-0 4-530843-9 | — | — |
| 12 | 1.460 37.08 | 1.350 34.29 | 1.300 33.02 | 1.100 27.94 | .125 | 530843-1 | — | — |
| 15 | 1.760 44.70 | 1.650 41.91 | 1.600 40.64 | 1.400 35.56 | .125 | 530843-2 | — | — |
| 17 | 1.960 49.78 | 1.850 46.99 | 1.800 45.72 | 1.600 40.64 | .125 | 5-530843-3 | — | — |
| 18 | 2.060 52.32 | 1.950 49.53 | 1.900 48.26 | 1.700 43.18 | .125 | 530843-3 | 2-530843-7 | 176137-11 |
| 20 | 2.260 57.40 | 2.150 54.61 | 2.100 53.34 | 1.900 48.26 | .125 | 5-530843-4 | — | — |
| 22 | 2.460 62.48 | 2.350 59.69 | 2.300 58.42 | 2.100 53.34 | .125 | 530843-4 | — | — |
| 25 | 2.760 70.10 | 2.650 67.31 | 2.600 66.04 | 2.400 60.96 | .125 | 530843-5 | — | — |
| 28 | 3.060 77.72 | 2.950 74.93 | 2.900 73.66 | 2.700 68.58 | .125 | 530843-6 | — | — |
| 30 | 3.260 82.80 | 3.150 80.01 | 3.100 78.74 | 2.900 73.66 | .125 .187 | 530843-7 1-530843-8 | — | — |
| 31 | 3.360 85.34 | 3.250 82.55 | 3.200 81.28 | 3.000 76.20 | .125 | 6-530843-5 | 7-530843-0 | — |
| 36 | 3.860 98.04 | 3.750 95.25 | 3.700 93.98 | 3.500 88.90 | .125 | 530843-8 | — | — |
| 40 | 4.260 108.20 | 4.150 105.41 | 4.100 104.14 | 3.900 99.06 | .187 | 2-530843-0 | — | — |
| 50 | 5.260 133.60 | 5.150 130.81 | 5.100 129.54 | 4.900 124.46 | .125 | 1-530843-1 | — | — |

*Metric equivalent for post lengths are .125 = 3.18; .187 = 4.75.

**C dimension is card slot length.

† Connectors with Retention Feature.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.

2. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

Standard Edge II Connectors (Continued)

.125 [3.18] Centerline, Vertical Solder Posts, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

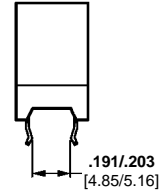
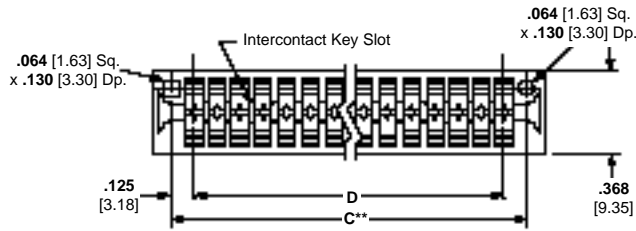
PC Board Edge Pattern—page 27

Special Application—page 96

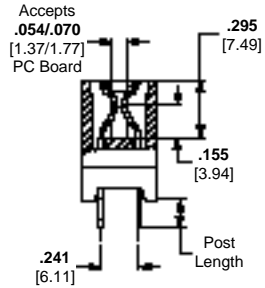
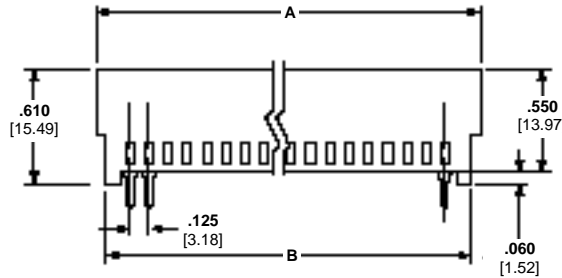
Technical Documents:

(pages 186, 187):

Product Specification
108-9039



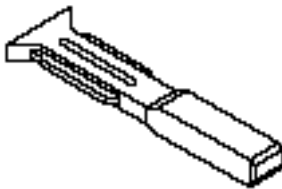
Retention Feature



Intercontact Keying Plug

Material:

Natural color polyester



Part No. 650025-1
(.125 [3.18] Centerline)

| No. of Dual Positions | Dimensions | | | | Post Length* | Part Numbers |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|--------------------------|
| | A | B | C** | D | | |
| 6 | 1.035 26.29 | .875 22.22 | .875 22.22 | .625 15.88 | .125 | 650207-11 |
| 14 | 2.035 51.69 | 1.875 47.62 | 1.875 47.62 | 1.625 41.28 | .187 | 5-530844-8 |
| 18 | 2.535 64.39 | 2.375 60.33 | 2.375 60.33 | 2.125 53.98 | .187 | 1-530844-5 |
| 22 | 3.035 77.09 | 2.875 73.03 | 2.875 73.03 | 2.625 66.68 | .187 | 1-530844-6 |
| 28 | 3.785 96.14 | 3.625 92.08 | 3.625 92.08 | 3.375 85.73 | .187 | 1-530844-7 |
| 30 | 4.035 102.49 | 3.875 98.42 | 3.875 98.42 | 3.625 92.08 | .187 | 1-530844-8 |
| 36 | 4.785 121.54 | 4.625 117.48 | 4.625 117.48 | 4.375 111.13 | .187 | 1-530844-9 |
| 40 | 5.285 134.24 | 5.125 130.18 | 5.125 130.18 | 4.875 123.82 | .187 | 2-530844-0 |
| 43 | 5.660 143.76 | 5.500 139.70 | 5.500 139.70 | 5.250 133.35 | .125 | 1-530844-0 |
| 50 | 6.535 165.99 | 6.375 161.93 | 6.375 161.93 | 6.125 155.58 | .125 .187 | 1-530844-1 2-530844-2 |

*Metric equivalent for post lengths are .125 = [3.18]; .187 = [4.75]

**C dimension is card slot length.

¹Connector with Retention Feature.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Standard Edge II Connectors (Continued)

.150 [3.81] Centerline, Vertical Solder Posts, Retention Feature, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

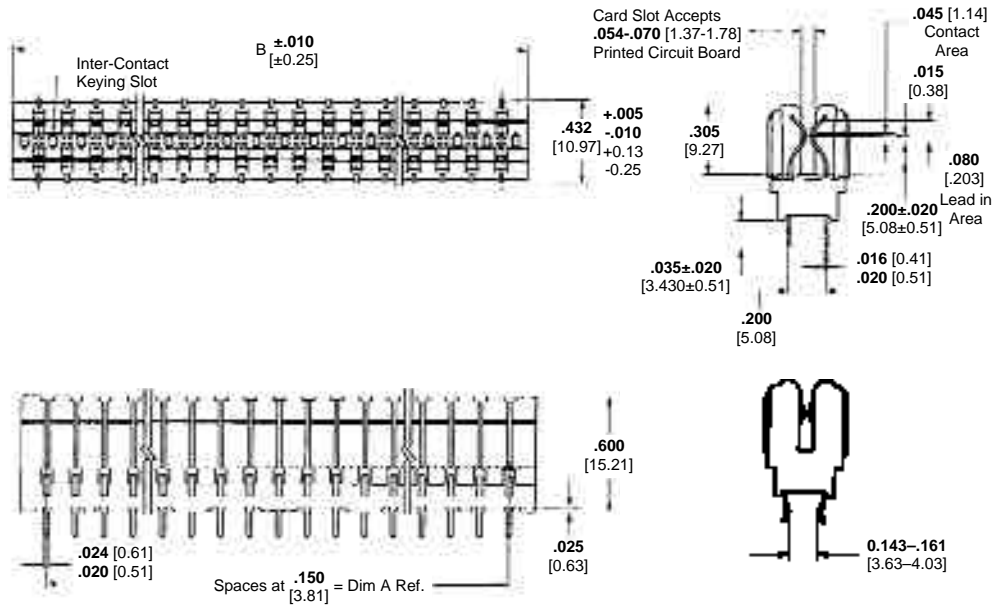
Performance Specifications—

page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Special Application—page 96



Solder Type Board-to-Board Connectors

| No. of Dual Positions | Dimensions | | Retention Location | Post Length* | Part Numbers |
|-----------------------|-----------------|-----------------|----------------------|--------------|--------------|
| | A | B | | | |
| 12 | 1.650 41.91 | 1.920 48.77 | 7-10, 15-18 | .135 | 1-650728-2 |
| 19 | 2.700 68.58 | 2.970 75.44 | 7-10, 29-32 | .135 | 1-650728-9 |
| 28 | 4.050 102.87 | 4.320 109.73 | 7-10, 25-32,47-50 | .135 | 2-650728-9 |
| 31 | 4.500 114.30 | 4.770 121.16 | 7-10, 27-34,53-56 | .135 | 3-650728-1 |

*Metric equivalent for post length is .135 = [3.43]

**C dimension is card slot length.

Note: Other connector sizes can be made available, consult Tyco Electronics.

.100 [2.54] and .125 [3.18] Centerline, Vertical Solder Posts, Low and Mid-High Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Special Application—page 96

Technical Documents:

(pages 186, 187):

Product Specification
108-9039

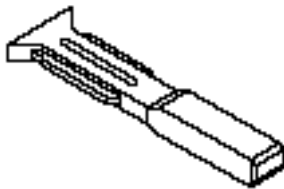
Intercontact Keying Plugs

Material:

Natural color polyester

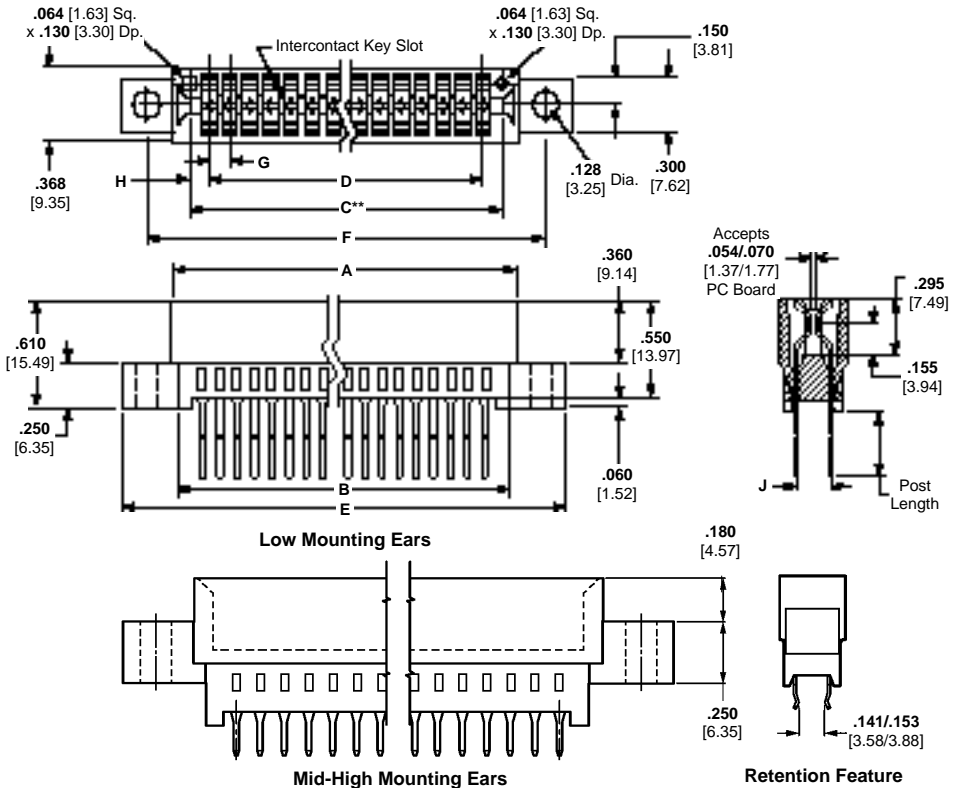


Part No. 650025-2
(.100 [2.54] Centerline)



Part No. 650025-1
(.125 [3.18] Centerline)

Standard Edge II Connectors (Continued)



.100 [2.54] Centerline

| No. of Dual Positions | Dimensions | | | | | | | | | Post Length* | Part Numbers |
|-----------------------|------------|--------|--------|--------|--------|--------|------|------|--------------------------------|--------------|--------------------------|
| | A | B | C** | D | E | F | G | H | J | | |
| 15 | 1.760 | 1.650 | 1.600 | 1.400 | 2.385 | 2.075 | .100 | .100 | .191 | .125 | 530841-2 |
| | 44.70 | 41.91 | 40.64 | 35.56 | 67.18 | 52.71 | 2.54 | 2.54 | 4.85 | | |
| 18 | 2.060 | 1.950 | 1.900 | 1.700 | 2.645 | 2.375 | .100 | .100 | .191 | .125 | 530841-3 |
| | 52.32 | 49.53 | 48.26 | 43.18 | 67.18 | 60.32 | 2.54 | 2.54 | 4.85 | | |
| 25 | 2.760 | 2.650 | 2.600 | 2.400 | 3.345 | 3.075 | .100 | .100 | .191 | .125 .187 | 530841-5 1-530841-6 |
| | 70.10 | 67.31 | 66.04 | 60.96 | 84.96 | 78.11 | 2.54 | 2.54 | 4.85 | | |
| 30 | 3.260 | 3.160 | 3.100 | 2.900 | 3.845 | 3.575 | .100 | .100 | .191 | .187 | 1-530841-8 |
| | 82.80 | 80.01 | 78.74 | 73.66 | 97.66 | 90.81 | 2.54 | 2.54 | 4.85 | | |
| 36 | 3.860 | 3.750 | 3.700 | 3.500 | 4.445 | 4.175 | .100 | .100 | .191 | .125 | 530841-8 |
| | 98.04 | 95.25 | 93.98 | 88.90 | 112.90 | 106.21 | 2.54 | 2.54 | 4.85 | | |
| 50 | 5.260 | 5.150 | 5.100 | 4.900 | 5.845 | 5.575 | .100 | .100 | .191 | .125 | 1-530841-1 2-530841-2 |
| | 133.60 | 130.81 | 129.54 | 124.46 | 148.46 | 141.60 | 2.54 | 2.54 | 4.85 .141-.153 3.58-3.88 | | |

*Metric equivalent for post lengths are .125 = [3.18]; .187 = [4.75]

**C dimension is card slot length.

¹Connector with Retention Feature.

²Connector with Mid-High Mounting Ears.

Note: Other connector sizes can be made available, consult Tyco Electronics.

.125 [3.18] Centerline

| No. of Dual Positions | Dimensions | | | | | | | | | Post Length* | Part Numbers |
|-----------------------|------------|--------|--------|--------|--------|--------|------|------|------|--------------|--------------|
| | A | B | C** | D | E | F | G | H | J | | |
| 6 | 1.035 | .875 | .875 | .625 | 1.555 | 1.295 | .125 | .125 | .241 | .125 | 1-531341-3 |
| | 26.29 | 22.22 | 22.22 | 15.88 | 39.50 | 32.89 | 3.18 | 3.18 | 6.11 | | |
| 28 | 3.785 | 3.505 | 3.625 | 3.375 | 4.305 | 4.045 | .125 | .125 | .241 | .187 | 1-530842-7 |
| | 96.14 | 89.03 | 92.08 | 85.73 | 109.35 | 102.74 | 3.18 | 3.18 | 6.11 | | |
| 50 | 6.535 | 6.255 | 6.375 | 6.125 | 7.055 | 6.795 | .125 | .125 | .241 | .125 | 1-530842-1 |
| | 165.99 | 158.88 | 161.93 | 155.58 | 179.20 | 172.59 | 3.18 | 3.18 | 6.11 | | |

*Metric equivalent for post lengths are .125 = [3.18]; .187 = [4.75]

**C dimension is card slot length.

¹Connector with Retention Feature.

²Connector with Mid-High Mounting Ears.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Standard Edge II Connectors (Continued)

.100 [2.54] and .125 [3.18] Centerline, Vertical Wrap-Type Posts, Mid-High Mounting Ears

Material and Finish:
Housing—Black glass-filled polyester, 94V-0 rated
Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

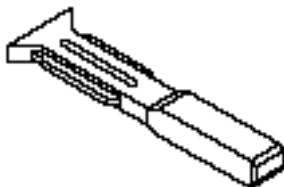
Related Product Data:
Performance Specifications—page 15
PC Board Hole Layout—page 26
PC Board Edge Pattern—page 27
Special Application—page 96

Technical Documents:
 (pages 186, 187):
 Product Specification 108-9039

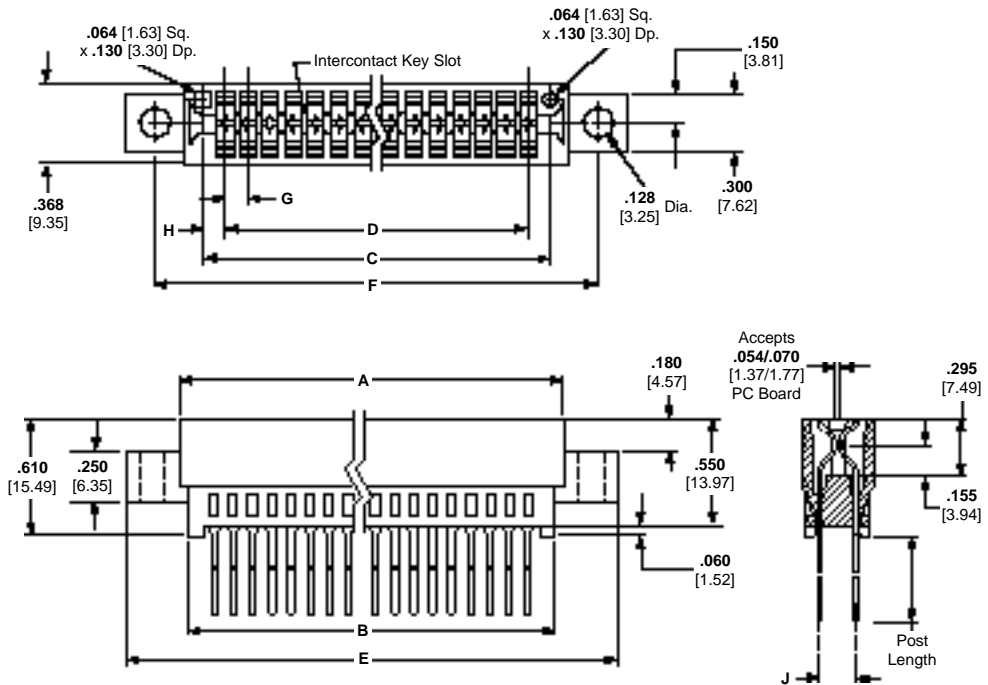
Intercontact Keying Plugs
Material:
 Natural color polyester



Part No. 650025-2
 (.100 [2.54] Centerline)



Part No. 650025-1
 (.125 [3.18] Centerline)



Solder Type Board-to-Board Connectors

.100 [2.54] Centerline

| No. of Dual Positions | Dimensions | | | | | | | | | Post Length* | Part Numbers |
|-----------------------|------------|--------|--------|-------|--------|--------|------|------|------|--------------|--------------|
| | A | B | C** | D | E | F | G | H | J | | |
| 30 | 3.260 | 3.150 | 3.100 | 2.900 | 3.845 | 3.575 | .100 | .100 | .200 | .570 | 3-530396-3 |
| | 82.80 | 80.01 | 78.74 | 73.66 | 97.41 | 90.80 | 2.54 | 2.54 | 5.08 | | |
| 36 | 3.860 | 3.750 | 3.700 | 3.500 | 4.435 | 4.175 | .100 | .100 | .200 | .570 | 3-530396-4 |
| | 98.04 | 95.25 | 93.98 | 88.90 | 112.65 | 106.04 | 2.54 | 2.54 | 5.08 | | |
| 40 | 4.260 | 4.150 | 4.100 | 3.900 | 4.845 | 4.575 | .100 | .100 | .200 | .570 | 3-530396-4 |
| | 108.20 | 105.41 | 104.14 | 99.06 | 123.06 | 116.21 | 2.54 | 2.54 | 5.08 | | |

*Metric equivalent for post length is .570 = [14.48].
 **C dimension is card slot length.
Note: Other connector sizes can be made available, consult Tyco Electronics.

.125 [3.18] Centerline

| No. of Dual Positions | Dimensions | | | | | | | | | Post Length* | Part Numbers |
|-----------------------|------------|-------|-------|-------|-------|-------|------|------|------|--------------|--------------|
| | A | B | C** | D | E | F | G | H | J | | |
| 22 | 3.035 | 2.755 | 2.875 | 2.625 | 3.555 | 3.295 | .125 | .125 | .250 | .570 | 4-530825-5 |
| | 77.09 | 69.98 | 73.02 | 66.67 | 90.30 | 83.69 | 3.18 | 3.18 | 6.35 | | |

*Metric equivalent for post length is .570 = [14.48].
 **C dimension is card slot length.
Note: Other connector sizes can be made available, consult Tyco Electronics.

.100 [2.54] and .125 [3.18] Centerlines, Card Extender Contacts

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Technical Documents:

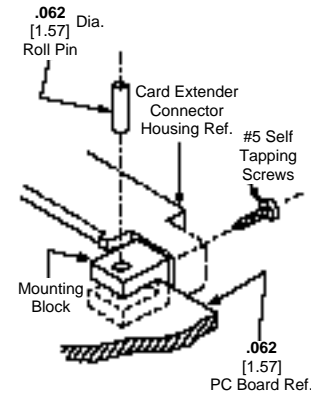
(pages 186, 187):

Product Specification
108-9039

Mounting Block

Material:

Natural color nylon



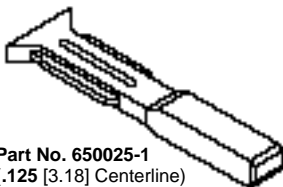
Kit Part No. 531250-4

Each kit includes 2 mounting blocks, 2 self tapping screws, #5 x .437 [11.10] and 2 roll pins, .075 x .250 [1.57 x 6.35]

Intercontact Keying Plugs

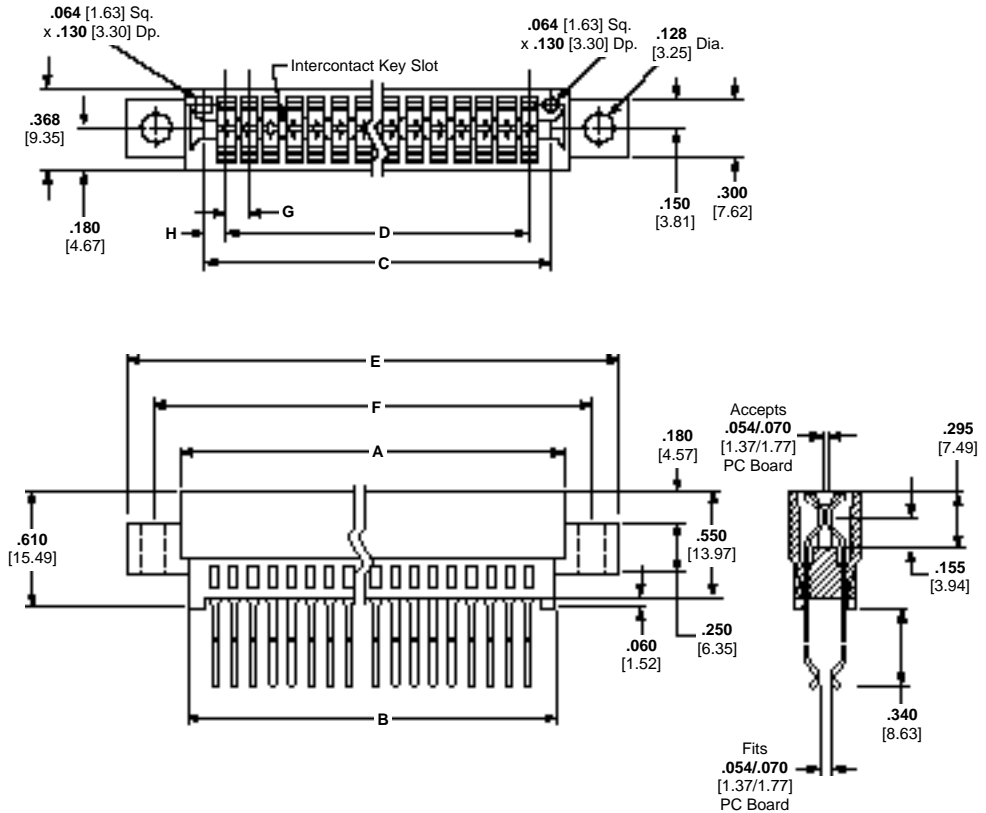
Material:

Natural color polyester



Part Number 650025-2
(.100 [2.54] Centerline)

Standard Edge II Connectors (Continued)



.100 [2.54] Centerline

| No. of Dual Positions | Dimensions | | | | | | | | Part Numbers |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|--------------|--------------|
| | A | B | C** | D | E | F | G | H | |
| 50 | 5.260 133.60 | 5.160 130.81 | 5.100 129.54 | 4.900 124.46 | 5.845 148.46 | 5.575 141.60 | .100 2.54 | .100 2.54 | 530826-3 |

*C dimension is card slot length.

†No mounting ears.

Note: Other connector sizes can be made available, consult Tyco Electronics.

.125 [3.18] Centerline

| No. of Dual Positions | Dimensions | | | | | | | | Part Numbers |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|--------------|--------------|
| | A | B | C** | D | E | F | G | H | |
| 36 | 4.785 121.54 | 4.505 114.43 | 4.625 117.48 | 4.375 111.13 | 5.035 134.75 | 5.045 128.14 | .125 3.18 | .125 3.18 | 530384-2 |

*C dimension is card slot length.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Standard Edge II Card Edge Connectors

Solder Type Board-to-Board Connectors

.100 [2.54] Right-Angle Solder Posts, with Low and No Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, duplex plated as follows:

Plating A—.000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

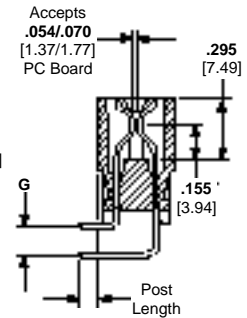
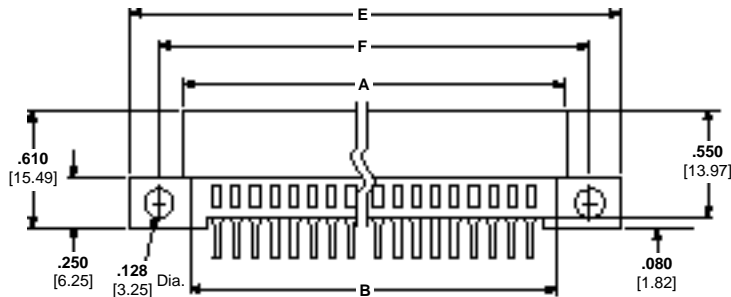
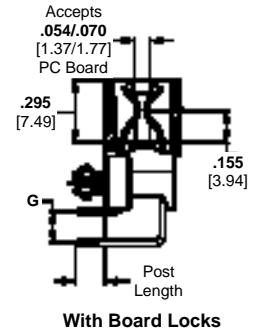
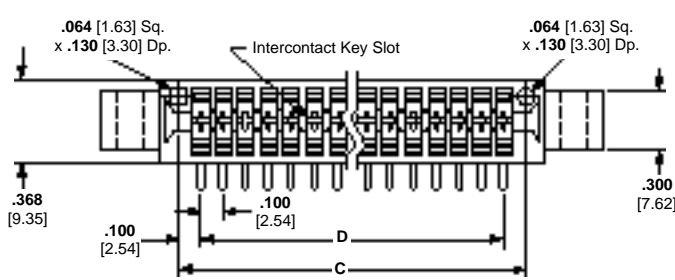
Plating B—.000015 [0.00038] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

Technical Documents:

Product Specification
108-9039



Low Mounting Ears

Intercontact Keying Plug

Material:

Natural color polyester



Part Number 650025-2
(.100 [2.54] Centerline)

Low Mounting Ears

| No. of Dual Positions | Dimensions | | | | | | | Post Length ² | Part Numbers (Plating A) |
|-----------------------|------------|-------|-------|-------|-------|-------|----------------|--------------------------|--------------------------|
| | A | B | C* | D | E | F | G ¹ | | |
| 12 | 1.460 | 1.350 | 1.300 | 1.100 | 2.045 | 1.775 | .100x | .090 | 145089-1 ³ |
| | 37.08 | 34.29 | 33.02 | 27.94 | 51.94 | 45.08 | .150 | | |
| 18 | 2.060 | 1.950 | 1.900 | 1.700 | 2.645 | 2.375 | .100x | .090 | 645384-1 |
| | 52.32 | 49.53 | 48.26 | 43.18 | 67.18 | 60.32 | .150 | | |
| 20 | 2.260 | 2.150 | 2.100 | 1.900 | 2.845 | 2.575 | .100x | .090 | 645384-3 |
| | 57.40 | 54.61 | 53.34 | 48.26 | 72.30 | 65.40 | .150 | | |

*C dimension is card slot length.

¹ Metric equivalent for .100 x .150 and .100 x .200 are [2.54 x 3.81] and [2.54 x 5.08].

² Metric equivalent for post length is .090 = [2.27].

³ Connector with Board Locks.

Note: Other connector sizes can be made available, consult Tyco Electronics.

No Mounting Ears

| No. of Dual Positions | Dimensions | | | | | Post Length ² | Part Numbers | |
|-----------------------|------------|-------|-------|-------|----------------|--------------------------|--------------|-----------|
| | A | B | C* | D | G ¹ | | Plating A | Plating B |
| 15 | 1.760 | 1.650 | 1.600 | 1.400 | .100x | .090 | 650118-1 | — |
| | 44.70 | 41.91 | 40.64 | 35.56 | .150 | | | |
| 17 | 1.960 | 1.850 | 1.800 | 1.600 | .100x | .090 | 650187-1 | — |
| | 49.78 | 46.99 | 45.72 | 40.64 | .200 | | | |
| 25 | 2.760 | 2.350 | 2.600 | 2.400 | .100x | .090 | — | 532600-2 |
| | 70.10 | 67.61 | 66.04 | 60.96 | .150 | | | |
| 31 | 3.360 | 3.250 | 3.200 | 3.000 | .100x | .090 | — | 532600-4 |
| | 85.34 | 82.55 | 81.28 | 76.20 | .150 | | | |
| 32 | 3.460 | 3.350 | 3.300 | 3.100 | .100x | .090 | — | 532600-5 |
| | 87.88 | 85.09 | 83.82 | 78.74 | .150 | | | |
| 19 | 2.160 | 2.750 | 2.700 | 1.800 | .100x | .090 | — | 532600-6 |
| | 54.86 | 69.85 | 68.58 | 45.72 | .150 | | | |

*C dimension is card slot length.

¹ Metric equivalent for .100 x .150 and .100 x .200 are [2.54 x 3.81] and [2.54 x 5.08].

² Metric equivalent for post length is .090 = [2.27].

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.

2. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

Standard Edge II Card Edge Connectors

.100 [2.54] Centerline Vertical Solder Posts, Retention Feature, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, duplex plated as follows:

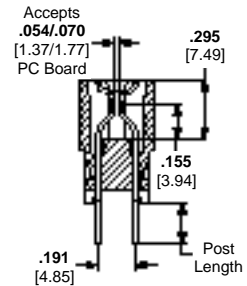
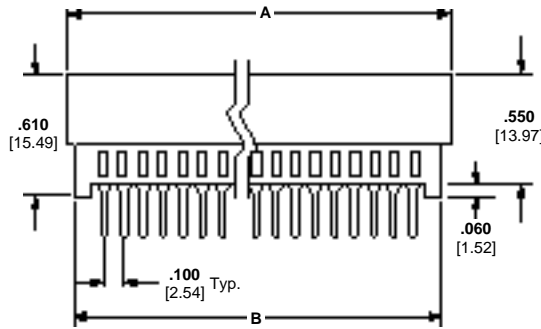
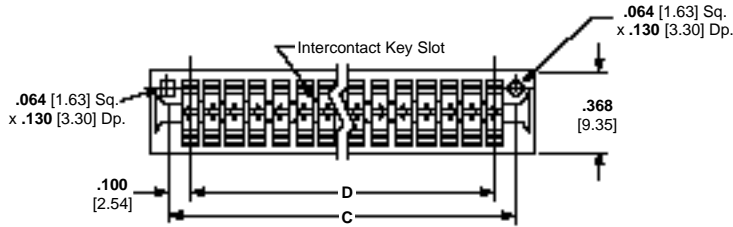
Plating A—.000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Plating B—.000015 [0.00038] gold in contact area, tin on posts, with entire contact nickel underplated

Plating C—Gold flash in contact area, tin on posts, with entire contact nickel underplated

Technical Documents:

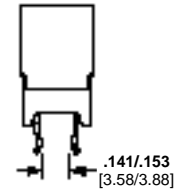
Product Specification
108-9039



Intercontact Keying Plug

Material:

Natural color polyester



Retention Feature

Part Number 650025-2
(.100 [2.54] Centerline)

| No. of Dual Positions | Dimensions | | | | Post Length* | Retention Feature | PartNumbers Plating A |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|-------------------------------|--------------------------|
| | A | B | C** | D | | | |
| 18 | 2.060 52.32 | 1.950 49.53 | 1.900 48.26 | 1.700 43.18 | .125 | 3-6, 31-34 | 645235-4 |
| 31 | 3.360 85.34 | 3.250 82.55 | 3.200 81.28 | 3.000 76.20 | .125 | 3-6, 29-32 or 31-34, 57-60 | 645235-1 |
| 50 | 5.260 133.60 | 5.150 130.81 | 5.100 129.54 | 4.900 124.46 | .125 | 3-6, 49-52, 95-98 | 645235-3 |
| 60 | 6.260 159.00 | 6.150 156.21 | 6.100 154.94 | 5.900 149.86 | .125 | 3-6, 55-58, 63-66, 115-118 | 645235-8 |

*Metric equivalent for post length is .125 = [3.18].

**C dimension is card slot length.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

Standard Edge II Card Edge Connectors

Solder Type Board-to-Board Connectors

.100 [2.54] Centerline, Special 18/31 Dual Combination Connector, Vertical Solder Posts, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated, except where noted

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area (except where noted), tin on posts, with entire contact nickel underplated

Technical Documents:

Product Specification
108-9039

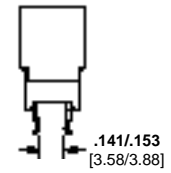
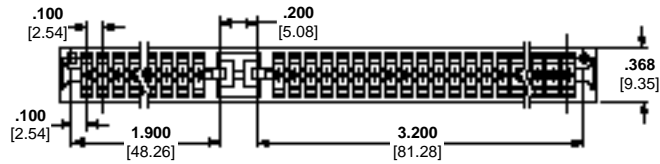
Intercontact Keying Plug

Material:

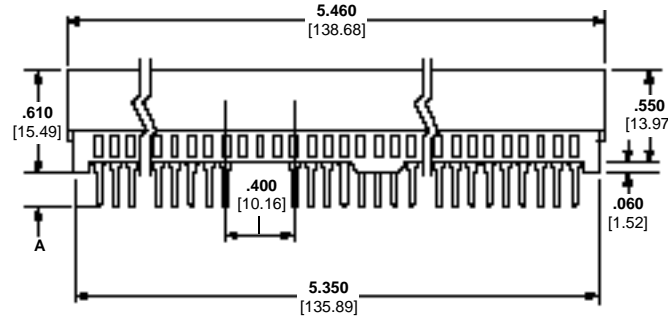
Natural color polyester



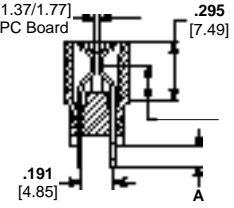
Part Number 650025-2
(.100 [2.54] Centerline)



Retention Feature



Accepts
.054/.070
[1.37/1.77]
PC Board



Solder Posts

| No. of Dual Positions | Post Type | Dimension A | Retention Feature | Part Numbers |
|-----------------------|--------------|--------------|---------------------------------|-----------------------------------|
| 52 | Solder Posts | .125 3.18 | 3-6, 41, 42, 51, 52, 93-96 | 645169-2 536128-1 ¹ |
| 52 | Solder Posts | .125 3.18 | None | 645169-3 |
| 52 | Solder Posts | .125 3.18 | 3-14, 41, 42, 51, 52, 85-96 | 645169-4 |
| 52 | Solder Posts | .125 3.18 | 5, 6, 31, 32, 41, 42, 93, 94 | 176139-1 ² |
| 52 | Solder Posts | .187 4.75 | None | 650616-1 |

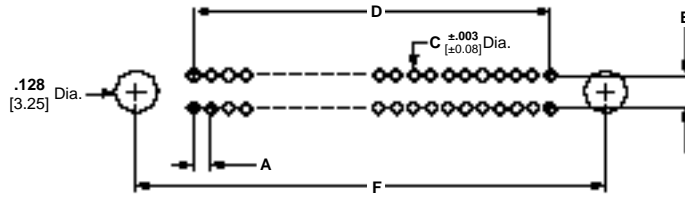
¹ Housing material is high temperature glass-filled polyester, gray.
² Contact area is gold flash.

- Notes:**
1. Card slot length is **5.300** [134.62].
 2. Other connector sizes can be made available, consult Tyco Electronics.
 3. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

Recommended
PC Board Hole Layouts

Standard Edge II Connectors (Continued)

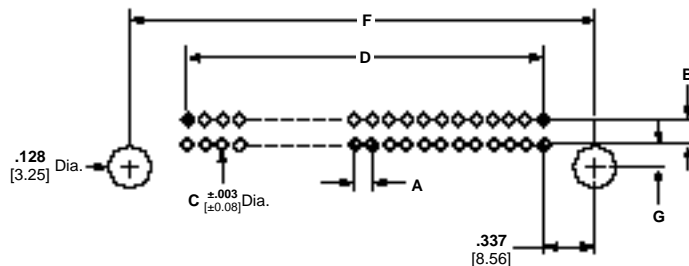
Vertical Post Connectors



| Connector Type | Dimensions | | | | |
|--------------------------------|------------------------|------------------------|--------------|------------|------------|
| | A | B | C | D | F |
| Solder Post/Retention | .100 2.54 | .200 5.08 | .040 1.02 | See Note 1 | See Note 2 |
| Solder Post/Retention | .150 3.81 | .200 5.08 | .040 1.02 | See Note 4 | See Note 2 |
| Solder Post, Mounting Ears | .125 3.18 | .250 6.35 | .040 1.02 | See Note 3 | See Note 3 |
| Solder Post, W/O Mounting Ears | .100/.125 2.54/3.18 | .200/.250 5.08/6.35 | .040 1.02 | See Note 4 | See Note 2 |
| Wrap-Type Post | .100 2.54 | .200 5.08 | .042 1.07 | See Note 5 | See Note 5 |
| Wrap-Type Post | .125 3.18 | .250 6.35 | .042 1.07 | See Note 5 | See Note 5 |

- Notes:**
1. Refer to page 24 for **D** Dimensions and Dual Positions.
 2. No mounting ears. Dimensions do not apply.
 3. Refer to page 20 for **D** and **F** Dimensions and Dual Positions.
 4. Refer to pages 18 and 19 for **D** Dimensions and Dual Positions.
 5. Refer to page 21 for **D** and **F** Dimensions and Dual Positions.

Right-Angle Post Connectors



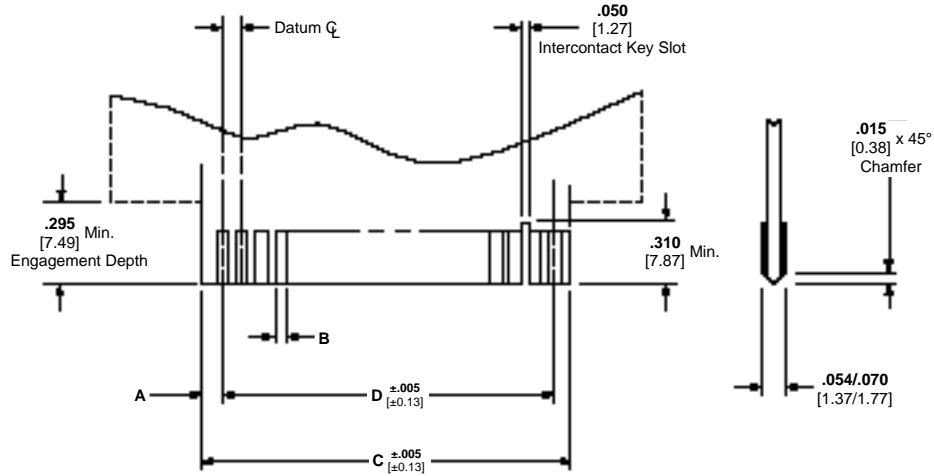
| Connector Type | Dimensions | | | | | |
|-------------------------------------|--------------|------------------------------|--------------|------------|------------|--------------|
| | A | B | C | D | F | G |
| Right-Angle Posts, Mounting Ears | .100 2.54 | .150 3.81 | .042 1.07 | See Note 1 | See Note 1 | .137 3.48 |
| Right-Angle Posts, No Mounting Ears | .100 2.54 | .150 or .200 3.81 or 5.08 | .042 1.07 | See Note 2 | See Note 3 | See Note 3 |

- Notes:**
1. Refer to page 23 for **D** and **F** Dimensions and Dual Positions.
 2. Refer to page 23 for **D** Dimensions and Dual Positions.
 3. No Mounting Ears, Dimensions do not apply.

Standard Edge II Connectors (Continued)

**Recommended
PC Board Edge Pattern**

**PC Board Edge Pattern for
.100 [2.54] and .125 [3.18]
Centerline**



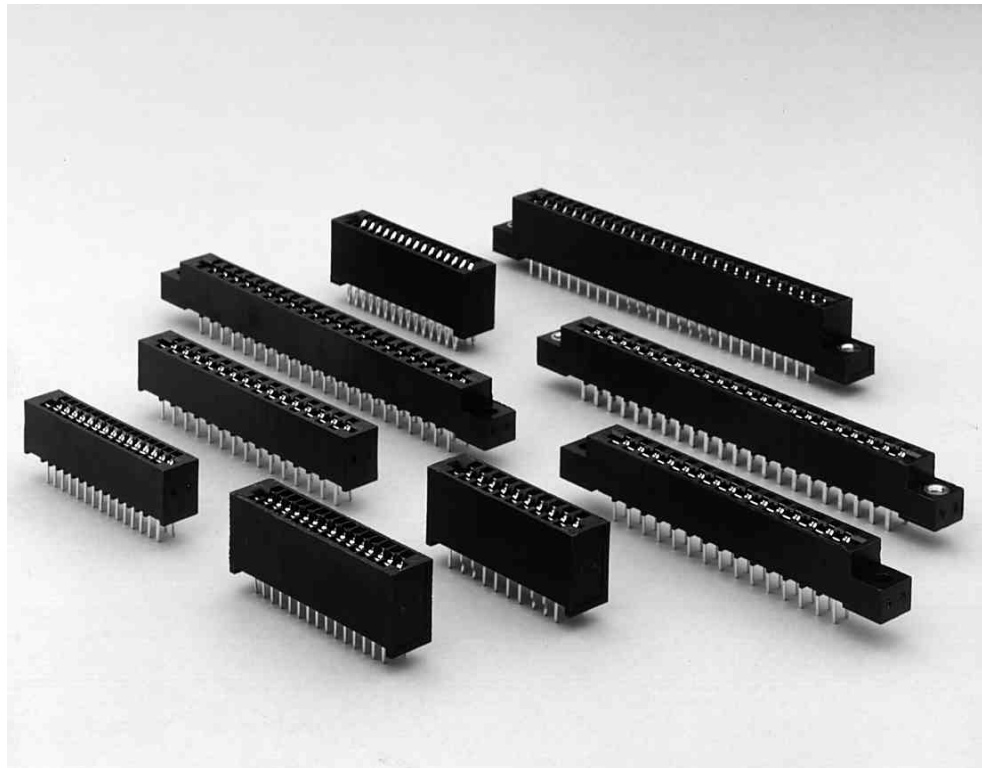
Solder Type Board-to-Board
Connectors

| No. of Dual Positions | .100 [2.54] Centerline A = .093 [2.36] B = .050 [1.27] | | .125 [3.18] Centerline A = .118 [3.00] B = .075 [1.90] | |
|-----------------------------|--|-----------------|--|-----------------|
| | C | D | C | D |
| 3 | .386 9.80 | .200 5.08 | — | — |
| 6 | .686 17.42 | .500 12.70 | .861 21.87 | .625 15.88 |
| 10 | 1.086 27.58 | .900 22.86 | 1.361 34.57 | 1.125 28.58 |
| 12 | 1.286 32.66 | 1.100 27.94 | — | — |
| 13 | 1.386 35.20 | 1.200 30.48 | — | — |
| 14 | — | — | 1.861 47.27 | 1.625 41.28 |
| 15 | 1.586 40.28 | 1.400 35.56 | — | — |
| 17 | 1.786 45.36 | 1.600 40.64 | — | — |
| 18 | 1.886 47.90 | 1.700 43.18 | 2.361 59.97 | 2.125 53.98 |
| 22 | 2.286 58.06 | 2.100 53.34 | 2.861 72.67 | 2.625 66.68 |
| 25 | 2.586 65.68 | 2.400 60.96 | — | — |
| 28 | 2.886 73.30 | 2.700 68.58 | 3.611 91.72 | 3.375 85.73 |
| 30 | 3.086 78.38 | 2.900 73.66 | 3.861 98.07 | 3.625 92.08 |
| 31 | 3.186 80.92 | 3.000 76.20 | 3.986 101.24 | 3.750 95.25 |
| 35 | 3.586 91.08 | 3.400 86.36 | — | — |
| 36 | 3.686 93.62 | 3.500 88.90 | 4.611 117.12 | 4.375 111.13 |
| 40 | 4.086 103.78 | 3.900 99.06 | 5.111 129.82 | 4.875 123.82 |
| 43 | 4.386 111.40 | 4.200 106.68 | 5.486 139.34 | 5.250 133.35 |
| 50 | 5.086 129.18 | 4.900 124.46 | 6.361 161.57 | 6.125 155.58 |
| 60 | 6.086 154.58 | 5.900 149.86 | — | — |
| 70 | 7.086 179.98 | 6.900 175.26 | — | — |

Product Facts

- Double readout Card Edge connectors use dip solder contacts
- Large lead-in chamfers allow easy PC board installation
- Insulator standoffs prevent solder from wicking
- Various lengths for custom applications
- Contact option, single or dual row

Cantilever Series Card Edge Connectors



Description

The Cantilever Beam Series products from Tyco Electronics are double readout cardedge connectors, using dip solder contacts. Tooled for flexible manufacturing, these Card Edge connectors are readily available in a broad assortment of sizes and mounting styles. Our connectors meet industry standards.

Design Advantages

- **Circuit Integrity:** Robust cantilever contacts are designed to promote optimal normal forces at the lowest possible cost. Our uniquely contoured contact mating surface gives you constant engagement, even when subjected to continuous vibration.
- **Ease of Assembly:** Generous lead-in chamfers let your P.C. board slide easily into the connector. Insulator standoffs are provided to facilitate cleaning and prevent solder from wicking.

Availability, flexibility, performance and very low cost make the Cantilever Series from Tyco Electronics the clear choice in Card Edge connectors.

Cantilever Beam

The Cantilever Beam Card Edge connector comes with standard high temperature plastic insulators. Contacts are available in a variety of lengths to accommodate various custom applications. Standoffs allow for cleaning and draining and are available as an option on most insulator bodies.

Cantilever Beam Card Edge offers a variety of card slot depths. A full scoop option is available for ease of installation in applications where visibility is limited.

Contact options vary in this series from dual row standard contacts, single row options and press-fit.

Cantilever Series Connectors .100 x .200 [2.54 x 5.08] Centerline

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 



Physical Properties:

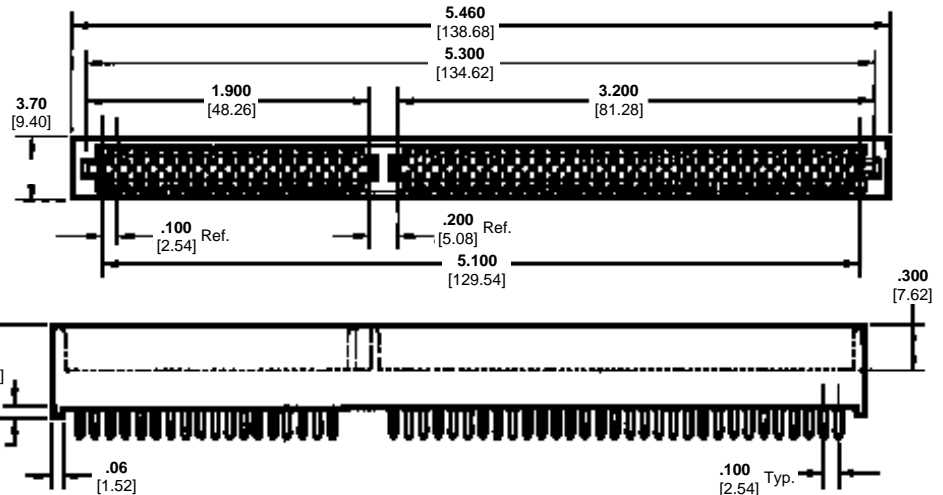
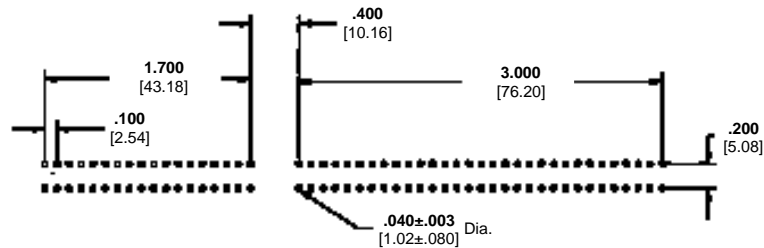
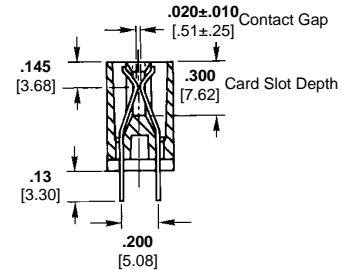
- Insulation Resistance**—5000 megohms minimum.
- Insertion/Withdrawal Force (Daughter Card)**—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.
- Insulator Body**—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.
- Color**—Black
- Contacts**—High strength copper alloy.
- Contact Plating**—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

- Operation Voltage**—600 VDC (sea level)
- Current Rating**—3 Amperes
- Initial Contact Resistance**—10 milliohms

Environmental Properties:

- Operating Temperature**—-55°C to +125°C
- Temperature Cycling**—MIL-STD-202 method 107



Ordering Information

Acquired Part Number

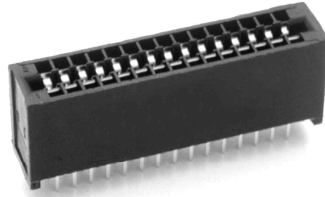
- C8D52DS29C1M191** – Insulator with molded-in polarizing key with card guide chamber. The card slot lengths are 1.900 [48.26] and 3.200 [81.28]. Includes retention tails for .062 [1.57] PCB to hold connectors securely during handling.
- C8D52DS29C1M195** – Same as above. No retention tails.

Electronics

Cantilever Series Connectors .100 x .200 [2.54 x 5.08] Centerline Dip Solder Tails, .300 [7.62] Card Slot Depth

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 



Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

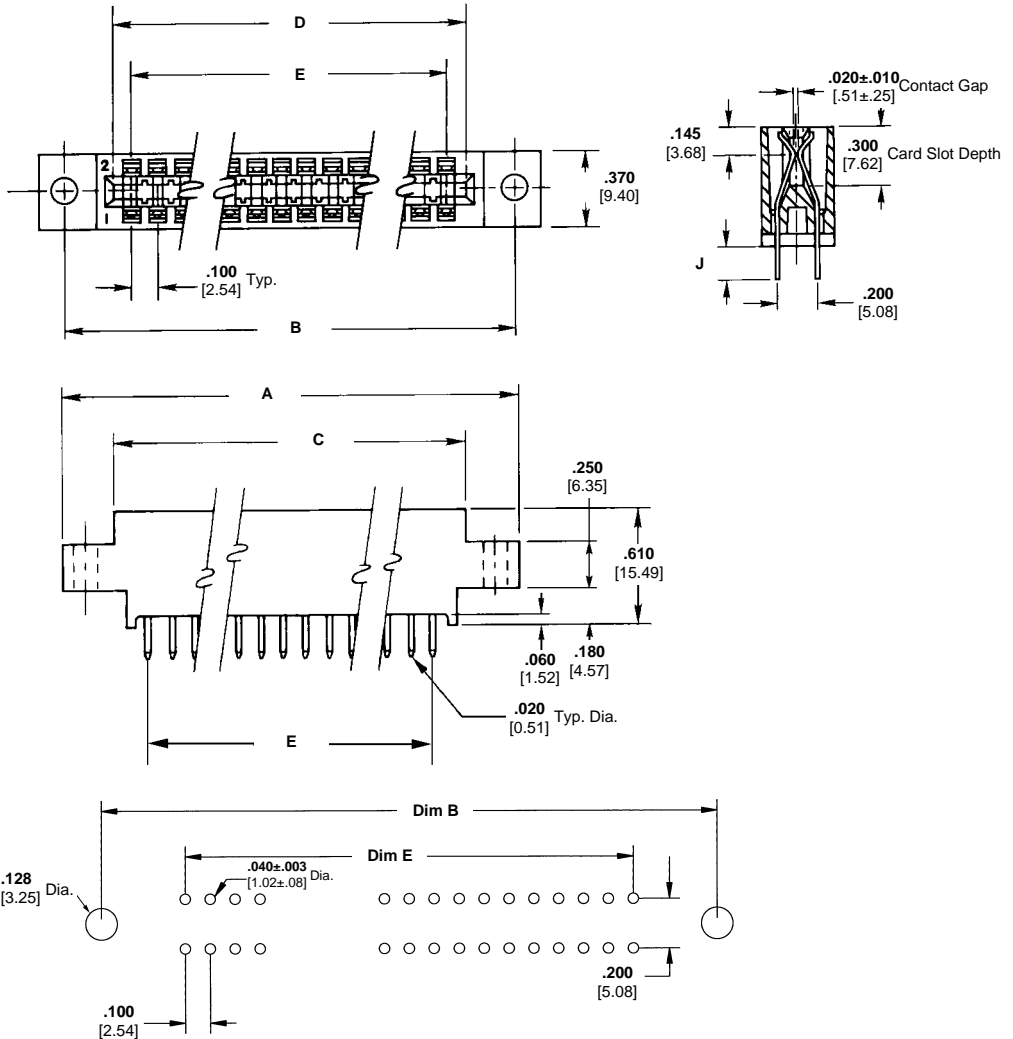
Operating Temperature—-55°C to +125°C

Temperature Cycling—MIL-STD-202 method 107

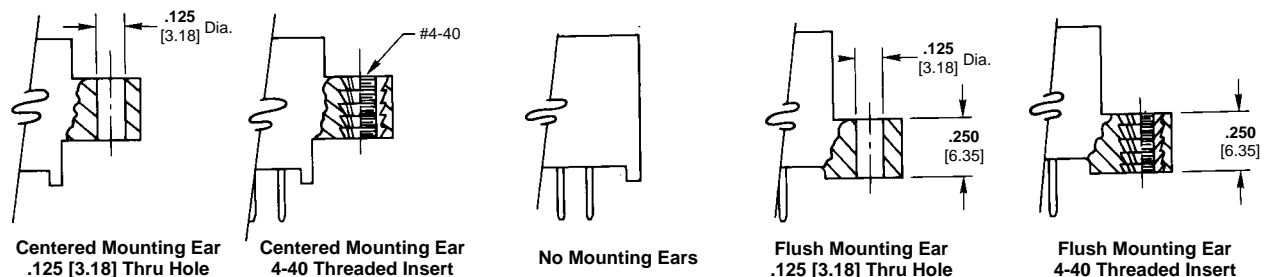
Vibration—MIL-STD-202 method 204

Related Product Data:

Daughter Card Edge Pattern—page 57



Mounting Styles



Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .130" [3.30] (DIM "J") | | | | | | | | | | |
| 6 | 1.435 36.45 | 1.175 29.85 | 0.860 21.84 | 0.700 17.78 | 0.500 12.70 | C8D06DS29A1 | C8D06DS29B1 | C8D06DS29C1 | C8D06DS29D1 | C8D06DS29E1 |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | C8D10DS29A1 | C8D10DS29B1 | C8D10DS29C1 | C8D10DS29D1 | C8D10DS29E1 |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | C8D12DS29A1 | C8D12DS29B1 | C8D12DS29C1 | C8D12DS29D1 | C8D12DS29E1 |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | C8D15DS29A1 | C8D15DS29B1 | C8D15DS29C1 | C8D15DS29D1 | C8D15DS29E1 |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | C8D18DS29A1 | C8D18DS29B1 | C8D18DS29C1 | C8D18DS29D1 | C8D18DS29E1 |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | C8D20DS29A1 | C8D20DS29B1 | C8D20DS29C1 | C8D20DS29D1 | C8D20DS29E1 |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | C8D22DS29A1 | C8D22DS29B1 | C8D22DS29C1 | C8D22DS29D1 | C8D22DS29E1 |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | C8D25DS29A1 | C8D25DS29B1 | C8D25DS29C1 | C8D25DS29D1 | C8D25DS29E1 |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | C8D28DS29A1 | C8D28DS29B1 | C8D28DS29C1 | C8D28DS29D1 | C8D28DS29E1 |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | C8D30DS29A1 | C8D30DS29B1 | C8D30DS29C1 | C8D30DS29D1 | C8D30DS29E1 |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.000 76.20 | C8D31DS29A1 | C8D31DS29B1 | C8D31DS29C1 | C8D31DS29D1 | C8D31DS29E1 |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | C8D35DS29A1 | C8D35DS29B1 | C8D35DS29C1 | C8D35DS29D1 | C8D35DS29E1 |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | C8D36DS29A1 | C8D36DS29B1 | C8D36DS29C1 | C8D36DS29D1 | C8D36DS29E1 |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | C8D40DS29A1 | C8D40DS29B1 | C8D40DS29C1 | C8D40DS29D1 | C8D40DS29E1 |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | C8D43DS29A1 | C8D43DS29B1 | C8D43DS29C1 | C8D43DS29D1 | C8D43DS29E1 |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.900 124.46 | C8D50DS29A1 | C8D50DS29B1 | C8D50DS29C1 | C8D50DS29D1 | C8D50DS29E1 |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | C8D60DS29A1 | C8D60DS29B1 | C8D60DS29C1 | C8D60DS29D1 | C8D60DS29E1 |
| Tail Length .160" [4.06] (DIM "J") | | | | | | | | | | |
| 6 | 1.435 36.45 | 1.175 29.85 | 0.860 21.84 | 0.700 17.78 | 0.500 12.70 | C8D06DS29A2 | C8D06DS29B2 | C8D06DS29C2 | C8D06DS29D2 | C8D06DS29E2 |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | C8D10DS29A2 | C8D10DS29B2 | C8D10DS29C2 | C8D10DS29D2 | C8D10DS29E2 |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | C8D12DS29A2 | C8D12DS29B2 | C8D12DS29C2 | C8D12DS29D2 | C8D12DS29E2 |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | C8D15DS29A2 | C8D15DS29B2 | C8D15DS29C2 | C8D15DS29D2 | C8D15DS29E2 |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | C8D18DS29A2 | C8D18DS29B2 | C8D18DS29C2 | C8D18DS29D2 | C8D18DS29E2 |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | C8D20DS29A2 | C8D20DS29B2 | C8D20DS29C2 | C8D20DS29D2 | C8D20DS29E2 |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | C8D22DS29A2 | C8D22DS29B2 | C8D22DS29C2 | C8D22DS29D2 | C8D22DS29E2 |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | C8D25DS29A2 | C8D25DS29B2 | C8D25DS29C2 | C8D25DS29D2 | C8D25DS29E2 |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | C8D28DS29A2 | C8D28DS29B2 | C8D28DS29C2 | C8D28DS29D2 | C8D28DS29E2 |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | C8D30DS29A2 | C8D30DS29B2 | C8D30DS29C2 | C8D30DS29D2 | C8D30DS29E2 |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.000 76.20 | C8D31DS29A2 | C8D31DS29B2 | C8D31DS29C2 | C8D31DS29D2 | C8D31DS29E2 |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | C8D35DS29A2 | C8D35DS29B2 | C8D35DS29C2 | C8D35DS29D2 | C8D35DS29E2 |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | C8D36DS29A2 | C8D36DS29B2 | C8D36DS29C2 | C8D36DS29D2 | C8D36DS29E2 |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | C8D40DS29A2 | C8D40DS29B2 | C8D40DS29C2 | C8D40DS29D2 | C8D40DS29E2 |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | C8D43DS29A2 | C8D43DS29B2 | C8D43DS29C2 | C8D43DS29D2 | C8D43DS29E2 |

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .160" [4.06] (DIM "J") (Continued) | | | | | | | | | | |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.900 124.46 | C8D50DS29A2 | C8D50DS29B2 | C8D50DS29C2 | C8D50DS29D2 | C8D50DS29E2 |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | C8D60DS29A2 | C8D60DS29B2 | C8D60DS29C2 | C8D60DS29D2 | C8D60DS29E2 |
| Tail Length .220" [5.59] (DIM "J") | | | | | | | | | | |
| 6 | 1.435 36.45 | 1.175 29.85 | 0.860 21.84 | 0.700 17.78 | 0.500 12.70 | C8D06DS29A3 | C8D06DS29B3 | C8D06DS29C3 | C8D06DS29D3 | C8D06DS29E3 |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | C8D10DS29A3 | C8D10DS29B3 | C8D10DS29C3 | C8D10DS29D3 | C8D10DS29E3 |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | C8D12DS29A3 | C8D12DS29B3 | C8D12DS29C3 | C8D12DS29D3 | C8D12DS29E3 |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | C8D15DS29A3 | C8D15DS29B3 | C8D15DS29C3 | C8D15DS29D3 | C8D15DS29E3 |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | C8D18DS29A3 | C8D18DS29B3 | C8D18DS29C3 | C8D18DS29D3 | C8D18DS29E3 |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | C8D20DS29A3 | C8D20DS29B3 | C8D20DS29C3 | C8D20DS29D3 | C8D20DS29E3 |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | C8D22DS29A3 | C8D22DS29B3 | C8D22DS29C3 | C8D22DS29D3 | C8D22DS29E3 |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | C8D25DS29A3 | C8D25DS29B3 | C8D25DS29C3 | C8D25DS29D3 | C8D25DS29E3 |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | C8D28DS29A3 | C8D28DS29B3 | C8D28DS29C3 | C8D28DS29D3 | C8D28DS29E3 |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | C8D30DS29A3 | C8D30DS29B3 | C8D30DS29C3 | C8D30DS29D3 | C8D30DS29E3 |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.000 76.20 | C8D31DS29A3 | C8D31DS29B3 | C8D31DS29C3 | C8D31DS29D3 | C8D31DS29E3 |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | C8D35DS29A3 | C8D35DS29B3 | C8D35DS29C3 | C8D35DS29D3 | C8D35DS29E3 |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | C8D36DS29A3 | C8D36DS29B3 | C8D36DS29C3 | C8D36DS29D3 | C8D36DS29E3 |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | C8D40DS29A3 | C8D40DS29B3 | C8D40DS29C3 | C8D40DS29D3 | C8D40DS29E3 |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | C8D43DS29A3 | C8D43DS29B3 | C8D43DS29C3 | C8D43DS29D3 | C8D43DS29E3 |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.900 124.46 | C8D50DS29A3 | C8D50DS29B3 | C8D50DS29C3 | C8D50DS29D3 | C8D50DS29E3 |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | C8D60DS29A3 | C8D60DS29B3 | C8D60DS29C3 | C8D60DS29D3 | C8D60DS29E3 |

Solder Type Board-to-Board Connectors

Cantilever Series Connectors 100 x .200 [2.54 x 5.08], .510 [12.95] and .395 [10.03] Card Slot Depth, Full Scoop

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

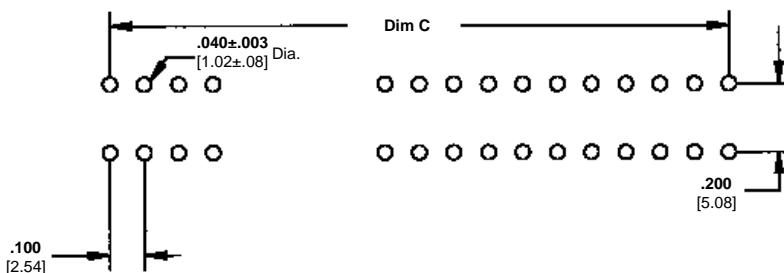
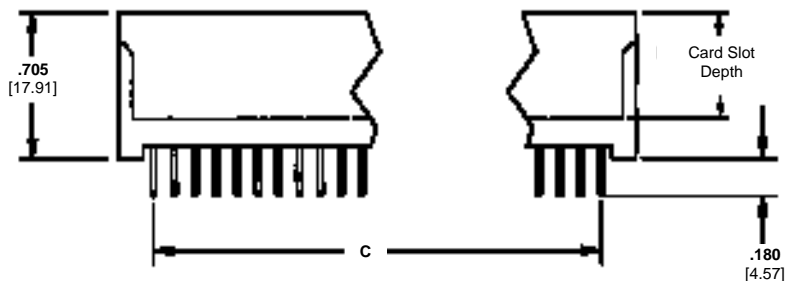
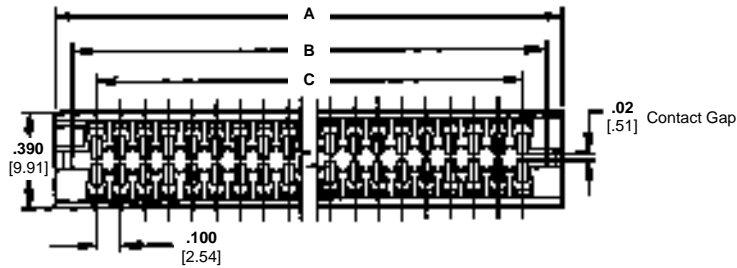
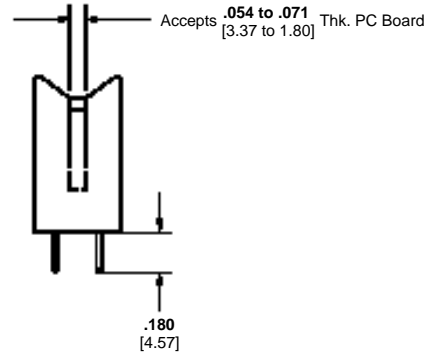
Operating Temperature—-55°C to +125°C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

Related Product Data

Daughter Card Edge Pattern—page 57



Solder Type Board-to-Board Connectors

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row Full Scoop

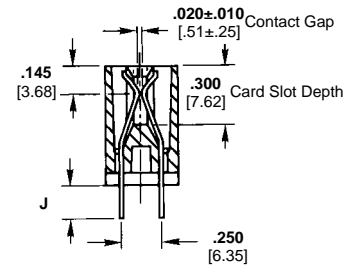
| No. of Dual Readout Pos. | Dimensions | | | Acquired Part Number |
|--------------------------------------|------------------------|------------------------|------------------------|-------------------------|
| | A | B | C | |
| .510" [12.95] Card Slot Depth | | | | |
| 18 | 2.034 51.66 | 1.904 48.36 | 1.700 43.18 | W8D18DS29063 |
| 20 | 2.234 56.74 | 2.104 53.44 | 1.900 48.26 | W8D20DS29063 |
| 22 | 2.434 61.82 | 2.304 58.52 | 2.100 53.34 | W8D22DS29063 |
| 25 | 2.734 69.44 | 2.604 66.14 | 2.400 60.96 | W8D25DS29063 |
| 28 | 3.034 77.06 | 2.904 73.76 | 2.700 68.58 | W8D28DS29063 |
| 30 | 3.234 82.14 | 3.104 78.84 | 2.900 73.66 | W8D30DS29063 |
| 35 | 3.734 94.84 | 3.604 91.54 | 3.400 86.36 | W8D35DS29063 |
| 36 | 3.834 97.38 | 3.704 94.08 | 3.500 88.90 | W8D36DS29063 |
| 40 | 4.234 107.54 | 4.104 104.24 | 3.900 99.06 | W8D40DS29063 |
| 43 | 4.534 115.16 | 4.404 111.86 | 4.200 106.68 | W8D43DS29063 |
| 45 | 4.734 120.24 | 4.604 116.94 | 4.400 111.76 | W8D45DS29063 |
| 50 | 5.234 132.94 | 5.104 129.64 | 4.900 124.46 | W8D50DS29063 |
| 60 | 6.234 158.34 | 6.104 155.04 | 5.900 149.86 | W8D60DS29063 |
| .395" [10.03] Card Slot Depth | | | | |
| 18 | 2.034 51.66 | 1.904 48.36 | 1.700 43.18 | W8D18DS29093 |
| 20 | 2.234 56.74 | 2.104 53.44 | 1.900 48.26 | W8D20DS29093 |
| 22 | 2.434 61.82 | 2.304 58.52 | 2.100 53.34 | W8D22DS29093 |
| 25 | 2.734 69.44 | 2.604 66.14 | 2.400 60.96 | W8D25DS29093 |
| 28 | 3.034 77.06 | 2.904 73.76 | 2.700 68.58 | W8D28DS29093 |
| 30 | 3.234 82.14 | 3.104 78.84 | 2.900 73.66 | W8D30DS29093 |
| 35 | 3.734 94.84 | 3.604 91.54 | 3.400 86.36 | W8D35DS29093 |
| 36 | 3.834 97.38 | 3.704 94.08 | 3.500 88.90 | W8D36DS29093 |
| 40 | 4.234 107.54 | 4.104 104.24 | 3.900 99.06 | W8D40DS29093 |
| 43 | 4.534 115.16 | 4.404 111.86 | 4.200 106.68 | W8D43DS29093 |
| 45 | 4.734 120.24 | 4.604 116.94 | 4.400 111.76 | W8D45DS29093 |
| 50 | 5.234 132.94 | 5.104 129.64 | 4.900 124.46 | W8D50DS29093 |
| 60 | 6.234 158.34 | 6.104 155.04 | 5.900 149.86 | W8D60DS29093 |

Solder Type Board-to-Board Connectors

Cantilever Series Connectors .125 x .250 [3.18 x 6.35] Centerline, Dip Solder Tails, .300 [7.62] Card Slot Depth

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 



Physical Properties:

- Insulation Resistance**—5000 megohms minimum.
- Insertion/Withdrawal Force (Daughter Card)**—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.
- Insulator Body**—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

- Color**—Black
- Contacts**—High strength copper alloy.
- Contact Plating**—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

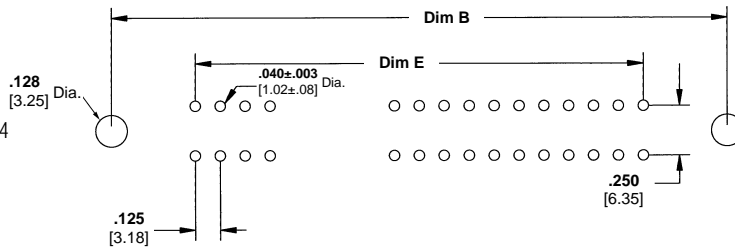
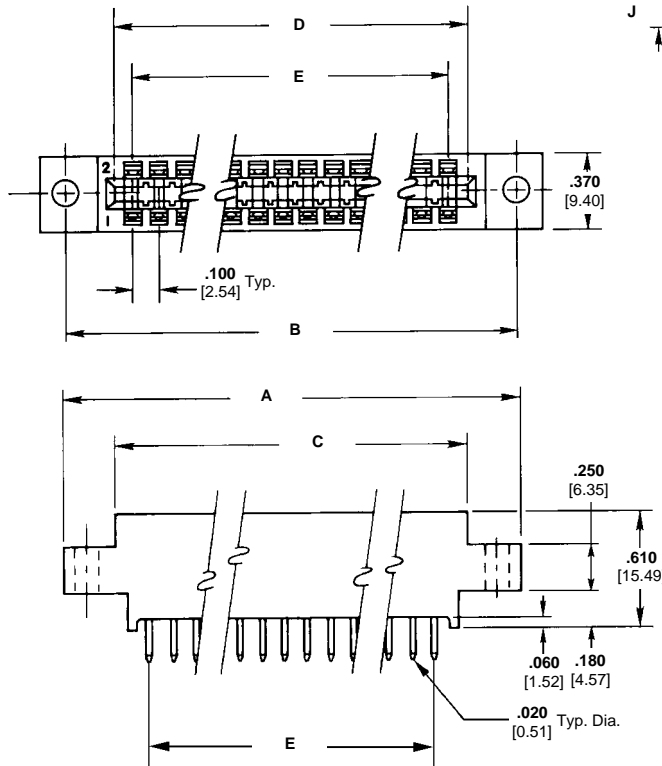
- Operation Voltage**—1000 VDC (sea level)
- Current Rating**—3 Amperes
- Initial Contact Resistance**—10 milliohms

Environmental Properties:

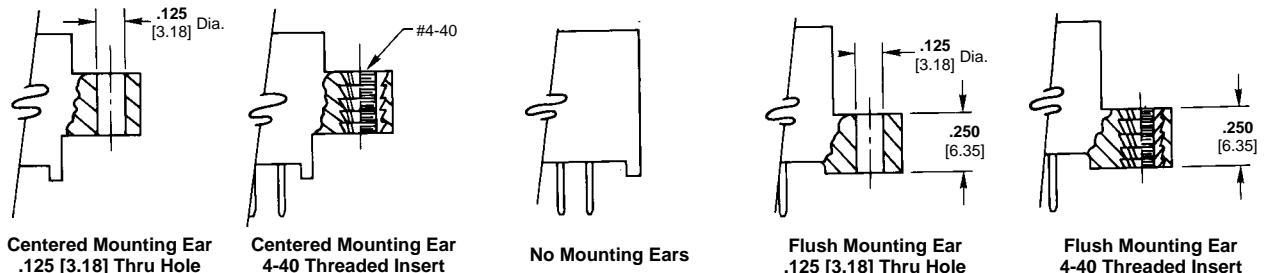
- Operating Temperature**—-55°C to +125°C
- Temperature Cycling**—MIL-STD-202 method 107
- Vibration**—MIL-STD-202 method 204

Related Product Data:

Daughter Card Edge Pattern—page 57



Mounting Styles



.125" [3.18] Centerline / .250" [6.35] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .130 [3.30] (DIM. "J") | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | C7D06DS29A1 | C7D06DS29B1 | C7D06DS29C1 | C7D06DS29D1 | C7D06DS29E1 |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | C7D10DS29A1 | C7D10DS29B1 | C7D10DS29C1 | C7D10DS29D1 | C7D10DS29E1 |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | C7D15DS29A1 | C7D15DS29B1 | C7D15DS29C1 | C7D15DS29D1 | C7D15DS29E1 |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | C7D18DS29A1 | C7D18DS29B1 | C7D18DS29C1 | C7D18DS29D1 | C7D18DS29E1 |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | C7D22DS29A1 | C7D22DS29B1 | C7D22DS29C1 | C7D22DS29D1 | C7D22DS29E1 |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | C7D25DS29A1 | C7D25DS29B1 | C7D25DS29C1 | C7D25DS29D1 | C7D25DS29E1 |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | C7D28DS29A1 | C7D28DS29B1 | C7D28DS29C1 | C7D28DS29D1 | C7D28DS29E1 |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | C7D30DS29A1 | C7D30DS29B1 | C7D30DS29C1 | C7D30DS29D1 | C7D30DS29E1 |
| 31 | 4.680 118.87 | 4.420 112.27 | 4.160 105.66 | 4.000 101.60 | 3.750 95.25 | C7D31DS29A1 | C7D31DS29B1 | C7D31DS29C1 | C7D31DS29D1 | C7D31DS29E1 |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | C7D35DS29A1 | C7D35DS29B1 | C7D35DS29C1 | C7D35DS29D1 | C7D35DS29E1 |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | C7D36DS29A1 | C7D36DS29B1 | C7D36DS29C1 | C7D36DS29D1 | C7D36DS29E1 |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | C7D40DS29A1 | C7D40DS29B1 | C7D40DS29C1 | C7D40DS29D1 | C7D40DS29E1 |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | C7D43DS29A1 | C7D43DS29B1 | C7D43DS29C1 | C7D43DS29D1 | C7D43DS29E1 |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | C7D50DS29A1 | C7D50DS29B1 | C7D50DS29C1 | C7D50DS29D1 | C7D50DS29E1 |
| Tail Length .160 [4.06] (DIM. "J") | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | C7D06DS29A3 | C7D06DS29B3 | C7D06DS29C3 | C7D06DS29D3 | C7D06DS29E3 |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | C7D10DS29A3 | C7D10DS29B3 | C7D10DS29C3 | C7D10DS29D3 | C7D10DS29E3 |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | C7D15DS29A3 | C7D15DS29B3 | C7D15DS29C3 | C7D15DS29D3 | C7D15DS29E3 |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | C7D18DS29A3 | C7D18DS29B3 | C7D18DS29C3 | C7D18DS29D3 | C7D18DS29E3 |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | C7D22DS29A3 | C7D22DS29B3 | C7D22DS29C3 | C7D22DS29D3 | C7D22DS29E3 |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | C7D25DS29A3 | C7D25DS29B3 | C7D25DS29C3 | C7D25DS29D3 | C7D25DS29E3 |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | C7D28DS29A3 | C7D28DS29B3 | C7D28DS29C3 | C7D28DS29D3 | C7D28DS29E3 |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | C7D30DS29A3 | C7D30DS29B3 | C7D30DS29C3 | C7D30DS29D3 | C7D30DS29E3 |
| 31 | 4.680 118.87 | 4.420 112.27 | 4.160 105.66 | 4.000 101.60 | 3.750 95.25 | C7D31DS29A3 | C7D31DS29B3 | C7D31DS29C3 | C7D31DS29D3 | C7D31DS29E3 |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | C7D35DS29A3 | C7D35DS29B3 | C7D35DS29C3 | C7D35DS29D3 | C7D35DS29E3 |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | C7D36DS29A3 | C7D36DS29B3 | C7D36DS29C3 | C7D36DS29D3 | C7D36DS29E3 |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | C7D40DS29A3 | C7D40DS29B3 | C7D40DS29C3 | C7D40DS29D3 | C7D40DS29E3 |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | C7D43DS29A3 | C7D43DS29B3 | C7D43DS29C3 | C7D43DS29D3 | C7D43DS29E3 |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | C7D50DS29A3 | C7D50DS29B3 | C7D50DS29C3 | C7D50DS29D3 | C7D50DS29E3 |

Solder Type Board-to-Board Connectors

Ordering Information

.125" [3.18] Centerline / .250" [6.35] Row-to-Row

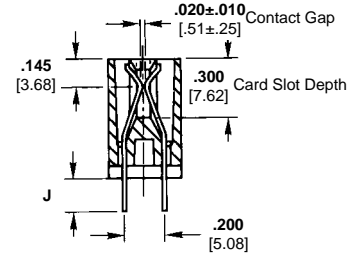
| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .220 [5.59] (DIM. "J") | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | C7D06DS29A4 | C7D06DS29B4 | C7D06DS29C4 | C7D06DS29D4 | C7D06DS29E4 |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | C7D10DS29A4 | C7D10DS29B4 | C7D10DS29C4 | C7D10DS29D4 | C7D10DS29E4 |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | C7D15DS29A4 | C7D15DS29B4 | C7D15DS29C4 | C7D15DS29D4 | C7D15DS29E4 |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | C7D18DS29A4 | C7D18DS29B4 | C7D18DS29C4 | C7D18DS29D4 | C7D18DS29E4 |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | C7D22DS29A4 | C7D22DS29B4 | C7D22DS29C4 | C7D22DS29D4 | C7D22DS29E4 |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | C7D25DS29A4 | C7D25DS29B4 | C7D25DS29C4 | C7D25DS29D4 | C7D25DS29E4 |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | C7D28DS29A4 | C7D28DS29B4 | C7D28DS29C4 | C7D28DS29D4 | C7D28DS29E4 |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | C7D30DS29A4 | C7D30DS29B4 | C7D30DS29C4 | C7D30DS29D4 | C7D30DS29E4 |
| 31 | 4.680 118.87 | 4.420 112.27 | 4.160 105.66 | 4.000 101.60 | 3.750 95.25 | C7D31DS29A4 | C7D31DS29B4 | C7D31DS29C4 | C7D31DS29D4 | C7D31DS29E4 |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | C7D35DS29A4 | C7D35DS29B4 | C7D35DS29C4 | C7D35DS29D4 | C7D35DS29E4 |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | C7D36DS29A4 | C7D36DS29B4 | C7D36DS29C4 | C7D36DS29D4 | C7D36DS29E4 |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | C7D40DS29A4 | C7D40DS29B4 | C7D40DS29C4 | C7D40DS29D4 | C7D40DS29E4 |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | C7D43DS29A4 | C7D43DS29B4 | C7D43DS29C4 | C7D43DS29D4 | C7D43DS29E4 |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | C7D50DS29A4 | C7D50DS29B4 | C7D50DS29C4 | C7D50DS29D4 | C7D50DS29E4 |

Solder Type Board-to-Board Connectors

Cantilever Series .156 x .200 [3.96 x 5.08] Centerline, Dip Solder Tails, .300 [7.62] Card Slot Depth

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 



Physical Properties:

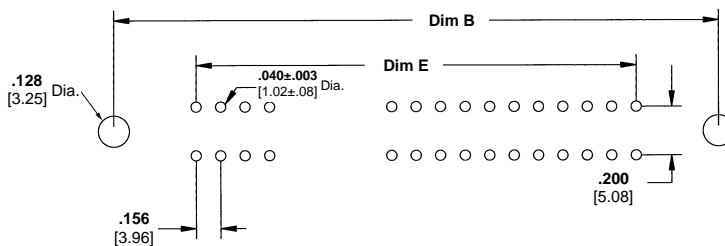
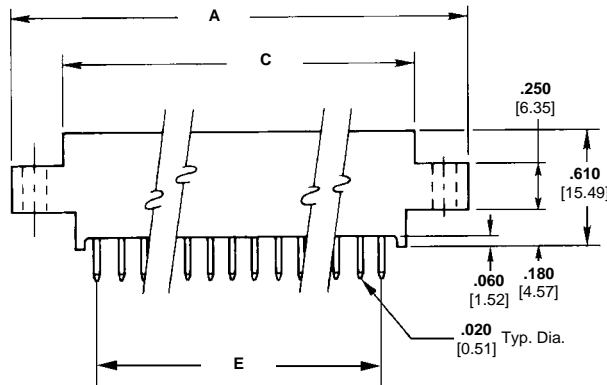
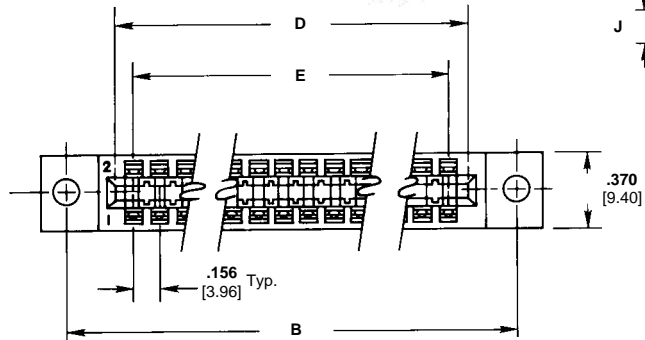
- Insulation Resistance**—5000 megohms minimum.
- Insertion/Withdrawal Force (Daughter Card)**—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.
- Insulator Body**—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

- Color**—Black
- Contacts**—High strength copper alloy.
- Contact Plating**—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

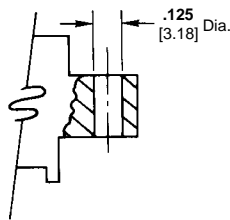
- Electrical Properties:**
- Operation Voltage**—1500 VDC (sea level)
- Current Rating**—3 Amperes
- Initial Contact Resistance**—10 milliohms

- Environmental Properties:**
- Operating Temperature**—-55°C to +125°C
- Temperature Cycling**—MIL-STD-202 method 107
- Vibration**—MIL-STD-202 method 204

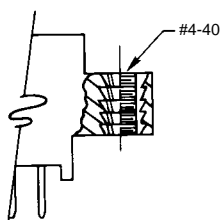
- Related Product Data:**
- Daughter Card Edge Pattern**—page 57



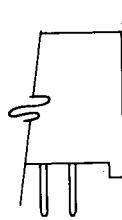
Mounting Styles



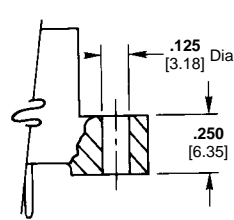
Centered Mounting Ear
.125 [3.18] Thru Hole



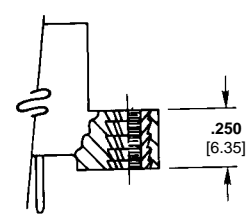
Centered Mounting Ear
#4-40 Threaded Insert



No Mounting Ears



Flush Mounting Ear
.125 [3.18] Thru Hole



Flush Mounting Ear
#4-40 Threaded Insert

Ordering Information

.156" [3.96] Centerline / .200" [5.08] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .130 [3.30] (DIM. "J") | | | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | C6D06DS29A1 | C6D06DS29B1 | C6D06DS29C1 | C6D06DS29D1 | C6D06DS29E1 |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | C6D10DS29A1 | C6D10DS29B1 | C6D10DS29C1 | C6D10DS29D1 | C6D10DS29E1 |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | C6D12DS29A1 | C6D12DS29B1 | C6D12DS29C1 | C6D12DS29D1 | C6D12DS29E1 |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | C6D15DS29A1 | C6D15DS29B1 | C6D15DS29C1 | C6D15DS29D1 | C6D15DS29E1 |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | C6D18DS29A1 | C6D18DS29B1 | C6D18DS29C1 | C6D18DS29D1 | C6D18DS29E1 |
| 20 | 3.968 100.79 | 3.718 94.44 | 3.405 86.49 | 3.284 83.41 | 2.964 75.29 | C6D20DS29A1 | C6D20DS29B1 | C6D20DS29C1 | C6D20DS29D1 | C6D20DS29E1 |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.595 91.31 | 3.276 83.21 | C6D22DS29A1 | C6D22DS29B1 | C6D22DS29C1 | C6D22DS29D1 | C6D22DS29E1 |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | C6D25DS29A1 | C6D25DS29B1 | C6D25DS29C1 | C6D25DS29D1 | C6D25DS29E1 |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | C6D28DS29A1 | C6D28DS29B1 | C6D28DS29C1 | C6D28DS29D1 | C6D28DS29E1 |
| 30 | 5.528 140.41 | 5.278 134.06 | 4.965 126.11 | 4.844 123.04 | 4.524 114.91 | C6D30DS29A1 | C6D30DS29B1 | C6D30DS29C1 | C6D30DS29D1 | C6D30DS29E1 |
| 31 | 5.684 144.37 | 5.434 138.02 | 5.121 130.07 | 5.000 127.00 | 4.680 118.87 | C6D31DS29A1 | C6D31DS29B1 | C6D31DS29C1 | C6D31DS29D1 | C6D31DS29E1 |
| 35 | 6.308 160.22 | 6.058 153.87 | 5.745 145.92 | 5.624 142.85 | 5.304 134.72 | C6D35DS29A1 | C6D35DS29B1 | C6D35DS29C1 | C6D35DS29D1 | C6D35DS29E1 |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | C6D36DS29A1 | C6D36DS29B1 | C6D36DS29C1 | C6D36DS29D1 | C6D36DS29E1 |
| 40 | 7.088 180.04 | 6.838 173.69 | 6.525 165.74 | 6.404 162.66 | 6.085 154.56 | C6D40DS29A1 | C6D40DS29B1 | C6D40DS29C1 | C6D40DS29D1 | C6D40DS29E1 |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | C6D43DS29A1 | C6D43DS29B1 | C6D43DS29C1 | C6D43DS29D1 | C6D43DS29E1 |
| 50 | 8.648 219.66 | 8.398 213.31 | 8.085 205.36 | 7.964 202.29 | 7.644 194.16 | C6D50DS29A1 | C6D50DS29B1 | C6D50DS29C1 | C6D50DS29D1 | C6D50DS29E1 |
| Tail Length .160 [4.06] (DIM. "J") | | | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | C6D06DS29A3 | C6D06DS29B3 | C6D06DS29C3 | C6D06DS29D3 | C6D06DS29E3 |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | C6D10DS29A3 | C6D10DS29B3 | C6D10DS29C3 | C6D10DS29D3 | C6D10DS29E3 |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | C6D12DS29A3 | C6D12DS29B3 | C6D12DS29C3 | C6D12DS29D3 | C6D12DS29E3 |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | C6D15DS29A3 | C6D15DS29B3 | C6D15DS29C3 | C6D15DS29D3 | C6D15DS29E3 |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | C6D18DS29A3 | C6D18DS29B3 | C6D18DS29C3 | C6D18DS29D3 | C6D18DS29E3 |
| 20 | 3.968 100.79 | 3.718 94.44 | 3.405 86.49 | 3.284 83.41 | 2.964 75.29 | C6D20DS29A3 | C6D20DS29B3 | C6D20DS29C3 | C6D20DS29D3 | C6D20DS29E3 |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.595 91.31 | 3.276 83.21 | C6D22DS29A3 | C6D22DS29B3 | C6D22DS29C3 | C6D22DS29D3 | C6D22DS29E3 |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | C6D25DS29A3 | C6D25DS29B3 | C6D25DS29C3 | C6D25DS29D3 | C6D25DS29E3 |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | C6D28DS29A3 | C6D28DS29B3 | C6D28DS29C3 | C6D28DS29D3 | C6D28DS29E3 |
| 30 | 5.528 140.41 | 5.278 134.06 | 4.965 126.11 | 4.844 123.04 | 4.524 114.91 | C6D30DS29A3 | C6D30DS29B3 | C6D30DS29C3 | C6D30DS29D3 | C6D30DS29E3 |
| 31 | 5.684 144.37 | 5.434 138.02 | 5.121 130.07 | 5.000 127.00 | 4.680 118.87 | C6D31DS29A3 | C6D31DS29B3 | C6D31DS29C3 | C6D31DS29D3 | C6D31DS29E3 |
| 35 | 6.308 160.22 | 6.058 153.87 | 5.745 145.92 | 5.624 142.85 | 5.304 134.72 | C6D35DS29A3 | C6D35DS29B3 | C6D35DS29C3 | C6D35DS29D3 | C6D35DS29E3 |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | C6D36DS29A3 | C6D36DS29B3 | C6D36DS29C3 | C6D36DS29D3 | C6D36DS29E3 |
| 40 | 7.088 180.04 | 6.838 173.69 | 6.525 165.74 | 6.404 162.66 | 6.085 154.56 | C6D40DS29A3 | C6D40DS29B3 | C6D40DS29C3 | C6D40DS29D3 | C6D40DS29E3 |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | C6D43DS29A3 | C6D43DS29B3 | C6D43DS29C3 | C6D43DS29D3 | C6D43DS29E3 |
| 50 | 8.648 219.66 | 8.398 213.31 | 8.085 205.36 | 7.964 202.29 | 7.644 194.16 | C6D50DS29A3 | C6D50DS29B3 | C6D50DS29C3 | C6D50DS29D3 | C6D50DS29E3 |

.156" [3.96] Centerline / .200" [5.08] Row-to-Row

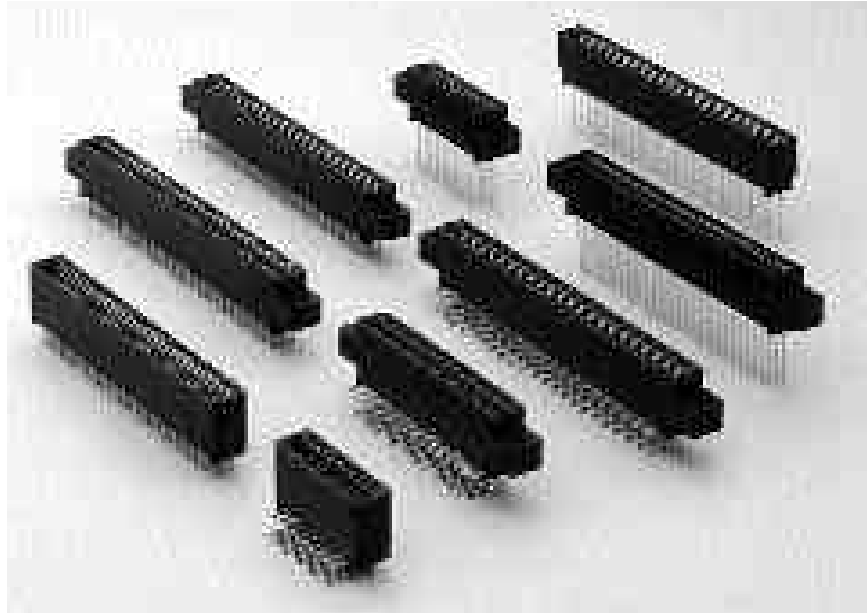
| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|-------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] ThruHole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .220" [5.59] (DIM. "J") | | | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | C6D06DS29A4 | C6D06DS29B4 | C6D06DS29C4 | C6D06DS29D4 | C6D06DS29E4 |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | C6D10DS29A4 | C6D10DS29B4 | C6D10DS29C4 | C6D10DS29D4 | C6D10DS29E4 |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | C6D12DS29A4 | C6D12DS29B4 | C6D12DS29C4 | C6D12DS29D4 | C6D12DS29E4 |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | C6D15DS29A4 | C6D15DS29B4 | C6D15DS29C4 | C6D15DS29D4 | C6D15DS29E4 |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | C6D18DS29A4 | C6D18DS29B4 | C6D18DS29C4 | C6D18DS29D4 | C6D18DS29E4 |
| 20 | 3.968 100.79 | 3.718 94.44 | 3.405 86.49 | 3.284 83.41 | 2.964 75.29 | C6D20DS29A4 | C6D20DS29B4 | C6D20DS29C4 | C6D20DS29D4 | C6D20DS29E4 |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.595 91.31 | 3.276 83.21 | C6D22DS29A4 | C6D22DS29B4 | C6D22DS29C4 | C6D22DS29D4 | C6D22DS29E4 |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | C6D25DS29A4 | C6D25DS29B4 | C6D25DS29C4 | C6D25DS29D4 | C6D25DS29E4 |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | C6D28DS29A4 | C6D28DS29B4 | C6D28DS29C4 | C6D28DS29D4 | C6D28DS29E4 |
| 30 | 5.528 140.41 | 5.278 134.06 | 4.965 126.11 | 4.844 123.04 | 4.524 114.91 | C6D30DS29A4 | C6D30DS29B4 | C6D30DS29C4 | C6D30DS29D4 | C6D30DS29E4 |
| 31 | 5.684 144.37 | 5.434 138.02 | 5.121 130.07 | 5.000 127.00 | 4.680 118.87 | C6D31DS29A4 | C6D31DS29B4 | C6D31DS29C4 | C6D31DS29D4 | C6D31DS29E4 |
| 35 | 6.308 160.22 | 6.058 153.87 | 5.745 145.92 | 5.624 142.85 | 5.304 134.72 | C6D35DS29A4 | C6D35DS29B4 | C6D35DS29C4 | C6D35DS29D4 | C6D35DS29E4 |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | C6D36DS29A4 | C6D36DS29B4 | C6D36DS29C4 | C6D36DS29D4 | C6D36DS29E4 |
| 40 | 7.088 180.04 | 6.838 173.69 | 6.525 165.74 | 6.404 162.66 | 6.085 154.56 | C6D40DS29A4 | C6D40DS29B4 | C6D40DS29C4 | C6D40DS29D4 | C6D40DS29E4 |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | C6D43DS29A4 | C6D43DS29B4 | C6D43DS29C4 | C6D43DS29D4 | C6D43DS29E4 |
| 50 | 8.648 219.66 | 8.398 213.31 | 8.085 205.36 | 7.964 202.29 | 7.644 194.16 | C6D50DS29A4 | C6D50DS29B4 | C6D50DS29C4 | C6D50DS29D4 | C6D50DS29E4 |

Solder Type Board-to-Board Connectors

Modified Bellows Card Edge Connectors

Product Facts

- Sizes from 6 to 65 dual positions.
- Contact mating surface optimizes reliability by concentrating the normal force in the actual contact area.
- Mounting ear options accommodate both Panel and PC Board attachment.
- Solder stand-offs facilitate cleaning.
- Bifurcated contact design provides redundant points of contact to maximize reliability.
- Tail lengths available to accommodate .062" [1.57] through .125" [3.18] thick PCB Boards and Wire Wrap termination.
- Straight or Right Angle contact configurations.



Bifurcated contact design provides maximum reliability

Description/Application

The modified bellows card edge connectors are dual readout and are designed for reliable termination to double sided PCB boards.

Modified Bellows

The modified bellows card edge connector offers a variety of tail lengths for solder and wire wrap applications. Contacts are available in straight tail or right angle configurations to meet your individual purpose. The modified bellows line of connectors offers a variety of card slot depths and has optional high temperature plastic insulators.

Modified Bellows Connectors .100 x .200 [2.54 x 5.08], Straight Dip Solder And Wire Wrap Tails

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55°C to +125°C

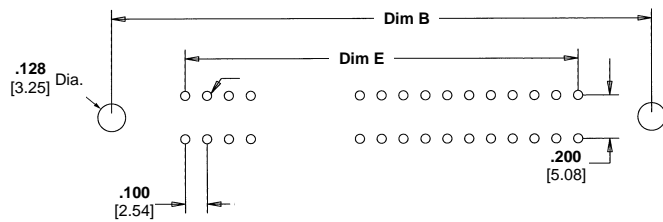
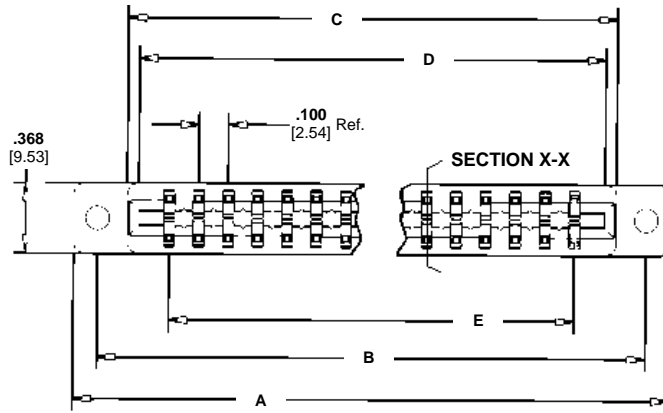
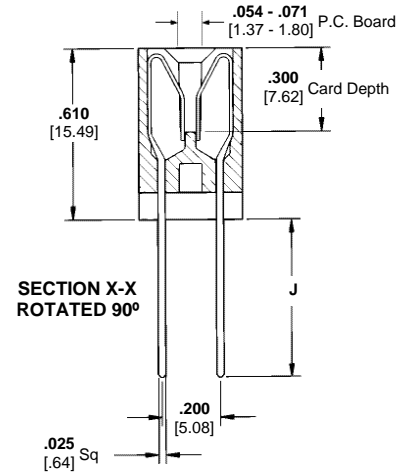
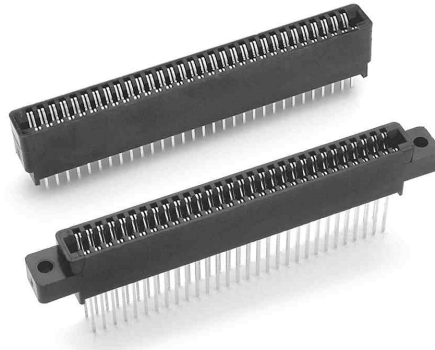
Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

Related Product Data:

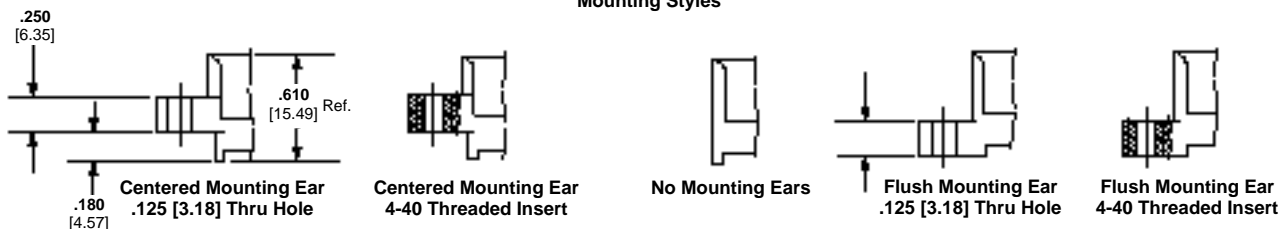
Polarization Key—page 57

Daughter Card Edge Pattern—page 57



P=.040 [1.02] Dip Solder Applications
P=.042 [1.07] For Wire Wrap Applications

Mounting Styles



Solder Type Board-to-Board Connectors

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .160" [4.06] (DIM "J") | | | | | | | | | | |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | A8D10DS29A2 | A8D10DS29B2 | A8D10DS29C2 | A8D10DS29D2 | A8D10DS29E2 |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | A8D12DS29A2 | A8D12DS29B2 | A8D12DS29C2 | - | - |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | A8D15DS29A2 | A8D15DS29B2 | A8D15DS29C2 | A8D15DS29D2 | A8D15DS29E2 |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | A8D18DS29A2 | A8D18DS29B2 | A8D18DS29C2 | A8D18DS29D2 | A8D18DS29E2 |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | A8D20DS29A2 | A8D20DS29B2 | A8D20DS29C2 | - | - |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | A8D22DS29A2 | A8D22DS29B2 | A8D22DS29C2 | - | - |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | A8D25DS29A2 | A8D25DS29B2 | A8D25DS29C2 | A8D25DS29D2 | A8D25DS29E2 |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | A8D28DS29A2 | A8D28DS29B2 | A8D28DS29C2 | - | - |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | A8D30DS29A2 | A8D30DS29B2 | A8D30DS29C2 | A8D30DS29D2 | A8D30DS29E2 |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.100 78.74 | A8D31DS29A2 | A8D31DS29B2 | A8D31DS29C2 | A8D31DS29D2 | A8D31DS29E2 |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | A8D35DS29A2 | A8D35DS29B2 | A8D35DS29C2 | - | - |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | A8D36DS29A2 | A8D36DS29B2 | A8D36DS29C2 | - | - |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | A8D40DS29A2 | A8D40DS29B2 | A8D40DS29C2 | - | - |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | A8D43DS29A2 | A8D43DS29B2 | A8D43DS29C2 | - | - |
| 44 | 5.235 132.97 | 4.975 126.37 | 4.660 118.36 | 4.500 114.30 | 4.300 109.22 | A8D44DS29A2 | A8D44DS29B2 | A8D44DS29C2 | - | - |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.800 121.92 | A8D50DS29A2 | A8D50DS29B2 | A8D50DS29C2 | A8D50DS29D2 | A8D50DS29E2 |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | A8D60DS29A2 | A8D60DS29B2 | A8D60DS29C2 | - | - |
| 65 | 7.335 186.31 | 7.075 179.71 | 6.760 171.70 | 6.600 167.64 | 6.400 162.56 | A8D65DS29A2 | A8D65DS29B2 | A8D65DS29C2 | A8D65DS29D2 | A8D65DS29E2 |
| Tail Length .220" [5.59] (DIM "J") | | | | | | | | | | |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | A8D10DS29A3 | A8D10DS29B3 | A8D10DS29C3 | A8D10DS29D3 | A8D10DS29E3 |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | A8D12DS29A3 | A8D12DS29B3 | A8D12DS29C3 | - | - |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | A8D15DS29A3 | A8D15DS29B3 | A8D15DS29C3 | A8D15DS29D3 | A8D15DS29E3 |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | A8D18DS29A3 | A8D18DS29B3 | A8D18DS29C3 | A8D18DS29D3 | A8D18DS29E3 |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | A8D20DS29A3 | A8D20DS29B3 | A8D20DS29C3 | - | - |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | A8D22DS29A3 | A8D22DS29B3 | A8D22DS29C3 | - | - |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | A8D25DS29A3 | A8D25DS29B3 | A8D25DS29C3 | A8D35DS29D3 | A8D35DS29E3 |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | A8D28DS29A3 | A8D28DS29B3 | A8D28DS29C3 | - | - |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | A8D30DS29A3 | A8D30DS29B3 | A8D30DS29C3 | A8D30DS29D3 | A8D30DS29E3 |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.100 78.74 | A8D31DS29A3 | A8D31DS29B3 | A8D31DS29C3 | A8D31DS29D3 | A8D31DS29E3 |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | A8D35DS29A3 | A8D35DS29B3 | A8D35DS29C3 | - | - |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | A8D36DS29A3 | A8D36DS29B3 | A8D36DS29C3 | - | - |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | A8D40DS29A3 | A8D40DS29B3 | A8D40DS29C3 | - | - |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | A8D43DS29A3 | A8D43DS29B3 | A8D43DS29C3 | - | - |

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .220" [5.59] (DIM "J") (Continued) | | | | | | | | | | |
| 44 | 5.235 132.97 | 4.975 126.37 | 4.660 118.36 | 4.500 114.30 | 4.300 109.22 | A8D44DS29A3 | A8D44DS29B3 | A8D44DS29C3 | - | - |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.800 121.92 | A8D50DS29A3 | A8D50DS29B3 | A8D50DS29C3 | A8D50DS29D3 | A8D50DS29E3 |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | A8D60DS29A3 | A8D60DS29B3 | A8D60DS29C3 | - | - |
| 65 | 7.335 186.31 | 7.075 179.71 | 6.760 171.70 | 6.600 167.64 | 6.400 162.56 | A8D65DS29A3 | A8D65DS29B3 | A8D65DS29C3 | A8D65DS29D3 | A8D65DS29E3 |
| Tail Length .560" [14.22] (DIM "J") for Wire Wrap Termination | | | | | | | | | | |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | A8D10WW29A3 | A8D10WW29B3 | - | - | - |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | A8D12WW29A3 | A8D12WW29B3 | - | - | - |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | A8D15WW29A3 | A8D15WW29B3 | - | - | - |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | A8D18WW29A3 | A8D18WW29B3 | - | - | - |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | A8D20WW29A3 | A8D20WW29B3 | - | - | - |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | A8D22WW29A3 | A8D22WW29B3 | - | - | - |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | A8D25WW29A3 | A8D25WW29B3 | - | - | - |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | A8D28WW29A3 | A8D28WW29B3 | - | - | - |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | A8D30WW29A3 | A8D30WW29B3 | - | - | - |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.100 78.74 | A8D31WW29A3 | A8D31WW29B3 | - | - | - |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | A8D35WW29A3 | A8D35WW29B3 | - | - | - |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | A8D36WW29A3 | A8D36WW29B3 | - | - | - |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | A8D40WW29A3 | A8D40WW29B3 | - | - | - |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | A8D43WW29A3 | A8D43WW29B3 | - | - | - |
| 44 | 5.235 132.97 | 4.975 126.37 | 4.660 118.36 | 4.500 114.30 | 4.300 109.22 | A8D44WW29A3 | A8D44WW29B3 | - | - | - |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.800 121.92 | A8D50WW29A3 | A8D50WW29B3 | - | - | - |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | A8D60WW29A3 | A8D60WW29B3 | - | - | - |
| 65 | 7.335 186.31 | 7.075 179.71 | 6.760 171.70 | 6.600 167.64 | 6.400 162.56 | A8D65WW29A3 | A8D65WW29B3 | - | - | - |

Solder Type Board-to-Board Connectors

**Modified Bellows Connectors .100 x .200 [2.54 x 5.08] and
.100 x .150 [2.54 x 3.81] Right Angle Dip Solder Tails**

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55°C to +125°C

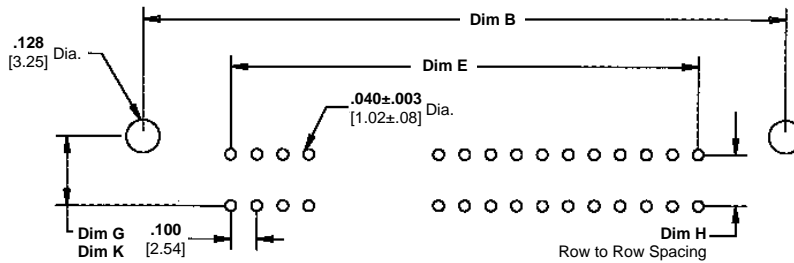
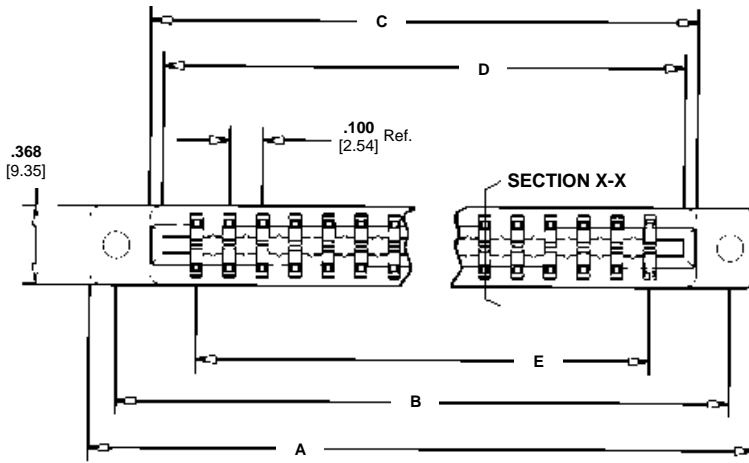
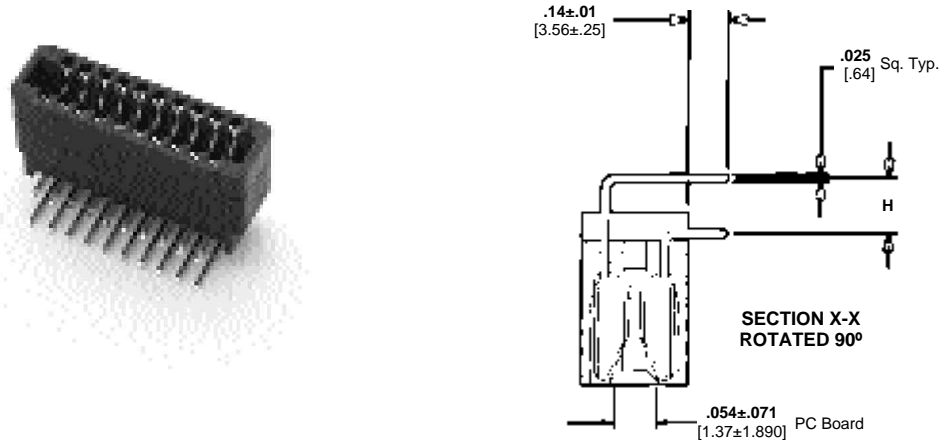
Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

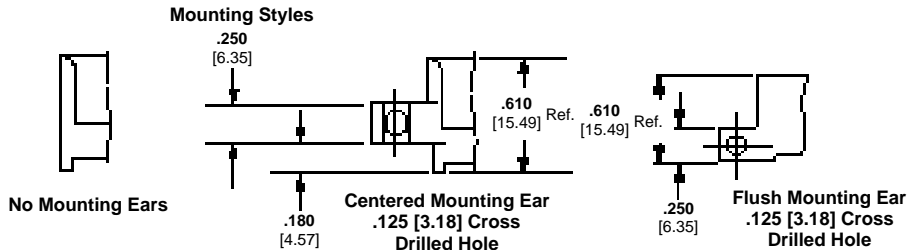
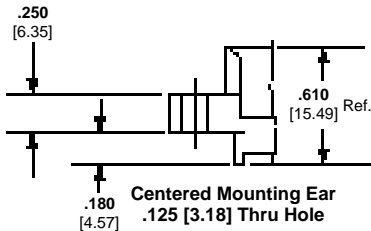
Related Product Data:

Polarization Key—page 57

Daughter Card Edge Pattern—page 57



Dim G - Centered Mounting Ear .125 [3.18] Cross Drilled Hole Only
Dim K - Flush Mounting Ear .125 [3.18] Cross Drilled Hole Only



Solder Type Board-to-Board Connectors

.100" [2.54] Centerline / .200" [5.08] Row-to-Row (Dim. "H") Spacing

| No. of Dual Readout Positions | Dimensions | | | | | Centered Mounting Ear Only G | Flush Mounting Ear Only K | Centered Mounting Ear .125" [3.18] Thru Hole | Mounting Ear Options | | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|---------------------------|--|----------------------|---|--|
| | A | B | C | D | E | | | | No Mounting Ears | Centered Mounting Ear .125" [3.18] Cross-Drilled Hole | Flush Mounting Ear .125" [3.18] Cross-Drilled Hole |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | 0.470 11.94 | 0.290 7.37 | A8D10RA29A | A8D10RA29C | A8D10RA29E | A8D10RA29F |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | 0.470 11.94 | 0.290 7.37 | A8D12RA29A | A8D12RA29C | A8D12RA29E | - |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | 0.470 11.94 | 0.290 7.37 | A8D15RA29A | A8D15RA29C | A8D15RA29E | A8D15RA29F |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | 0.470 11.94 | 0.290 7.37 | A8D18RA29A | A8D18RA29C | A8D18RA29E | A8D18RA29F |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | 0.470 11.94 | 0.290 7.37 | A8D20RA29A | A8D20RA29C | A8D20RA29E | - |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | 0.470 11.94 | 0.290 7.37 | A8D22RA29A | A8D22RA29C | A8D22RA29E | - |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | 0.470 11.94 | 0.290 7.37 | A8D25RA29A | A8D25RA29C | A8D25RA29E | A8D25RA29F |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | 0.470 11.94 | 0.290 7.37 | A8D28RA29A | A8D28RA29C | A8D28RA29E | - |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | 0.470 11.94 | 0.290 7.37 | A8D30RA29A | A8D30RA29C | A8D30RA29E | A8D30RA29F |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.100 78.74 | 0.470 11.94 | 0.290 7.37 | A8D31RA29A | A8D31RA29C | A8D31RA29E | A8D31RA29F |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | 0.470 11.94 | 0.290 7.37 | A8D35RA29A | A8D35RA29C | A8D35RA29E | - |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | 0.470 11.94 | 0.290 7.37 | A8D36RA29A | A8D36RA29C | A8D36RA29E | - |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | 0.470 11.94 | 0.290 7.37 | A8D40RA29A | A8D40RA29C | A8D40RA29E | - |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | 0.470 11.94 | 0.290 7.37 | A8D43RA29A | A8D43RA29C | A8D43RA29E | - |
| 44 | 5.235 132.97 | 4.975 126.37 | 4.660 118.36 | 4.500 114.30 | 4.300 109.22 | 0.470 11.94 | 0.290 7.37 | A8D44RA29A | A8D44RA29C | A8D44RA29E | - |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.800 121.92 | 0.470 11.94 | 0.290 7.37 | A8D50RA29A | A8D50RA29C | A8D50RA29E | A8D50RA29F |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | 0.470 11.94 | 0.290 7.37 | A8D60RA29A | A8D60RA29C | A8D60RA29E | - |
| 65 | 7.335 186.31 | 7.075 179.71 | 6.760 171.70 | 6.600 167.64 | 6.400 162.56 | 0.470 11.94 | 0.290 7.37 | A8D65RA29A | A8D65RA29C | A8D65RA29E | A8D65RA29F |

Solder Type Board-to-Board Connectors

Ordering Information

.100" [2.54] Centerline / .150" [3.81] Row-to-Row (Dim. "H") Spacing

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | | | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|---------------------------|--|------------------|---|--|--|
| | A | B | C | D | E | Centered Mounting Ear Only G | Flush Mounting Ear Only K | Centered Mounting Ear .125" [3.18] Thru Hole | No Mounting Ears | Centered Mounting Ear .125" [3.18] Cross-Drilled Hole | Flush Mounting Ear .125" [3.18] Cross-Drilled Hole | |
| 10 | 1.835 46.61 | 1.575 40.01 | 1.260 32.00 | 1.100 27.94 | 0.900 22.86 | 0.420 10.67 | 0.240 6.10 | A8D10RA29AM233 | A8D10RA29CM233 | A8D10RA29EM233 | A8D10RA29FM233 | |
| 12 | 2.035 51.69 | 1.775 45.09 | 1.460 37.08 | 1.300 33.02 | 1.100 27.94 | 0.420 10.67 | 0.240 6.10 | A8D12RA29AM233 | A8D12RA29CM233 | A8D12RA29EM233 | - | |
| 15 | 2.335 59.31 | 2.075 52.71 | 1.760 44.70 | 1.600 40.64 | 1.400 35.56 | 0.420 10.67 | 0.240 6.10 | A8D15RA29AM233 | A8D15RA29CM233 | A8D15RA29EM233 | A8D15RA29FM233 | |
| 18 | 2.635 66.93 | 2.375 60.33 | 2.060 52.32 | 1.900 48.26 | 1.700 43.18 | 0.420 10.67 | 0.240 6.10 | A8D18RA29AM233 | A8D18RA29CM233 | A8D18RA29EM233 | A8D18RA29FM233 | |
| 20 | 2.835 72.01 | 2.575 65.41 | 2.260 57.40 | 2.100 53.34 | 1.900 48.26 | 0.420 10.67 | 0.240 6.10 | A8D20RA29AM233 | A8D20RA29CM233 | A8D20RA29EM233 | - | |
| 22 | 3.035 77.09 | 2.775 70.49 | 2.460 62.48 | 2.300 58.42 | 2.100 53.34 | 0.420 10.67 | 0.240 6.10 | A8D22RA29AM233 | A8D22RA29CM233 | A8D22RA29EM233 | - | |
| 25 | 3.335 84.71 | 3.075 78.11 | 2.760 70.10 | 2.600 66.04 | 2.400 60.96 | 0.420 10.67 | 0.240 6.10 | A8D25RA29AM233 | A8D25RA29CM233 | A8D25RA29EM233 | A8D25RA29FM233 | |
| 28 | 3.635 92.33 | 3.375 85.73 | 3.060 77.72 | 2.900 73.66 | 2.700 68.58 | 0.420 10.67 | 0.240 6.10 | A8D28RA29AM233 | A8D28RA29CM233 | A8D28RA29EM233 | - | |
| 30 | 3.835 97.41 | 3.575 90.81 | 3.260 82.80 | 3.100 78.74 | 2.900 73.66 | 0.420 10.67 | 0.240 6.10 | A8D30RA29AM233 | A8D30RA29CM233 | A8D30RA29EM233 | A8D30RA29FM233 | |
| 31 | 3.935 99.95 | 3.675 93.35 | 3.360 85.34 | 3.200 81.28 | 3.100 78.74 | 0.420 10.67 | 0.240 6.10 | A8D31RA29AM233 | A8D31RA29CM233 | A8D31RA29EM233 | A8D31RA29FM233 | |
| 35 | 4.335 110.11 | 4.075 103.51 | 3.760 95.50 | 3.600 91.44 | 3.400 86.36 | 0.420 10.67 | 0.240 6.10 | A8D35RA29AM233 | A8D35RA29CM233 | A8D35RA29EM233 | - | |
| 36 | 4.435 112.65 | 4.175 106.05 | 3.860 98.04 | 3.700 93.98 | 3.500 88.90 | 0.420 10.67 | 0.240 6.10 | A8D36RA29AM233 | A8D36RA29CM233 | A8D36RA29EM233 | - | |
| 40 | 4.835 122.81 | 4.575 116.21 | 4.260 108.20 | 4.100 104.14 | 3.900 99.06 | 0.420 10.67 | 0.240 6.10 | A8D40RA29AM233 | A8D40RA29CM233 | A8D40RA29EM233 | - | |
| 43 | 5.135 130.43 | 4.875 123.83 | 4.560 115.82 | 4.400 111.76 | 4.200 106.68 | 0.420 10.67 | 0.240 6.10 | A8D43RA29AM233 | A8D43RA29CM233 | A8D43RA29EM233 | - | |
| 44 | 5.235 132.97 | 4.975 126.37 | 4.660 118.36 | 4.500 114.30 | 4.300 109.22 | 0.420 10.67 | 0.240 6.10 | A8D44RA29AM233 | A8D44RA29CM233 | A8D44RA29EM233 | - | |
| 50 | 5.835 148.21 | 5.575 141.61 | 5.260 133.60 | 5.100 129.54 | 4.800 121.92 | 0.420 10.67 | 0.240 6.10 | A8D50RA29AM233 | A8D50RA29CM233 | A8D50RA29EM233 | A8D50RA29FM233 | |
| 60 | 6.835 173.61 | 6.575 167.01 | 6.260 159.00 | 6.100 154.94 | 5.900 149.86 | 0.420 10.67 | 0.240 6.10 | A8D60RA29AM233 | A8D60RA29CM233 | A8D60RA29EM233 | - | |
| 65 | 7.335 186.31 | 7.075 179.71 | 6.760 171.70 | 6.600 167.64 | 6.400 162.56 | 0.420 10.67 | 0.240 6.10 | A8D65RA29AM233 | A8D65RA29CM233 | A8D65RA29EM233 | A8D65RA29FM233 | |

Solder Type Board-to-Board Connectors

Electronics

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55°C to +125°C

Temperature Cycling—MIL-STD-202 method 107

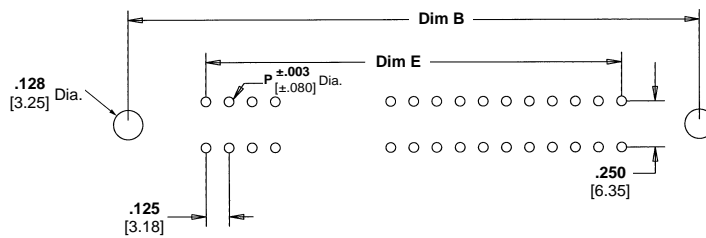
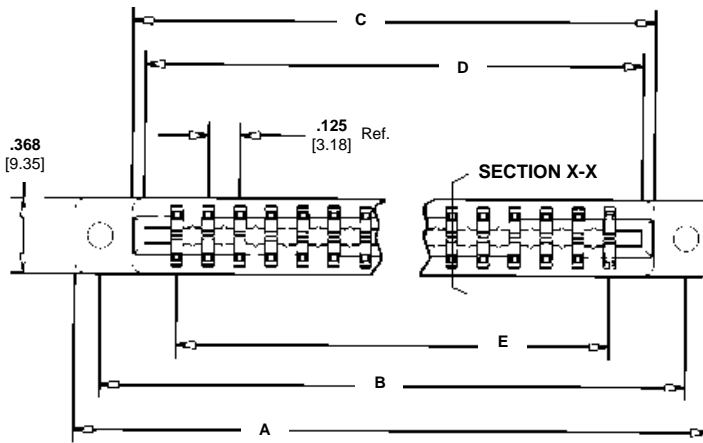
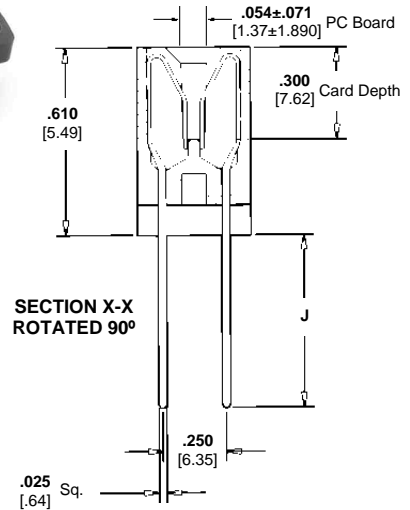
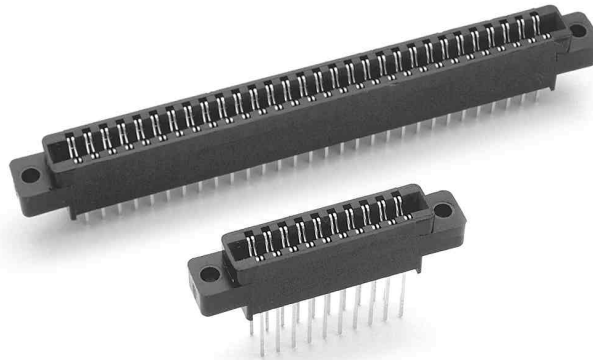
Vibration—MIL-STD-202 method 204

Related Product Data:

Polarization Key—page 57

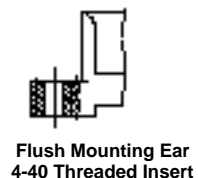
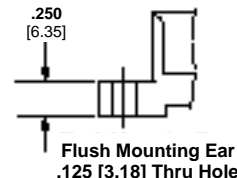
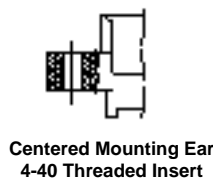
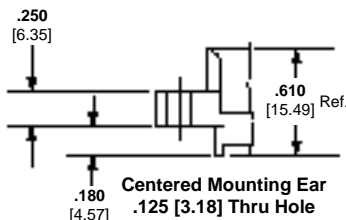
Daughter Card Edge Pattern—page 57

Modified Bellows Connectors .125 x .250 [3.18 x 6.35], Centerline Straight Dip Solder and Wire Wrap Tails



P=.040 [1.02] Dip Solder Applications
P=.042 [1.07] For Wire Wrap Applications

Mounting Styles



.125" [3.18] Centerline / .250" [6.35] Row-to-Row Dip Solder

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .160" [4.06] (DIM "J") | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | A7D06DS29A2 | A7D06DS29B2 | A7D06DS29C2 | A7D06DS29D2 | A7D06DS29E2 |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | A7D10DS29A2 | A7D10DS29B2 | A7D10DS29C2 | A7D10DS29D2 | A7D10DS29E2 |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | A7D15DS29A2 | A7D15DS29B2 | A7D15DS29C2 | A7D15DS29D2 | A7D15DS29E2 |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | A7D18DS29A2 | A7D18DS29B2 | A7D18DS29C2 | A7D18DS29D2 | A7D18DS29E2 |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | A7D22DS29A2 | A7D22DS29B2 | A7D22DS29C2 | - | - |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | A7D25DS29A2 | A7D25DS29B2 | A7D25DS29C2 | A7D25DS29D2 | A7D25DS29E2 |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | A7D28DS29A2 | A7D28DS29B2 | A7D28DS29C2 | - | - |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | A7D30DS29A2 | A7D30DS29B2 | A7D30DS29C2 | A7D30DS29D2 | A7D30DS29E2 |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | A7D35DS29A2 | A7D35DS29B2 | A7D35DS29C2 | - | - |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | A7D36DS29A2 | A7D36DS29B2 | A7D36DS29C2 | - | - |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | A7D40DS29A2 | A7D40DS29B2 | A7D40DS29C2 | - | - |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | A7D43DS29A2 | A7D43DS29B2 | A7D43DS29C2 | - | - |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | A7D50DS29A2 | A7D50DS29B2 | A7D50DS29C2 | A7D50DS29D2 | A7D50DS29E2 |

.125" [3.18] Centerline / .250" [6.35] Row-to-Row Wire Wrap

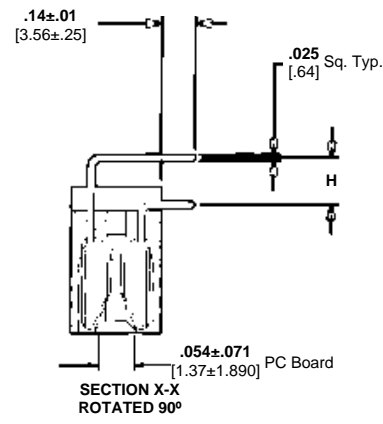
| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|---|---|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded insert | No Mounting Ears | Flush Mounting Ear .125" [3.18] Thru Hole | Flush Mounting Ear 4-40 Threaded insert |
| Tail Length .560" [14.22] (DIM "J") | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | A7D06WW29A3 | A7D06WW29B3 | - | - | - |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | A7D10WW29A3 | A7D10WW29B3 | - | - | - |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | A7D15WW29A3 | A7D15WW29B3 | - | - | - |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | A7D18WW29A3 | A7D18WW29B3 | - | - | - |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | A7D22WW29A3 | A7D22WW29B3 | - | - | - |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | A7D25WW29A3 | A7D25WW29B3 | - | - | - |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | A7D28WW29A3 | A7D28WW29B3 | - | - | - |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | A7D30WW29A3 | A7D30WW29B3 | - | - | - |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | A7D35WW29A3 | A7D35WW29B3 | - | - | - |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | A7D36WW29A3 | A7D36WW29B3 | - | - | - |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | A7D40WW29A3 | A7D40WW29B3 | - | - | - |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | A7D43WW29A3 | A7D43WW29B3 | - | - | - |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | A7D50WW29A3 | A7D50WW29B3 | - | - | - |

Modified Bellows Connectors .125 x .250 [3.18 x 6.35], .125 x .150 [3.18 x 3.81], .125 x .200 [3.18 x 5.08] Centerline, Right Angle Tails

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Solder Type Board-to-Board Connectors



Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1000 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55°C to +125°C

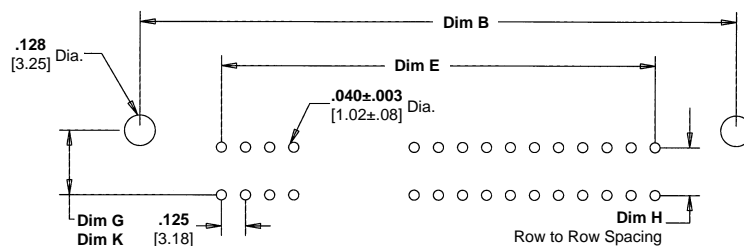
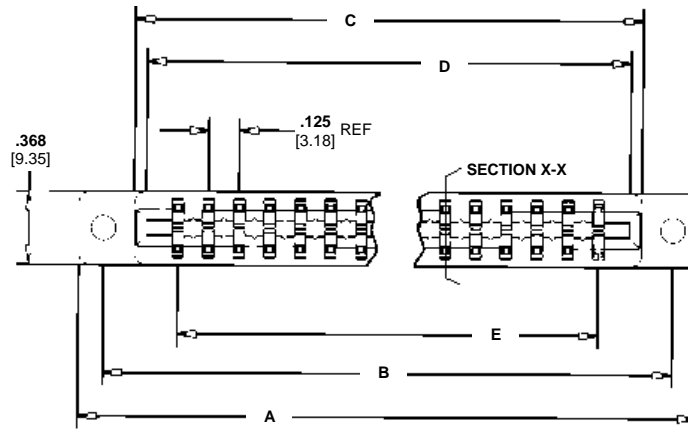
Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

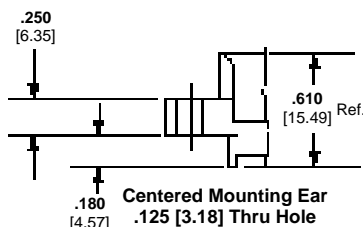
Related Product Data:

Polarization Key—page 57

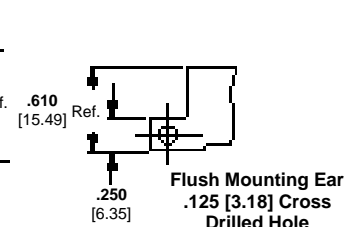
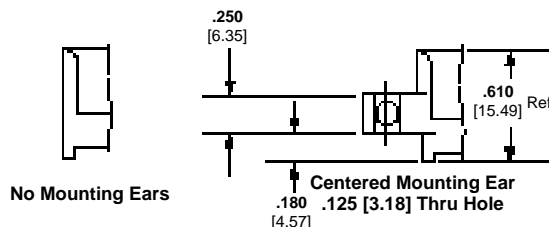
Daughter Card Edge Pattern—page 57



Dim G - Centered Mounting Ear .125 [3.18] Cross Drilled Hole Only
Dim K - Flush Mounting Ear .125 [3.18] Cross Drilled Hole Only



Mounting Styles



Ordering Information

.125" [3.18] Centerline / .200" [5.08] and .150" [3.81] Row-to-Row (Dim. "H") Spacing

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|---------------------------|--|------------------|---|--|
| | A | B | C | D | E | Centered Mounting Ear Only G | Flush Mounting Ear Only K | Centered Mounting Ear .125" [3.18] Thru Hole | No Mounting Ears | Centered Mounting Ear .125" [3.18] Cross-Drilled Hole | Flush Mounting Ear .125" [3.18] Cross-Drilled Hole |
| .150" [3.81] Row-to-Row (Dim. "H") Spacing | | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | 0.420 10.67 | 0.240 6.10 | A7D06RA29AM231 | A7D06RA29CM231 | A7D06RA29EM231 | A7D06RA29FM231 |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | 0.420 10.67 | 0.240 6.10 | A7D10RA29AM231 | A7D10RA29CM231 | A7D10RA29EM231 | A7D10RA29FM231 |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | 0.420 10.67 | 0.240 6.10 | A7D15RA29AM231 | A7D15RA29CM231 | A7D15RA29EM231 | A7D15RA29FM231 |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | 0.420 10.67 | 0.240 6.10 | A7D18RA29AM231 | A7D18RA29CM231 | A7D18RA29EM231 | A7D18RA29FM231 |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | 0.420 10.67 | 0.240 6.10 | A7D22RA29AM231 | A7D22RA29CM231 | A7D22RA29EM231 | A7D22RA29FM231 |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | 0.420 10.67 | 0.240 6.10 | A7D25RA29AM231 | A7D25RA29CM231 | A7D25RA29EM231 | A7D25RA29FM231 |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | 0.420 10.67 | 0.240 6.10 | A7D28RA29AM231 | A7D28RA29CM231 | A7D28RA29EM231 | A7D28RA29FM231 |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | 0.420 10.67 | 0.240 6.10 | A7D30RA29AM231 | A7D30RA29CM231 | A7D30RA29EM231 | A7D30RA29FM231 |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | 0.420 10.67 | 0.240 6.10 | A7D35RA29AM231 | A7D35RA29CM231 | A7D35RA29EM231 | A7D35RA29FM231 |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | 0.420 10.67 | 0.240 6.10 | A7D36RA29AM231 | A7D36RA29CM231 | A7D36RA29EM231 | A7D36RA29FM231 |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | 0.420 10.67 | 0.240 6.10 | A7D40RA29AM231 | A7D40RA29CM231 | A7D40RA29EM231 | A7D40RA29FM231 |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | 0.420 10.67 | 0.240 6.10 | A7D43RA29AM231 | A7D43RA29CM231 | A7D43RA29EM231 | A7D43RA29FM231 |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | 0.420 10.67 | 0.240 6.10 | A7D50RA29AM231 | A7D50RA29CM231 | A7D50RA29EM231 | A7D50RA29FM231 |
| .200" [5.08] Row-to-Row (Dim. "H") Spacing | | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | 0.470 11.94 | 0.290 7.37 | A7D06RA29AM232 | A7D06RA29CM232 | A7D06RA29EM232 | A7D06RA29FM232 |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | 0.470 11.94 | 0.290 7.37 | A7D10RA29AM232 | A7D10RA29CM232 | A7D10RA29EM232 | A7D10RA29FM232 |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | 0.470 11.94 | 0.290 7.37 | A7D15RA29AM232 | A7D15RA29CM232 | A7D15RA29EM232 | A7D15RA29FM232 |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | 0.470 11.94 | 0.290 7.37 | A7D18RA29AM232 | A7D18RA29CM232 | A7D18RA29EM232 | A7D18RA29FM232 |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | 0.470 11.94 | 0.290 7.37 | A7D22RA29AM232 | A7D22RA29CM232 | A7D22RA29EM232 | A7D22RA29FM232 |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | 0.470 11.94 | 0.290 7.37 | A7D25RA29AM232 | A7D25RA29CM232 | A7D25RA29EM232 | A7D25RA29FM232 |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | 0.470 11.94 | 0.290 7.37 | A7D28RA29AM232 | A7D28RA29CM232 | A7D28RA29EM232 | A7D28RA29FM232 |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | 0.470 11.94 | 0.290 7.37 | A7D30RA29AM232 | A7D30RA29CM232 | A7D30RA29EM232 | A7D30RA29FM232 |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | 0.470 11.94 | 0.290 7.37 | A7D35RA29AM232 | A7D35RA29CM232 | A7D35RA29EM232 | A7D35RA29FM232 |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | 0.470 11.94 | 0.290 7.37 | A7D36RA29AM232 | A7D36RA29CM232 | A7D36RA29EM232 | A7D36RA29FM232 |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | 0.470 11.94 | 0.290 7.37 | A7D40RA29AM232 | A7D40RA29CM232 | A7D40RA29EM232 | A7D40RA29FM232 |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | 0.470 11.94 | 0.290 7.37 | A7D43RA29AM232 | A7D43RA29CM232 | A7D43RA29EM232 | A7D43RA29FM232 |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | 0.470 11.94 | 0.290 7.37 | A7D50RA29AM232 | A7D50RA29CM232 | A7D50RA29EM232 | A7D50RA29FM232 |

Solder Type Board-to-Board Connectors

.125" [3.18] Centerline / .250" [6.35] Row-to-Row (Dim. "H") Spacing

| No. of Dual Readout Positions | Dimensions | | | | | Centered Mounting Ear Only G | Flush Mounting Ear Only K | Centered Mounting Ear .125" [3.18] Thru Hole | Mounting Ear Options | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|---------------------------|--|----------------------|---|--|
| | A | B | C | D | E | | | | No Mounting Ears | Centered Mounting Ear .125" [3.18] Cross-Drilled Hole | Flush Mounting Ear .125" [3.18] Cross-Drilled Hole |
| .250" [6.35] Row-to-Row (Dim. "H") Spacing | | | | | | | | | | | |
| 6 | 1.555 39.50 | 1.295 32.89 | 1.035 26.29 | 0.875 22.23 | 0.625 15.88 | 0.520 13.21 | 0.340 8.64 | A7D06RA29A | A7D06RA29C | A7D06RA29E | A7D06RA29F |
| 10 | 2.055 52.20 | 1.795 45.59 | 1.535 38.99 | 1.375 34.93 | 1.125 28.58 | 0.520 13.21 | 0.340 8.64 | A7D10RA29A | A7D10RA29C | A7D10RA29E | A7D10RA29F |
| 15 | 2.680 68.07 | 2.420 61.47 | 2.160 54.86 | 2.000 50.80 | 1.750 44.45 | 0.520 13.21 | 0.340 8.64 | A7D15RA29A | A7D15RA29C | A7D15RA29E | A7D15RA29F |
| 18 | 3.055 77.60 | 2.795 70.99 | 2.535 64.39 | 2.375 60.33 | 2.125 53.98 | 0.520 13.21 | 0.340 8.64 | A7D18RA29A | A7D18RA29C | A7D18RA29E | A7D18RA29F |
| 22 | 3.555 90.30 | 3.295 83.69 | 3.035 77.09 | 2.875 73.03 | 2.625 66.68 | 0.520 13.21 | 0.340 8.64 | A7D22RA29A | A7D22RA29C | A7D22RA29E | A7D22RA29F |
| 25 | 3.930 99.82 | 3.670 93.22 | 3.410 86.61 | 3.250 82.55 | 3.000 76.20 | 0.520 13.21 | 0.340 8.64 | A7D25RA29A | A7D25RA29C | A7D25RA29E | A7D25RA29F |
| 28 | 4.305 109.35 | 4.045 102.74 | 3.785 96.14 | 3.625 92.08 | 3.375 85.73 | 0.520 13.21 | 0.340 8.64 | A7D28RA29A | A7D28RA29C | A7D28RA29E | A7D28RA29F |
| 30 | 4.555 115.70 | 4.295 109.09 | 4.035 102.49 | 3.875 98.43 | 3.625 92.08 | 0.520 13.21 | 0.340 8.64 | A7D30RA29A | A7D30RA29C | A7D30RA29E | A7D30RA29F |
| 35 | 5.180 131.57 | 4.920 124.97 | 4.660 118.36 | 4.500 114.30 | 4.250 107.95 | 0.520 13.21 | 0.340 8.64 | A7D35RA29A | A7D35RA29C | A7D35RA29E | A7D35RA29F |
| 36 | 5.305 134.75 | 5.045 128.14 | 4.785 121.54 | 4.625 117.48 | 4.375 111.13 | 0.520 13.21 | 0.340 8.64 | A7D36RA29A | A7D36RA29C | A7D36RA29E | A7D36RA29F |
| 40 | 5.805 147.45 | 5.545 140.84 | 5.285 134.24 | 5.125 130.18 | 4.875 123.83 | 0.520 13.21 | 0.340 8.64 | A7D40RA29A | A7D40RA29C | A7D40RA29E | A7D40RA29F |
| 43 | 6.180 156.97 | 5.920 150.37 | 5.660 143.76 | 5.500 139.70 | 5.250 133.35 | 0.520 13.21 | 0.340 8.64 | A7D43RA29A | A7D43RA29C | A7D43RA29E | A7D43RA29F |
| 50 | 7.055 179.20 | 6.795 172.59 | 6.535 165.99 | 6.375 161.93 | 6.125 155.58 | 0.520 13.21 | 0.340 8.64 | A7D50RA29A | A7D50RA29C | A7D50RA29E | A7D50RA29F |

Solder Type Board-to-Board Connectors

Modified Bellows Connectors, .156 x .200 [3.96 x 5.08] Centerline, Straight Dip Solder and Wire Wrap Tails

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55°C to +125°C

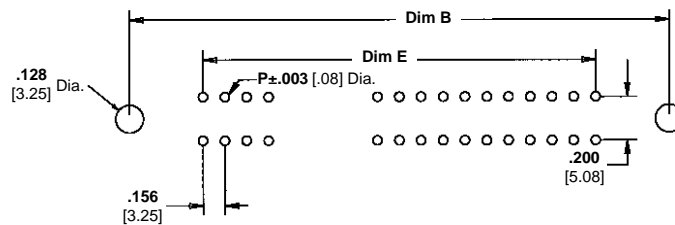
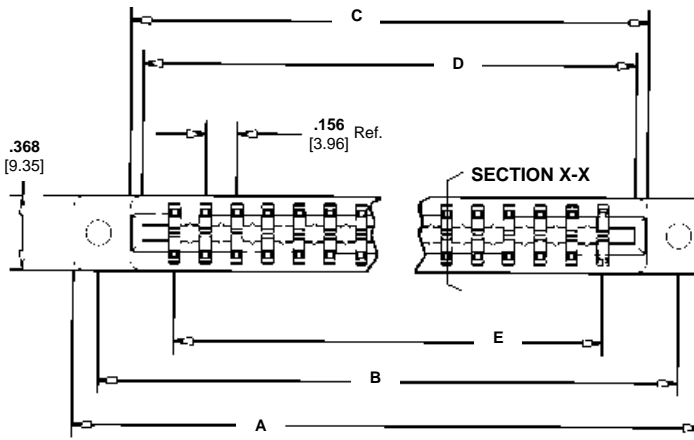
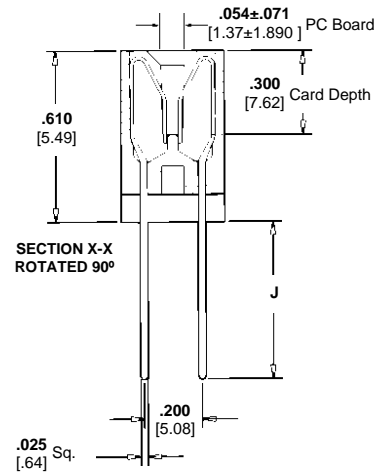
Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

Related Product Data:

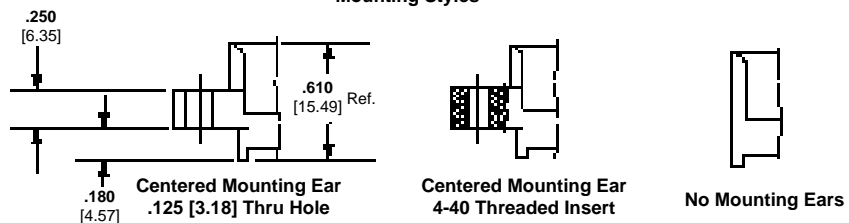
Polarization Key—page 57

Daughter Card Edge Pattern—page 57



P=.040 [1.02] Dip Solder Applications
P=.042 [1.07] For Wire Wrap Applications

Mounting Styles



.156" [3.96] Centerline / .200" [5.08] Row-to-Row

| No. of Dual Readout Positions | Dimensions | | | | | Mounting Ear Options | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|------------------|
| | A | B | C | D | E | Centered Mounting Ear .125" [3.18] Thru Hole | Centered Mounting Ear 4-40 Threaded Insert | No Mounting Ears |
| Tail Length .160" [4.06] (DIM "J") | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | A6D06DS29A2 | A6D06DS29B2 | A6D06DS29C2 |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | A6D10DS29A2 | A6D10DS29B2 | A6D10DS29C2 |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | A6D12DS29A2 | A6D12DS29B2 | A6D12DS29C2 |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | A6D15DS29A2 | A6D15DS29B2 | A6D15DS29C2 |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | A6D18DS29A2 | A6D18DS29B2 | A6D18DS29C2 |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.596 91.34 | 3.276 83.21 | A6D22DS29A2 | A6D22DS29B2 | A6D22DS29C2 |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | A6D25DS29A2 | A6D25DS29B2 | A6D25DS29C2 |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | A6D28DS29A2 | A6D28DS29B2 | A6D28DS29C2 |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | A6D36DS29A2 | A6D36DS29B2 | A6D36DS29C2 |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | A6D43DS29A2 | A6D43DS29B2 | A6D43DS29C2 |
| Tail Length .220" [5.59] (DIM "J") | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | A6D06DS29A3 | A6D06DS29B3 | A6D06DS29C3 |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | A6D10DS29A3 | A6D10DS29B3 | A6D10DS29C3 |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | A6D12DS29A3 | A6D12DS29B3 | A6D12DS29C3 |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | A6D15DS29A3 | A6D15DS29B3 | A6D15DS29C3 |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | A6D18DS29A3 | A6D18DS29B3 | A6D18DS29C3 |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.596 91.34 | 3.276 83.21 | A6D22DS29A3 | A6D22DS29B3 | A6D22DS29C3 |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | A6D25DS29A3 | A6D25DS29B3 | A6D25DS29C3 |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | A6D28DS29A3 | A6D28DS29B3 | A6D28DS29C3 |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | A6D36DS29A3 | A6D36DS29B3 | A6D36DS29C3 |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | A6D43DS29A3 | A6D43DS29B3 | A6D43DS29C3 |
| Tail Length .560" [14.22] (DIM "J") For Wire Wrap Termination | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | A6D06WW29A3 | A6D06WW29B3 | - |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | A6D10WW29A3 | A6D10WW29B3 | - |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | A6D12WW29A3 | A6D12WW29B3 | - |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | A6D15WW29A3 | A6D15WW29B3 | - |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | A6D18WW29A3 | A6D18WW29B3 | - |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.596 91.34 | 3.276 83.21 | A6D22WW29A3 | A6D22WW29B3 | - |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | A6D25WW29A3 | A6D25WW29B3 | - |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | A6D28WW29A3 | A6D28WW29B3 | - |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | A6D36WW29A3 | A6D36WW29B3 | - |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | A6D43WW29A3 | A6D43WW29B3 | - |

Solder Type Board-to-Board Connectors

Modified Bellows Connectors .156 x .200 [3.96 x 5.08] Centerline, .156 x .150 [3.96 x 3.81], Right Angle, Dip Solder Tails

Product Facts

- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980 
- Certified by Canadian Standards Association, File No. LR49571 

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—
-55°C to +125°C

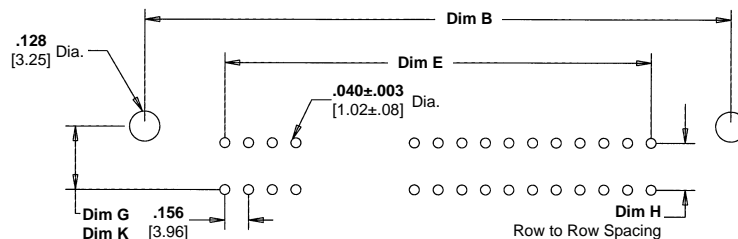
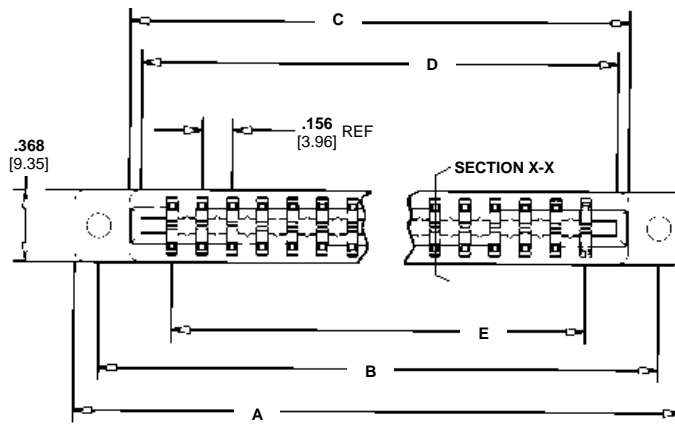
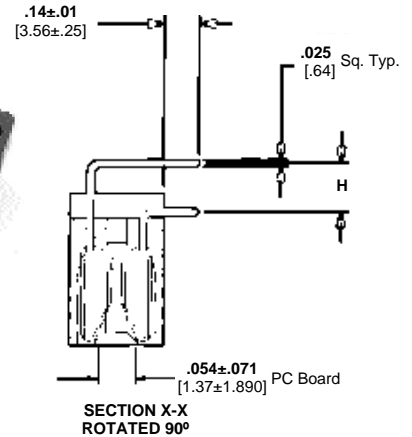
Temperature Cycling—
MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

Related Product Data:

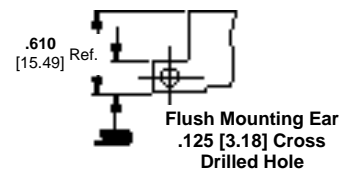
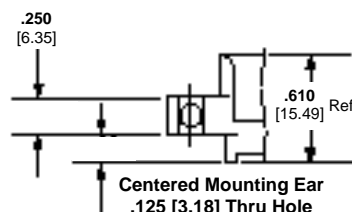
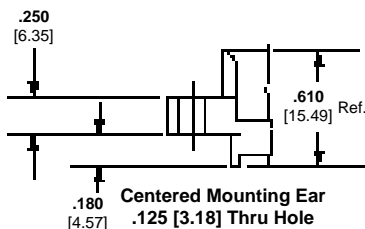
Polarization Key—page 57

Daughter Card Edge Pattern—
page 57



Dim G - Centered Mounting Ear .125 [3.18] Cross Drilled Hole Only
Dim K - Flush Mounting Ear .125 [3.18] Cross Drilled Hole Only

Mounting Styles



.156" [3.96] Centerline / .200" [5.08] and .150" [3.81] Row-to-Row (Dim. "H") Spacing

| No. of Dual Readout Positions | Dimensions | | | | | | Mounting Ear Options | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|---------------------------|--|------------------|---|--|
| | A | B | C | D | E | Centered Mounting Ear Only G | Flush Mounting Ear Only K | Centered Mounting Ear .125" [3.18] Thru Hole | No Mounting Ears | Centered Mounting Ear .125" [3.18] Cross-Drilled Hole | Flush Mounting Ear .125" [3.18] Cross-Drilled Hole |
| .200" [5.08] Row-to-Row (Dim. "H") Spacing | | | | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | 0.470 11.94 | 0.290 7.37 | A6D06RA29A | A6D06RA29C | A6D06RA29E | A6D06RA29F |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | 0.470 11.94 | 0.290 7.37 | A6D10RA29A | A6D10RA29C | A6D10RA29E | A6D10RA29F |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | 0.470 11.94 | 0.290 7.37 | A6D12RA29A | A6D12RA29C | A6D12RA29E | A6D12RA29F |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | 0.470 11.94 | 0.290 7.37 | A6D15RA29A | A6D15RA29C | A6D15RA29E | A6D15RA29F |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | 0.470 11.94 | 0.290 7.37 | A6D18RA29A | A6D18RA29C | A6D18RA29E | A6D18RA29F |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.596 91.34 | 3.276 83.21 | 0.470 11.94 | 0.290 7.37 | A6D22RA29A | A6D22RA29C | A6D22RA29E | A6D22RA29F |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | 0.470 11.94 | 0.290 7.37 | A6D25RA29A | A6D25RA29C | A6D25RA29E | A6D25RA29F |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | 0.470 11.94 | 0.290 7.37 | A6D28RA29A | A6D28RA29C | A6D28RA29E | A6D28RA29F |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | 0.470 11.94 | 0.290 7.37 | A6D36RA29A | A6D36RA29C | A6D36RA29E | A6D36RA29F |
| 40 | 7.088 180.04 | 6.838 173.69 | 6.525 165.74 | 6.404 162.66 | 6.084 154.53 | 0.470 11.94 | 0.290 7.37 | A6D40RA29A | A6D40RA29C | A6D40RA29E | A6D40RA29F |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | 0.470 11.94 | 0.290 7.37 | A6D43RA29A | A6D43RA29C | A6D43RA29E | A6D43RA29F |
| .150" [3.81] Row-to-Row (Dim. "H") Spacing | | | | | | | | | | | |
| 6 | 1.784 45.31 | 1.534 38.96 | 1.221 31.01 | 1.100 27.94 | 0.780 19.81 | 0.420 10.67 | 0.240 6.10 | A6D06RA29AM233 | A6D06RA29CM233 | A6D06RA29EM233 | A6D06RA29FM233 |
| 10 | 2.408 61.16 | 2.158 54.81 | 1.845 46.86 | 1.724 43.79 | 1.404 35.66 | 0.420 10.67 | 0.240 6.10 | A6D10RA29AM233 | A6D10RA29CM233 | A6D10RA29EM233 | A6D10RA29FM233 |
| 12 | 2.720 69.09 | 2.470 62.74 | 2.157 54.79 | 2.036 51.71 | 1.716 43.59 | 0.420 10.67 | 0.240 6.10 | A6D12RA29AM233 | A6D12RA29CM233 | A6D12RA29EM233 | A6D12RA29FM233 |
| 15 | 3.188 80.98 | 2.938 74.63 | 2.625 66.68 | 2.504 63.60 | 2.184 55.47 | 0.420 10.67 | 0.240 6.10 | A6D15RA29AM233 | A6D15RA29CM233 | A6D15RA29EM233 | A6D15RA29FM233 |
| 18 | 3.656 92.86 | 3.406 86.51 | 3.093 78.56 | 2.972 75.49 | 2.652 67.36 | 0.420 10.67 | 0.240 6.10 | A6D18RA29AM233 | A6D18RA29CM233 | A6D18RA29EM233 | A6D18RA29FM233 |
| 22 | 4.280 108.71 | 4.030 102.36 | 3.717 94.41 | 3.596 91.34 | 3.276 83.21 | 0.420 10.67 | 0.240 6.10 | A6D22RA29AM233 | A6D22RA29CM233 | A6D22RA29EM233 | A6D22RA29FM233 |
| 25 | 4.748 120.60 | 4.498 114.25 | 4.185 106.30 | 4.064 103.23 | 3.744 95.10 | 0.420 10.67 | 0.240 6.10 | A6D25RA29AM233 | A6D25RA29CM233 | A6D25RA29EM233 | A6D25RA29FM233 |
| 28 | 5.216 132.49 | 4.966 126.14 | 4.653 118.19 | 4.532 115.11 | 4.212 106.98 | 0.420 10.67 | 0.240 6.10 | A6D28RA29AM233 | A6D28RA29CM233 | A6D28RA29EM233 | A6D28RA29FM233 |
| 36 | 6.464 164.19 | 6.214 157.84 | 5.901 149.89 | 5.780 146.81 | 5.460 138.68 | 0.420 10.67 | 0.240 6.10 | A6D36RA29AM233 | A6D36RA29CM233 | A6D36RA29EM233 | A6D36RA29FM233 |
| 40 | 7.088 180.04 | 6.838 173.69 | 6.525 165.74 | 6.404 162.66 | 6.084 154.53 | 0.420 10.67 | 0.240 6.10 | A6D40RA29AM233 | A6D40RA29CM233 | A6D40RA29EM233 | A6D40RA29FM233 |
| 43 | 7.556 191.92 | 7.306 185.57 | 6.993 177.62 | 6.872 174.55 | 6.552 166.42 | 0.420 10.67 | 0.240 6.10 | A6D43RA29AM233 | A6D43RA29CM233 | A6D43RA29EM233 | A6D43RA29FM233 |

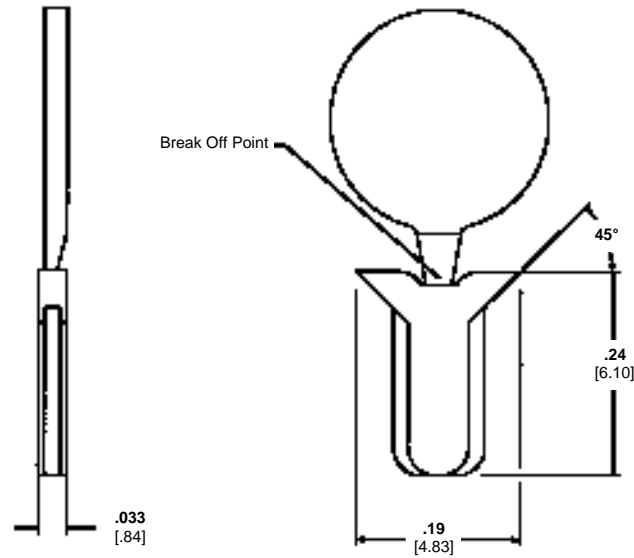
Solder Type Board-to-Board Connectors

Electronics

Description/Application

Tyco Electronics can provide polarization keys in the basic configuration shown on this page. Our Modified Bellows and Cantilever Beam Series Card Edge Connectors use these keys. The part number and the connector series for which it was designed are listed in the table below.

Card Edge Polarization Keys

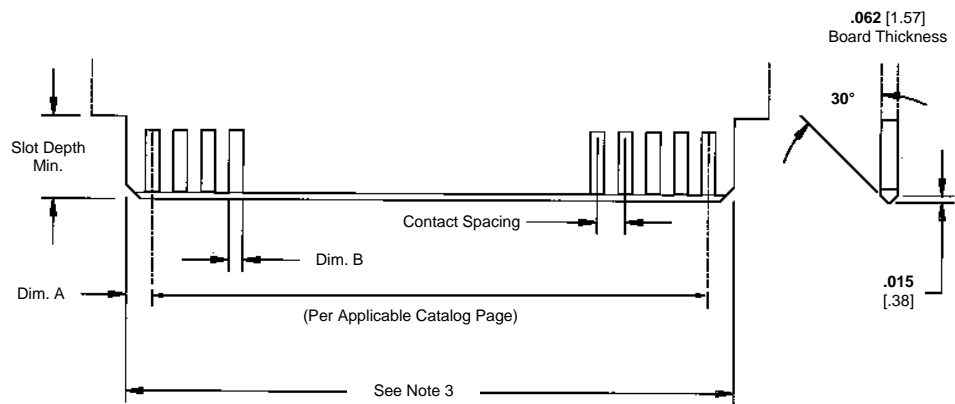


Ordering Information

| Acquired Part Number | Used on Connector Series | Shown on Pages |
|----------------------|--------------------------|----------------|
| 98014-01 | Modified Bellows | 41-56 |
| 98014-01 | Cantilever Beam | 28-40 |

Card Edge Connectors Recommended Daughter Card Edge Pattern

Per MIL-C-21097E



Daughter Card

| Contact Spacing Non-Accum. | Dim A ±.005 (.13) | Dim B |
|----------------------------|-------------------|-------------|
| .100 [2.54] | .093 [2.36] | .052 [1.32] |
| .125 [3.18] | .093 [2.36] | .052 [1.32] |
| .156 [3.96] | .105* [2.67] | .094 [2.39] |

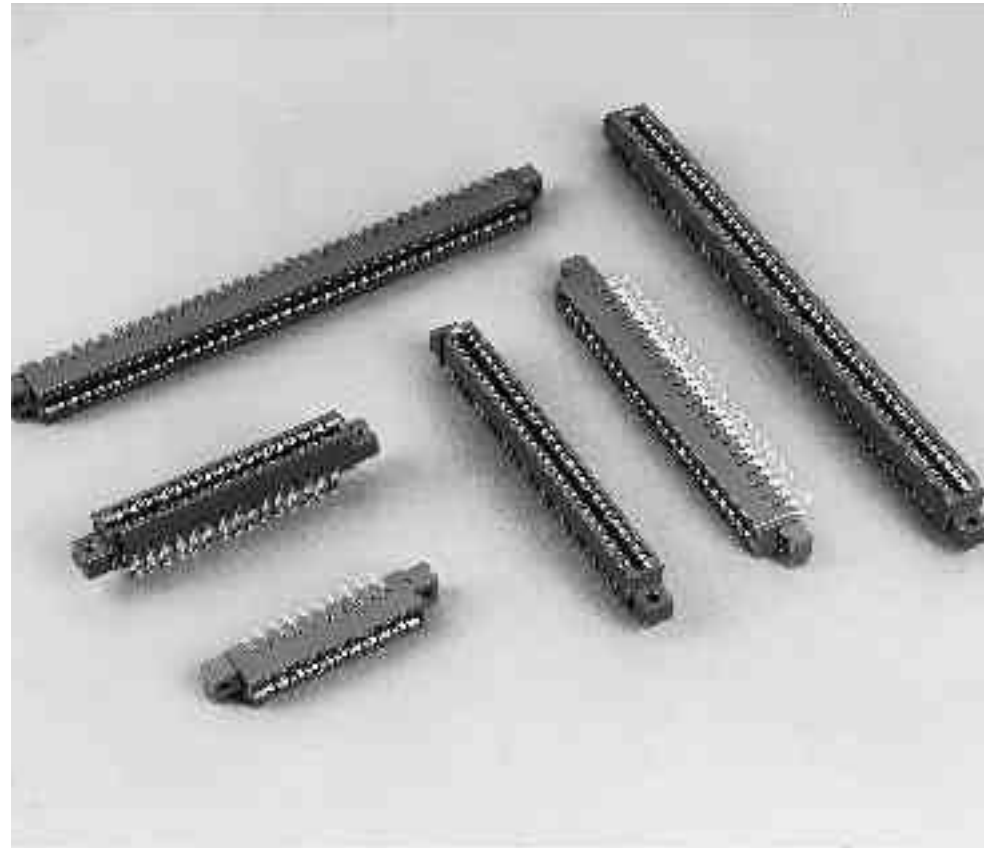
* Except MIL-C-21097E 8-4 which is .070 [1.78]

NOTES:

1. Dimensions are in inches
2. Unless otherwise specified, tolerance is ±.005 [0.13 mm] for three place decimals.
3. Number of contact fingers shall be the same as the corresponding printed wiring connector.

Product Facts

- Low profile housing is .460 [11.68] deep
- 6 through 43 dual positions on .156 [3.96] centerline; 6 through 50 dual positions on .125 [3.18] centerline
- Solder eyelet for wire-to-board or solder post for mother-daughter board application
- Selective gold plating of contact area for high performance at low cost
- Alternate platings are available on request
- Contacts bifurcated for redundancy
- Tin plate for high solderability of solder eyelets and posts
- Accepts .055-.070 [1.40-1.78] thick printed circuit boards
- Housings available with or without mounting ears
- Intercontact keying available
- UL 94V-0 rated, glass-filled polyester housings
- Variety of solder post lengths
- 5 ampere current rating per contact*
- Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476



For printed circuit board packaging, AMP Low Profile Edge Connectors provide high performance, low cost connections on .125 [3.18] and .156 [3.96] centerline spacings. .100 [2.54] centerline connectors can be made available, consult Tyco Electronics.

Mounted connector housings extend only .460 [11.68] from the mother board to allow efficient use of available space.

These low profile connectors are available in 6 through 43 dual position sizes on .156 [3.96] centerline spacing and with 6 through 50 dual positions on .125 [3.18] centers. Connectors are supplied

with either solder posts for mother-daughter board applications or solder eyelet contacts for wire-to-board use.

Low Profile Edge Connectors feature clear slot entry and accept .055-.070 [1.40-1.78] thick double-sided printed circuit boards. Solder posts are available with .150 [3.18] and .180 [4.57] long tails on .140 [3.56] or .200 [5.08] row-to-row spacing.

Impact-resistant thermoplastic housing, UL rated 94V-0, have molded-in cavity identification and are available with or without mounting ears. Additional features of the housings include intercontact keying

provisions, probe slots and identification of number one position.

The precision formed contacts made of phosphor bronze are gold plated on the contact mating surface only. This selective plating provides high reliability while maintaining low cost. Solder eyelets and posts are tin plated for excellent solderability. The contact is bifurcated for redundancy. Shorting contacts are available.

All connector configurations are furnished preloaded. Selectively loaded connectors can be made available for added economy.

*Consult Tyco Electronics engineering when paralleling contacts for power applications.

Electronics

Low Profile Connectors, .125 [3.18] Centerline

Material and Finish:

Housing—Green, glass-filled polyester

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] gold in contact area; .000100 [0.00254] bright tin on posts, with entire contact under-plated .000030 [0.00076] nickel

Related Product Data:

Keying Plug—page 63

PC Board Hole Layouts—See below

PC Board Edge Pattern—page 63

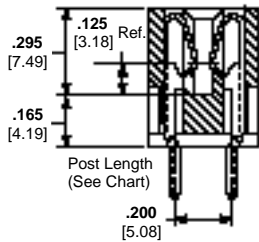
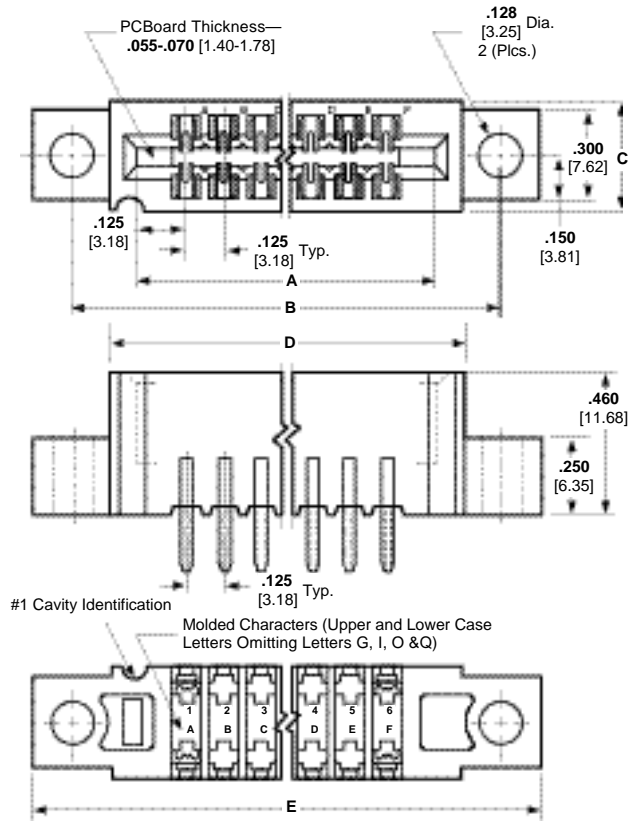
Technical Documents:

(pages 186, 187):

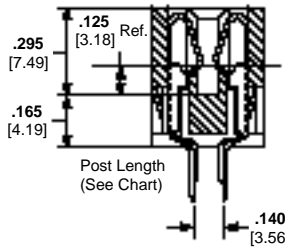
Product Specification

108-9044

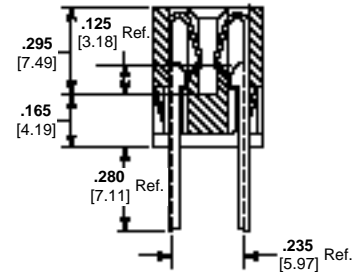
Instruction Sheet 408-7772



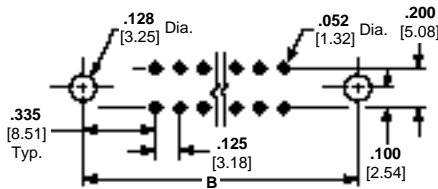
Flow Solder Post
.200 [5.08] Row-to-Row Spacing



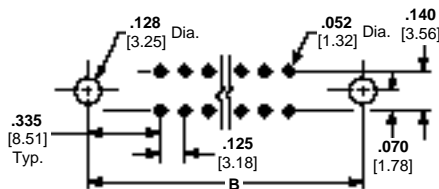
Flow Solder Post
.140 [3.56] Row-to-Row Spacing



Solder Eyelet Contact
.235 [5.97] Row-to-Row Spacing



Recommended PC Board Hole Layout



Recommended PC Board Hole Layout

**Flow Solder Post
.200 [5.08] Row-to-Row
Spacing**

Low Profile Connectors, .125 [3.18] Centerline (Continued)

Solder Type Board-to-Board Connectors

| No. of Dual Positions | Dimensions | | | | | Post Length* | With Mounting Ears | Without Mounting Ears |
|-----------------------|------------|--------|-------|--------|--------|--------------|--------------------|-----------------------|
| | A | B | C | D | E | | | |
| 6 | .875 | — | .370 | 1.035 | — | .150 | — | 2-530671-1 |
| | 22.23 | | 9.40 | 26.29 | | | | |
| 10 | 1.375 | 1.795 | .370 | 1.535 | 2.055 | .150 | — | 2-530671-2 |
| | 34.93 | 45.59 | 9.40 | 38.99 | 52.20 | | | |
| 15 | 2.000 | 2.420 | .370 | 2.160 | 2.680 | .150 | — | 2-530671-3 |
| | 50.80 | 61.47 | 9.40 | 54.86 | 68.07 | | | |
| 18 | 2.375 | 2.795 | .370 | 2.535 | 3.055 | .180 | 2-530663-4 | 2-530671-4 |
| | 60.33 | 70.99 | 9.40 | 64.39 | 77.60 | | | |
| 22 | 2.875 | 3.295 | .370 | 3.035 | 3.555 | .150 | 2-530662-5 | 2-530671-5 |
| | 73.03 | 83.69 | 9.40 | 77.09 | 90.30 | | | |
| 24 | 3.125 | — | .370 | 3.285 | — | .150 | — | 3-530671-3 |
| | 79.38 | | 9.40 | 83.44 | | | | |
| 28 | 3.625 | 4.045 | .370 | 3.785 | 4.305 | .150 | 2-530662-6 | 2-530671-6 |
| | 92.08 | 102.74 | 9.40 | 96.14 | 109.35 | | | |
| 30 | 3.875 | — | .370 | 4.035 | — | .150 | — | 2-530671-7 |
| | 98.43 | | 9.40 | 102.49 | | | | |
| 36 | 4.625 | 5.045 | .370 | 4.785 | 5.305 | .150 | — | 2-530671-9 |
| | 117.48 | 128.14 | 9.40 | 121.54 | 134.75 | | | |
| 40 | 5.125 | 5.545 | .437 | 5.285 | 5.805 | .150 | — | 3-530671-0 |
| | 130.18 | 140.84 | 11.10 | 134.24 | 147.45 | | | |
| 50 | 6.375 | 6.795 | .437 | 6.535 | 7.055 | .150 | 3-530662-2 | — |
| | 161.93 | 172.59 | 11.10 | 165.99 | 179.20 | | | |

**Flow Solder Post
.140 [3.56] Row-to-Row
Spacing**

| No. of Dual Positions | Dimensions | | | | | Post Length* | With Mounting Ears | Without Mounting Ears |
|-----------------------|------------|--------|-------|--------|--------|--------------|--------------------|-----------------------|
| | A | B | C | D | E | | | |
| 15 | 2.000 | — | .370 | 2.160 | — | .150 | — | 2-530673-3 |
| | 50.80 | | 9.40 | 54.86 | | | | |
| 28 | 3.625 | — | .370 | 3.785 | — | .150 | — | 2-530673-6 |
| | 92.08 | | 9.40 | 96.14 | | | | |
| 50 | 6.375 | 6.795 | .437 | 6.535 | 7.055 | .180 | 2-530674-6 | — |
| | 161.93 | 172.59 | 11.10 | 165.99 | 179.20 | | | |

**Solder Eyelet Contact
.235 [5.97] Row-to-Row
Spacing**

| No. of Dual Positions | Dimensions | | | | | With Mounting Ears |
|-----------------------|------------|--------|-------|--------|--------|--------------------|
| | A | B | C | D | E | |
| 15 | 2.000 | 2.420 | .370 | 2.160 | 2.680 | 2-530664-3 |
| | 50.80 | 61.47 | 9.40 | 54.86 | 68.07 | |
| 22 | 2.875 | 3.295 | .370 | 3.035 | 3.555 | 2-530664-5 |
| | 73.02 | 83.69 | 9.40 | 77.08 | 90.29 | |
| 28 | 3.625 | 4.045 | .370 | 3.785 | 4.305 | 2-530664-6 |
| | 92.08 | 102.74 | 9.40 | 96.14 | 109.35 | |
| 40 | 5.125 | 5.545 | .437 | 5.285 | 5.805 | 3-530664-0 |
| | 130.17 | 140.84 | 11.10 | 134.23 | 147.44 | |
| 50 | 6.375 | 6.795 | .437 | 6.535 | 7.055 | 3-530664-2 |
| | 161.92 | 172.59 | 11.10 | 165.98 | 179.19 | |

*Metric equivalents for post length are .150 = [3.81]; .180 = [4.57].

Note: Other connector sizes can be made available, consult Tyco Electronics.

Material and Finish:

Housing—Green, glass-filled polyester

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] gold in contact area; .000100 [0.00254] bright tin on posts, with entire contact under-plated .000030 [0.00076] nickel

Insert—Brass

Related Product Data:

Keying Plug—page 63

PC Board Hole Layouts—See below

PC Board Edge Pattern—page 63

Technical Documents:

(pages 186, 187):

Product Specification

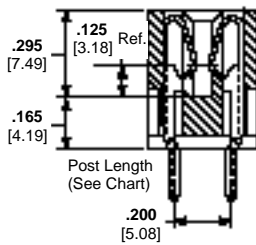
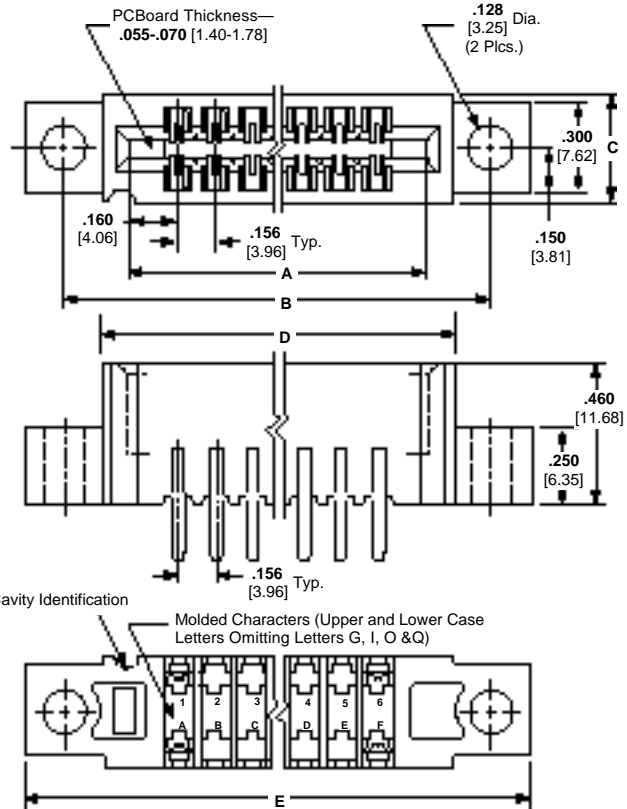
108-9044

Instruction Sheet 408-7772

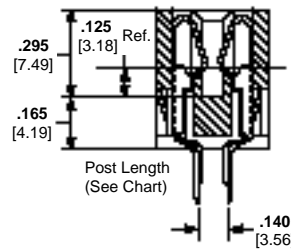
Mounting Ear with Insert



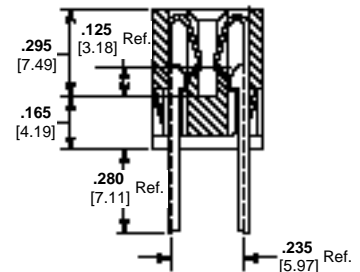
Threaded Inserts
4-40 NC-2B
(2 per connector)



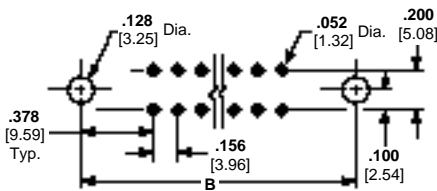
Flow Solder Post
.200 [5.08] Row-to-Row Spacing



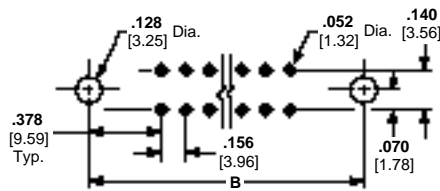
Flow Solder Post
.140 [3.56] Row-to-Row Spacing



Solder Eyelet Contact
.235 [5.97] Row-to-Row Spacing



Recommended PC Board Hole Layout



Recommended PC Board Hole Layout

**Flow Solder Post
.200 [5.08] Row-to-Row
Spacing**

Low Profile Connectors, .156 [3.96] Centerline (Continued)

Solder Type Board-to-Board Connectors

| No. of Dual Positions | Dimensions | | | | | Post Length* | With Mounting Ears | With Mounting Ears and Inserts | Without Mounting Ears |
|-----------------------|------------|--------|-------|--------|--------|--------------|--------------------|--------------------------------|-----------------------|
| | A | B | C | D | E | | | | |
| 6 | 1.100 | 1.535 | .370 | 1.240 | 1.785 | .150 | 2-530655-1 | 2-530677-1 | — |
| | 27.94 | 38.99 | 9.40 | 31.50 | 45.34 | | 2-530689-11 | — | 2-530666-1 |
| 10 | 1.724 | 2.159 | .370 | 1.864 | 2.409 | .150 | 2-530655-2 | — | 2-530666-2 |
| | 43.79 | 54.84 | 9.40 | 47.35 | 61.19 | | .180 | 2-530656-2 | — |
| 12 | 2.036 | 2.471 | .370 | 2.176 | 2.721 | .150 | 2-530655-3 | — | 2-530666-3 |
| | 51.71 | 62.76 | 9.40 | 55.27 | 69.11 | | — | — | — |
| 15 | 2.504 | 2.939 | .370 | 2.644 | 3.189 | .150 | 2-530655-4 | — | 2-530666-4 |
| | 63.60 | 74.65 | 9.40 | 67.16 | 81.00 | | .180 | 2-530689-4 ¹ | — |
| 18 | 2.972 | 3.407 | .370 | 3.112 | 3.657 | .150 | 2-530655-5 | — | 2-530666-5 |
| | 75.49 | 86.54 | 9.40 | 79.04 | 92.89 | | .180 | — | — |
| 22 | 3.596 | 4.031 | .370 | 3.736 | 4.281 | .150 | 2-530655-6 | — | 2-530666-6 |
| | 91.34 | 102.39 | 9.40 | 94.89 | 108.74 | | .180 | 2-530689-6 ¹ | — |
| 25 | 4.064 | 4.499 | .370 | 4.204 | 4.749 | .150 | 2-530655-8 | — | 531433-1 ¹ |
| | 103.23 | 114.27 | 9.40 | 106.78 | 120.62 | | .180 | 2-530656-8 | — |
| 28 | 4.532 | 4.967 | .370 | 4.672 | 5.217 | .150 | 3-530655-2 | — | 3-530666-2 |
| | 115.11 | 126.16 | 9.40 | 118.67 | 132.51 | | .180 | 3-530656-2 | — |
| 30 | 4.844 | 5.279 | .437 | 4.984 | 5.529 | .150 | 2-530655-9 | — | 2-530666-9 |
| | 123.04 | 134.09 | 11.10 | 126.59 | 140.44 | | .180 | 2-530689-9 ¹ | — |
| 36 | 5.780 | 6.215 | .437 | 5.920 | 6.465 | .150 | 3-530655-0 | — | 531433-2 ¹ |
| | 146.18 | 157.86 | 11.10 | 150.37 | 164.21 | | .180 | 3-530689-0 ¹ | — |
| 43 | 6.872 | 7.307 | .437 | 7.012 | 7.557 | .150 | 3-530655-3 | 3-530677-3 | 3-530666-3 |
| | 174.55 | 185.60 | 11.10 | 178.10 | 191.95 | | .180 | 3-530656-3 | — |

**Flow Solder Post
.140 [3.56] Row-to-Row
Spacing
and
Solder Eyelet Contact
.235 [5.97] Row-to-Row
Spacing**

| No. of Dual Positions | Dimensions | | | | | Post Length* | Flow Solder Post | | Solder Eyelet Contact | |
|-----------------------|------------|--------|-------|--------|--------|--------------|--------------------|-----------------------|-----------------------|-----------------------|
| | A | B | C | D | E | | With Mounting Ears | Without Mounting Ears | With Mounting Ears | Without Mounting Ears |
| 6 | 1.100 | 1.535 | .370 | 1.240 | 1.785 | .150 | — | — | 2-530654-1 | — |
| | 27.94 | 38.99 | 9.40 | 31.50 | 45.34 | | — | — | — | — |
| 10 | 1.724 | 2.159 | .370 | 1.864 | 2.409 | .150 | 2-530657-2 | — | 2-530654-2 | — |
| | 43.79 | 54.84 | 9.40 | 47.35 | 61.19 | | .180 | 2-530657-4 | — | 2-530654-4 |
| 15 | 2.504 | 2.939 | .370 | 2.644 | 3.189 | .150 | — | 2-530669-4 | — | — |
| | 63.60 | 74.65 | 9.40 | 67.16 | 81.00 | | .180 | — | 2-530668-5 | 2-530654-5 |
| 18 | 2.972 | 3.407 | .370 | 3.112 | 3.657 | .150 | — | 2-530668-5 | 2-530654-5 | — |
| | 75.49 | 86.54 | 9.40 | 79.04 | 92.89 | | .180 | — | 2-530668-6 | 2-530654-6 |
| 22 | 3.596 | 4.031 | .370 | 3.736 | 4.281 | .150 | 2-530657-6 | 2-530668-6 | 2-530654-6 | — |
| | 91.34 | 102.39 | 9.40 | 94.89 | 108.74 | | .180 | — | — | 2-530654-7 |
| 24 | 3.908 | 4.343 | .370 | 4.048 | 4.593 | .150 | — | — | 2-530654-7 | — |
| | 99.26 | 110.31 | 9.40 | 102.81 | 116.66 | | .180 | — | — | — |
| 28 | 4.532 | 4.967 | .370 | 4.672 | 5.217 | .150 | 3-530657-2 | 3-530668-2 | 3-530654-2 | — |
| | 115.11 | 126.16 | 9.40 | 118.67 | 132.51 | | .180 | — | — | — |
| 30 | 4.844 | 5.279 | .437 | 4.984 | 5.529 | .150 | — | — | 2-530654-9 | — |
| | 123.04 | 134.09 | 11.10 | 126.59 | 140.44 | | .180 | — | — | 3-530654-0 |
| 36 | 5.780 | 6.215 | .437 | 5.920 | 6.465 | .150 | — | — | 3-530654-0 | — |
| | 146.81 | 155.58 | 11.10 | 150.36 | 164.21 | | .180 | — | 3-530669-0 | — |
| 43 | 6.872 | 7.307 | .437 | 7.012 | 7.557 | .150 | 3-530657-3 | — | 3-530654-3 | — |
| | 174.55 | 185.60 | 11.10 | 178.10 | 191.95 | | .180 | — | — | — |

*Metric equivalents for post length are .150 = [3.81]; .180 = [4.57].

¹For .040 [1.02] diameter hole.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Electronics

Low Profile Connectors (Continued)

Keying Plug

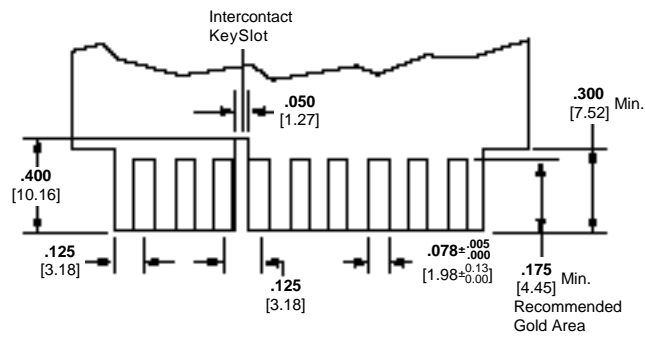
Material: Glass-filled nylon
Part No. 650025-2

Intercontact Key

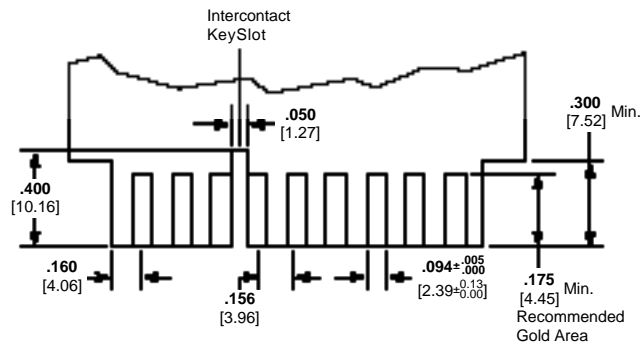


Recommended PC Board Edge Patterns

.125 [3.18] Centerline Boards

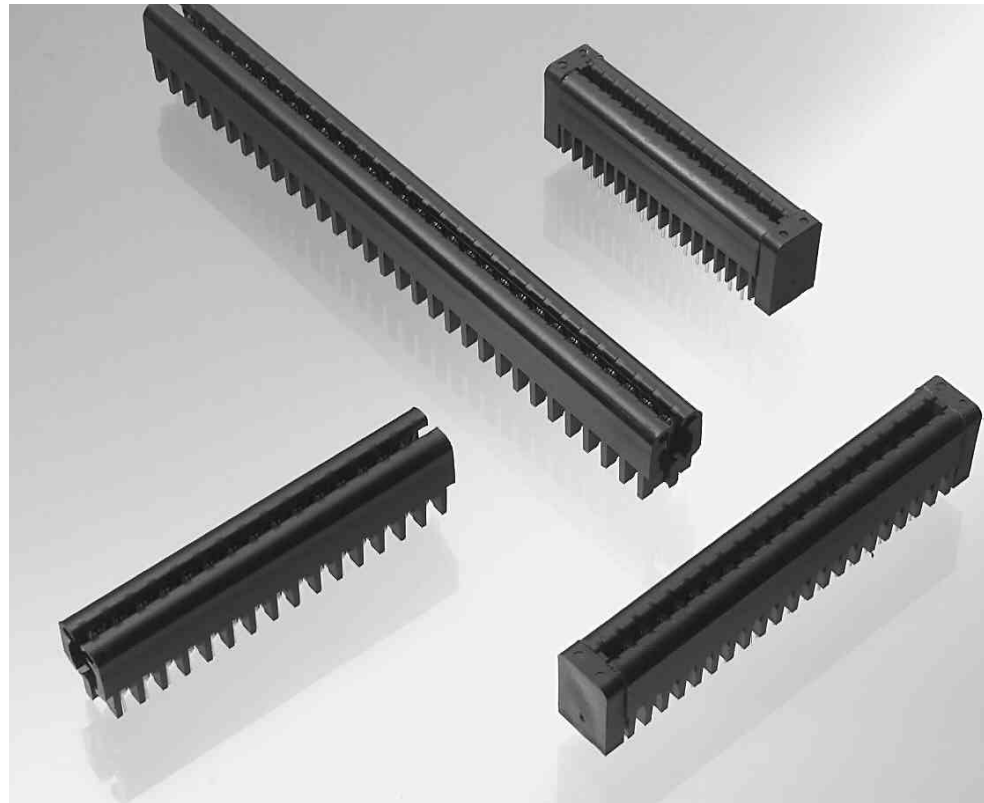


.156 [3.96] Centerline Boards



Product Facts

- Wide variety of sizes available from 3 dual positions and up—no initial tooling investment required for new versions
- Connectors can be selectively loaded with contacts in custom patterns
- Connectors tooled on all standard centerlines—.100 [2.54], .125 [3.18], .150 [3.81], .156 [3.96], and .200 [5.08]
Note: .200 [5.08] centerline capabilities provided by loading every-other dual position of .100 [2.54] centerline housings.
- Closed card entry protects contacts and daughter board pads
- Adapts to a wide range of mother board thicknesses to .104 [2.64] maximum
- Phosphor bronze contacts selectively plated for top performance and maximum economy
- Protective channel helps prevent overstress of contacts
- Daughter board keying available in intercontact or on-contact styles
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476



The AMP Twin Leaf Connector is a highly reliable, low-cost mother/daughter board connector designed for solid-state circuitry. The one-piece, multi-contact connector requires no front-end tooling. This versatile connector for double-sided printed circuit boards uses preloaded contacts and selective plating to give lowest applied cost. Critical contact areas are gold-over-nickel plated to provide positive electrical connection between contacts and daughter board pads. Contact posts are tin plated for efficient dip soldering to mother boards up to .104 [2.64] thick. The Twin Leaf Connector delivers high reliability because the contacts possess superior tolerance of environmental stresses including shock, vibration and variations of temperature and humidity. Other characteristics such as high insulation resistance, low

termination resistance, long life and moderate contact separation force meet industry requirements for reliability. Connectors are tooled in sizes from 3 through 80 dual-contact positions with contacts on .100 [2.54], .125 [3.18], .150 [3.81], .156 [3.96] or .200 [5.08] centers. Other sizes and custom-loaded contact patterns are available on request. The connector housing, made of glass-filled polyester with a UL 94V-0 rating, features a standoff which facilitates the use of a probe for electrical continuity checks without risk of damage to the contacts. A closed card-entry design of the housing protects the contacts and daughter board pads. Housings accept daughter boards ranging from .055 [1.40] to .070 [1.78] in thickness. Intercontact and on-contact keys are available for polarization of the housings.

Card guides or end caps make alignment of daughter board pads with Twin Leaf Connector contacts quick and easy.

Performance Specifications

Contact Rating*:

3 amperes continuous

Temperature Rating:

-55°C to +105°C

Insulation Resistance:

5,000 megohms

Dielectric Withstanding Voltage:

| Altitude | Test Voltage (AC, RMS) | |
|-----------------------|------------------------|-------------|
| | .100 [2.54] | .150 [3.81] |
| Sea Level | 1,000 | 1,500 |
| 50,000 ft 15 240 m | 400 | 600 |
| 70,000 ft 21 336 m | 280 | 400 |

Termination Resistance:

10 milliohms, max.

Durability: Tested to 100 cycles

(engage/withdraw)

Contact Plating: .000015 [0.00038]

selective gold plating on contact area; bright tin on solder tie

*Consult Tyco Electronics engineering when paralleling contacts for power applications.

Twin Leaf Mother Board Connectors Without End Caps

**.100 [2.54], .125 [3.18],
.150 [3.81] and
.156 [3.96] Centerlines,
With Solder Posts**

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000015 [0.00038] gold in contact area; tin on posts, with entire contact under-plated .000030 [0.00076] nickel, except where noted

Related Product Data:

Performance Specifications—page 64

Card Guides—pages 70, 71

Keying Plugs—page 72

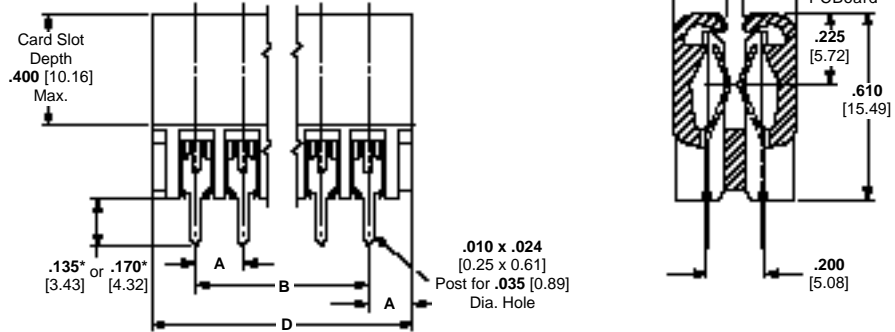
PC Board Hole Layouts—page 71

Technical Documents:

(pages 186, 187):

Product Specification
108-9027

Instruction Sheets 408-7479,
408-7498, 408-7506



*Post length: .135 [3.43] for .150 [3.81] and .156 [3.96] centerlines, except where noted;
.170 [4.32] for .100 [2.54] and .125 [3.18] centerlines, except where noted.

Twin Leaf Mother Board Connectors Without End Caps

Solder Type Board-to-Board Connectors

| No. of Dual Positions | A = .100 [2.54] Centerline Spacing | | | A = .125 [3.18] Centerline Spacing | | | A = .150 [3.81] Centerline Spacing | | | A = .156 [3.96] Centerline Spacing | | |
|-----------------------|------------------------------------|-----------------|--------------|------------------------------------|-----------------|-------------------------|------------------------------------|-----------------|-------------------------------------|------------------------------------|-----------------|--------------|
| | B | D | Part Numbers | B | D | Part Numbers | B | D | Part Numbers | B | D | Part Numbers |
| 2 | — | — | — | — | — | — | .300 7.62 | .600 15.24 | 1-583694-1 | — | — | — |
| 3 | .200 5.08 | .400 10.16 | 583485-6 | — | — | — | .300 7.62 | .600 15.24 | 645155-1 ^{1,3} | .312 7.92 | .624 15.85 | 4-583486-8 |
| 4 | — | — | — | — | — | — | .450 11.43 | .750 19.05 | 583407-5 | — | — | — |
| 5 | .400 10.16 | .600 15.24 | 583485-7 | — | — | — | .600 15.24 | .900 22.86 | 583407-6 | — | — | — |
| 8 | — | — | — | — | — | — | 1.050 26.67 | 1.350 34.29 | 583407-9 | — | — | — |
| 9 | — | — | — | 1.000 25.40 | 1.250 31.75 | 583533-7 | — | — | — | — | — | — |
| 10 | .900 22.86 | 1.100 27.94 | 1-583485-2 | — | — | — | — | — | — | 1.400 35.56 | 1.720 43.69 | 4-583486-1 |
| 11 | — | — | — | — | — | — | 1.500 38.10 | 1.800 45.72 | 1-583407-2 | — | — | — |
| 14 | 1.300 33.02 | 1.500 38.10 | 1-583485-6 | — | — | — | — | — | — | — | — | — |
| 15 | — | — | — | — | — | — | 2.100 53.34 | 2.400 60.96 | 1-583407-5 | — | — | — |
| 18 | — | — | — | 2.125 53.97 | 2.375 60.32 | 1-583533-6 | — | — | — | 2.652 67.36 | 2.964 75.28 | 3-583486-3 |
| 20 | — | — | — | — | — | — | 2.850 72.39 | 3.150 80.01 | 2-583407-0 530292-9 ³ | — | — | — |
| 22 | — | — | — | 2.625 66.67 | 2.875 73.02 | 2-583533-0 | — | — | — | — | — | — |
| 28 | — | — | — | — | — | — | 4.050 102.87 | 4.350 110.49 | 583407-1 | 4.212 106.99 | 4.524 114.91 | 2-583486-3 |
| 30 | — | — | — | 3.625 92.08 | 3.875 98.43 | 531534-2 ² | — | — | — | 4.524 114.91 | 4.836 122.83 | 2-583486-1 |
| 31 | — | — | — | — | — | — | 4.500 53.34 | 4.800 60.96 | 530292-3 ³ | — | — | — |
| 33 | — | — | — | — | — | — | — | — | — | 4.992 126.80 | 5.304 134.72 | 1-583486-8 |
| 36 | — | — | — | — | — | — | — | — | — | 5.460 138.68 | 5.772 146.61 | 1-583486-5 |
| 40 | — | — | — | 4.875 123.83 | 5.125 130.18 | 3-583533-8 | 5.850 148.59 | 6.150 156.21 | 3-583407-8 | 6.084 154.53 | 6.396 162.46 | 1-583486-1 |
| 43 | — | — | — | — | — | — | — | — | — | 6.552 166.42 | 6.864 174.35 | 583486-8 |
| 50 | 4.900 124.46 | 5.100 129.54 | 583485-3 | 6.130 155.70 | 6.380 162.05 | 5-583533-0 ¹ | 7.350 186.69 | 7.650 194.31 | 4-583407-8 | 7.640 194.06 | 7.960 202.18 | 583486-1 |
| 56 | — | — | — | — | — | — | — | — | — | 8.580 217.93 | 8.892 225.86 | 5-583486-0 |
| 65 | 6.400 162.56 | 6.600 167.64 | 5-583485-6 | — | — | — | — | — | — | — | — | — |
| 80 | 7.900 200.66 | 8.100 205.74 | 5-583485-5 | — | — | — | — | — | — | — | — | — |

¹Contacts are plated .000030 [0.00076] gold in contact area, tin on posts, with entire contact underplated .000030 [0.00076] nickel.

²Post length .135 [3.43]

³Post length .170 [4.32]

Note: Other connector sizes can be made available, consult Tyco Electronics.

Twin Leaf Mother Board Connectors With End Caps

**.100 [2.54], .125 [3.18],
.150 [3.81] and
.156 [3.96] Centerlines,
With Solder Posts**

Material and Finish:

Housing—Glass-filled polyester,
94V-0 rated

Contacts—Phosphor bronze, plated
.000015 [0.00038] gold in contact area;
tin on posts, with entire contact under-
plated .000030 [0.00076] nickel

Related Product Data:

Performance Specifications—
page 64

Keying Plugs—page 72

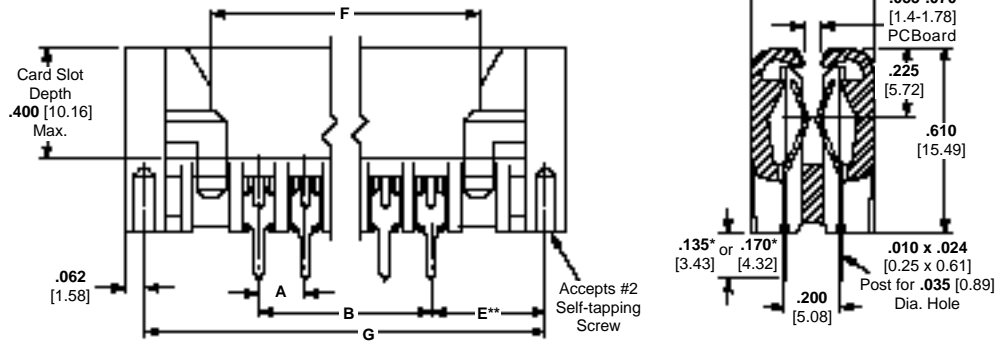
PC Board Hole Layouts—page 71

Technical Documents:

(pages 186, 187):

Product Specification
108-9027

Instruction Sheets 408-7479,
408-7498, 408-7506



*Post length: **.135 [3.43]** for **.150 [3.81]** and **.156 [3.96]** centerlines;
.170 [4.32] for **.100 [2.54]** and **.125 [3.18]** centerlines.

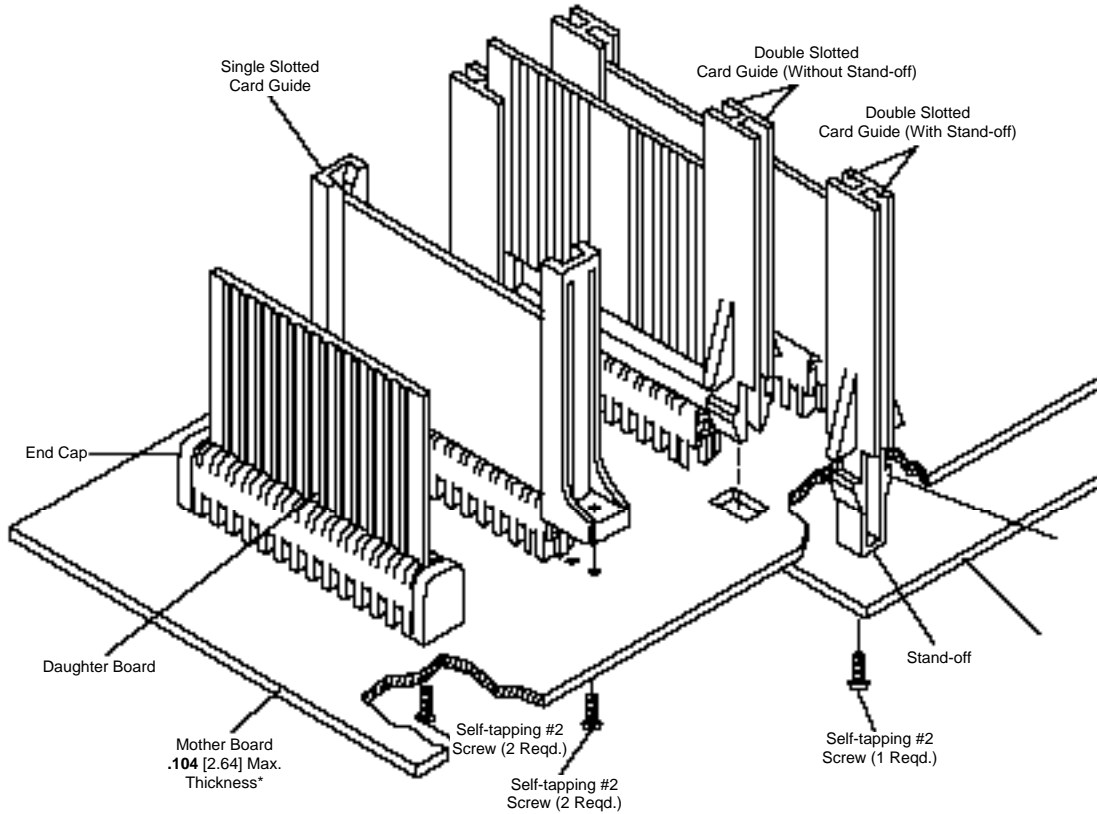
**See page 27 for dimensions.

| No. of Dual Pos. | A = .100 [2.54] Centerline Spacing | | | | A = .125 [3.18] Centerline Spacing | | | | A = .150 [3.81] Centerline Spacing | | | | A = .156 [3.96] Centerline Spacing | | | |
|------------------|------------------------------------|-----------------|-----------------|--------------|------------------------------------|-----------------|-----------------|--------------|------------------------------------|-----------------|-----------------|--------------|------------------------------------|-----------------|-----------------|--------------|
| | B | F | G | Part Numbers | B | F | G | Part Numbers | B | F | G | Part Numbers | B | F | G | Part Numbers |
| 3 | .200 5.03 | .400 10.16 | .734 18.64 | 583715-1 | — | — | — | — | — | — | — | — | — | — | — | — |
| 5 | .400 10.16 | .600 15.24 | .934 23.72 | 583715-3 | — | — | — | — | — | — | — | — | — | — | — | — |
| 6 | .500 12.70 | .700 17.78 | 1.034 26.26 | 583715-4 | .625 15.88 | .875 22.23 | 1.259 31.96 | 583679-5 | — | — | — | — | .780 19.81 | 1.092 27.74 | 1.538 39.07 | 583660-6 |
| 7 | .600 15.24 | .800 20.32 | 1.134 28.80 | 583715-5 | — | — | — | — | — | — | — | — | — | — | — | — |
| 9 | .800 20.32 | 1.000 25.40 | 1.334 33.88 | 583715-7 | — | — | — | — | — | — | — | — | — | — | — | — |
| 10 | .900 22.86 | 1.100 27.94 | 1.434 36.42 | 583715-8 | — | — | — | — | — | — | — | — | 1.404 35.66 | 1.716 43.59 | 2.162 54.91 | 1-583660-0 |
| 12 | 1.100 27.94 | 1.300 33.02 | 1.634 41.50 | 1-583715-0 | — | — | — | — | — | — | — | — | 1.716 43.58 | 2.028 51.51 | 2.474 62.84 | 1-583660-2 |
| 13 | 1.200 30.48 | 1.400 35.56 | 1.734 44.04 | 1-583715-1 | — | — | — | — | — | — | — | — | — | — | — | — |
| 14 | — | — | — | — | — | — | — | — | 1.950 49.53 | 2.250 57.15 | 2.684 68.17 | 1-583692-3 | 2.028 51.51 | 2.340 59.44 | 2.786 70.76 | 1-583660-4 |
| 15 | 1.400 35.56 | 1.600 40.64 | 1.934 49.12 | 1-583715-3 | — | — | — | — | 2.100 53.34 | 2.400 60.96 | 2.834 71.98 | 1-583692-4 | 2.184 55.47 | 2.496 63.40 | 2.942 74.73 | 583660-2 |
| 17 | 1.600 40.64 | 1.800 45.72 | 2.134 54.20 | 1-583715-5 | 2.000 50.80 | 2.250 57.15 | 2.634 66.90 | 1-583679-6 | — | — | — | — | — | — | — | — |
| 18 | 1.700 43.18 | 1.900 48.26 | 2.234 56.74 | 1-583715-6 | 2.125 53.98 | 2.375 60.33 | 2.759 70.08 | 1-583679-7 | — | — | — | — | 2.652 67.36 | 2.964 75.28 | 3.410 86.61 | 1-583660-7 |
| 20 | 1.900 48.26 | 2.100 53.34 | 2.434 61.82 | 1-583715-8 | 2.375 60.33 | 2.625 66.68 | 3.009 76.43 | 1-583679-9 | — | — | — | — | — | — | — | — |
| 22 | — | — | — | — | — | — | — | — | — | — | — | — | 3.276 83.21 | 3.588 91.14 | 4.034 102.46 | 2-583660-1 |
| 25 | 2.400 60.96 | 2.600 66.04 | 2.934 74.52 | 2-583715-3 | 3.000 76.20 | 3.250 82.55 | 3.634 92.30 | 2-583679-4 | 3.600 91.44 | 3.900 99.06 | 4.334 110.08 | 2-583692-4 | 3.744 95.10 | 4.065 103.02 | 4.502 114.35 | 2-583660-4 |
| 26 | 2.500 63.50 | 2.700 68.58 | 3.034 77.05 | 2-583715-4 | — | — | — | — | — | — | — | — | — | — | — | — |
| 28 | 2.700 68.58 | 2.900 73.66 | 3.234 82.14 | 2-583715-6 | 3.375 85.73 | 3.625 92.08 | 4.009 101.83 | 2-583679-6 | — | — | — | — | 4.212 106.98 | 4.524 114.91 | 4.979 126.24 | 2-583660-7 |
| 30 | 2.900 73.66 | 3.100 78.74 | 3.434 87.22 | 2-583715-8 | — | — | — | — | 4.350 110.49 | 4.650 118.11 | 5.084 129.13 | 583692-1 | 4.524 114.91 | 4.836 122.83 | 5.282 134.16 | 2-583660-9 |
| 31 | 3.000 76.20 | 3.200 81.28 | 3.534 89.76 | 2-583715-9 | — | — | — | — | — | — | — | — | — | — | — | — |
| 32 | 3.100 78.74 | 3.300 83.82 | 3.634 92.30 | 3-583715-0 | — | — | — | — | — | — | — | — | 4.836 122.83 | 5.148 130.76 | 5.594 142.09 | 3-583660-1 |
| 33 | — | — | — | — | — | — | — | — | 4.800 121.92 | 5.100 129.54 | 5.534 140.56 | 3-583692-1 | — | — | — | — |
| 34 | 3.300 83.82 | 3.500 88.90 | 3.834 97.38 | 3-583715-2 | — | — | — | — | — | — | — | — | — | — | — | — |
| 35 | 3.400 83.36 | 3.600 91.44 | 3.934 99.92 | 3-583715-3 | — | — | — | — | 5.100 129.54 | 5.400 137.16 | 5.834 148.18 | 3-583692-3 | 5.304 134.72 | 5.616 142.64 | 6.062 153.97 | 3-583660-4 |
| 36 | 3.500 88.90 | 3.700 93.98 | 4.034 102.46 | 3-583715-4 | — | — | — | — | 5.250 133.35 | 5.550 140.97 | 5.984 151.99 | 3-583692-4 | 5.460 138.68 | 5.772 146.61 | 6.218 157.94 | 583660-1 |
| 40 | 3.900 99.06 | 4.100 104.14 | 4.434 112.62 | 3-583715-8 | 4.875 123.83 | 5.125 130.18 | 5.509 139.93 | 3-583679-8 | 5.850 148.59 | 6.150 156.21 | 6.584 167.23 | 3-583692-8 | — | — | — | — |
| 41 | 4.000 101.60 | 4.200 106.68 | 4.534 115.16 | 3-583715-9 | — | — | — | — | — | — | — | — | — | — | — | — |
| 43 | — | — | — | — | — | — | — | — | — | — | — | — | 6.552 166.42 | 6.864 174.35 | 7.310 185.67 | 4-583660-1 |
| 50 | 4.900 124.46 | 5.100 129.54 | 5.434 138.02 | 4-583715-8 | 6.125 155.58 | 6.375 161.93 | 6.759 171.68 | 4-583679-8 | 7.350 186.69 | 7.650 194.31 | 8.084 205.33 | 4-583692-8 | 7.644 194.16 | 7.956 202.08 | 8.402 213.41 | 4-583660-8 |
| 80 | 7.900 200.66 | 8.100 205.74 | 8.434 214.22 | 5-583715-7 | — | — | — | — | — | — | — | — | — | — | — | — |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Twin Leaf Mother Board Connectors With End Caps (Continued)

Typical Connector and Card Guide Assembly



*Must be .063 [1.59] thick for use with Double Slotted Card Guides.

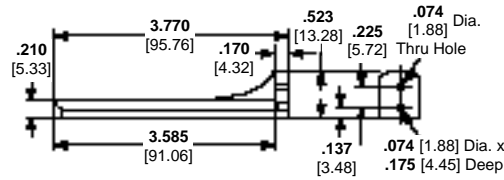
Card Guides

Material: Glass-filled nylon, black
Part No. 583671-1

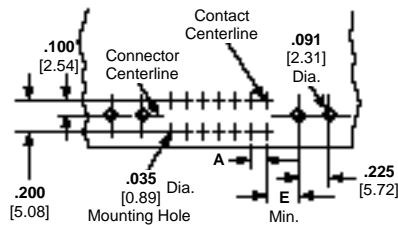
Related Product Data:
Connectors used with—page 65

Technical Documents:
(pages 186, 187):
Instruction Sheets 408-7498,
408-7506

Single Slotted



Single Slotted Card Guide and Connector Mounting



| Dimensions | |
|------------|------|
| A | E |
| .100 | .263 |
| 2.54 | 6.68 |
| .125 | .288 |
| 3.18 | 7.31 |
| .150 | .313 |
| 3.81 | 7.95 |
| .156 | .319 |
| 3.96 | 8.10 |

Electronics

Twin Leaf Mother Board Connectors (Continued)

Card Guides

(Continued)

Material: Nylon, natural

Part No. 583425-1

Related Product Data:

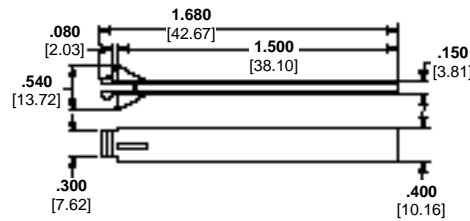
Connectors used with—page 65

Technical Documents:

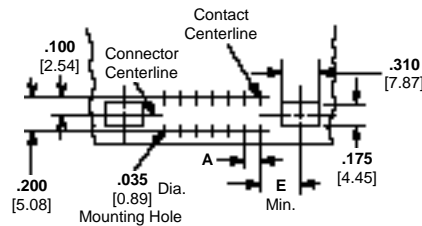
(pages 186, 187):

Instruction Sheets 408-7498,
408-7506

Double Slotted Without Stand-off



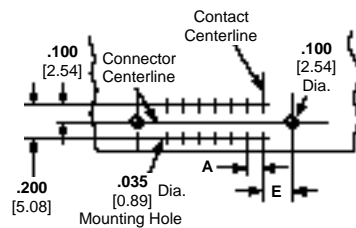
Double Slotted Card Guide and Connector Mounting



| Dimensions | |
|--------------|--------------|
| A | E |
| .100 2.54 | .328 8.33 |
| .125 3.18 | .353 8.96 |
| .150 3.81 | .376 9.60 |
| .156 3.96 | .384 9.75 |

Note: Mother Board must be **.063** [1.59] thick for use with Double Slotted Card Guides.

Recommended PC Board Layout for Connectors With End Caps



| Dimensions | |
|--------------|--------------|
| A | E |
| .100 2.54 | .267 6.78 |
| .125 3.18 | .317 8.05 |
| .150 3.81 | .367 9.32 |
| .156 3.96 | .379 9.62 |

Keying Plugs

Material: Nylon, natural

Technical Documents:

(pages 186, 187):

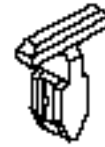
Instruction Sheet 408-7479



Type A



Type B

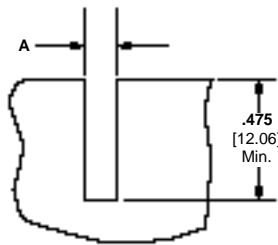


On-Contact

Intercontact

| In-Row Contact Spacing | Type of Contact | Connector Style* | | Intercontact Keying Plug | | | On-Contact Keying Plug | |
|------------------------|-----------------|------------------|------------------|--------------------------|---------------------|---------------------------|------------------------|---------------------------|
| | | with End Caps | without End Caps | Type A Part Numbers | Type B Part Numbers | Insertion/Extraction Tool | Part Numbers | Insertion/Extraction Tool |
| .100 2.54 | Solder Post | 583715 | 583485 | 530286-3 | — | 91081-2 | 583714-1 | 91088-1 |
| | Card Extender | 530268 | 530291 | | | | | |
| .125 3.18 | Solder Post | 583679 | 583533 | 530286-2 | 530030-1 | 91081-1 | 583714-1 | 91088-1 |
| | Card Extender | 530265 | 530290 | | | | | |
| .150 3.81 | Solder Post | 583692 | 583407 | 530286-2 | 530030-1 | 91081-1 | — | — |
| | Wrap-Type Post | 583754 | 583752 | | | | | |
| | Card Extender | 530278 | 530270 | | | | | |
| .156 3.96 | Solder Post | 583660 | 583486 | 530286-2 | 530030-1 | 91081-1 | — | — |
| | Wrap-Type Post | 583755 | 583753 | | | | | |
| | Card Extender | 530267 | 530282 | | | | | |

*Refer to pages 66-68, as applicable, for specific connector sizes.



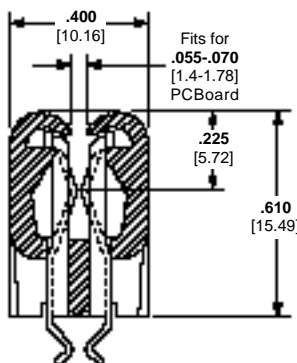
| Connector Centerlines | Dimension A | |
|-----------------------|--------------|------------|
| | Intercontact | On-Contact |
| .100 | .040 | .129 |
| 2.54 | 1.02 | 3.28 |
| .125 | .050 | .129 |
| 3.18 | 1.27 | 3.28 |
| .150 | .050 | .160 |
| 3.81 | 1.27 | 4.06 |
| .156 | .050 | .160 |
| 3.96 | 1.27 | 4.06 |

Recommended PC Board Cutout for Keying Plugs

Other Twin Leaf Mother Board Connectors

For more information on the connectors shown here, consult Tyco Electronics.

Card Extender Connectors



Connectors With End Caps

| Centerlines | Part Number Series* |
|--------------|---------------------|
| .150 3.81 | 530278 |
| .156 3.96 | 530267 |

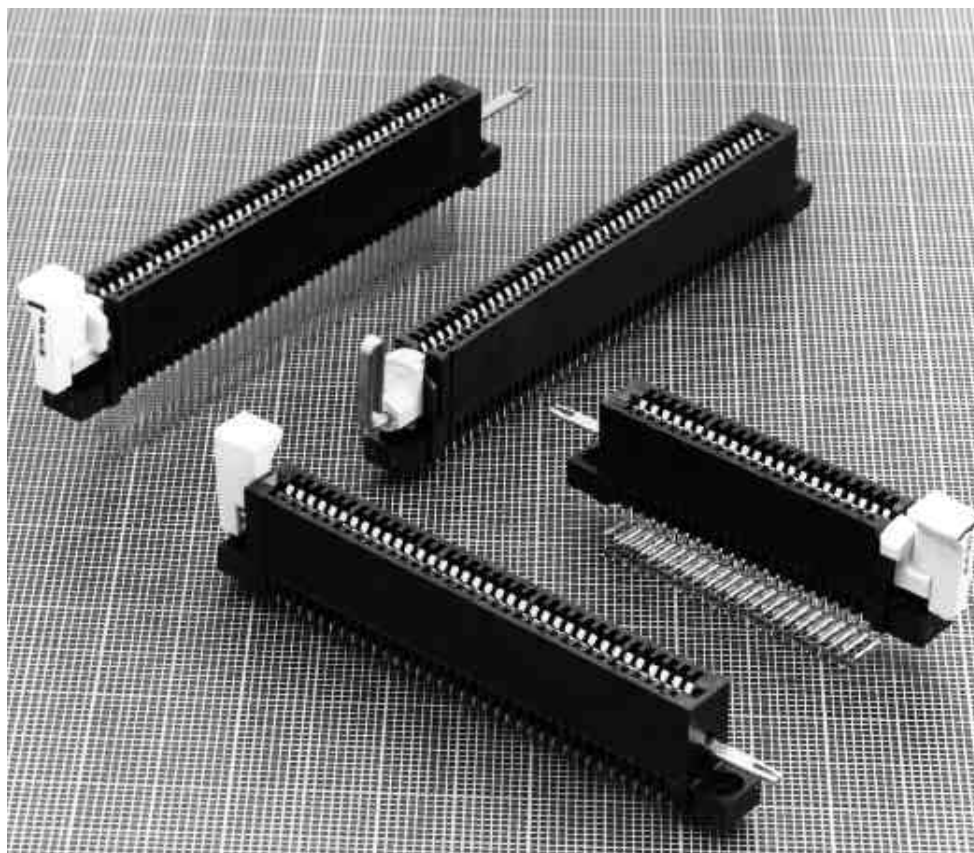
*Consult Tyco Electronics for specific connector sizes.

Rotary Cam ZIF Connectors

Solder Type Board-to-Board Connectors

Product Facts

- Zero insertion force; little or no effort required to insert and withdraw PC boards
- Reduced pad wear for extended board life
- Allows all four sides of board to be used for input/output functions
- Accepts double-sided boards
- Three contact styles to choose from: vertical solder post, right-angle solder post and wrap-type post (2 and 3 high)
- Available in .100 [2.54], .125 [3.18] and .156 [3.96] centerlines
- Three configurations available: open one end, open both ends and closed both ends
- Products indicated are recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476



Performance Specifications

Current vs. Temperature Rise*:
3 amperes at 30°C

Operating Temperature:
-55°C to +105°C

Contact Resistance:
20 milliohms max.

Durability: Tested to 5000 cycles

AMP Rotary Cam Zero Insertion Force (ZIF) Card Edge Connectors are available in sizes to fit most industry-standard printed circuit boards. A clockwise rotation of the cam handle opens contacts to allow zero-force insertion or removal of PC boards—even boards with a large number of contacts. Turning the cam handle to close the connector locks the board securely in place. Rotary Cam ZIF Connectors accept double-sided PC boards .054-.070 [1.37-

1.78] thick, with contact centerline intervals of .100 [2.54], .125 [3.18] and .156 [3.96]. Row-to-row spacing of connector posts is .200 [5.08] for .100 [2.54] and .156 [3.96] connectors and .250 [6.35] for .125 [3.18] connectors.

Contacts are nickel underplated phosphor bronze with gold plate in the contact area and tin-lead plated posts. Contact configurations include vertical and right-angle solder posts and wrap-type posts. Preassembled connectors

feature housings made from 94V-0 rated glass-filled polyester and mounting ears for easy mounting to the mother board. Housings are available with one end open, both ends open and both ends closed for side and top daughter board insertion. Integral board locks secure boards in the connectors. Accessories include dust covers, cam rods (with and without boots) and cam keys for nut-driver actuation and for tandem operation of connectors.

*Consult Tyco Electronics engineering when paralleling contacts for power applications.

Rotary Cam ZIF Connectors, .100 x .200 [2.54 x 5.08] Centerline

**Vertical Connector,
Solder Post Terminals**

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

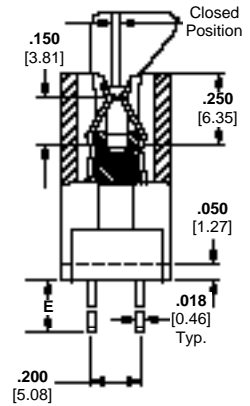
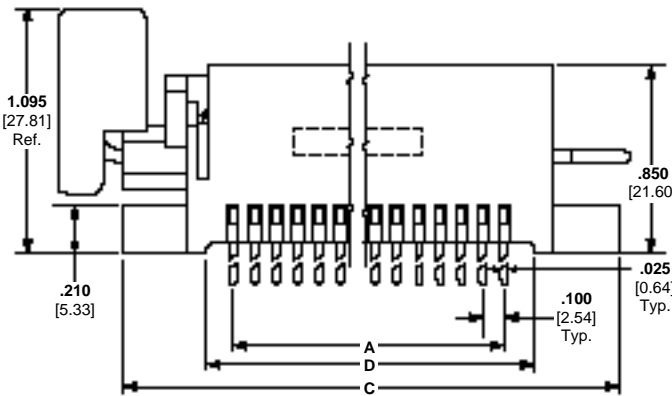
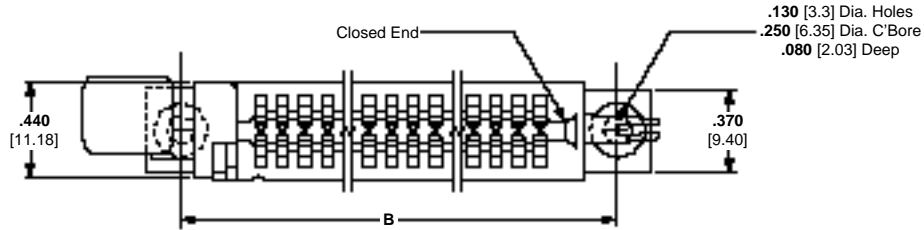
Special Application—pages 82, 96

Technical Documents:

(pages 186, 187):

Product Specification
108-9048

Instruction Sheet 408-7911



| No. of Dual Positions | Dimensions | | | | | Part Numbers | | |
|-----------------------|------------|--------|--------|--------|------|---------------------------|-----------------------------|------------------|
| | A | B | C | D | E* | Open One End ¹ | Open Both Ends ¹ | Closed Both Ends |
| 22 | 2.100 | 2.800 | 3.100 | 2.300 | .125 | 531020-1 | — | 531019-1 |
| | 53.34 | 71.12 | 78.74 | 58.42 | .160 | 1-531020-1 | — | — |
| 25 | 2.400 | 3.100 | 3.400 | 2.600 | .125 | 531020-2 | — | 531019-2 |
| | 60.96 | 78.74 | 86.36 | 66.04 | .160 | 1-531020-2 | — | — |
| 28 | 2.700 | 3.400 | 3.700 | 2.900 | .160 | 1-531020-3 | — | — |
| | 68.58 | 86.36 | 93.98 | 73.66 | | | | |
| 31 | 3.000 | 3.700 | 4.000 | 3.200 | .160 | 2-531020-1 | — | — |
| | 76.20 | 93.98 | 101.60 | 81.28 | | | | |
| 36 | 3.500 | 4.200 | 4.500 | 3.700 | .125 | 3-531020-2 | — | 531019-4 |
| | 88.90 | 106.68 | 114.30 | 93.98 | .160 | 1-531020-4 | — | — |
| 40 | 3.900 | 4.600 | 4.900 | 4.100 | .125 | 531020-5 | — | — |
| | 99.06 | 116.84 | 124.46 | 104.14 | .160 | 1-531020-5 | — | — |
| 43 | 4.200 | 4.900 | 5.200 | 4.400 | .125 | 3-531020-3 | — | — |
| | | | | | .160 | 1-531020-7 | — | — |
| | | | | | .160 | 2-531020-8 ² | — | — |
| 50 | 4.900 | 5.600 | 5.900 | 5.100 | .125 | 531020-8 | 531021-8 | — |
| | | | | | .160 | 1-531020-8 | — | 1-531019-8 |
| | | | | | .160 | 2-531020-9 ² | — | — |
| 60 | 5.900 | 6.600 | 6.900 | 6.100 | .125 | 1-531020-9 | 1-531021-9 | 1-531019-9 |
| | | | | | .160 | 1-531020-9 | 1-531021-9 | 1-531019-9 |
| 65 | 6.400 | 7.100 | 7.400 | 6.600 | .125 | 1-531020-0 | — | — |
| | | | | | .160 | 2-531020-0 | — | — |
| | | | | | .160 | 3-531020-0 ² | — | — |

*Metric equivalents in millimeters for post lengths E are .125 = [3.18]; .160 = [4.06].

¹Recognized under the Component Program of Underwriters Laboratories Inc.

²Connectors without cam rod and boardlock.

Notes: 1. Connector with card slot open one end is shown for illustration purposes.
2. Other connector sizes can be made available, consult Tyco Electronics.

Solder Type Board-to-Board Connectors

Electronics

Rotary Cam ZIF Connectors, .100 x .200 [2.54 x 5.08] Centerline (Continued)

Right-Angle Connector, Solder Post Terminals

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

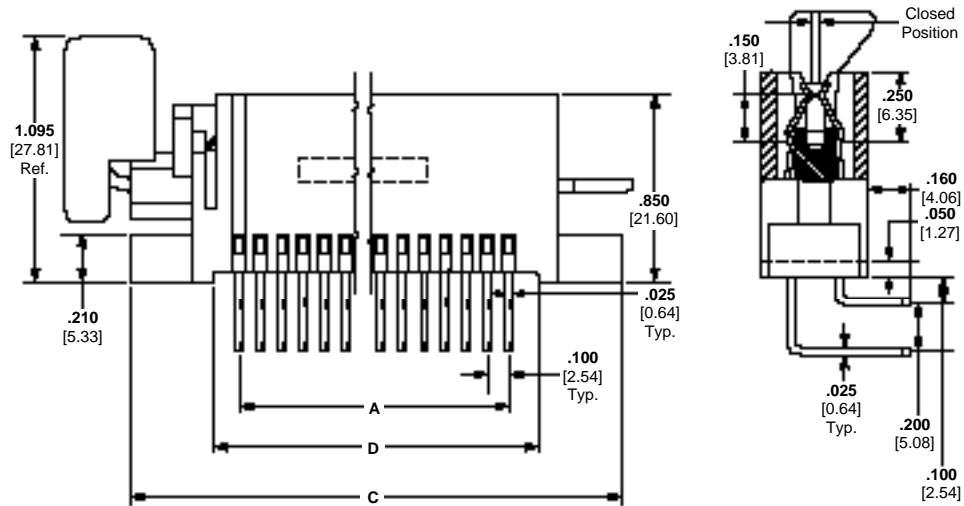
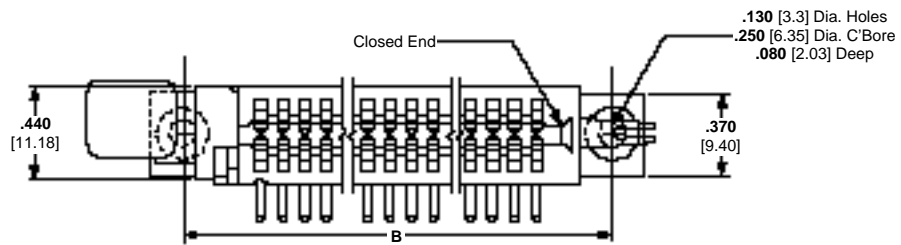
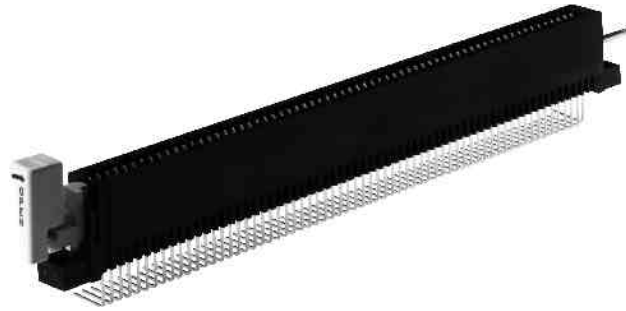
Special Application—page 82, 96

Technical Documents:

(pages 186, 187):

Product Specification 108-9048

Instruction Sheet 408-7911



Bend Right Shown

| No. of Dual Positions | Dimensions | | | | Bend Right | Part Numbers (Open End ¹) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|------------|---------------------------------------|
| | A | B | C | D | | |
| 25 | 2.400 60.96 | 3.100 78.74 | 3.400 86.36 | 2.800 71.12 | R | 531395-2 ³ |
| 36 | 3.500 88.90 | 4.200 106.68 | 4.500 114.30 | 3.700 93.98 | R | 531396-4 |
| 50 | 4.900 124.56 | 5.600 142.24 | 5.900 149.86 | 5.100 129.54 | L | 1-531396-8 |
| 65 | 6.400 162.56 | 7.100 180.34 | 7.400 187.96 | 6.600 167.64 | R | 1-531396-0 |

¹Recognized under the Component Program of Underwriters Laboratories Inc.

- Notes:**
1. Connector with card slot open one end is shown.
 2. Other connector sizes can be made available, consult Tyco Electronics.
 3. Open both ends.

**Vertical Connector,
Wrap-Type Post Terminals**

Material and Finish:

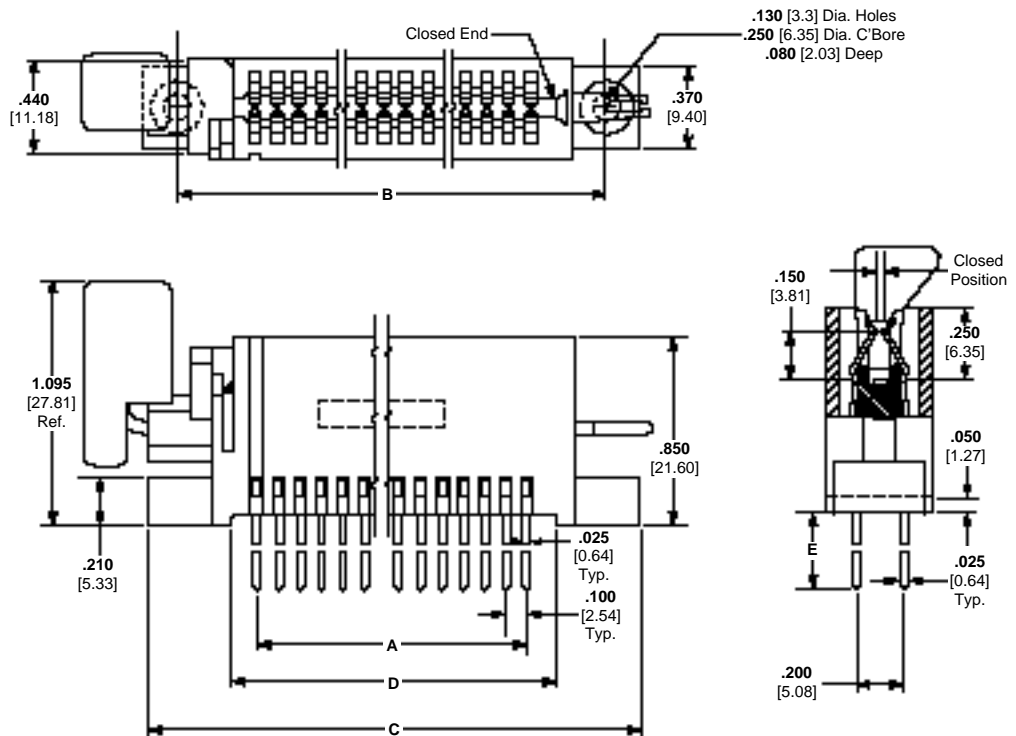
Housing—Glass-filled polyester, 94V-0 rated
Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends
Daughter PC Board—.054-.070 [1.37-1.78] thick
Performance Specifications—page 73
Dust Cover—page 79
PC Board Hole Layout and Edge Patterns—pages 81, 82
Special Application—pages 82, 96

Technical Documents:

(pages 186, 187):
 Product Specification 108-9048
 Instruction Sheet 408-7911



| No. of Dual Positions | Dimensions | | | | | Part Numbers | |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------------------|-----------------------------|
| | A | B | C | D | E* | Open One End ¹ | Open Both Ends ¹ |
| 25 | 2.400 60.96 | 3.100 78.74 | 3.400 86.36 | 2.600 66.04 | .380 | 1-531414-2 | — |
| 36 | 3.500 88.90 | 4.200 106.68 | 4.500 114.30 | 3.700 93.98 | .580 .380 | 531414-4 | 531415-4 |
| 40 | 3.900 99.06 | 4.600 116.84 | 4.900 124.46 | 4.100 104.14 | .580 | 531414-5 | — |
| 42 | 4.100 104.14 | 4.800 121.92 | 5.100 129.54 | 4.300 109.22 | .380 | 1-531414-6 | — |
| 50 | 4.900 124.46 | 5.600 142.24 | 5.900 149.86 | 5.100 129.54 | .580 | 2-531414-4 | 531415-8 |
| 60 | 5.900 149.86 | 6.600 167.64 | 6.900 175.26 | 6.100 154.94 | .580 | 531414-9 | — |
| 65 | 6.400 162.56 | 7.100 180.34 | 7.400 187.96 | 6.600 167.64 | .580 | 1-531414-0 | — |

*Metric equivalents in millimeters for post lengths E are .580 = [14.73] (3-high wrap-type); .380 = [9.65] (2-high wrap-type).
¹Recognized under the Component Program of Underwriters Laboratories Inc.
Notes: 1. Connector with card slot open one end is shown for illustration purposes.
 2. Other connector sizes can be made available, consult Tyco Electronics.

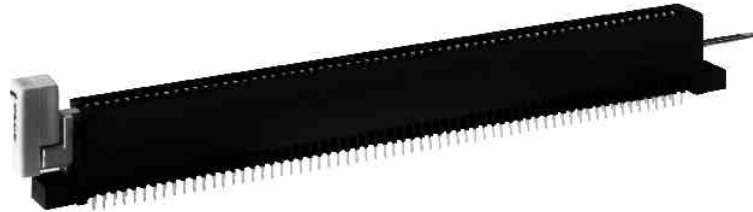
Solder Type Board-to-Board Connectors

Rotary Cam ZIF Connectors, .125 x .250 [3.18 x 6.35] Centerline

**Vertical Connector,
Solder Post Terminals**

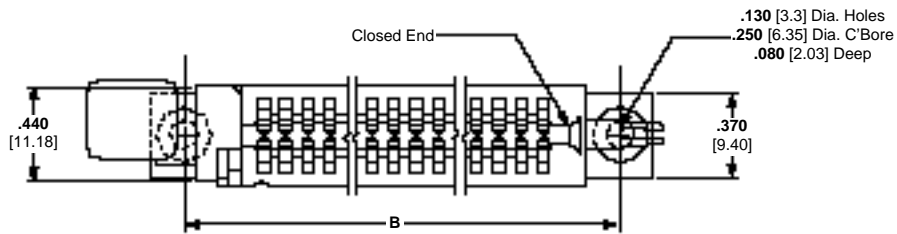
Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated
Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290



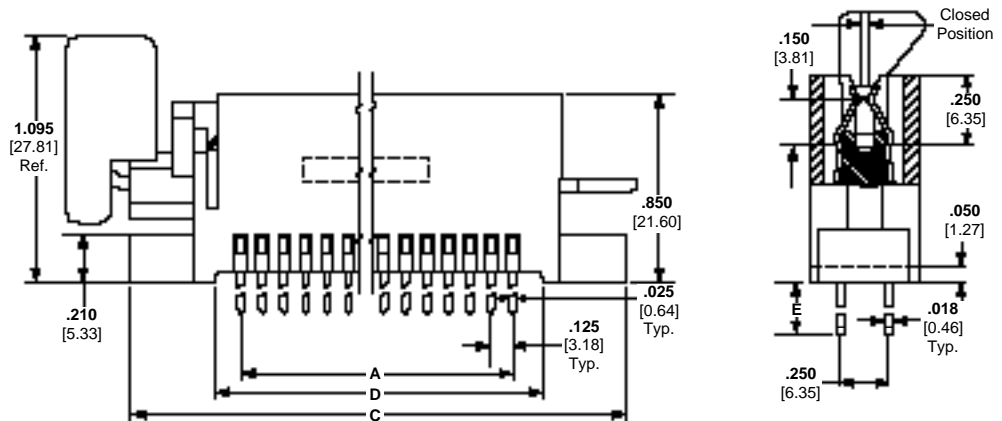
Related Product Data:

Board Lock Feature—On connectors open one end and open both ends
Daughter PC Board—.054-.070 [1.37-1.78] thick
Performance Specifications—page 73
Dust Cover—page 79
PC Board Hole Layout and Edge Patterns—pages 81, 82
Special Application—pages 82, 96



Technical Documents:

(pages 186,187):
 Product Specification 108-9048
 Instruction Sheet 408-7911



| No. of Dual Positions | Dimensions | | | | | Part Numbers | |
|-----------------------|-----------------|-----------------|-----------------|-----------------|------|---------------------------|-----------------------------|
| | A | B | C | D | E* | Open One End ¹ | Open Both Ends ¹ |
| 28 | 3.375 85.73 | 4.125 104.76 | 4.425 112.40 | 3.625 92.08 | .125 | — | 531024-3 |
| 30 | 3.625 92.08 | 4.375 111.13 | 4.675 118.75 | 3.875 98.43 | .125 | 531023-4 | — |
| 40 | 4.875 123.83 | 5.625 142.88 | 5.925 150.50 | 5.125 130.18 | .160 | 1-531023-4 | 1-531024-4 |

*Metric equivalents in millimeters for post lengths E are .125 = [3.18]; .160 = [4.06].

¹Recognized under the Component Program of Underwriters Laboratories Inc.

Notes: 1. Connector with card slot open one end is shown for illustration purposes.
 2. Other connector sizes can be made available, consult Tyco Electronics.

Rotary Cam ZIF Connectors, .156 x .200 [3.96 x 5.08] Centerline

**Vertical Connector,
Solder Post Terminals**

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290



Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

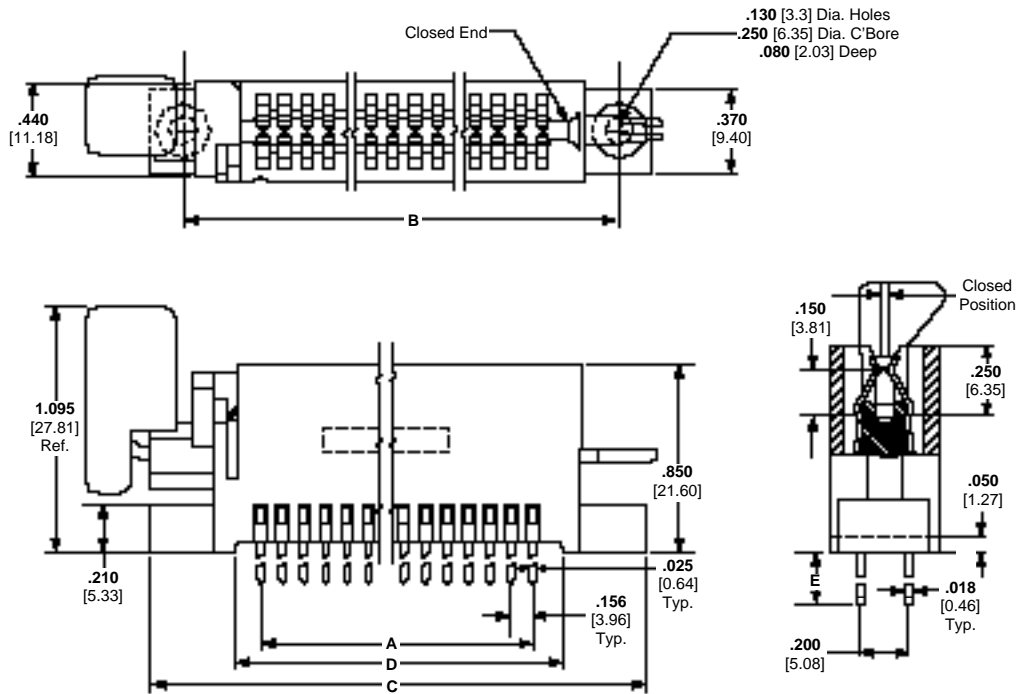
Special Application—pages 82, 96

Technical Documents:

(pages 186, 187):

Product Specification 108-9048

Instruction Sheet 408-7911



| No. of Dual Positions | Dimensions | | | | | Part Numbers | | |
|-----------------------|------------|--------|--------|--------|------|---------------------------|-----------------------------|------------------|
| | A | B | C | D | E* | Open One End ¹ | Open Both Ends ¹ | Closed Both Ends |
| 22 | 3.276 | 4.088 | 4.388 | 3.588 | .125 | 531025-3 | — | — |
| | 83.21 | 103.83 | 111.46 | 91.14 | .160 | 531025-9 | — | 531007-9 |
| 36 | 5.460 | 6.272 | 6.572 | 5.772 | .160 | — | 1-531026-1 | — |
| | 138.68 | 159.31 | 166.93 | 146.61 | .160 | — | — | — |
| 43 | 6.552 | 7.364 | 7.664 | 6.864 | .125 | 531025-6 | — | — |
| | 166.42 | 187.05 | 194.67 | 174.35 | .125 | 531025-6 | — | — |

*Metric equivalents in millimeters for post lengths E are .125 = [3.18]; .160 = [4.06].

¹Recognized under the Component Program of Underwriters Laboratories Inc.

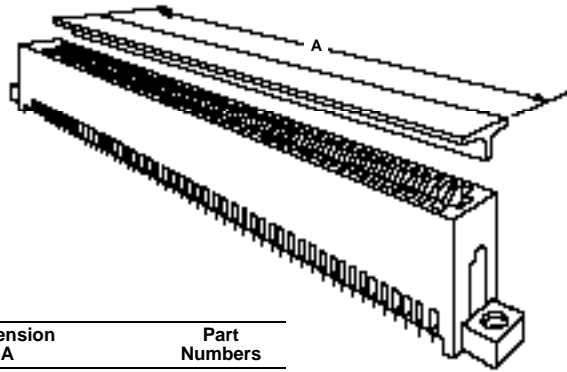
Notes: 1. Connector with card slot open one end is shown for illustration purposes.
2. Other connector sizes can be made available, consult Tyco Electronics.

Solder Type Board-to-Board Connectors

Accessories

Dust Covers

Material: Rigid vinyl, black



| Dimension A | Part Numbers |
|-------------------|--------------|
| 11.050 280.67 | 531863-2 |
| 48.000 1219.20 | 531863-1 |

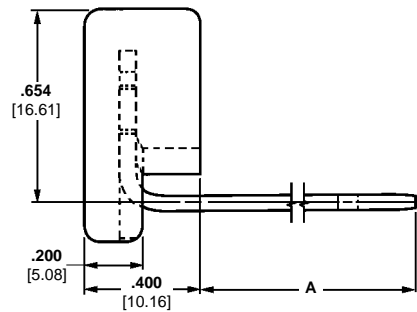
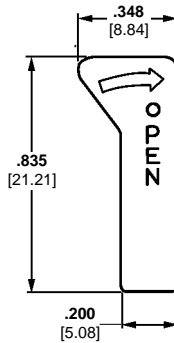
Note: Other lengths can be made available upon request, consult Tyco Electronics.

Cam Rods with Boot

Material:

Cam Rod—Stainless steel

Boot—Glass-filled polyester, yellow



| Dimension A | Part Numbers |
|-----------------|--------------|
| 3.185 80.90 | 650083-1 |
| 3.705 94.11 | 650083-2 |
| 4.470 113.54 | 650083-3 |
| 5.285 134.24 | 650083-4 |
| 5.900 149.86 | 650083-6 |
| 5.975 151.77 | 532563-7 |

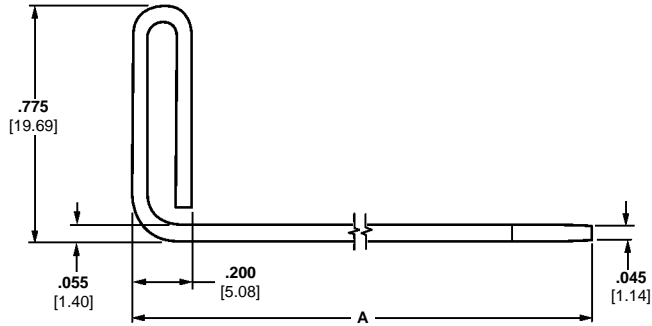
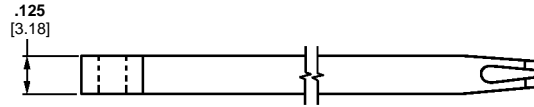
| Dimension A | Part Numbers |
|-----------------|--------------|
| 6.385 162.18 | 650083-7 |
| 6.985 177.42 | 650083-8 |
| 7.485 190.12 | 650083-9 |
| 7.725 196.22 | 1-532563-0 |
| 8.320 211.34 | 1-650083-7 |

Note: Other lengths can be made available upon request, consult Tyco Electronics.

Cam Rods without Boot

Material: Stainless steel

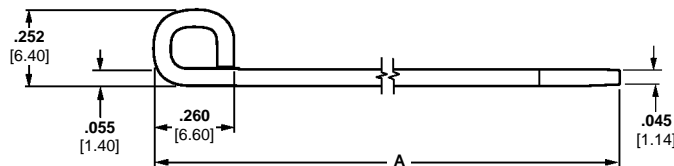
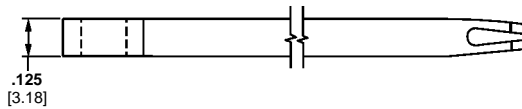
Solder Type Board-to-Board Connectors



| Dimension A | Part Numbers |
|-----------------|--------------|
| 2.200 55.88 | 2-531004-8 |
| 2.700 68.58 | 2-531004-9 |
| 3.300 83.82 | 3-531004-0 |
| 4.750 120.65 | 531004-4 |
| 5.000 127.00 | 1-531004-4 |
| 5.500 139.70 | 531004-6 |

| Dimension A | Part Numbers |
|------------------|--------------|
| 6.000 152.40 | 531004-7 |
| 6.250 158.75 | 1-531004-6 |
| 6.750 171.45 | 1-531004-7 |
| 8.250 209.55 | 3-531004-2 |
| 12.500 317.50 | 2-531004-0 |

Note: Other lengths can be made available upon request, consult Tyco Electronics.

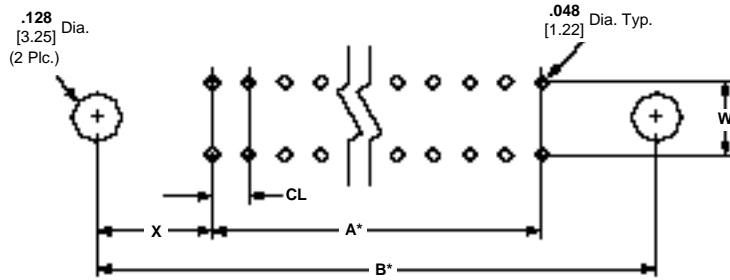


| Dimension A | Part Numbers |
|------------------|--------------|
| 3.380 85.85 | 645293-3 |
| 4.50 114.30 | 645293-8 |
| 5.200 132.08 | 645293-6 |
| 6.90 175.30 | 645293-7 |
| 13.120 333.25 | 645293-5 |

Note: Other lengths can be made available upon request, consult Tyco Electronics.

Recommended PC Board Hole Layouts

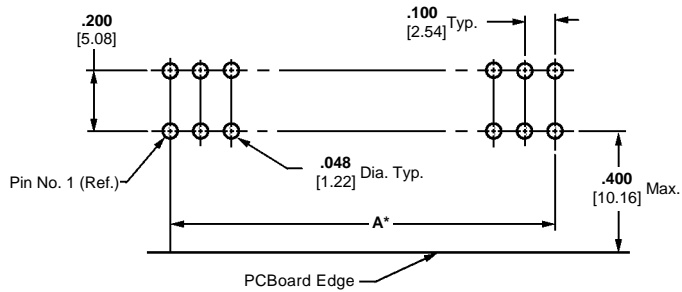
Mother Board Hole Layout, Vertical Through-Board Connectors



*Refer to individual connector specifications.

| CL | W | X |
|--------------|--------------|---------------|
| .100 2.54 | .200 5.08 | .350 8.89 |
| .125 2.18 | .250 6.35 | .375 9.53 |
| .156 3.96 | .200 5.08 | .406 10.31 |

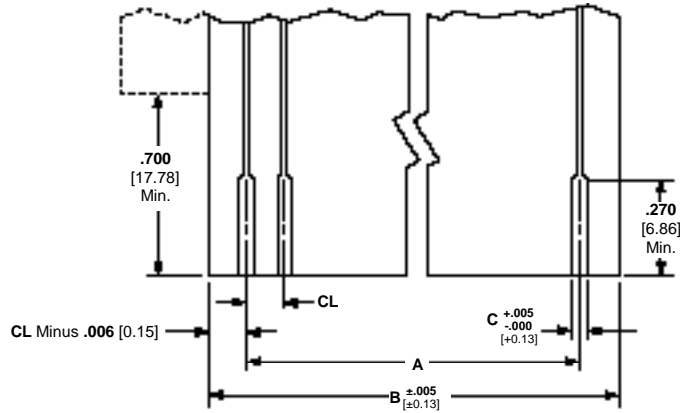
Mother Board Hole Layout, Right-Angle Through-Board Connectors



*Refer to individual connector specifications.

Recommended PC Board Edge Pattern

Daughter Board Edge Pattern



| No. of Dual Positions | CL = .100 [2.54] C = .050 [1.27] | | CL = .125 [3.18] C = .078 [1.98] | | CL = .156 [3.96] C = .094 [2.39] | |
|-----------------------|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|
| | A | B | A | B | A | B |
| 22 | 2.100 53.34 | 2.288 58.12 | — | — | 3.267 83.21 | 3.576 90.83 |
| 25 | 2.400 60.96 | 2.588 65.74 | — | — | — | — |
| 28 | 2.700 68.58 | 2.888 73.36 | 3.375 85.73 | 3.613 91.77 | — | — |
| 30 | — | — | 3.625 92.08 | 3.863 98.12 | — | — |
| 31 | 3.000 76.20 | 3.188 80.98 | — | — | — | — |
| 36 | 3.500 88.90 | 3.688 93.68 | — | — | 5.460 138.68 | 5.760 146.30 |
| 40 | 3.900 99.06 | 4.088 103.84 | 4.875 123.83 | 5.113 129.87 | — | — |
| 43 | 4.200 106.68 | 4.388 111.46 | — | — | 6.552 166.42 | 6.852 174.04 |
| 50 | 4.900 124.46 | 5.088 129.24 | — | — | — | — |
| 60 | 5.900 149.86 | 6.088 154.64 | — | — | — | — |
| 65 | 6.400 162.56 | 6.588 167.34 | — | — | — | — |

Special Application

Tandem Application



Note: Contact Tyco Electronics for information concerning special tandem connectors.

Linear ZIF Connectors

Product Facts

- Minimizes force needed to install and remove printed circuit boards
- Available in lever and bell crank styles
- Lever styles allow side and top card entry
- Wiping action contacts enhance electrical properties
- Contacts on .100 x .100 [2.54 x 2.54] or .125 x .125 [3.18 x 3.18] centers
- .025 [0.64] square posts
- Accepts PC boards from .054 to .070 [1.37 to 1.78] in thickness
- Normally closed design leaves springs in relaxed position
- 50 to 175 dual positions available on .100 [2.54] centerline connectors and 40 to 140 dual positions available on .125 [3.18] centerline connectors



Performance Specifications

Current vs. Temperature Rise*:
3 amperes at 30°C

Operating Temperature:
-65°C to +85°C

Contact Resistance:
16 milliohms max.

Durability: Tested to 250 cycles
(board-to-contact actuation)

AMP Linear Zero Insertion Force (ZIF) PC Board Edge Connectors are available in both lever and bell crank actuated styles and can be provided as panel assemblies, separate housings and contacts or as pre-assembled with solder post terminals.

Panel assemblies include a housing with ACTION PIN press-fit solderless contacts mounted on an epoxy board for rack application. Separate housing assemblies and ACTION PIN contacts allow customer assembly. These can be mounted as close as .625 [15.88]. More design latitude for high density application is provided by the side entry lever-type connector, permitting use of all sides of the PC board for edge-type I/O connections (see page 133). Where solder applications are

required, Tyco Electronics has a line of preassembled connectors with tin-plated solder terminals. All these configurations are available in a broad range of sizes.

With ZIF style connectors, intermittencies can occur if a contact comes to rest on a piece of foreign matter (dust and dirt particles) found on PC boards. To decrease the probability of this happening, all connectors have been designed to include a wiping contact which produces a wiping action. This action, produced by the geometry and bending movements of the beam, pushes aside debris and allows for good electrical connection by cleaning the actual point of contact.

In addition, all connectors have removable wings which make it possible to repair or replace damaged cam rails, handles, contacts

and housing modules without removing the entire housing assembly from the board.

*Consult Tyco Electronics engineering when paralleling contacts for power applications.

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline

Housing with Solder Posts

Lever Style, Side Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] min. gold per MIL-G-45204 in contact area; .000100 [0.00254] min. tin-lead on post with entire contact underplated .000050 [0.00127] min. nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

Special Application—page 96



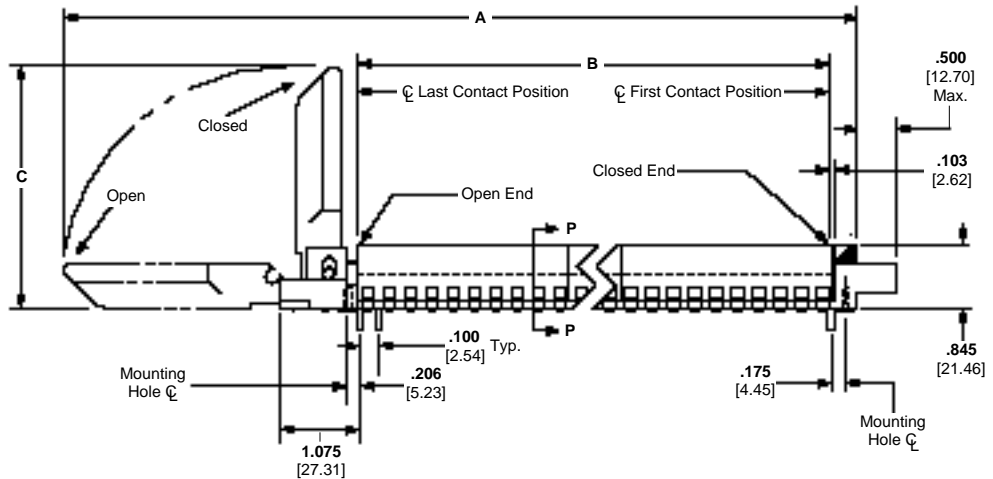
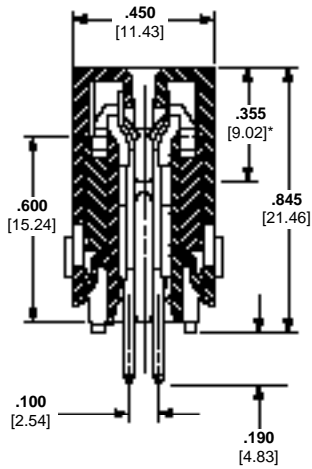
Technical Documents:

(pages 186, 187):

Product Specification
108-14015

Application Specification
114-26003

Instruction Sheets 408-2995,
408-2999, 408-6915



*Card slot depth.

| No. of Dual Positions | Dimensions | | | Part Number |
|-----------------------|------------------|-----------------|----------------|-------------|
| | A | B | C | |
| 35 | 6.113 155.27 | 3.400 86.36 | 2.000 50.80 | 645135-2 |
| 80 | 11.613 294.97 | 7.900 200.66 | 3.000 76.20 | 1-645135-1 |
| 100 | 13.613 345.77 | 9.900 251.46 | 3.000 76.20 | 1-645135-5 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

Solder Type Board-to-Board Connectors

Panel Assembly

Lever Style, Side Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact under-plated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

ACTION PIN Contacts—pages 88, 94

Tooling—page 95

Special Application—page 96

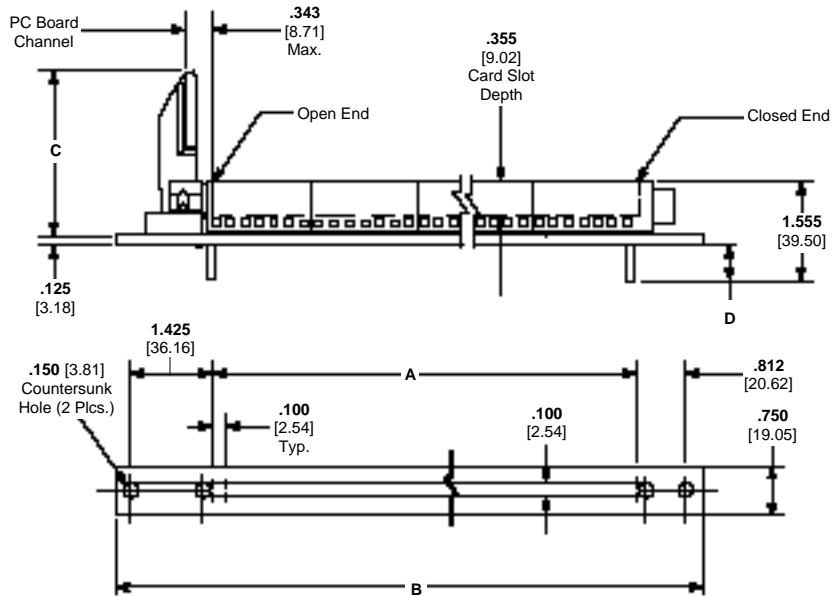
Technical Documents:

(pages 186, 187):

Product Specification
108-14015

Application Specification
114-26003

Instruction Sheets 408-2995,
408-2999, 408-6915



| No. of Dual Positions | Dimensions | | | | Part Numbers |
|-----------------------|------------------|------------------|----------------|---------------|--------------|
| | A | B | C | D | |
| 75 | 7.400 251.46 | 10.125 320.68 | 3.000 76.20 | .615 15.62 | 1-645145-0 |
| 100 | 9.900 251.46 | 12.625 320.68 | 3.000 76.20 | .615 15.62 | 1-645145-5 |
| 130 | 12.900 251.46 | 15.625 320.68 | 3.000 76.20 | .615 15.62 | 2-645145-1 |
| 140 | 13.900 353.06 | 16.625 422.28 | 3.000 76.20 | .615 15.62 | 2-645145-3 |
| 150 | 14.900 251.46 | 17.625 320.68 | 3.000 76.20 | .615 15.62 | 2-645145-5 |
| 160 | 15.900 403.86 | 18.625 473.07 | 3.000 76.20 | .615 15.62 | 2-645145-7 |
| 160 | 15.900 403.86 | 18.625 473.07 | 3.000 76.20 | .455 11.56 | 147400-1 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Panel Assembly

Lever Style, Top Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact under-plated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

ACTION PIN Contacts—pages 88, 94

Tooling—page 95

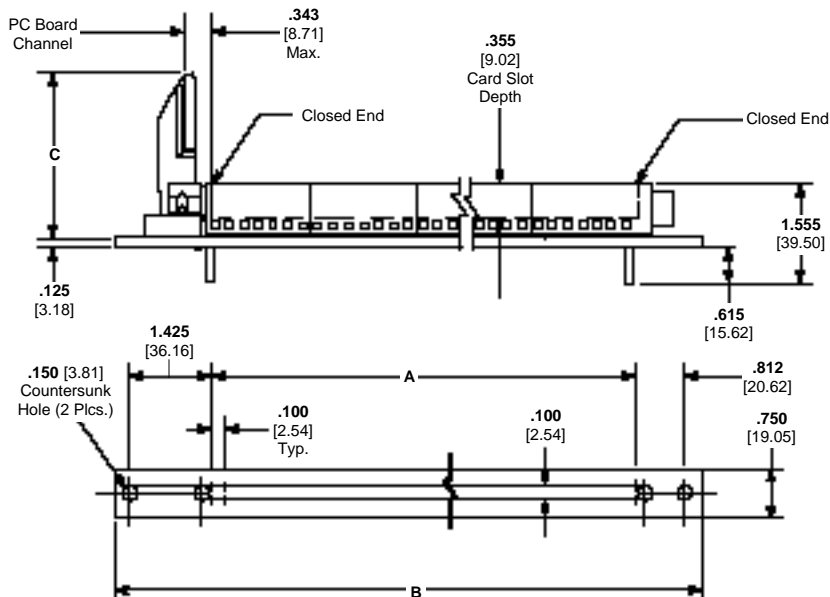
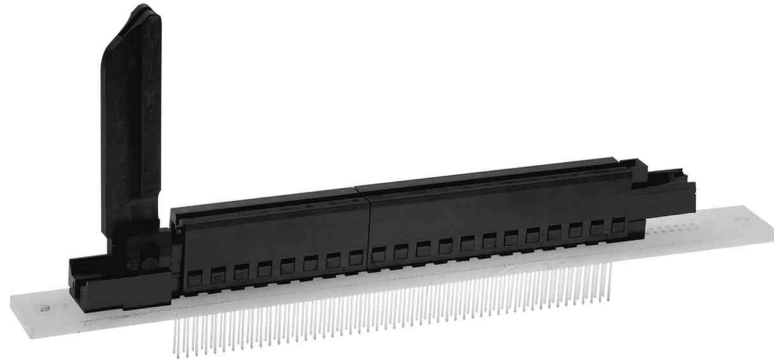
Technical Documents:

(pages 186, 187):

Product Specifications
108-14015, 108-26003

Application Specification
114-26003

Instruction Sheets 408-2995,
408-2999, 408-6915



| No. of Dual Positions | Dimensions | | | Part Numbers |
|-----------------------|------------------|------------------|----------------|--------------|
| | A | B | C | |
| 110 | 10.900 276.86 | 13.625 346.08 | 3.000 76.20 | 1-645147-7 |
| 120 | 11.900 302.26 | 14.625 371.48 | 3.000 76.20 | 1-645147-9 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Solder Type Board-to-Board Connectors

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

Housing

Material: Glass-filled polyester, black

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Mounting Screws—Customer supplies, must be applied before opening connector

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

ACTION PIN Contacts—pages 88, 94

Tooling—page 95

Special Application—page 96

Technical Documents:

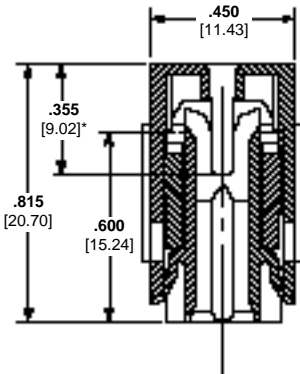
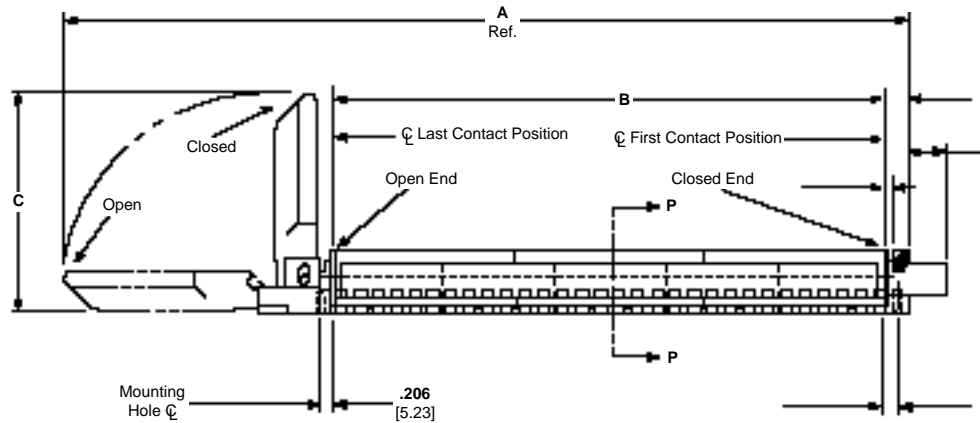
(pages 186, 187):

Product Specifications
108-14015, 108-26003

Application Specification
108-26003

Instruction Sheets 408-2995,
408-2999, 408-6915

Lever Style, Side Entry



Section P-P

*Card slot depth.

| No. of Dual Positions | Dimensions | | | Part Numbers |
|-----------------------|-------------------------|-------------------------|-----------------------|--------------------------|
| | A | B | C | |
| 50 | 7.613 193.37 | 4.900 124.46 | 2.000 50.80 | 645115-5 |
| 75 | 11.113 282.27 | 7.400 187.96 | 3.000 76.20 | 1-645115-0 |
| 80 | 11.613 294.97 | 7.900 200.66 | 3.000 76.20 | 1-645115-1 |
| 100 | 13.613 345.77 | 9.900 251.46 | 3.000 76.20 | 1-645115-5 |
| 110 | 14.613 371.17 | 10.900 276.86 | 3.000 76.20 | 1-645115-7 3-645115-2 |
| 115 | 15.113 383.87 | 11.400 289.56 | 3.000 76.20 | 1-645115-8 |
| 125 | 16.113 409.27 | 12.400 314.96 | 3.000 76.20 | 2-645115-0 |
| 130 | 16.613 421.97 | 12.900 327.66 | 3.000 76.20 | 2-645115-1 |
| 140 | 17.613 447.37 | 13.900 353.06 | 3.000 76.20 | 2-645115-3 |
| 160 | 19.613 498.17 | 15.900 403.86 | 3.000 76.20 | 3-645115-3 |
| 175 | 21.113 536.27 | 17.400 441.96 | 3.000 76.20 | 3-645115-0 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

**ACTION PIN Contacts with Wiping Feature,
.100 [2.54] Centerline**

Material and Finish:

Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

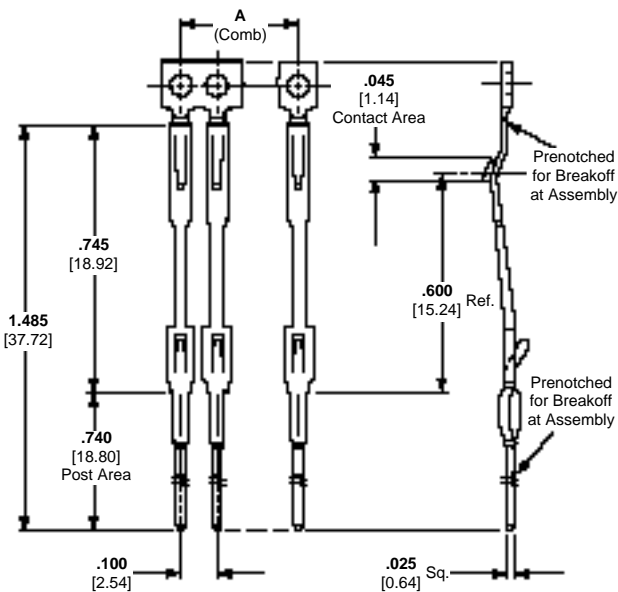
Performance Specifications—
page 83

ACTION PIN Contact Description and Application Specification—
page 94

Tooling—page 95

Technical Documents:

(pages 186, 187):
Instruction Sheet 408-2665



Contact Combs

| Number of Contacts Per Comb* | Dimension A | | Part Number |
|------------------------------|-------------|--------|-------------|
| | | | |
| 55 | 5.400 | 137.16 | 4-119311-1 |

*At least two (2) contact combs required per housing.
Note: Other sizes can be made available, consult Tyco Electronics.

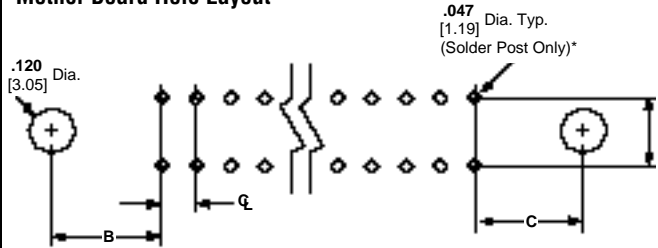
Reeled Contacts

| Number of Contacts Per Reel | Part Number |
|-----------------------------|-------------|
| 35,000 | 119196-6 |

Note: Other plating combinations and thicknesses can be made available, consult Tyco Electronics.

**Recommended PC Board Hole Layout and Edge Pattern,
.100 [2.54] Centerline**

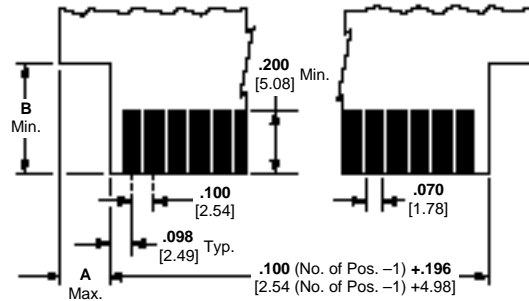
Mother Board Hole Layout



*For ACTION PIN post hole diameter, see page 94.

| Connector Style | Dimensions | | | |
|-----------------|--------------|--------------|--------------|--------------|
| | CL | A | B | C |
| Lever | .100 2.54 | .100 2.54 | .206 5.23 | .175 4.45 |

Daughter Board Edge Pattern



| Connector Style | Entry Style | Dimensions | |
|-----------------|-------------|--------------|--------------|
| | | A | B |
| Lever | Side | .240 6.10 | — |
| | Top | .240 6.10 | .320 8.13 |

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline

Panel Assembly

Lever Style, Side Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact under-plated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

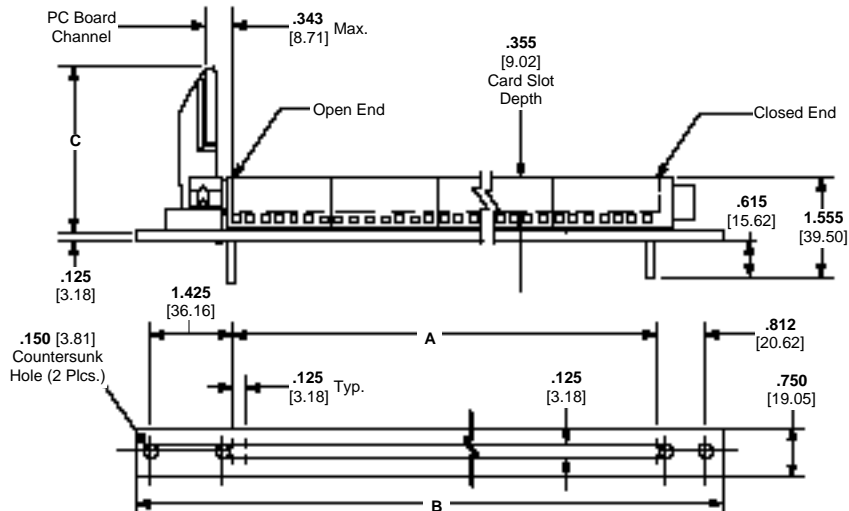
Tooling—page 95

Special Application—page 96

Technical Documents:

(pages 186, 187):

Instruction Sheets 408-2995, 408-6915, 408-6916



| No. of Dual Positions | Dimensions | | | Part Numbers |
|-----------------------|------------------|------------------|----------------|--------------|
| | A | B | C | |
| 40 | 4.875 123.83 | 7.625 193.68 | 2.000 50.80 | 645146-5 |
| 56 | 6.875 174.63 | 9.625 244.48 | 3.000 76.20 | 645146-9 |
| 60 | 7.375 187.32 | 10.125 257.17 | 3.000 76.20 | 1-645146-0 |
| 72 | 8.875 225.43 | 11.625 295.28 | 3.000 76.20 | 1-645146-3 |
| 84 | 10.375 250.83 | 13.125 320.68 | 3.000 76.20 | 1-645146-6 |
| 124 | 15.375 390.53 | 18.125 460.38 | 3.000 76.20 | 2-645146-6 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Panel Assembly

Bell Crank Style, Top Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact under-plated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

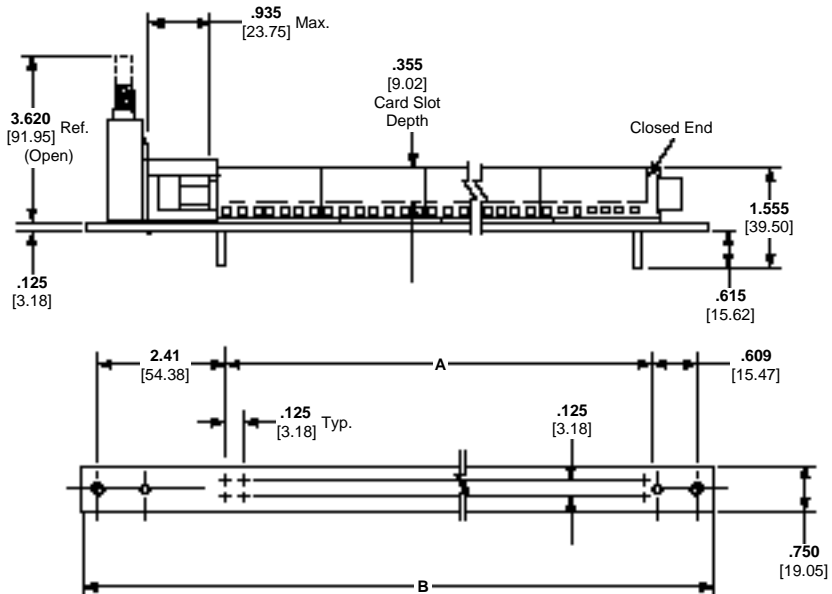
Tooling—page 95



Technical Documents:

(pages 186, 187):

Instruction Sheets 408-2995, 408-6915, 408-6916



| No. of Dual Positions | Dimensions | | Part Numbers |
|-----------------------|------------------|------------------|--------------|
| | A | B | |
| 60 | 7.375 187.33 | 10.625 269.88 | 1-645149-0 |
| 80 | 9.875 250.82 | 13.125 333.38 | 1-645149-5 |
| 112 | 13.875 352.43 | 17.125 434.98 | 2-645149-3 |
| 140 | 17.375 441.33 | 20.625 523.88 | 3-645149-0 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline (Continued)

Housing

Material: Glass-filled polyester, black

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Mounting Screws—Customer supplied, must be applied before opening connector

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

Tooling—page 95

Special Application—page 96

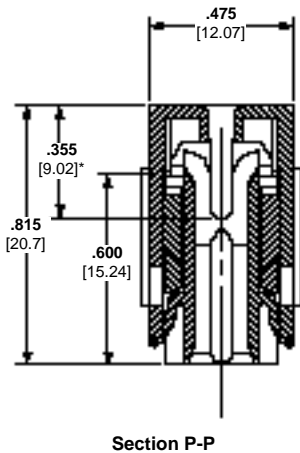
Lever Style, Side Entry



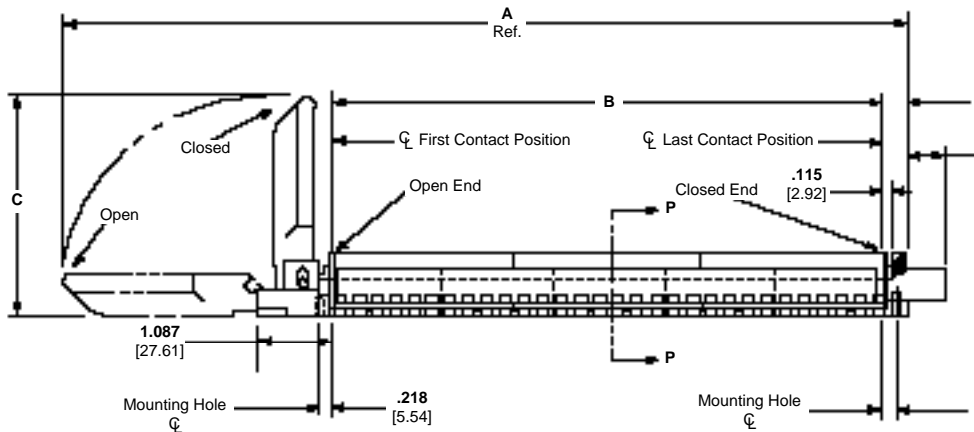
Technical Documents:

(pages 186, 187):

Instruction Sheets 408-2995, 408-6915, 408-6916



*Card slot depth.



| No. of Dual Positions | Dimensions | | | Part Number |
|-----------------------|------------------|------------------|----------------|-------------|
| | A | B | C | |
| 84 | 14.112 358.44 | 10.375 263.52 | 3.000 76.20 | 1-645116-6 |
| 100 | 16.112 409.24 | 12.375 314.33 | 3.000 76.20 | 2-645116-0 |
| 112 | 17.612 447.34 | 15.775 400.68 | 3.000 76.20 | 2-645116-3 |
| 124 | 19.112 485.44 | 17.275 438.78 | 3.000 76.20 | 2-645116-6 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

Housing

Bell Crank Style, Top Entry

Material: Glass-filled polyester, black

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

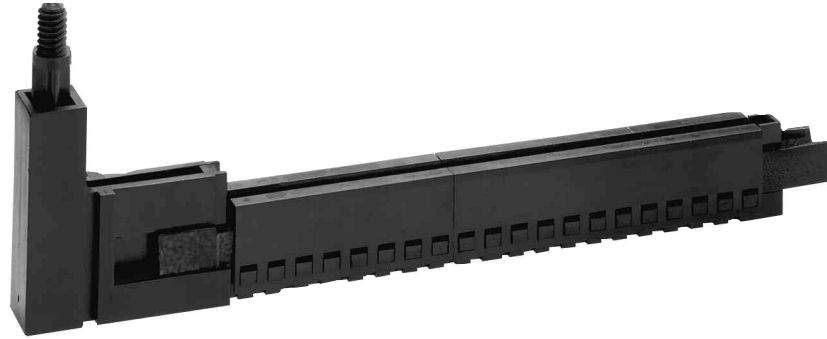
Mounting Screws—Customer supplied, must be applied before opening connector

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

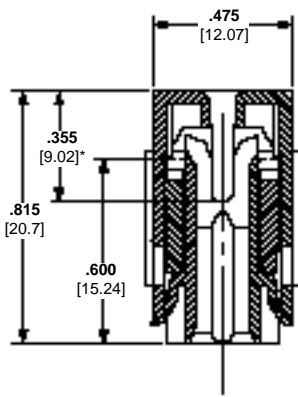
Tooling—page 95



Technical Documents:

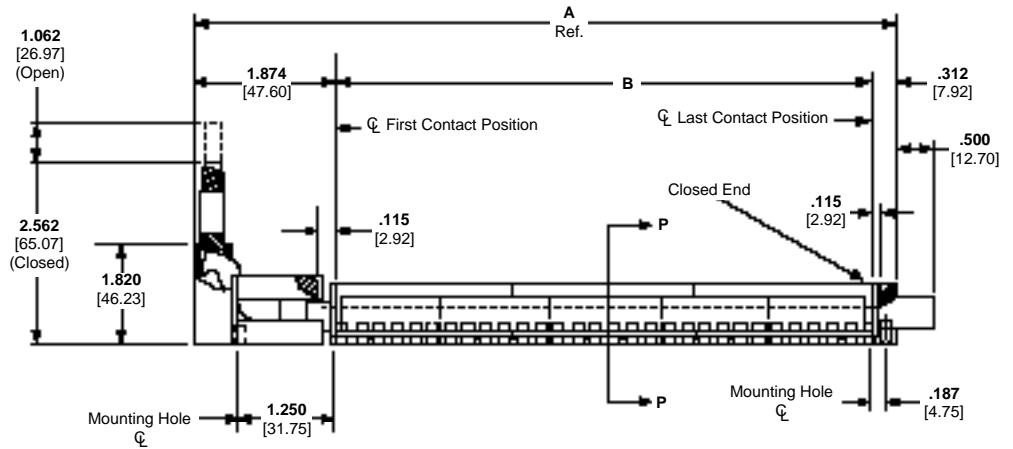
(pages 186, 187):

Instruction Sheets 408-2995, 408-6915, 408-6916



Section P-P

*Card slot depth.



| No. of Dual Positions | Dimensions | | Part Numbers |
|-----------------------|-------------------------|-------------------------|--------------|
| | A | B | |
| 52 | 8.562 217.47 | 6.375 161.93 | 645142-8 |
| 60 | 9.562 242.87 | 7.375 187.32 | 1-645142-0 |
| 80 | 13.125 333.37 | 9.875 250.82 | 1-645142-5 |
| 112 | 16.062 407.97 | 13.875 352.43 | 2-645142-3 |

Note: Other connector sizes can be made available, consult Tyco Electronics.

**ACTION PIN Contacts with Wiping Feature,
.125 [3.18] Centerline**

Material and Finish:

Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

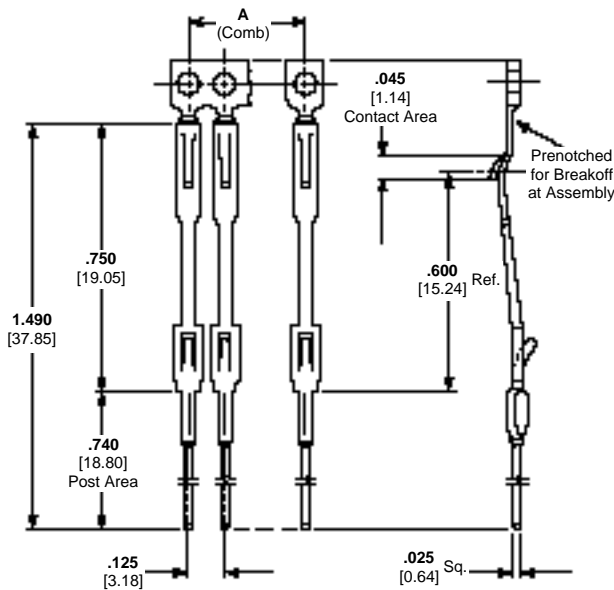
Performance Specifications—
page 83

ACTION PIN Contact Description and Application Specification—
page 94

Tooling—page 95

Technical Documents:

(pages 186, 187):
Instruction Sheet 408-2665



Contact Combs

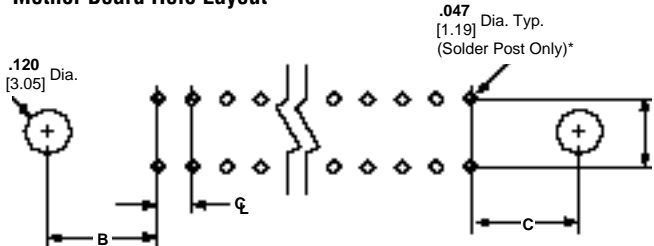
| Number of Contacts Per Comb* | Dimension A | Part Number |
|------------------------------|-----------------|-------------|
| 56 | 6.875 174.63 | 1-119950-2 |

*At least two (2) contact combs required per housing.

Note: Other sizes can be made available, consult Tyco Electronics.

**Recommended PC Board Hole Layout and Edge Pattern,
.125 [3.18] Centerline**

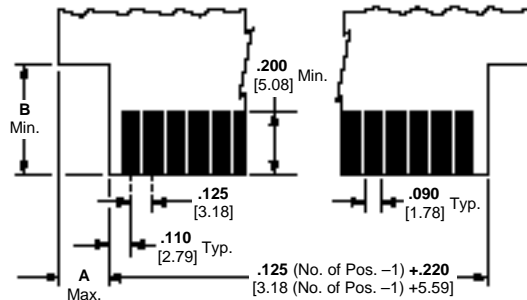
Mother Board Hole Layout



*For ACTION PIN post hole diameter, see page 94.

| Connector Style | Dimensions | | | |
|-----------------|--------------|--------------|----------------|--------------|
| | ϕ | A | B | C |
| Lever | .125 3.18 | .125 3.18 | .218 5.54 | .187 4.75 |
| Bell-Crank | .125 3.18 | .125 3.18 | 1.250 31.75 | .187 4.75 |

Daughter Board Edge Pattern



| Connector Style | Entry Style | Dimensions | |
|-----------------|-------------|---------------|---------------|
| | | A | B |
| Lever | Side | .240 6.10 | — |
| | Top | .240 6.10 | .320 8.13 |
| Bell-Crank | Top | .775 19.68 | .600 15.24 |

**AMP ACTION PIN
Press-Fit Contacts**

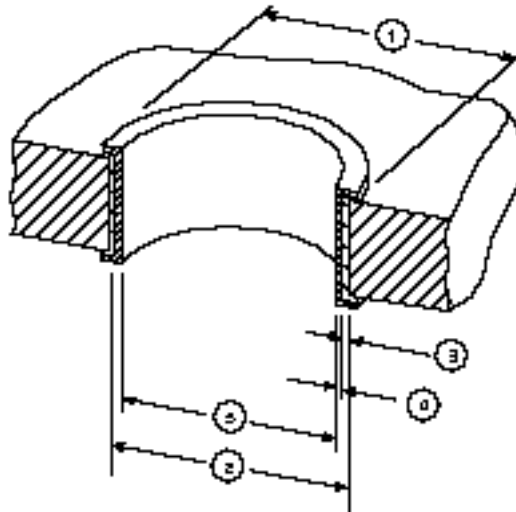
Solder Type Board-to-Board
Connectors



ACTION PIN contacts provide a reliable press-fit connection. Localized pressure in the interface area entails oxide break-through and helps prevent corrosion in the harshest environments to provide a reliable connection virtually every time. Also, radial and axial distortion are controlled to meet today's standards for multilayer board applications.

PC Board Thickness

ACTION PIN contacts are designed for use in a variety of PC board thicknesses. However, certain ACTION PIN contacts are to be used in specific ranges of board thicknesses. To promote optimum performance, the recommended board thicknesses provided with the connector being used must be followed.



- ① Annular Ring (See Note)
- ② Drilled Hole
- ③ Copper Thickness
- ④ Tin-Lead Thickness
- ⑤ Plated Through-Hole

ACTION PIN Contact/PC Board Applications

| Connector Type | ACTION PIN Contact Material Thickness | Drilled Hole Diameter ^② | Plating Thicknesses | | Plated Through-Hole Diameter ^⑤ | Radial Hole Distortion | |
|----------------|---------------------------------------|------------------------------------|------------------------|------------------------|---|------------------------|---------------|
| | | | Copper ^{③*} | Tin-Lead ^④ | | Average | Maximum |
| Linear ZIF | .025 0.64 | .0453±.001 1.151±0.03 | .001-.003 0.03-0.08 | .0003 0.008 Min. | .037-.043 0.94-1.09 | Not Specified | Not Specified |

*Maximum hardness of copper layer is 150 Knoop.

Note: Recommended annular ring diameter is hole diameter plus .020 [0.51].

Linear ZIF Connectors (Continued)

Tooling

Assembly tooling is not required except when using connectors with ACTION PIN contacts. ACTION PIN contact assembly requires an arbor-style bench tool with a capacity of 40 lb [178 N] per contact, a support fixture, contact applicator, carrier removal tool and housing assembly tool.

Typical procedure is to place a PC board on the support fixture, insert contact combs into the printed circuit board with the contact applicator and seat with the arbor tool. Next, remove the carrier strip from the contact combs with the carrier break-off tool. Place the housing over the contacts with the housing assembly tool, and repeat the entire process until the board is complete.

.100 x .100 [2.54 x 2.54] Centerline Connectors

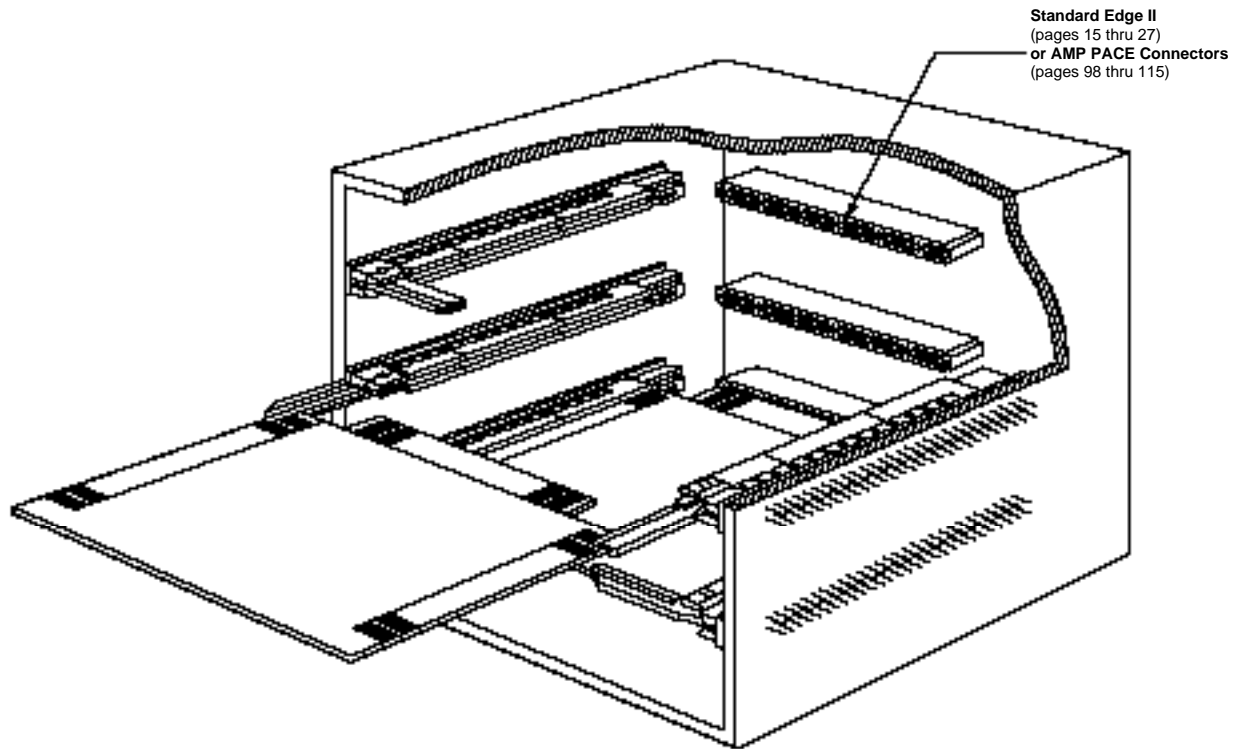
| No. of Dual Positions | T-Bar Applicator | Carrier Removal Tool | Housing Assembly Tool | Housing Removal Tool | Wing Removal/Replacement Tool | Housing Insertion Tool | Contact Replacement Tools | |
|-----------------------|------------------|----------------------|-----------------------|----------------------|-------------------------------|------------------------|---------------------------|-----------------|
| | | | | | | | With Housing | Without Housing |
| 50 | 266267-4 | 265924-4 | 313136-1 | | | | | |
| 80 | 266267-3 | 265924-4 | 313136-2 | | | | | |
| 100 | 266267-4 | 265924-4 | | | | | | |
| 110 | 266267-5 | 265924-4 | 313136-3 | | | | | |
| 115 | 266267-5 | 265924-4 | | 313256-1 | 266233-1 | 266264-1 | 266235-1 | 3-265871-2 |
| 120 | 266267-5 | 265924-4 | | | | | | |
| 125 | 266267-4 | 265924-4 | 313136-4 | | | | | |
| 140 | 266267-4 | 265924-4 | | | | | | |
| 175 | 266267-5 | 265924-4 | 313136-5 | | | | | |

.125 x .125 [3.18 x 3.18] Centerline Connectors

| No. of Dual Positions | T-Bar Applicator | Carrier Removal Tool | Housing Assembly Tool | Housing Removal Tool | Wing Removal/Replacement Tool | Housing Insertion Tool | Contact Replacement Tools | |
|-----------------------|------------------|----------------------|-----------------------|----------------------|-------------------------------|------------------------|---------------------------|-----------------|
| | | | | | | | With Housing | Without Housing |
| 40 | 313139-1 | 265924-4 | 313136-1 | | | | | |
| 52 | 313139-2 | 265924-6 | | | | | | |
| 56 | 313139-2 | 265924-6 | 313136-2 | | | | | |
| 60 | 313139-2 | 265924-7 | | | | | | |
| 72 | 313139-3 | 265924-4 | | 313256-1 | 266233-1 | 266264-1 | 266235-1 | 3-265871-2 |
| 84 | 313139-2 | 265924-5 | 313136-3 | | | | | |
| 112 | 313139-2 | 265924-7 | 313136-4 | | | | | |
| 124 | 313139-2 | 265924-5 | | | | | | |
| 140 | 313139-2 | 265924-5 | 313136-5 | | | | | |

Linear ZIF Connectors (Continued)**Special Application**

Use Linear and Rotary ZIF Connectors as Card Guides to access more sides of the Daughter Board.



Standard Edge II
(pages 15 thru 27)
or AMP PACE Connectors
(pages 98 thru 115)