SFF-TA-1035

Specification for

Internal Shielded High Speed Connector System

Rev 1.0 October 25, 2024

SECRETARIAT: SFF TA TWG
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The description of the connector in this specification does not assure that the specific component is available from connector suppliers. If such a connector is supplied, it should comply with this specification to achieve interoperability between suppliers.

ABSTRACT: This specification defines the mechanical specifications of an internal high speed cable connector system. The connector as shown has 38, 44, 74, 80, 124, 130, 148, or 154 contacts based on bandwidth needs and is configurable for Vertical and Right-Angle applications.

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FOREWORD

The development work on this specification was done by the SFF TA TWG, an industry group. Since its formation as the SFF Committee in August 1990, the membership has included a mix of companies which are leaders across the industry.

For those who wish to participate in the activities of the SFF TA TWG, the signup for membership can be found at https://www.snia.org/sff/join.

REVISION HISTORY

Rev 1.0 *October 25, 2024*

- First Publication

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FIGURES

TABLES

1. Scope

This specification defines the general description of this form factor, the connector and mating plug mechanical specification, performance requirements, and the electrical interface. Additional informative information such as PCB layout and connector pinmaps are included in an appendix.

2. References and Conventions

2.1 Industry Documents

The following documents are relevant to this specification:

- ASME Y14.5 Dimensioning and Tolerancing
- EIA-364-1000 Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Controlled Environment Applications
- REF-TA-1011 Cross Reference to Select SFF Connectors
- EIA-364-04 Normal Force Test Procedure for Electrical Connectors
- EIA-364-13 Mating and Unmating Forces Test Procedure for Electrical Connectors
- EIA-364-20 Withstanding Voltage Test Procedure for Electrical Connectors
- EIA-364-21 Insulation Resistance Test Procedure for Electrical Connectors
- EIA-364-23 Low Level Contact Resistance Test Procedure for Electrical Connectors
- EIA-364-27 Mechanical Shock Test Procedure for Electrical Connectors
- EIA-364-28 Vibration Test Procedure for Electrical Connectors and Sockets
- EIA-364-98 Housing Locking Mechanism Strength Test Procedure for Electrical Connectors
- IPC-A-610 Acceptability of Electronic Assemblies
- SFF-9402 Reference Guide for Multi-Protocol Internal Cable Pinouts for SAS and/or PCIe
- SFF-TA-1002 Protocol Agnostic Multi-Lane High Speed Connector
- SFF-TA-1009 Enterprise and Datacenter Standard Form Factor Pin and Signal Specification (EDSFF)

2.2 Sources

The complete list of SFF documents which have been published, are currently being worked on, or that have been expired by the SFF Committee can be found at https://www.snia.org/sff/specifications. Suggestions for improvement of this specification will be welcome, they should be submitted to https://www.snia.org/feedback.

Other standards may be obtained from the organizations listed below:

Standard	Organization	Website
ASME	American Society of Mechanical Engineers (ASME)	https://www.asme.org
Electronic Industries Alliance (EIA)	Electronic Components Industry Association (ECIA)	https://www.ecianow.org
IEEE	Institute of Electrical and Electronics Engineers (IEEE)	https://www.ieee.org
InfiniBand	InfiniBand Trade Association (IBTA)	http://www.infinibandta.org
JEDEC	Joint Electron Deice Engineering Council (JEDEC)	https://www.jedec.org
OIF	Optical Internetworking Forum (OIF)	http://www.oiforum.com
PCIe	PCI-SIG	http://pcisig.com
SAS and other ANSI standards	International Committee for Information Technology Standards (INCITS)	http://www.incits.org

2.3 Conventions

The following conventions are used throughout this document:

DEFINITIONS

Certain words and terms used in this standard have a specific meaning beyond the normal English meaning. These words and terms are defined either in the definitions or in the text where they first appear.

ORDER OF PRECEDENCE
If a conflict arises between text, tables, or figures, the order of precedence to resolve the conflicts is text; then tables; and finally figures. Not all tables or figures are fully described in the text. Tables show data format and values.

LISTS
Lists sequenced by lowercase or uppercase letters show no ordering relationship between the listed items.

EXAMPLE 1 - The following list shows no relationship between the named items:

a. red (i.e., one of the following colors):
    A. crimson; or
    B. pink;
b. blue; or
c. green.

Lists sequenced by numbers show an ordering relationship between the listed items.

EXAMPLE 2 -The following list shows an ordered relationship between the named items:

1. top;
2. middle; and
3. bottom.

Lists are associated with an introductory paragraph or phrase and are numbered relative to that paragraph or phrase (i.e., all lists begin with an a. or 1. entry).

DIMENSIONING CONVENTIONS
The dimensioning conventions are described in ASME-Y14.5, Geometric Dimensioning and Tolerancing. All dimensions are in millimeters, which are the controlling dimensional units (if inches are supplied, they are for guidance only).

NUMBERING CONVENTIONS
The ISO convention of numbering is used (i.e., the thousands and higher multiples are separated by a space and a period is used as the decimal point). This is equivalent to the English/American convention of a comma and a period.

American	**French**	**ISO**
0.6	0,6	0.6
1,000	1 000	1 000
1,323,462.9	1 323 462,9	1 323 462.9

3. Keywords, Acronyms, and Definitions

For the purposes of this document, the following keywords, acronyms, and definitions apply.

3.1 Keywords

May: Indicates flexibility of choice with no implied preference.

May or may not: Indicates flexibility of choice with no implied preference.

Obsolete: Indicates that an item was defined in prior specifications but has been removed from this specification.

Optional: Describes features which are not required by the SFF specification. However, if any feature defined by the SFF specification is implemented, it shall be done in the same way as defined by the specification. Describing a feature as optional in the text is done to assist the reader.

Prohibited: Describes a feature, function, or coded value that is defined in a referenced specification to which this SFF specification makes a reference, where the use of said feature, function, or coded value is not allowed for implementations of this specification.

Reserved: Defines the signal on a connector contact. Its actual function is set aside for future standardization. It is not available for vendor specific use. Where this term is used for bits, bytes, fields, and code values; the bits, bytes, fields, and code values are set aside for future standardization. The default value shall be zero. The originator is required to define a Reserved field or bit as zero, but the receiver should not check Reserved fields or bits for zero.

Restricted: Refers to features, bits, bytes, words, and fields that are set aside for other standardization purposes. If the context of the specification applies the restricted designation, then the restricted bit, byte, word, or field shall be treated as a value whose definition is not in scope of this document, and is not interpreted by this specification.

Shall: Indicates a mandatory requirement. Designers are required to implement all such mandatory requirements to ensure interoperability with other products that conform to this specification.

Should: Indicates flexibility of choice with a strongly preferred alternative.

Vendor specific: Indicates something (e.g., a bit, field, code value) that is not defined by this specification. Specification of the referenced item is determined by the manufacturer and may be used differently in various implementations.

3.2 Acronyms and Abbreviations

AOC: Active Optical Cable
EMLB: Early Mate Late Break
IDC: Insulation Displacement Contact
IDT: Insulation Displacement Termination
PCB: Printed Circuit Board
PF: Press Fit
PTH: Plated Through Hole
RA: Right Angle
RAND: Reasonable and Non-Discriminatory
SMT: Surface Mount Technology

3.3 Definitions

Alignment guides: A term used to describe features that pre-align the two halves of a connector interface before electrical contact is established. Other common terms include: guide pins, guideposts, blind mating features, mating features, alignment features, and mating guides.

Basic (dimension): The theoretical exact size, profile, orientation, or location of a feature. It is used as the basis from which permissible variations are established by tolerances in notes or in feature control frames (GD&T).

Connector: Each half of an interface that, when joined together, establish electrical contact and mechanical retention between two components. In this specification, the term connector does not apply to any specific gender; it is used to describe the receptacle, the plug or the card edge, or the union of receptacle to plug or card edge. Other common terms include: connector interface, mating interface, and separable interface.

Contact mating sequence: A term used to describe the order of electrical contact established/ terminated during mating/un-mating. Other terms include: contact sequencing, contact positioning, mate first/break last, EMLB (early mate late break) staggered contacts, and long pin/short pin.

Contacts: A term used to describe connector terminals that make electrical connections across a separable interface.

Datum: A point, line, plane, etc. assumed to be exact for the purposes of computation or reference, as established from actual features, and from which the location or geometric relationship of either feature is established.

Frontshell / Backshell: A term used to describe the metallic part of a module that provides mechanical and shielding continuity between the plug and receptacle. Other terms commonly used are: housing, snout, and metal shroud.

Module: In this specification, module may refer to a plug assembly at the end of a copper (electrical) cable (passive or active), an active optical cable assembly, an optical transceiver, or a loopback.

Plug: A term used to describe the connector that contains the penetrating contacts of the connector interface as shown in Figure 3-1. Plugs typically contain stationary contacts. Other common terms include male, pin connector, and card edge.

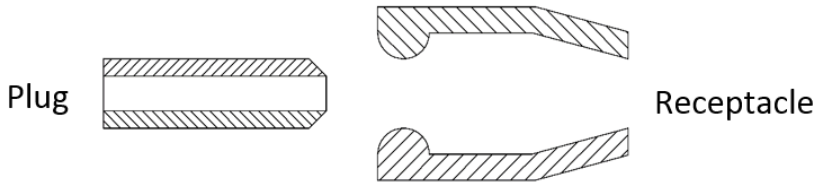


Figure 3-1 Plug and Receptacle Definition

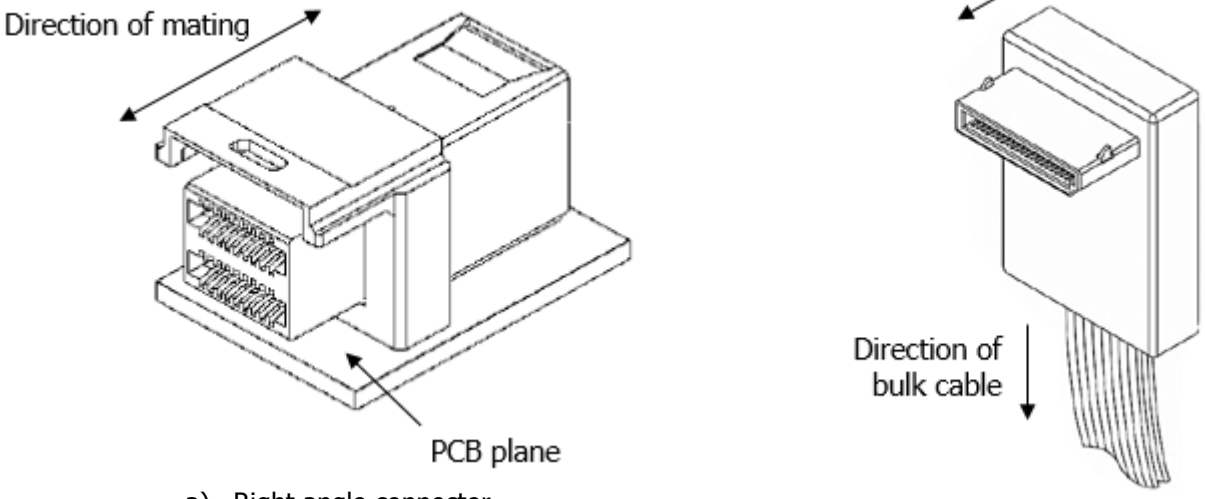
Plated through hole termination: A term used to describe a termination style in which rigid pins extend into or through the PCB. Pins are soldered to keep the connector or cage in place. Other common terms are through hole or PTH.

Press fit: A term used to describe a termination style in which collapsible pins penetrate the surface of a PCB. Upon insertion, the pins collapse to fit inside the PCB's plated through holes. The connector or cage is held in place by the interference fit between the collapsed pins and the PCB.

Receptacle: A term used to describe the connector that contains the contacts that accept the plug contacts as shown in Figure 3-1. Receptacles typically contain spring contacts. Other common terms include female and socket connector.

Reference (dimension): A dimension provided for information or convenience. It has no tolerance and is not to be used for inspection or conformance. It can be calculated from other tolerance dimensions or can be found elsewhere on the drawing with a tolerance. If removed, it would have no impact on the defined object or the ability or reproduce it.

Right Angle: A term used to describe either a connector design where the mating direction is parallel to the plane of the printed circuit board upon which the connector is mounted or a cable assembly design where the mating direction is perpendicular to the bulk cable.



a) Right angle connector

b) Right angle cable assembly

Figure 3-2 Right Angle Connector and Cable Assembly

Straddle mount: A term used to describe a termination style that uses surface mount termination points on both sides of a PCB.

Straight: A term used to describe a connector design where the mating direction is parallel to the bulk cable.

Surface mount: A term used to describe a termination style in which solder tails sit on pads on the surface of a PCB and are then soldered to keep the connector or cage in place. Other common terms are surface mount technology or SMT.

Termination: A term used to describe a connector's non-separable attachment point such as a connector contact to a bulk cable or a connector solder tail to a PCB. Common PCB terminations include: surface mount (SMT), plated through hole termination (PTH), and press fit (PF). Common cable terminations include insulation displacement contact (IDC), insulation displacement termination (IDT), wire slots, solder, welds, crimps, and brazes.

Vertical: A term used to describe a connector design where the mating direction is perpendicular to the printed circuit board upon which the connector is mounted.

Wipe: The distance a contact travels on the surface of its mating contact during the mating cycle as shown in Figure 3-3.

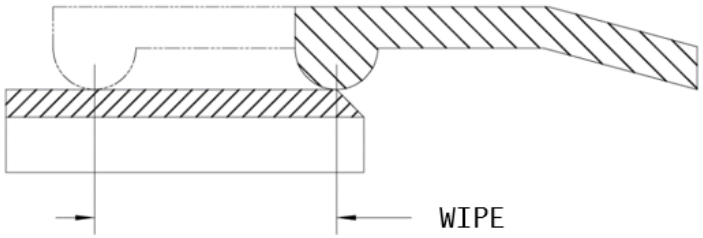


Figure 3-3 Wipe for a Continuous Contact

4. General Description

4.1 Configuration Overview/Descriptions

This specification details a family of different size straight, right angle and side exit plugs that mate to right angle and vertical receptacle connectors with 38, 44, 74, 80, 124, 130, 148 or 154 contact positions. The plugs include advanced mechanical features such as anti-slant, anti-reverse, and full shrouded housing to protect the paddle card and gold fingers.

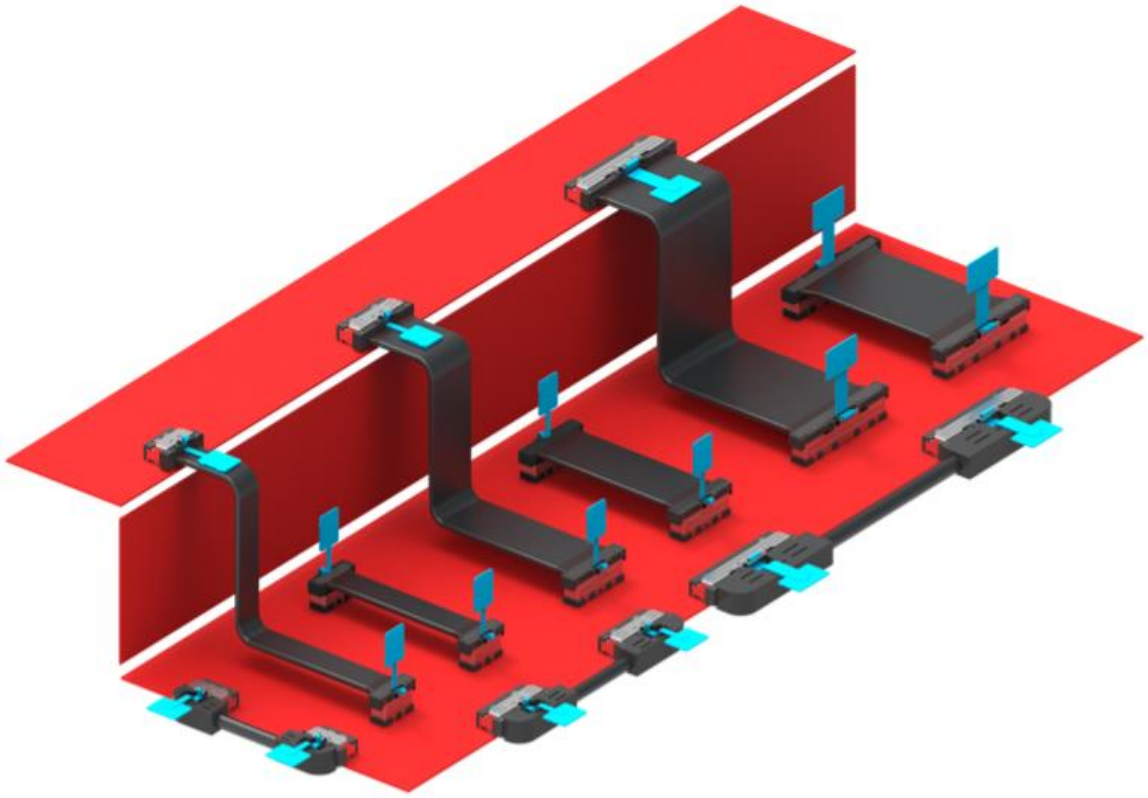


Figure 4-1 Family of Straight Plugs, Right Angle, Side Exit and Vertical Connectors

4.1.1 Connector Configuration 1: Straight Type 38 Contact Connector – Style A

This configuration is typically used for x4 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x6 high speed lane applications without sidebands.

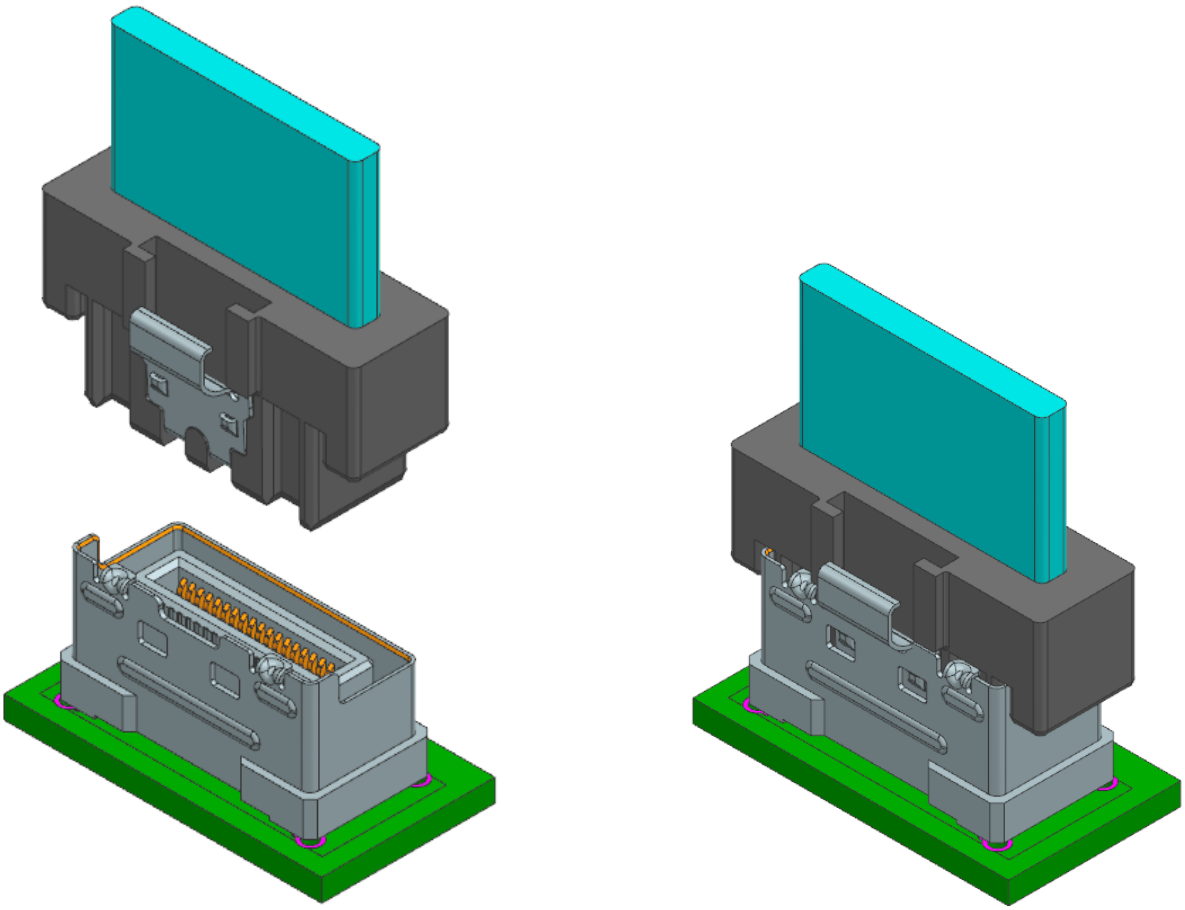


Figure 4-2 Configuration 1 - Unmated and Mated

4.1.2 Connector Configuration 2: Right-Angle Type 38 Contact Connector – Style A

This configuration is typically used for x4 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x6 high speed lane applications without sidebands.

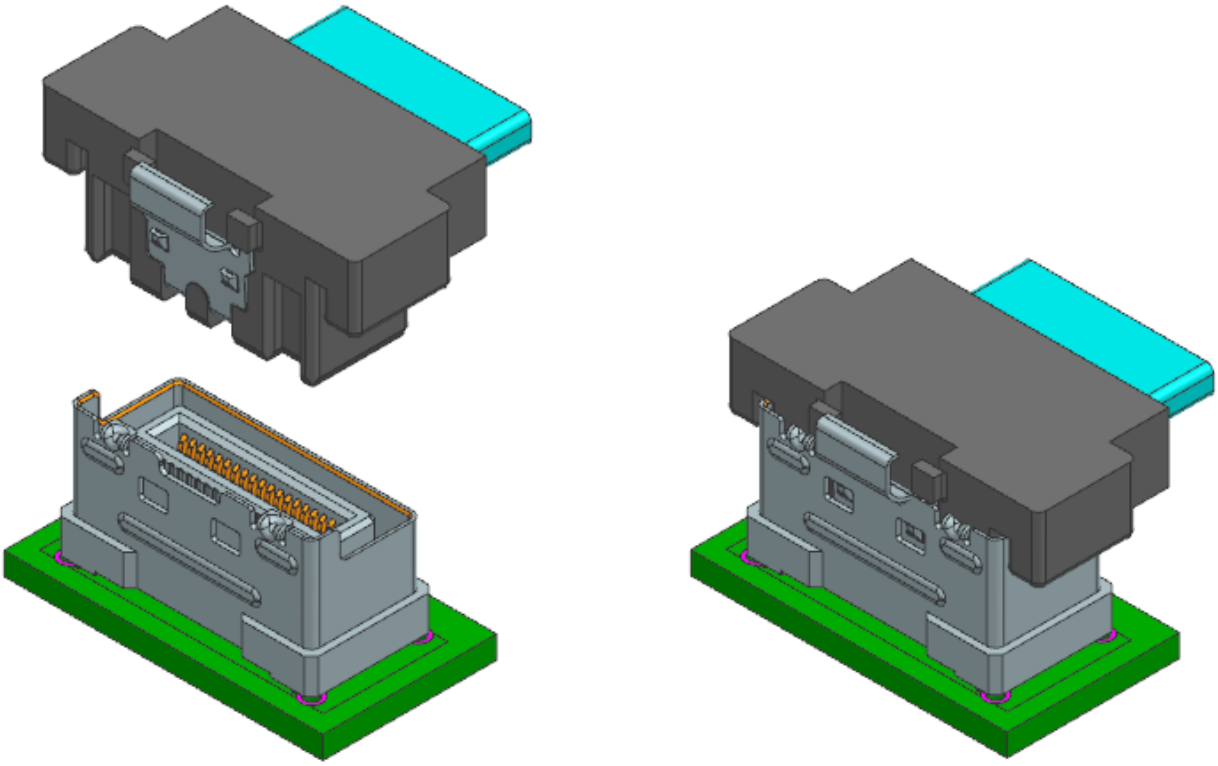


Figure 4-3 Configuration 2 - Unmated and Mated

4.1.3 Connector Configuration 3: Straight Type 44 Contact Connector

This configuration is typically used for x4 high speed lane applications with typical sidebands. Alternatively, this configuration can be used for x7 high speed lane applications without sidebands.

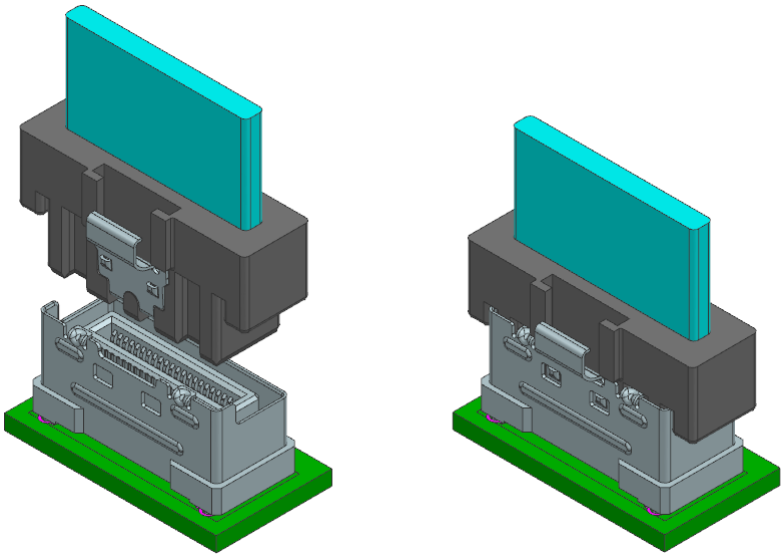


Figure 4-4 Configuration 3 – Unmated and Mated

4.1.4 Connector Configuration 4: Right-Angle Type 44 Contact Connector

This configuration is typically used for x4 high speed lane applications with typical sidebands. Alternatively, this configuration can be used for x7 high speed lane applications without sidebands.

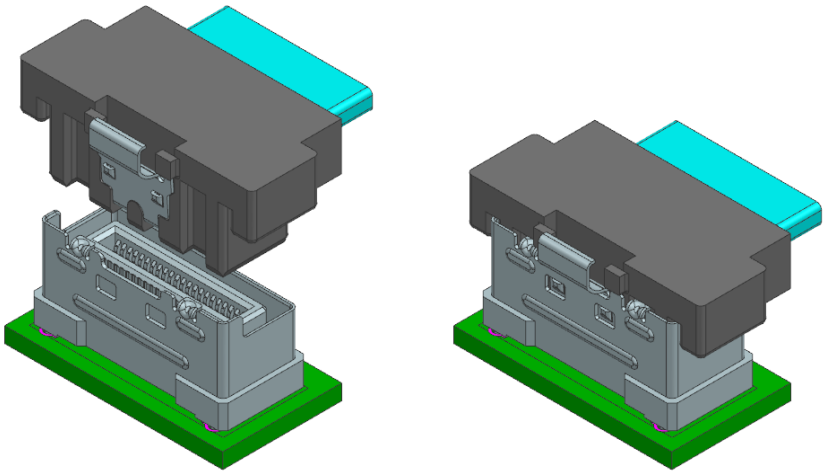


Figure 4-5 Configuration 4 – Unmated and Mated

4.1.5 Connector Configuration 5: Straight Type 74 Contact Connector

This configuration is typically used for x8 high speed lane applications with typical sidebands. Alternatively, this configuration can be used for x10 high speed lane applications without sidebands.

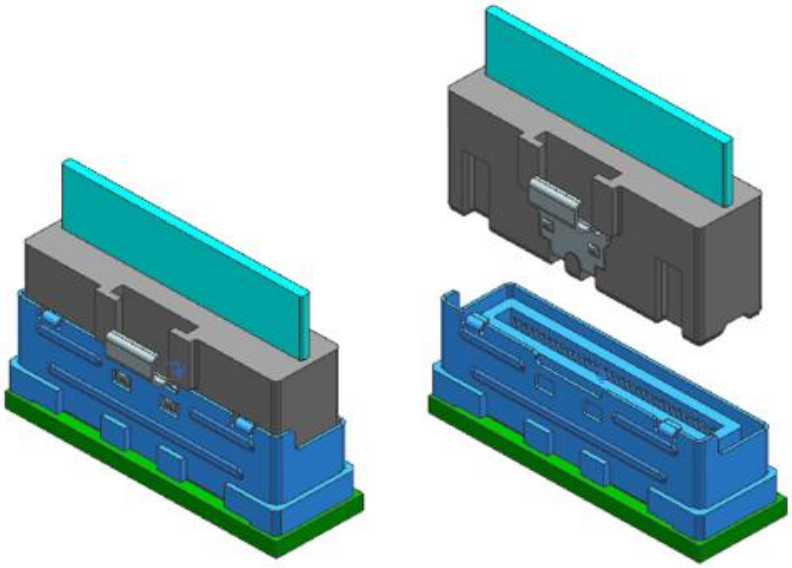


Figure 4-6 Configuration 5 - Mated and Unmated

4.1.6 Connector Configuration 6: Right-Angle Type 74 Contact Connector

This configuration is typically used for x8 high speed lane applications with typical sidebands. Alternatively, this configuration can be used for x10 high speed lane applications without sidebands.

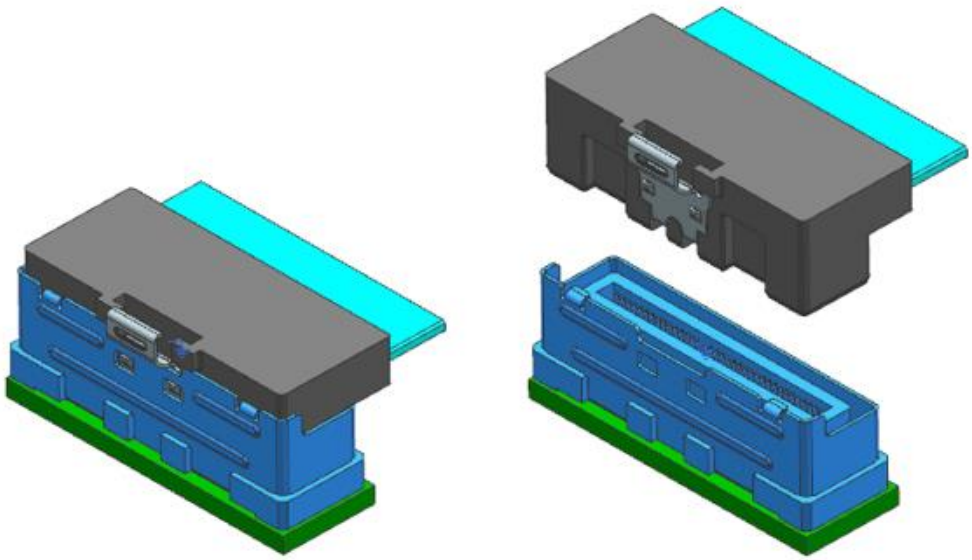


Figure 4-7 Configuration 6 - Mated and Unmated

4.1.7 Connector Configuration 7: Straight Type 80 Contact Connector

This configuration is typically used for x8 high speed lane applications with typical sidebands. Alternatively, this configuration can be used for x13 high speed lane applications without sidebands.

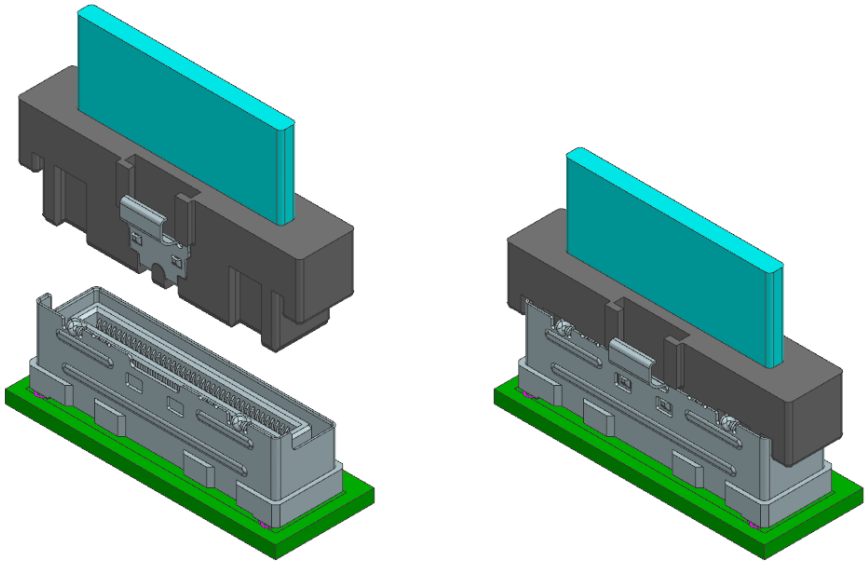


Figure 4-8 Configuration 7 – Unmated and Mated

4.1.8 Connector Configuration 8: Right-Angle Type 80 Contact Connector

This configuration is typically used for x8 high speed lane applications with typical sidebands. Alternatively, this configuration can be used for x13 high speed lane applications without sidebands.

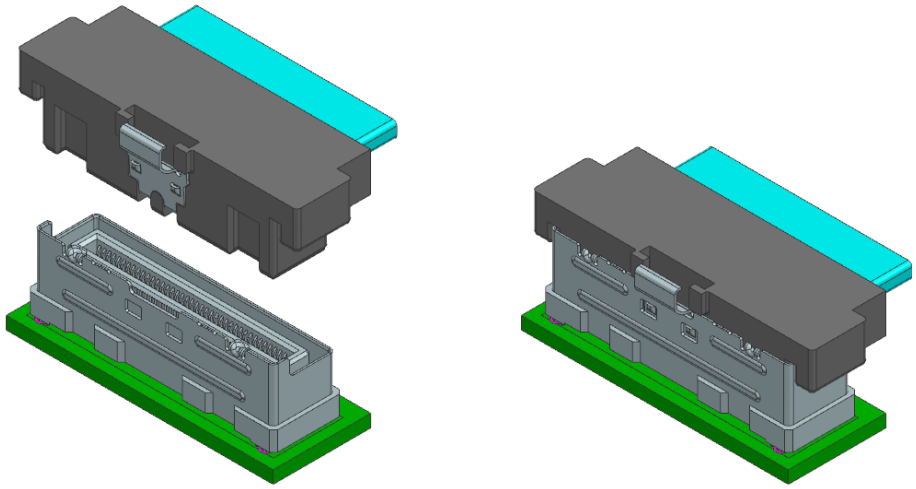


Figure 4-9 Configuration 8 - Unmated and Mated

4.1.9 Connector Configuration 9: Straight Type 124 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x18 high speed lane applications without sidebands.

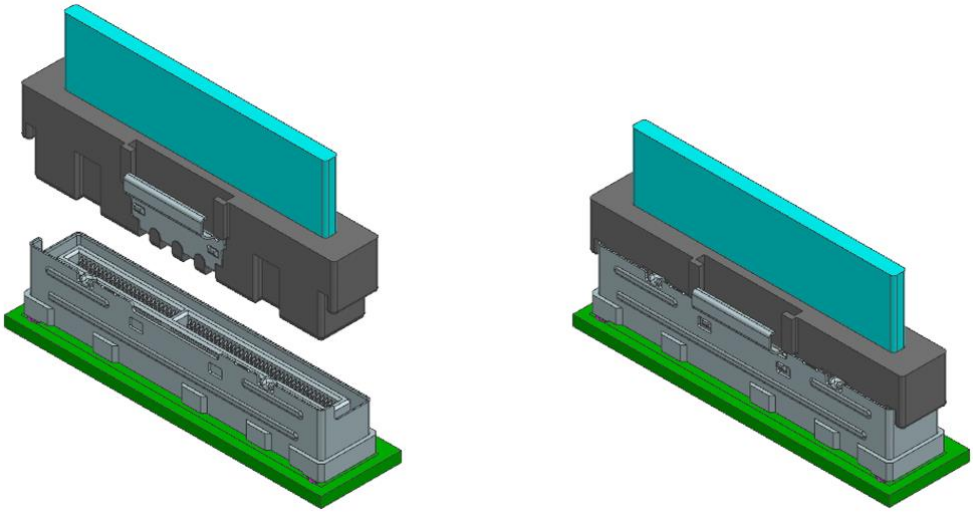


Figure 4-10 Configuration 9 – Unmated and Mated

4.1.10 Connector Configuration 10: Right-Angle Type 124 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x18 high speed lane applications without sidebands.

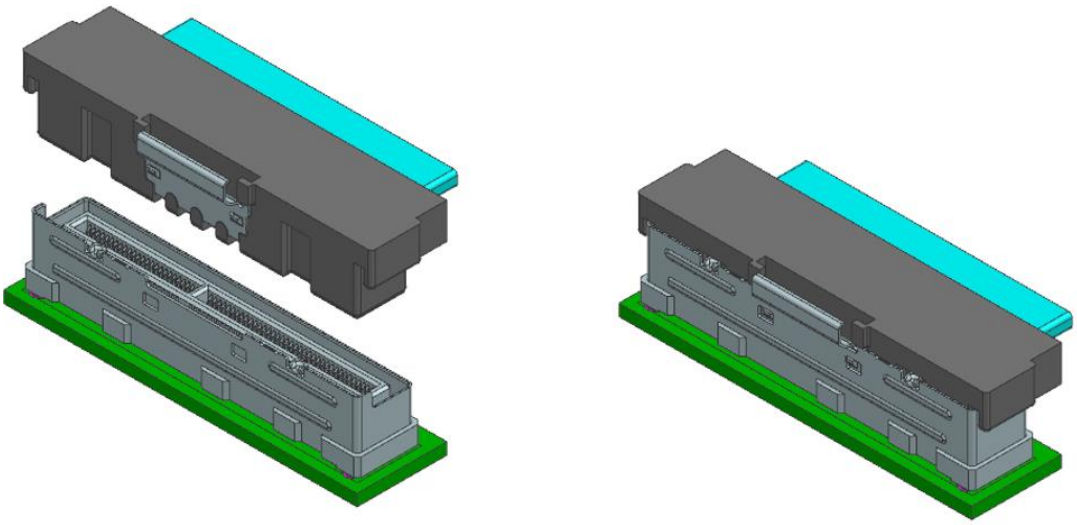


Figure 4-11 Configuration 10 - Unmated and Mated

4.1.11 Connector Configuration 11: Straight Type 130 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x21 high speed lane applications without sidebands.

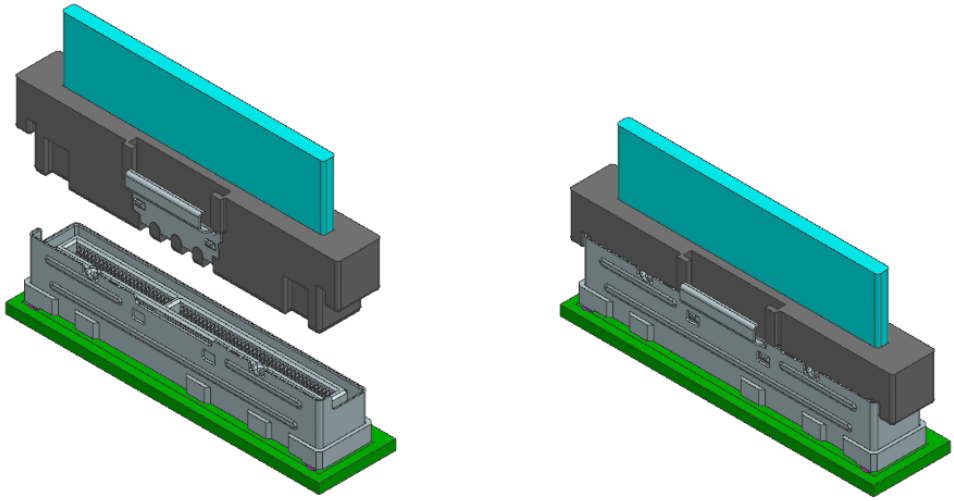


Figure 4-12 Configuration 11 – Unmated and Mated

4.1.12 Connector Configuration 12: Right-Angle Type 130 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x21 high speed lane applications without sidebands.

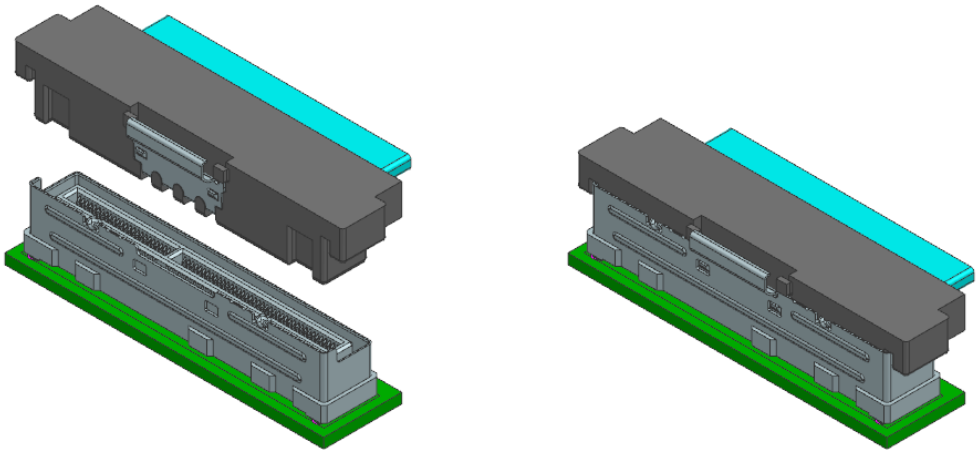


Figure 4-13 Configuration 12 - Unmated and Mated

4.1.13 Connector Configuration 13: Straight Type 148 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x22 high speed lane applications without sidebands.

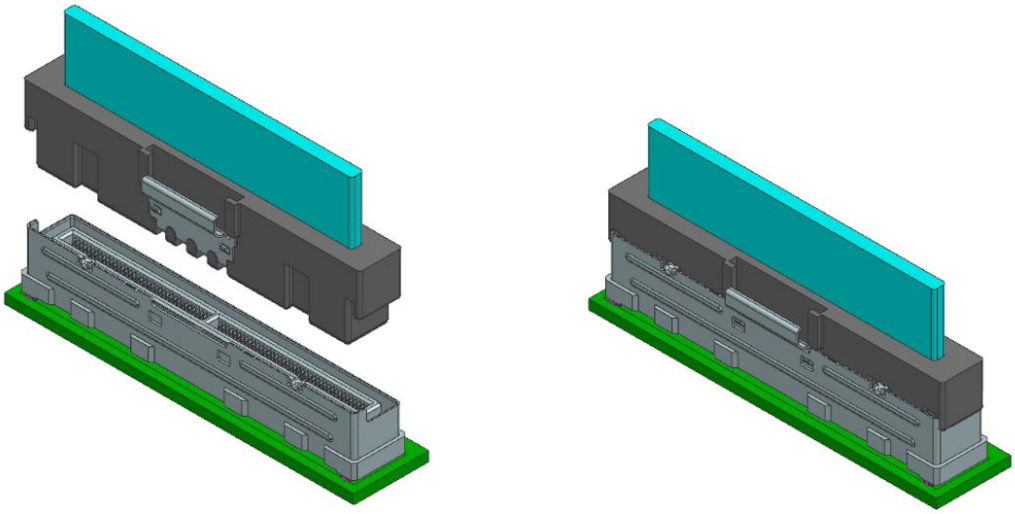


Figure 4-14 Configuration 13 – Unmated and Mated

4.1.14 Connector Configuration 14: Right-Angle Type 148 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x22 high speed lane applications without sidebands.

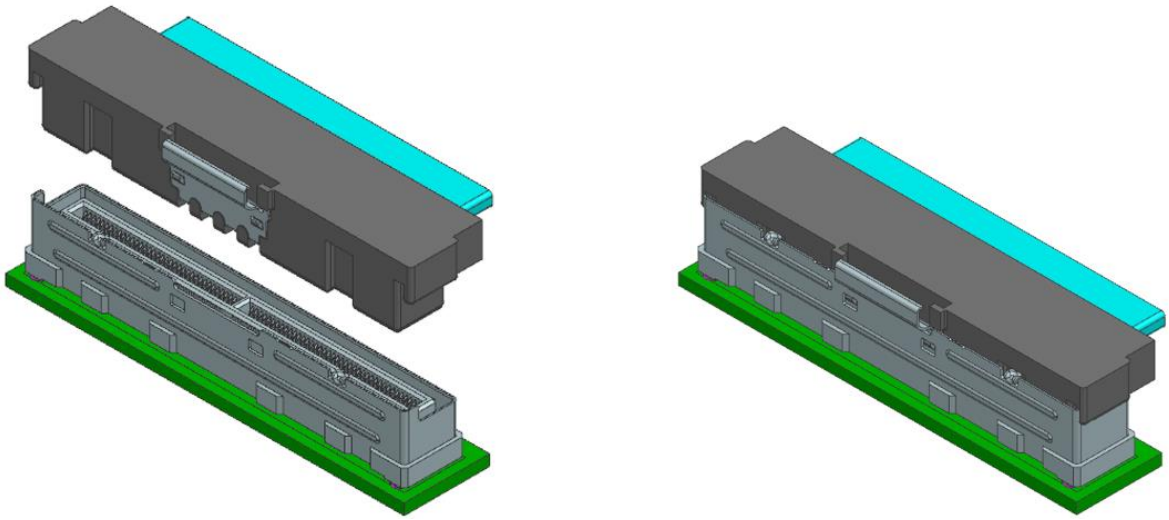


Figure 4-15 Configuration 14 - Unmated and Mated

4.1.15 Connector Configuration 15: Straight Type 154 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x25 high speed lane applications without sidebands.

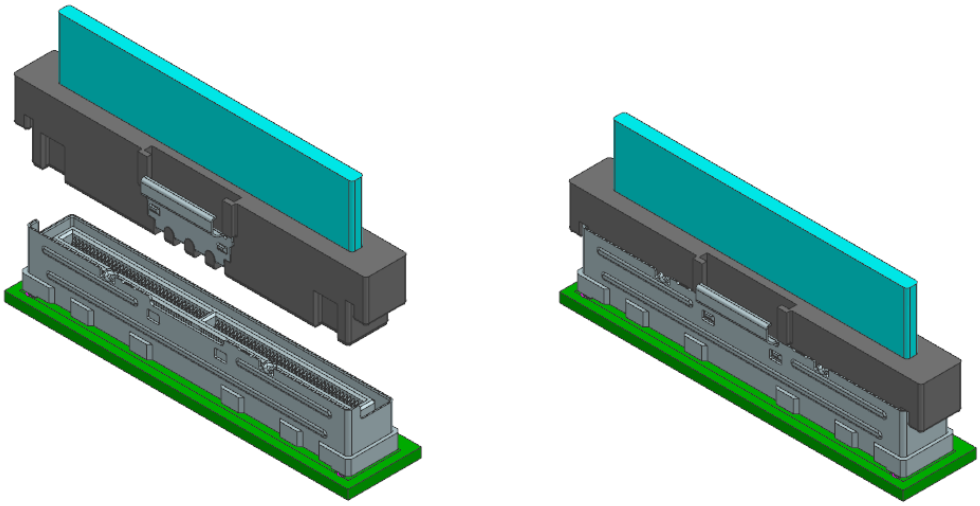


Figure 4-16 Configuration 15 – Unmated and Mated

4.1.16 Connector Configuration 16: Right-Angle Type 154 Contact Connector

This configuration is typically used for x16 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x25 high speed lane applications without sidebands.

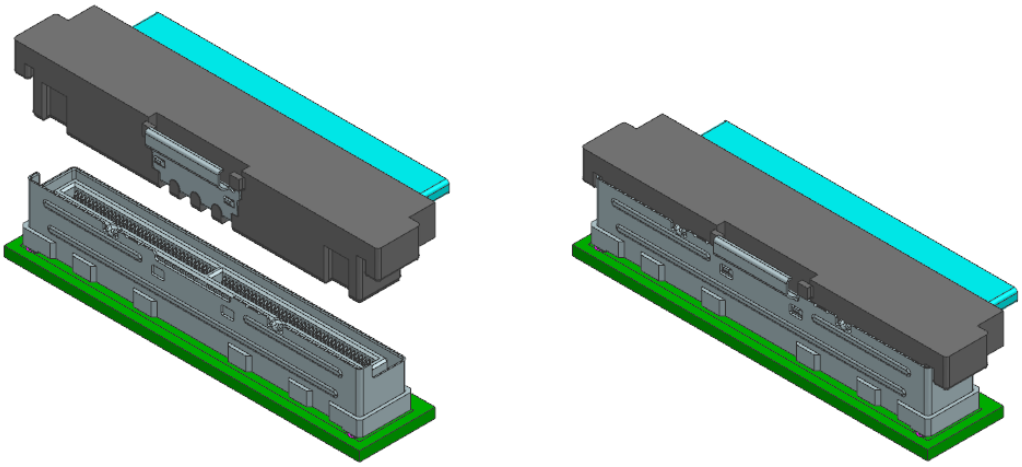


Figure 4-17 Configuration 16 - Unmated and Mated

4.1.17 Connector Configuration 17: Straight Type 38 Contact Connector – Style B

This configuration is typically used for x4 high speed lane applications with some sidebands. Alternatively, this configuration can be used for x6 high speed lane applications without sidebands.

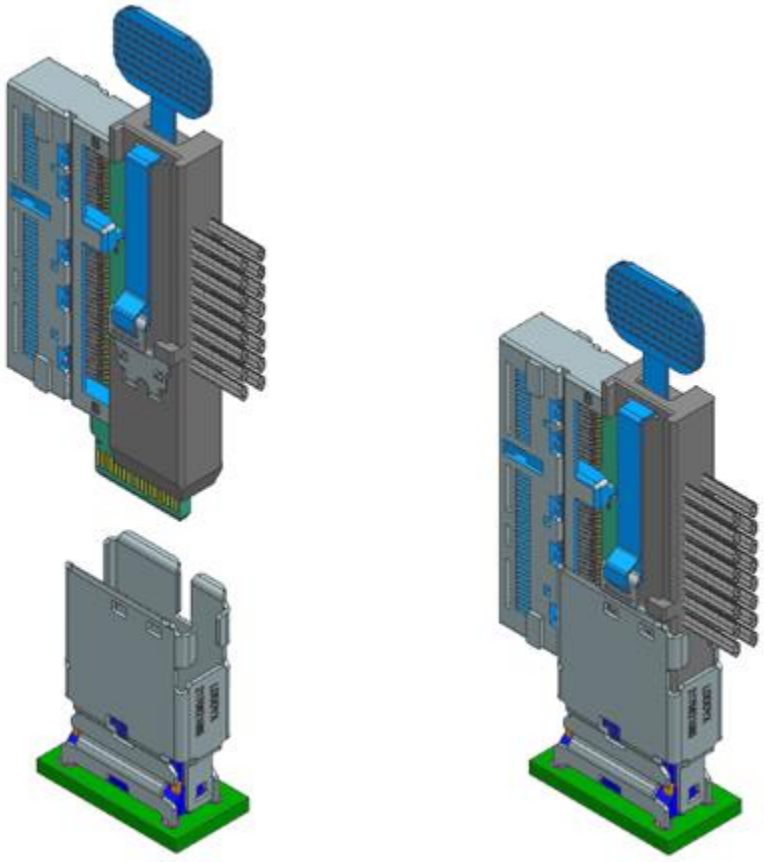


Figure 4-18 38-Pin Style B Connector Receptable Unmated and Mated with E3-2C Plug

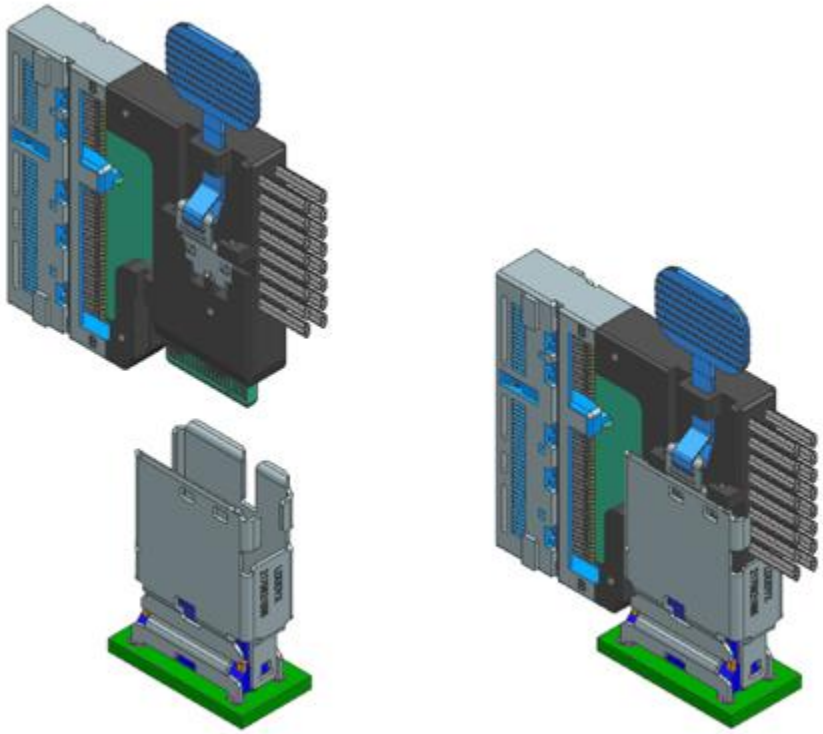


Figure 4-19 38-Pin Style B Connector Receptacle Unmated and Mated with E1-2C Plug

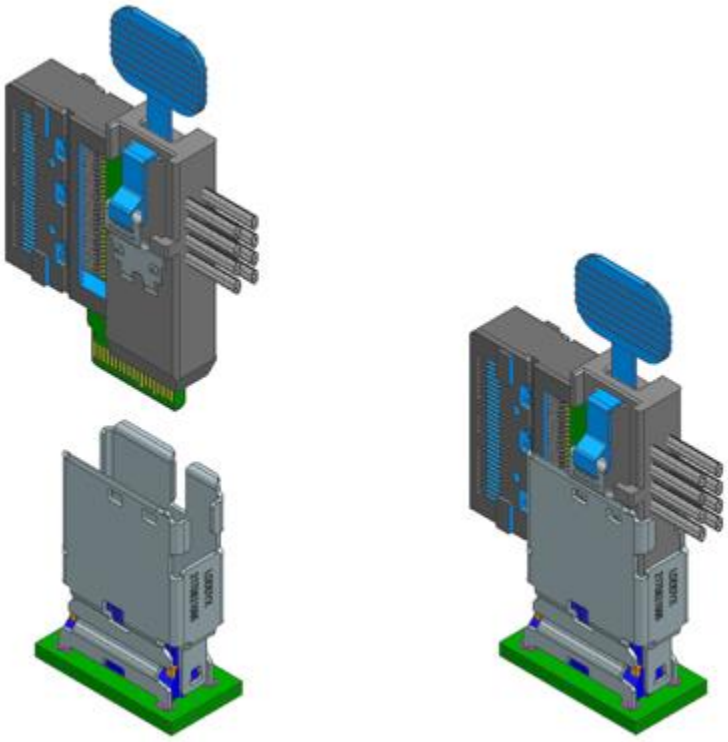


Figure 4-20 38-Pin Style B Connector Receptacle Unmated and Mated with E3-1C Plug

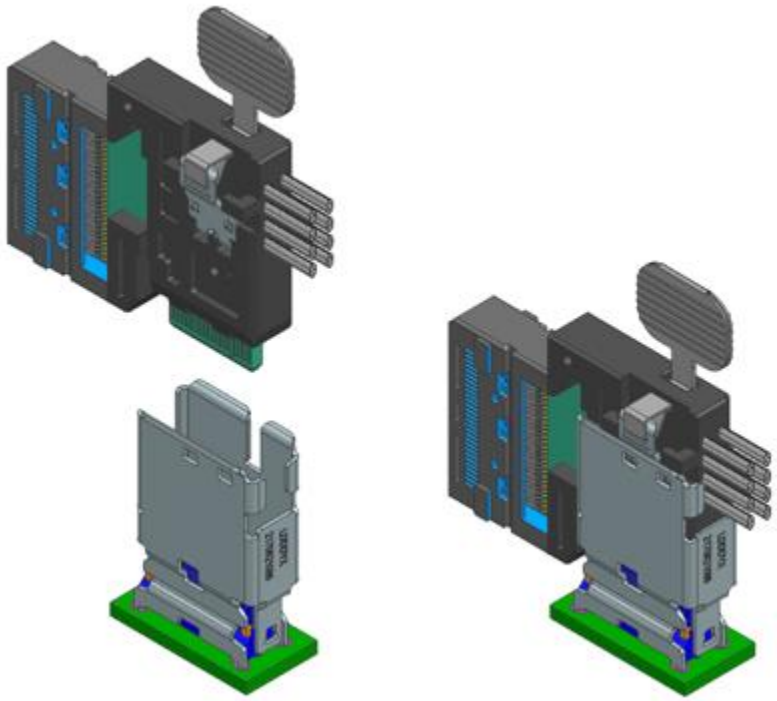


Figure 4-21 38-Pin Style B Connector Receptable Unmated and Mated with E1-1C Plug

4.2 Contact Numbering

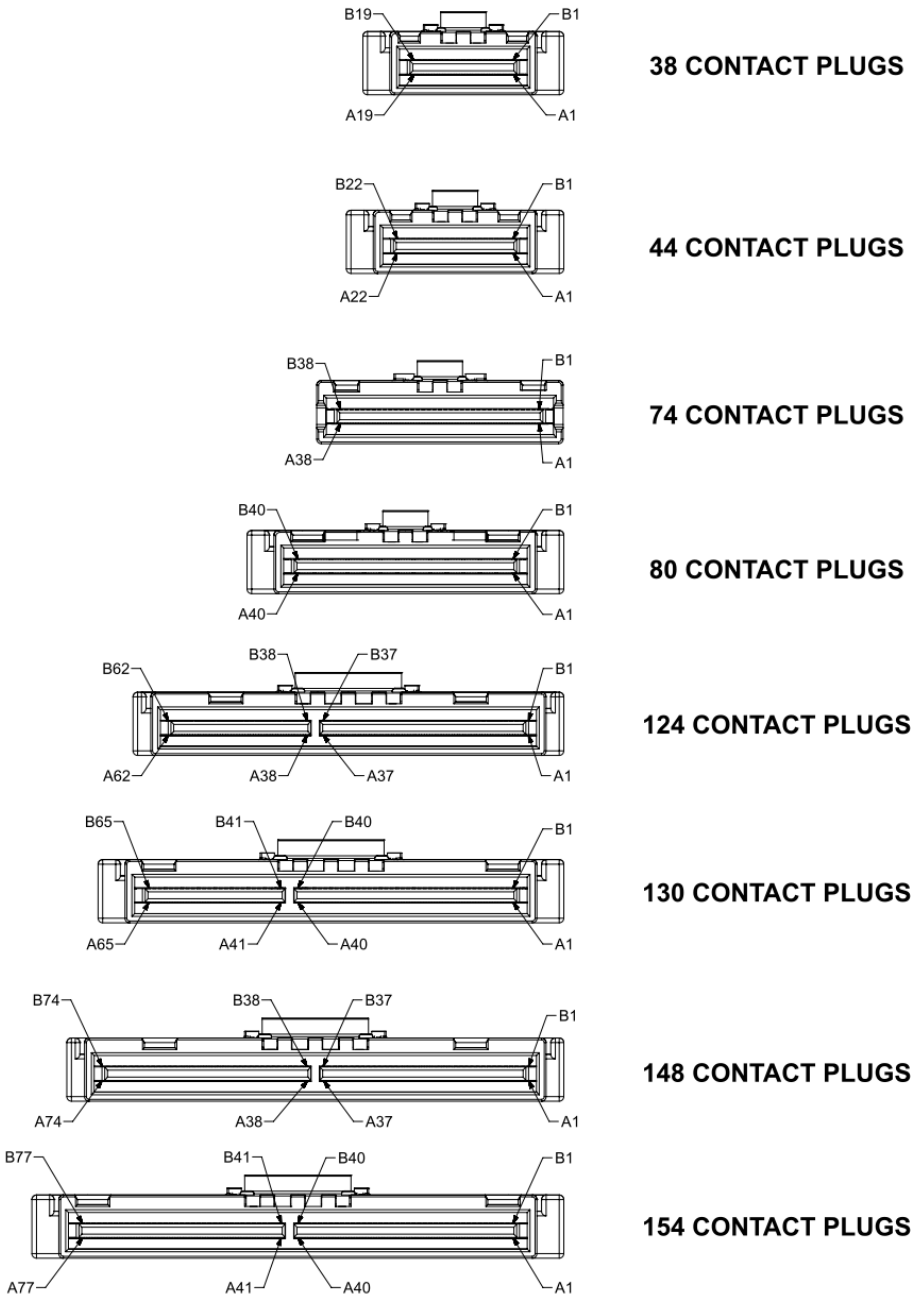


Figure 4-22 Plug Contact Numbering

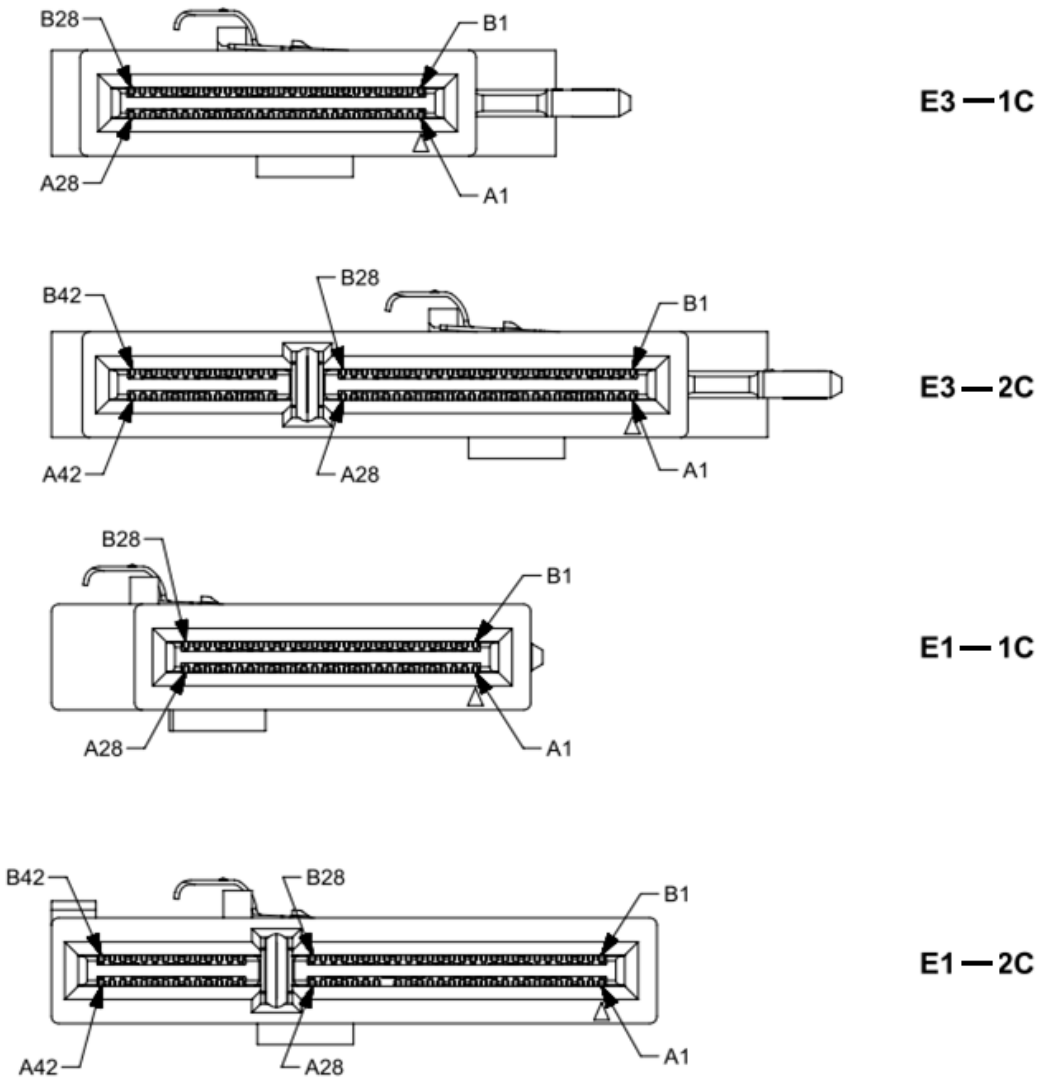


Figure 4-23 Contact Numbering for Gen-Z Connector

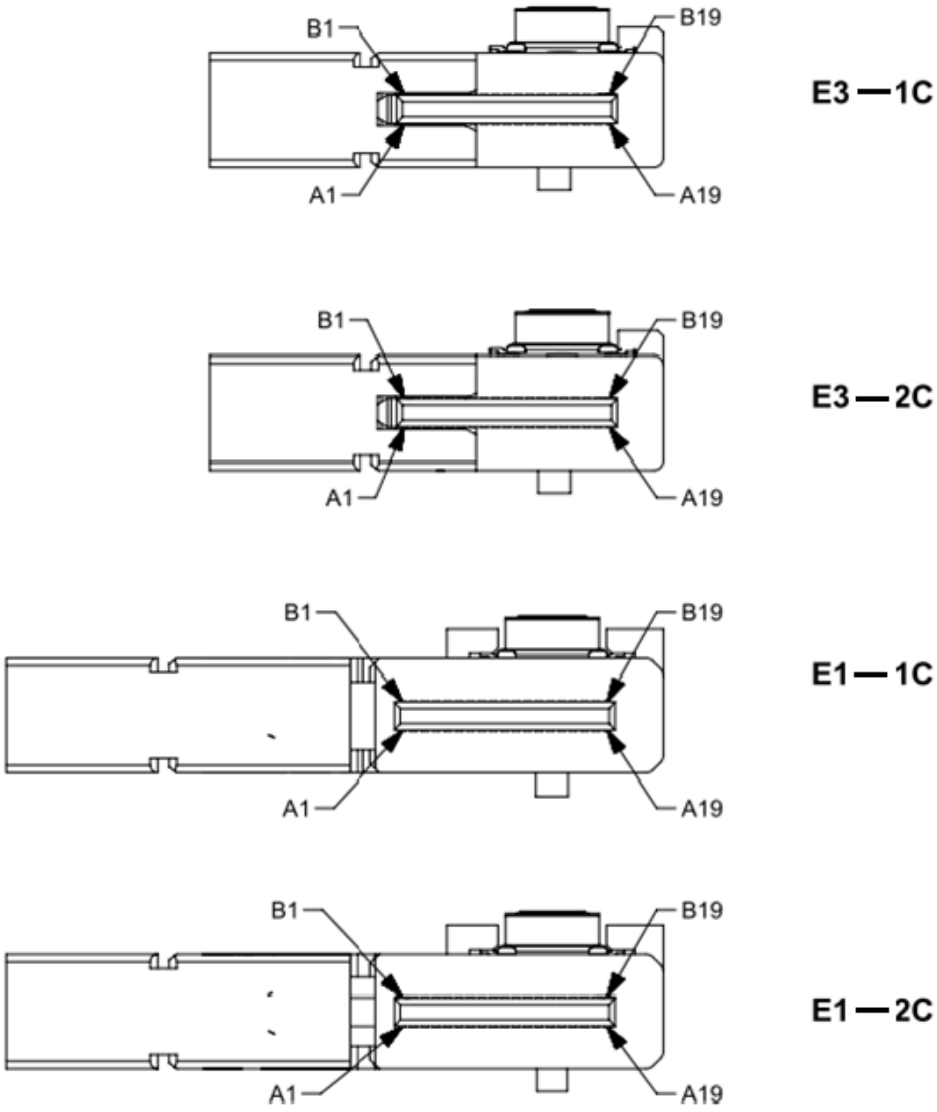


Figure 4-24 Contact Numbering for 38-Pin Style B Connector Plug

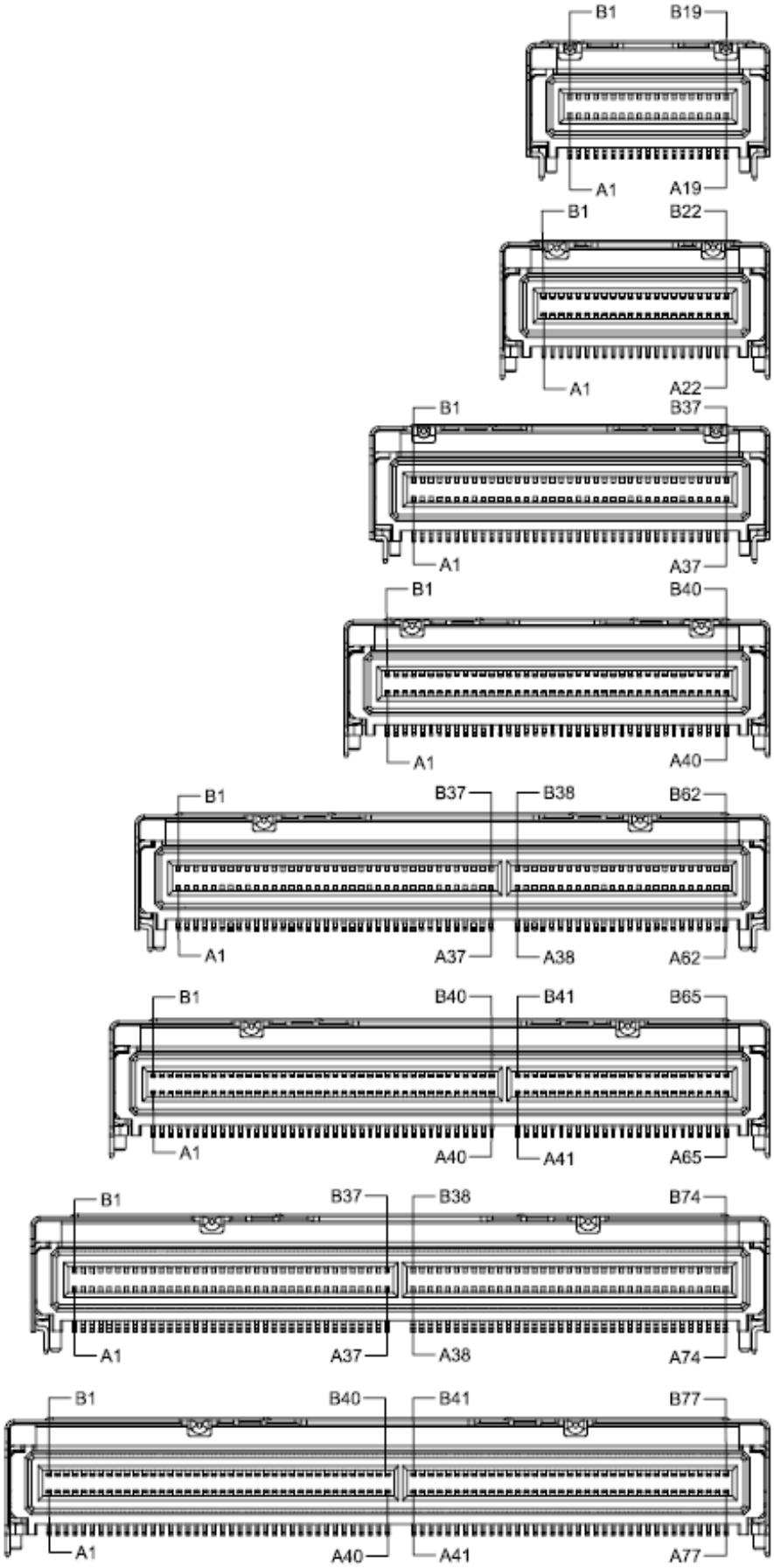


Figure 4-25 Receptable Contact Numbering

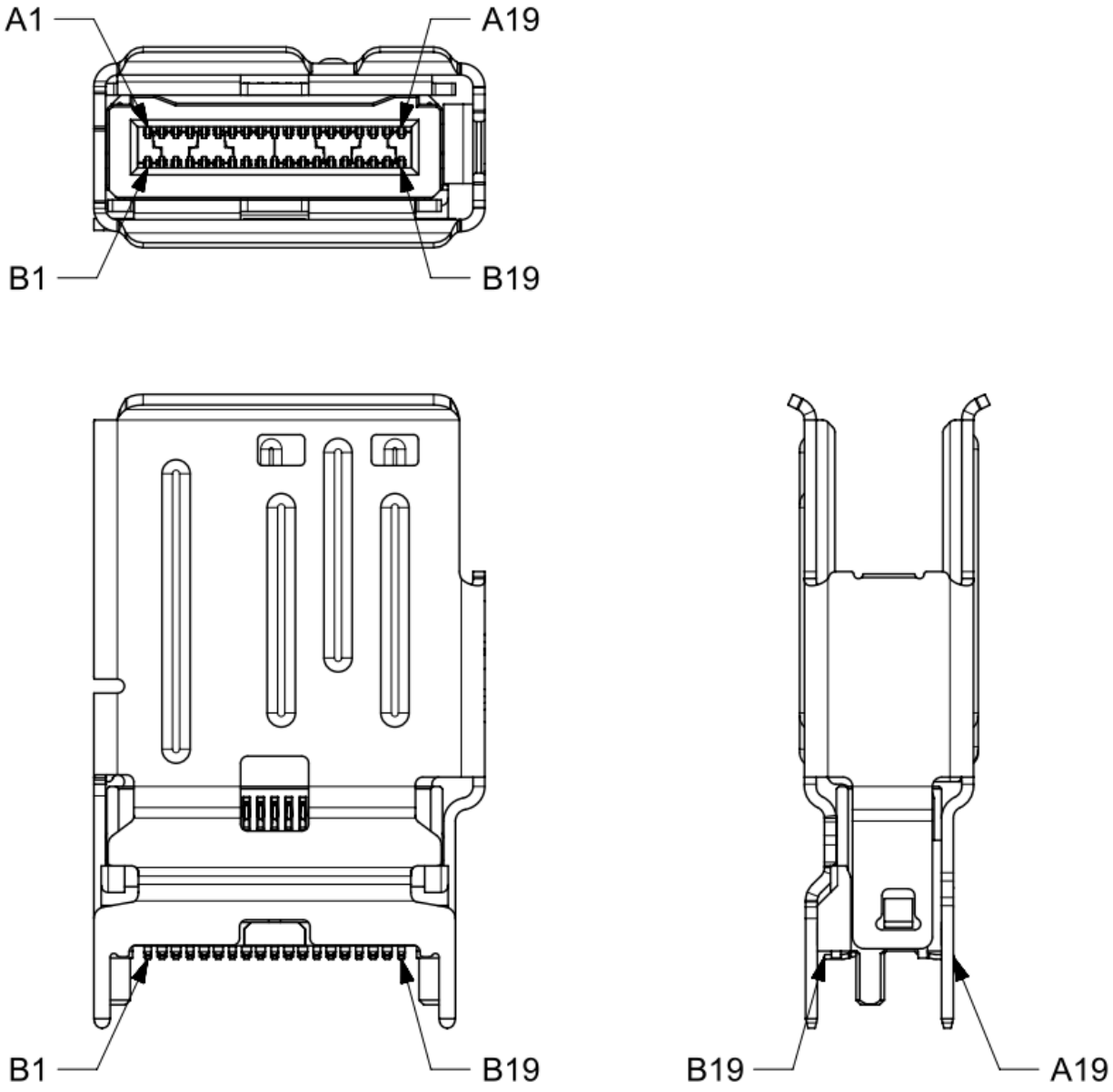


Figure 4-26 Pin Numbering for Style B Connector Receptacle

4.3 Connector Pinmap (Informative)

Table 4-1 Receptacle Connector Pin Definition with Sideband (44P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A1	GND	GND	B1
A2	RX0n	TX0n	B2
A3	RX0p	TX0p	B3

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A4	GND	GND	B4
A5	RX1n	TX1n	B5
A6	RX1p	TX1p	B6
A7	GND	GND	B7
A8	Sideband	Sideband	B8
A9	Sideband	Sideband	B9
A10	Sideband	Sideband	B10
A11	Sideband	Sideband	B11
A12	Sideband	Sideband	B12
A13	GND	GND	B13
A14	RX2n	TX2n	B14
A15	RX2p	TX2p	B15
A16	GND	GND	B16
A17	RX3n	TX3n	B17
A18	RX3p	TX3p	B18
A19	GND	GND	B19
A20	Sideband	Sideband	B20
A21	Sideband	Sideband	B21
A22	Sideband	Sideband	B22

Table 4-2 Receptacle Connector Pin Definition with Sideband (80P, 154P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation	
A1	GND	GND	B1	80 Contact Version	154 Contact Version
A2	RX0n	TX0n	B2		
A3	RX0p	TX0p	B3		
A4	GND	GND	B4		
A5	RX1n	TX1n	B5		
A6	RX1p	TX1p	B6		
A7	GND	GND	B7		
A8	Sideband	Sideband	B8		
A9	Sideband	Sideband	B9		
A10	Sideband	Sideband	B10		
A11	Sideband	Sideband	B11		
A12	Sideband	Sideband	B12		
A13	GND	GND	B13		
A14	RX2n	TX2n	B14		
A15	RX2p	TX2p	B15		
A16	GND	GND	B16		
A17	RX3n	TX3n	B17		
A18	RX3p	TX3p	B18		
A19	GND	GND	B19		
A20	RX4n	TX4n	B20		
A21	RX4p	TX4p	B21		
A22	GND	GND	B22		
A23	RX5n	TX5n	B23		
A24	RX5p	TX5p	B24		
A25	GND	GND	B25		
A26	Sideband	Sideband	B26		
A27	Sideband	Sideband	B27		
A28	Sideband	Sideband	B28		

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation	
A29	Sideband	Sideband	B29		
A30	Sideband	Sideband	B30		
A31	GND	GND	B31		
A32	RX6n	TX6n	B32		
A33	RX6p	TX6p	B33		
A34	GND	GND	B34		
A35	RX7n	TX7n	B35		
A36	RX7p	TX7p	B36		
A37	GND	GND	B37		
A38	Sideband	Sideband	B38		
A39	Sideband	Sideband	B39		
A40	Sideband	Sideband	B40		
Key Slot					
A41	GND	GND	B41		
A42	RX8n	TX8n	B42		
A43	RX8p	TX8p	B43		
A44	GND	GND	B44		
A45	RX9n	TX9n	B45		
A46	RX9p	TX9p	B46		
A47	GND	GND	B47		
A48	Sideband	Sideband	B48		
A49	Sideband	Sideband	B49		
A50	Sideband	Sideband	B50		
A51	Sideband	Sideband	B51		
A52	Sideband	Sideband	B52		
A53	GND	GND	B53		
A54	RX10n	TX10n	B54		
A55	RX10p	TX10p	B55		
A56	GND	GND	B56		
A57	RX11n	TX11n	B57		
A58	RX11p	TX11p	B58		
A59	GND	GND	B59		
A60	RX12n	TX12n	B60		
A61	RX12p	TX12p	B61		
A62	GND	GND	B62		
A63	RX13n	TX13n	B63		
A64	RX13p	TX13p	B64		
A65	GND	GND	B65		
A66	Sideband	Sideband	B66		
A67	Sideband	Sideband	B67		
A68	Sideband	Sideband	B68		
A69	Sideband	Sideband	B69		
A70	Sideband	Sideband	B70		
A71	GND	GND	B71		
A72	RX14n	TX14n	B72		
A73	RX14p	TX14p	B73		
A74	GND	GND	B74		
A75	RX15n	TX15n	B75		
A76	RX15p	TX15p	B76		
A77	GND	GND	B77		

Table 4-3 Receptacle Connector Pin Definition with Sideband (130P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A1	GND	GND	B1
A2	RX0n	TX0n	B2
A3	RX0p	TX0p	B3
A4	GND	GND	B4
A5	RX1n	TX1n	B5
A6	RX1p	TX1p	B6
A7	GND	GND	B7
A8	Sideband	Sideband	B8
A9	Sideband	Sideband	B9
A10	Sideband	Sideband	B10
A11	Sideband	Sideband	B11
A12	Sideband	Sideband	B12
A13	GND	GND	B13
A14	RX2n	TX2n	B14
A15	RX2p	TX2p	B15
A16	GND	GND	B16
A17	RX3n	TX3n	B17
A18	RX3p	TX3p	B18
A19	GND	GND	B19
A20	RX4n	TX4n	B20
A21	RX4p	TX4p	B21
A22	GND	GND	B22
A23	RX5n	TX5n	B23
A24	RX5p	TX5p	B24
A25	GND	GND	B25
A26	Sideband	Sideband	B26
A27	Sideband	Sideband	B27
A28	Sideband	Sideband	B28
A29	Sideband	Sideband	B29
A30	Sideband	Sideband	B30
A31	GND	GND	B31
A32	RX6n	TX6n	B32
A33	RX6p	TX6p	B33
A34	GND	GND	B34
A35	RX7n	TX7n	B35
A36	RX7p	TX7p	B36
A37	GND	GND	B37
A38	Sideband	Sideband	B38
A39	Sideband	Sideband	B39
A40	Sideband	Sideband	B40
Key Slot			
A41	GND	GND	B41
A42	RX8n	TX8n	B42
A43	RX8p	TX8p	B43
A44	GND	GND	B44
A45	RX9n	TX9n	B45
A46	RX9p	TX9p	B46
A47	GND	GND	B47
A48	RX10n	TX10n	B48

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A49	RX10p	TX10p	B49
A50	GND	GND	B50
A51	RX11n	TX11n	B51
A52	RX11p	TX11p	B52
A53	GND	GND	B53
A54	RX12n	TX12n	B54
A55	RX12p	TX12p	B55
A56	GND	GND	B56
A57	RX13n	TX13n	B57
A58	RX13p	TX13p	B58
A59	GND	GND	B59
A60	RX14n	TX14n	B60
A61	RX14p	TX14p	B61
A62	GND	GND	B62
A63	RX15n	TX15n	B63
A64	RX15p	TX15p	B64
A65	GND	GND	B65

Table 4-4 Receptacle Connector Pin Definition with Sideband (38P, 74P, 148P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation		
A1	GND	GND	B1	38 Contact Version	74 Contact Version	148 Contact Version
A2	RX0n	TX0n	B2			
A3	RX0p	TX0p	B3			
A4	GND	GND	B4			
A5	RX1n	TX1n	B5			
A6	RX1p	TX1p	B6			
A7	GND	GND	B7			
A8	Sideband	Sideband	B8			
A9	Sideband	Sideband	B9			
A10	Sideband	Sideband	B10			
A11	Sideband	Sideband	B11			
A12	Sideband	Sideband	B12			
A13	GND	GND	B13			
A14	RX2n	TX2n	B14			
A15	RX2p	TX2p	B15			
A16	GND	GND	B16			
A17	RX3n	TX3n	B17			
A18	RX3p	TX3p	B18			
A19	GND	GND	B19			
A20	RX4n	TX4n	B20			
A21	RX4p	TX4p	B21			
A22	GND	GND	B22			
A23	RX5n	TX5n	B23			
A24	RX5p	TX5p	B24			
A25	GND	GND	B25			

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation		
A26	Sideband	Sideband	B26			
A27	Sideband	Sideband	B27			
A28	Sideband	Sideband	B28			
A29	Sideband	Sideband	B29			
A30	Sideband	Sideband	B30			
A31	GND	GND	B31			
A32	RX6n	TX6n	B32			
A33	RX6p	TX6p	B33			
A34	GND	GND	B34			
A35	RX7n	TX7n	B35			
A36	RX7p	TX7p	B36			
A37	GND	GND	B37			
Key Slot						
A38	GND	GND	B38			
A39	RX8n	TX8n	B39			
A40	RX8p	TX8p	B40			
A41	GND	GND	B41			
A42	RX9n	TX9n	B42			
A43	RX9p	TX9p	B43			
A44	GND	GND	B44			
A45	Sideband	Sideband	B45			
A46	Sideband	Sideband	B46			
A47	Sideband	Sideband	B47			
A48	Sideband	Sideband	B48			
A49	Sideband	Sideband	B49			
A50	GND	GND	B50			
A51	RX10n	TX10n	B51			
A52	RX10p	TX10p	B52			
A53	GND	GND	B53			
A54	RX11n	TX11n	B54			
A55	RX11p	TX11p	B55			
A56	GND	GND	B56			
A57	RX12n	TX12n	B57			
A58	RX12p	TX12p	B58			
A59	GND	GND	B59			
A60	RX13n	TX13n	B60			
A61	RX13p	TX13p	B61			
A62	GND	GND	B62			
A63	Sideband	Sideband	B63			
A64	Sideband	Sideband	B64			
A65	Sideband	Sideband	B65			
A66	Sideband	Sideband	B66			
A67	Sideband	Sideband	B67			
A68	GND	GND	B68			

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation
A69	RX14n	TX14n	B69	
A70	RX14p	TX14p	B70	
A71	GND	GND	B71	
A72	RX15n	TX15n	B72	
A73	RX15p	TX15p	B73	
A74	GND	GND	B74	

Table 4-5: Receptacle Connector Pin Definition with Sideband (124P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation
A1	GND	GND	B1	124 Contact Version
A2	RX0n	TX0n	B2	
A3	RX0p	TX0p	B3	
A4	GND	GND	B4	
A5	RX1n	TX1n	B5	
A6	RX1p	TX1p	B6	
A7	GND	GND	B7	
A8	Sideband	Sideband	B8	
A9	Sideband	Sideband	B9	
A10	Sideband	Sideband	B10	
A11	Sideband	Sideband	B11	
A12	Sideband	Sideband	B12	
A13	GND	GND	B13	
A14	RX2n	TX2n	B14	
A15	RX2p	TX2p	B15	
A16	GND	GND	B16	
A17	RX3n	TX3n	B17	
A18	RX3p	TX3p	B18	
A19	GND	GND	B19	
A20	RX4n	TX4n	B20	
A21	RX4p	TX4p	B21	
A22	GND	GND	B22	
A23	RX5n	TX5n	B23	
A24	RX5p	TX5p	B24	
A25	GND	GND	B25	
A26	Sideband	Sideband	B26	
A27	Sideband	Sideband	B27	
A28	Sideband	Sideband	B28	
A29	Sideband	Sideband	B29	
A30	Sideband	Sideband	B30	
A31	GND	GND	B31	
A32	RX6n	TX6n	B32	
A33	RX6p	TX6p	B33	
A34	GND	GND	B34	

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation
A35	RX7n	TX7n	B35	
A36	RX7p	TX7p	B36	
A37	GND	GND	B37	
Key Slot				
A38	GND	GND	B38	
A39	RX8n	TX8n	B39	
A40	RX8p	TX8p	B40	
A41	GND	GND	B41	
A42	RX9n	TX9n	B42	
A43	RX9p	TX9p	B43	
A44	GND	GND	B44	
A45	RX10n	TX10n	B45	
A46	RX10p	TX10p	B46	
A47	GND	GND	B47	
A48	RX11n	TX11n	B48	
A49	RX11p	TX11p	B49	
A50	GND	GND	B50	
A51	RX12n	TX12n	B51	
A52	RX12p	TX12p	B52	
A53	GND	GND	B53	
A54	RX13n	TX13n	B54	
A55	RX13p	TX13p	B55	
A56	GND	GND	B56	
A57	RX14n	TX14n	B57	
A58	RX14p	TX14p	B58	
A59	GND	GND	B59	
A60	RX15n	TX15n	B60	
A61	RX15p	TX15p	B61	
A62	GND	GND	B62	

Table 4-6 Receptacle Connector Pin Definition without Sideband (44P, 80P, 130P, 154P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation			
A1	GND	GND	B1	44 Contact Version	80 Contact Version	130 Contact Version	154 Contact Version
A2	RX0n	TX0n	B2				
A3	RX0p	TX0p	B3				
A4	GND	GND	B4				
A5	RX1n	TX1n	B5				
A6	RX1p	TX1p	B6				
A7	GND	GND	B7				
A8	RX2n	TX2n	B8				
A9	RX2p	TX2p	B9				
A10	GND	GND	B10				
A11	RX3n	TX3n	B11				
A12	RX3p	TX3p	B12				

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation			
A13	GND	GND	B13				
A14	RX4n	TX4n	B14				
A15	RX4p	TX4p	B15				
A16	GND	GND	B16				
A17	RX5n	TX5n	B17				
A18	RX5p	TX5p	B18				
A19	GND	GND	B19				
A20	RX6n	TX6n	B20				
A21	RX6p	TX6p	B21				
A22	GND	GND	B22				
A23	RX7n	TX7n	B23				
A24	RX7p	TX7p	B24				
A25	GND	GND	B25				
A26	RX8n	TX8n	B26				
A27	RX8p	TX8p	B27				
A28	GND	GND	B28				
A29	RX9n	TX9n	B29				
A30	RX9p	TX9p	B30				
A31	GND	GND	B31				
A32	RX10n	TX10n	B32				
A33	RX10p	TX10p	B33				
A34	GND	GND	B34				
A35	RX11n	TX11n	B35				
A36	RX11p	TX11p	B36				
A37	GND	GND	B37				
A38	RX12n	TX12n	B38				
A39	RX12p	TX12p	B39				
A40	GND	GND	B40				
Key Slot							
A41	GND	GND	B41				
A42	RX13n	TX13n	B42				
A43	RX13p	TX13p	B43				
A44	GND	GND	B44				
A45	RX14n	TX14n	B45				
A46	RX14p	TX14p	B46				
A47	GND	GND	B47				
A48	RX15n	TX15n	B48				
A49	RX15p	TX15p	B49				
A50	GND	GND	B50				
A51	RX16n	TX16n	B51				
A52	RX16p	TX16p	B52				
A53	GND	GND	B53				
A54	RX17n	TX17n	B54				
A55	RX17p	TX17p	B55				
A56	GND	GND	B56				
A57	RX18n	TX18n	B57				
A58	RX18p	TX18p	B58				
A59	GND	GND	B59				
A60	RX19n	TX19n	B60				
A61	RX19p	TX19p	B61				

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation			
A62	GND	GND	B62				
A63	RX20n	TX20n	B63				
A64	RX20p	TX20p	B64				
A65	GND	GND	B65				
A66	RX21n	TX21n	B66				
A67	RX21p	TX21p	B67				
A68	GND	GND	B68				
A69	RX22n	TX22n	B69				
A70	RX22p	TX22p	B70				
A71	GND	GND	B71				
A72	RX23n	TX23n	B72				
A73	RX23p	TX23p	B73				
A74	GND	GND	B74				
A75	RX24n	TX24n	B75				
A76	RX24p	TX24p	B76				
A77	GND	GND	B77				

Table 4-7 Receptable Connector Pin Definition without Sideband (38P, 74P, 124P, 148P)

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation			
A1	GND	GND	B1	38 Contact Version	74 Contact Version	124 Contact Version	148 Contact Version
A2	RX0n	TX0n	B2				
A3	RX0p	TX0p	B3				
A4	GND	GND	B4				
A5	RX1n	TX1n	B5				
A6	RX1p	TX1p	B6				
A7	GND	GND	B7				
A8	RX2n	TX2n	B8				
A9	RX2p	TX2p	B9				
A10	GND	GND	B10				
A11	RX3n	TX3n	B11				
A12	RX3p	TX3p	B12				
A13	GND	GND	B13				
A14	RX4n	TX4n	B14				
A15	RX4p	TX4p	B15				
A16	GND	GND	B16				
A17	RX5n	TX5n	B17				
A18	RX5p	TX5p	B18				
A19	GND	GND	B19				
A20	RX4n	TX4n	B20				
A21	RX4p	TX4p	B21				
A22	GND	GND	B22				
A23	RX5n	TX5n	B23				
A24	RX5p	TX5p	B24				
A25	GND	GND	B25				
A26	RX6n	TX6n	B26				
A27	RX6p	TX6p	B27				
A28	GND	GND	B28				
A29	RX7n	TX7n	B29				
A30	RX7p	TX7p	B30				

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location	Connector Variation			
A31	GND	GND	B31				
A32	RX8n	TX8n	B32				
A33	RX8p	TX8p	B33				
A34	GND	GND	B34				
A35	RX9n	TX9n	B35				
A36	RX9p	TX9p	B36				
A37	GND	GND	B37				
Key Slot							
A38	GND	GND	B38				
A39	RX10n	TX10n	B39				
A40	RX10p	TX10p	B40				
A41	GND	GND	B41				
A42	RX11n	TX11n	B42				
A43	RX11p	TX11p	B43				
A44	GND	GND	B44				
A45	RX12n	TX12n	B45				
A46	RX12p	TX12p	B46				
A47	GND	GND	B47				
A48	RX13n	TX13n	B48				
A49	RX13p	TX13p	B49				
A50	GND	GND	B50				
A51	RX14n	TX14n	B51				
A52	RX14p	TX14p	B52				
A53	GND	GND	B53				
A54	RX15n	TX15n	B54				
A55	RX15p	TX15p	B55				
A56	GND	GND	B56				
A57	RX16n	TX16n	B57				
A58	RX16p	TX16p	B58				
A59	GND	GND	B59				
A60	RX17n	TX17n	B60				
A61	RX17p	TX17p	B61				
A62	GND	GND	B62				
A63	RX18n	TX18n	B63				
A64	RX18p	TX18p	B64				
A65	GND	GND	B65				
A66	RX19n	TX19n	B66				
A67	RX19p	TX19p	B67				
A68	GND	GND	B68				
A69	RX20n	TX20n	B69				
A70	RX20p	TX20p	B70				
A71	GND	GND	B71				
A72	RX21n	TX21n	B72				
A73	RX21p	TX21p	B73				
A74	GND	GND	B74				

Table 4-8 shows the pinout for the 80-pin x8 receptable connector for active applications. Other configurations such as 44-pin, 130-pin and 154-pin can also be used for active applications, however, the pinout for those configurations is not included in this specification.

Table 4-8 Receptacle Connector Pin Definition (80-pin) for Active Applications

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A1	GND	GND	B1
A2	PERp0	PETp0	B2
A3	PERn0	PETn0	B3
A4	GND	GND	B4
A5	PERp1	PETp1	B5
A6	PERn1	PETn1	B6
A7	GND	GND	B7
A8	SIDEBAND 01	SIDEBAND 01	B8
A9	SIDEBAND 02	SIDEBAND 02	B9
A10	GND	GND	B10
A11	SIDEBAND 03	SIDEBAND 03	B11
A12	SIDEBAND 04	SIDEBAND 04	B12
A13	GND	GND	B13
A14	PERp2	PETp2	B14
A15	PERn2	PETn2	B15
A16	GND	GND	B16
A17	PERp3	PETp3	B17
A18	PERn3	PETn3	B18
A19	GND	GND	B19
A20	PERp4	PETp4	B20
A21	PERn4	PETn4	B21
A22	GND	GND	B22
A23	PERp5	PETp5	B23
A24	PERn5	PETn5	B24
A25	GND	GND	B25
A26	SIDEBAND 05	SIDEBAND 05	B26
A27	SIDEBAND 06	SIDEBAND 06	B27
A28	GND	GND	B28
A29	SIDEBAND 07	SIDEBAND 07	B29
A30	SIDEBAND 08	SIDEBAND 08	B30
A31	GND	GND	B31
A32	PERp6	PETp6	B32
A33	PERn6	PETn6	B33
A34	GND	GND	B34
A35	PERp7	PETp7	B35
A36	PERn7	PETn7	B36
A37	GND	GND	B37
A38	SCLK	SCLK	B38
A39	SDA	SDA	B39
A40	VCC	VCC	B40

Table 4-9 Style B Connector Receptacle Pin Definition with Sidebands

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A1	GND	GND	B1
A2	RX0n	TX0n	B2
A3	RX0p	TX0p	B3
A4	GND	GND	B4

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A5	RX1n	TX1n	B5
A6	RX1p	TX1p	B6
A7	GND	GND	B7
A8	Sideband	Sideband	B8
A9	Sideband	Sideband	B9
A10	Sideband	Sideband	B10
A11	Sideband	Sideband	B11
A12	Sideband	Sideband	B12
A13	GND	GND	B13
A14	RX2n	TX2n	B14
A15	RX2p	TX2p	B15
A16	GND	GND	B16
A17	RX3n	TX3n	B17
A18	RX3p	TX3p	B18
A19	GND	GND	B19

Table 4-10 Style B Connector Receptacle Pin Definition without Sidebands

Contact Location	A-Side Contact Types	B-Side Contact Types	Contact Location
A1	GND	GND	B1
A2	RX0n	TX0n	B2
A3	RX0p	TX0p	B3
A4	GND	GND	B4
A5	RX1n	TX1n	B5
A6	RX1p	TX1p	B6
A7	GND	GND	B7
A8	RX2n	TX2n	B8
A9	RX2p	TX2p	B9
A10	GND	GND	B10
A11	RX3n	TX3n	B11
A12	RX3p	TX3p	B12
A13	GND	GND	B13
A14	RX4n	TX4n	B14
A15	RX4p	TX4p	B15
A16	GND	GND	B16
A17	RX5n	TX5n	B17
A18	RX5p	TX5p	B18
A19	GND	GND	B19

5. Connector Mechanical Specification

5.1 Overview

5.1.1 Datums

The datums defined in Figure 5-1, Figure 5-2, and Figure 5-3, and in Table 5-1 are used throughout the rest of the document to describe the dimensional requirements of this connector.

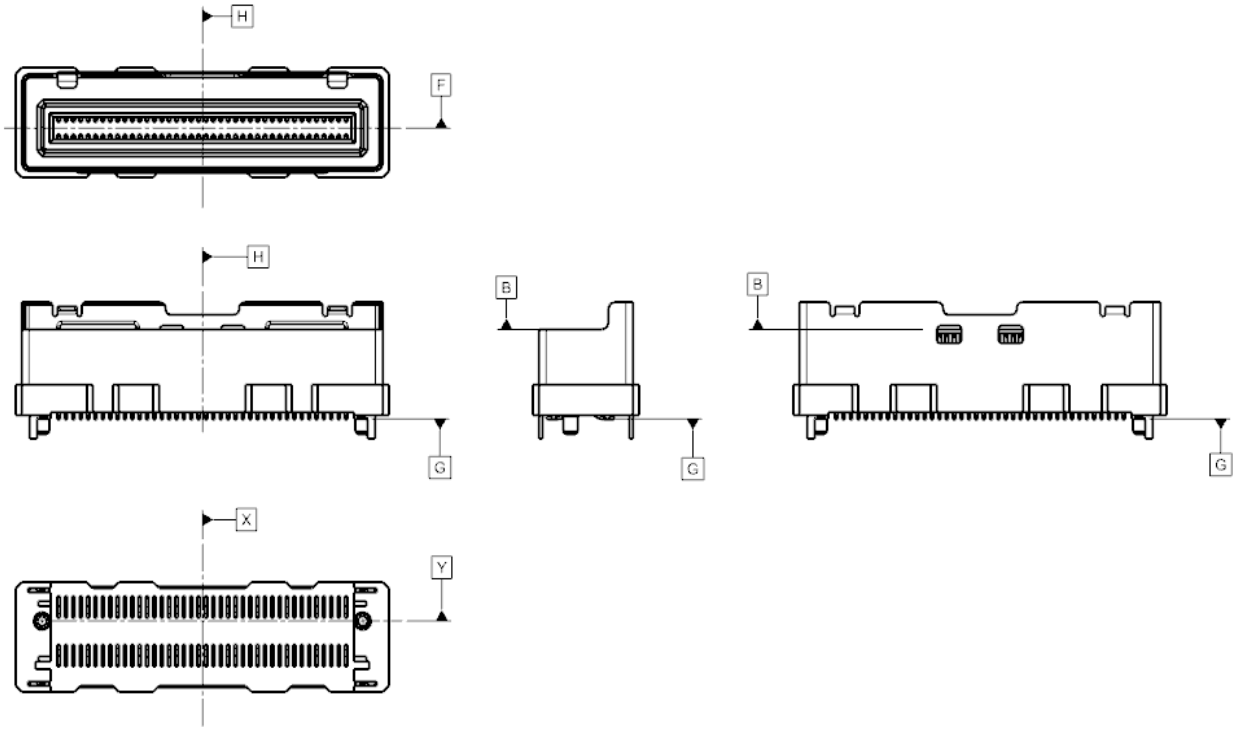


Figure 5-1 Vertical Receptacle Datum Definitions

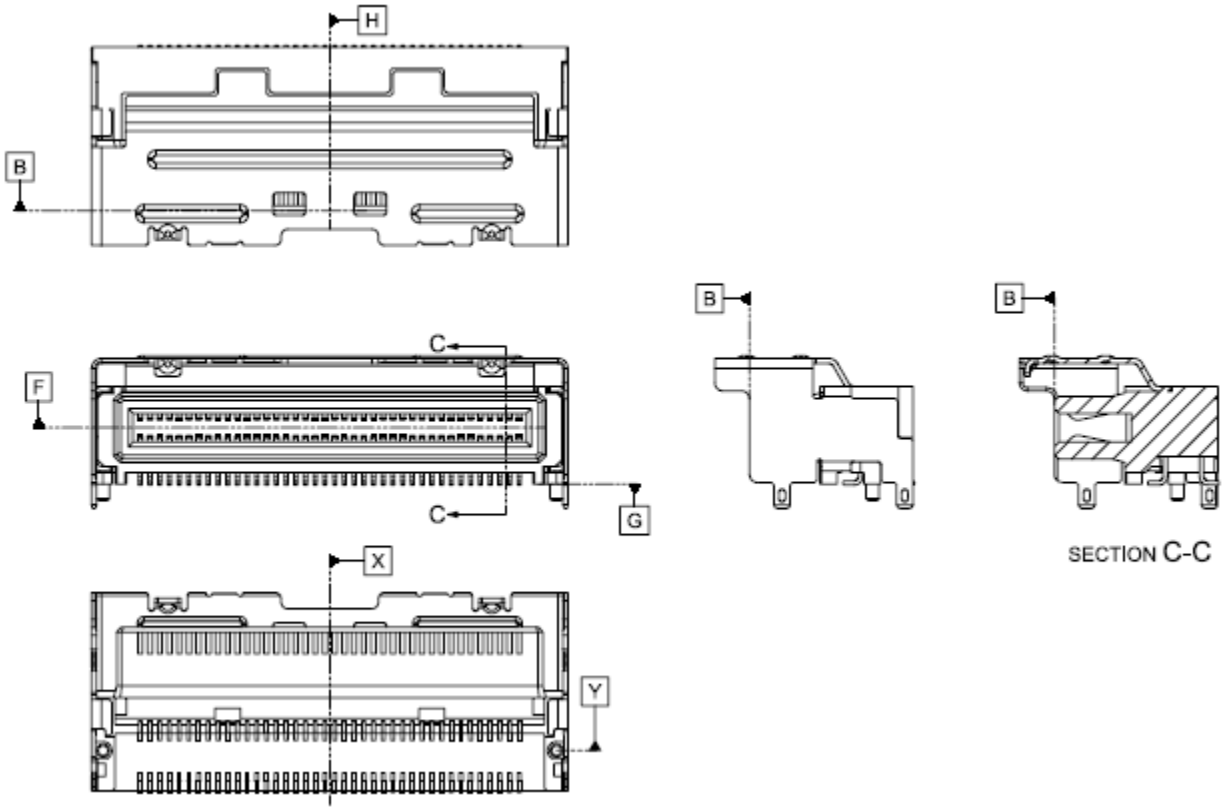


Figure 5-2 Right Angle Receptacle Datum Definitions

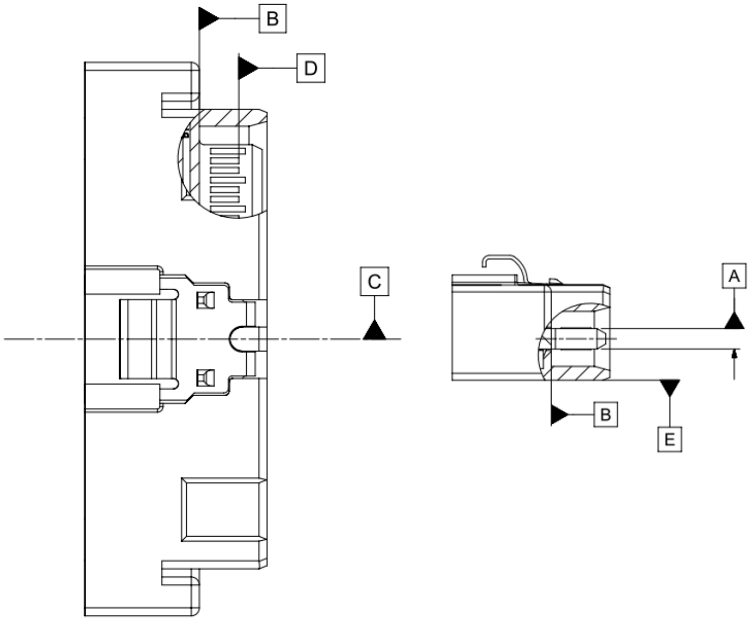


Figure 5-3 Plug Datum Definitions

Table 5-1 Datum Descriptions

DATUM	DESCRIPTION
A	Center Plane of Paddle Card Thickness
B	Plug and Receptacle Mechanical Stop
C	Centerline of the Paddle Card / Mating Interface Centerline
D	Leading Edge of Second-mate Contacts on Paddle Card
E	Bottom Surface of Plug Body
F	Centerline of Interface Card Slot
G	Mating Surfaces to the PCB or PCB Pads
H	Centerline of the Receptacle Width
J	Centerline of the Receptacle's Locating Peg
X	Centerline Between Footprint Locating Peg Holes
Y	Plane Thru Footprint Locating Peg Hole Centers
Z	PCB Top Surface

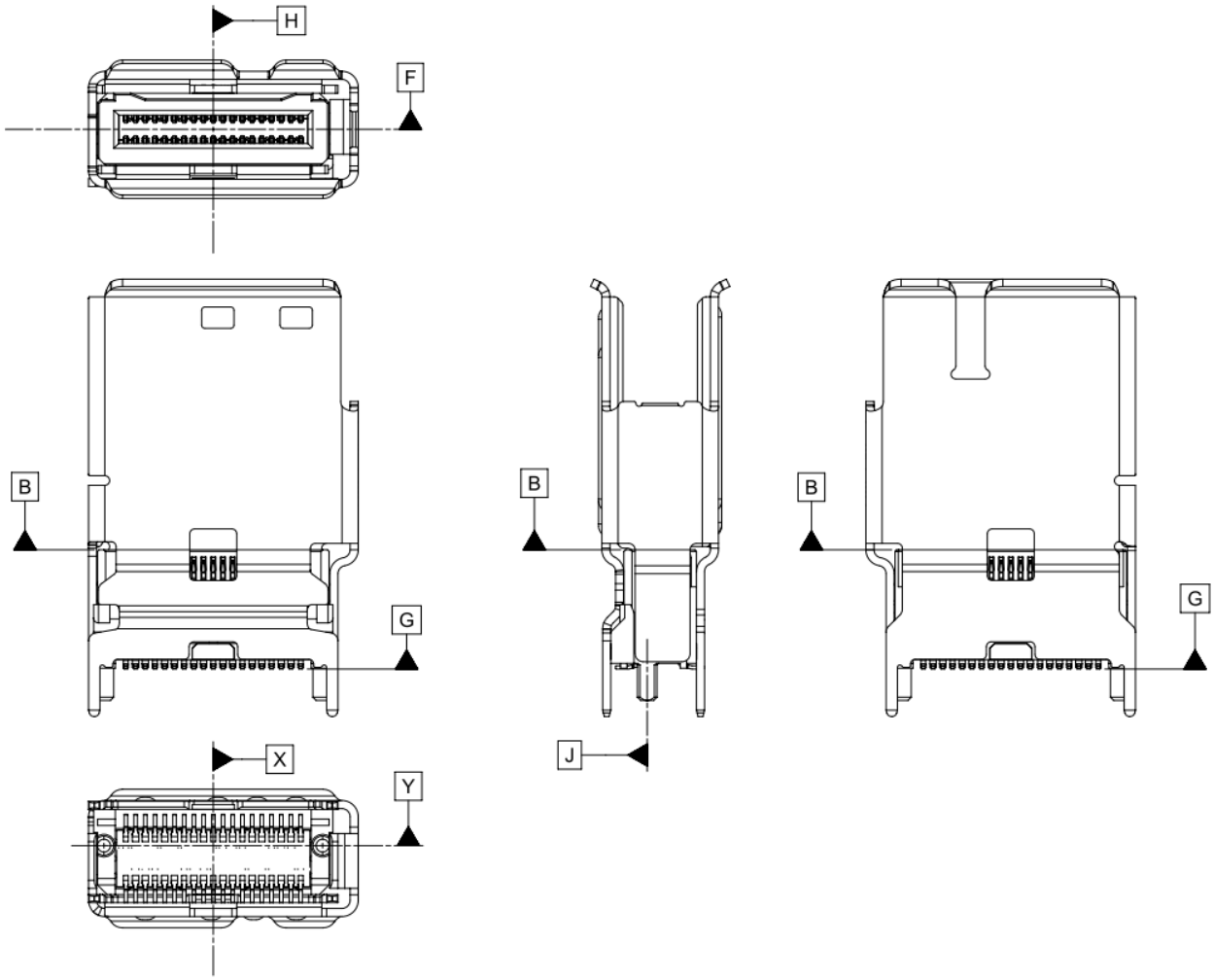


Figure 5-4 38-Pin Style B Connector Receptacle Datum Definitions

Table 5-2 Datum Descriptions for 38-Pin Style B Connector Receptacle

DATUM	DESCRIPTION
B	Plug and Receptacle Mechanical Stop
F	Centerline of Interface Card Slot
G	Mating Surfaces to the PCB or PCB Pads
H	Centerline of the Receptable Width
J	Centerline of the Receptacle's Locating Peg
X	Centerline Between Footprint Locating Peg Holes

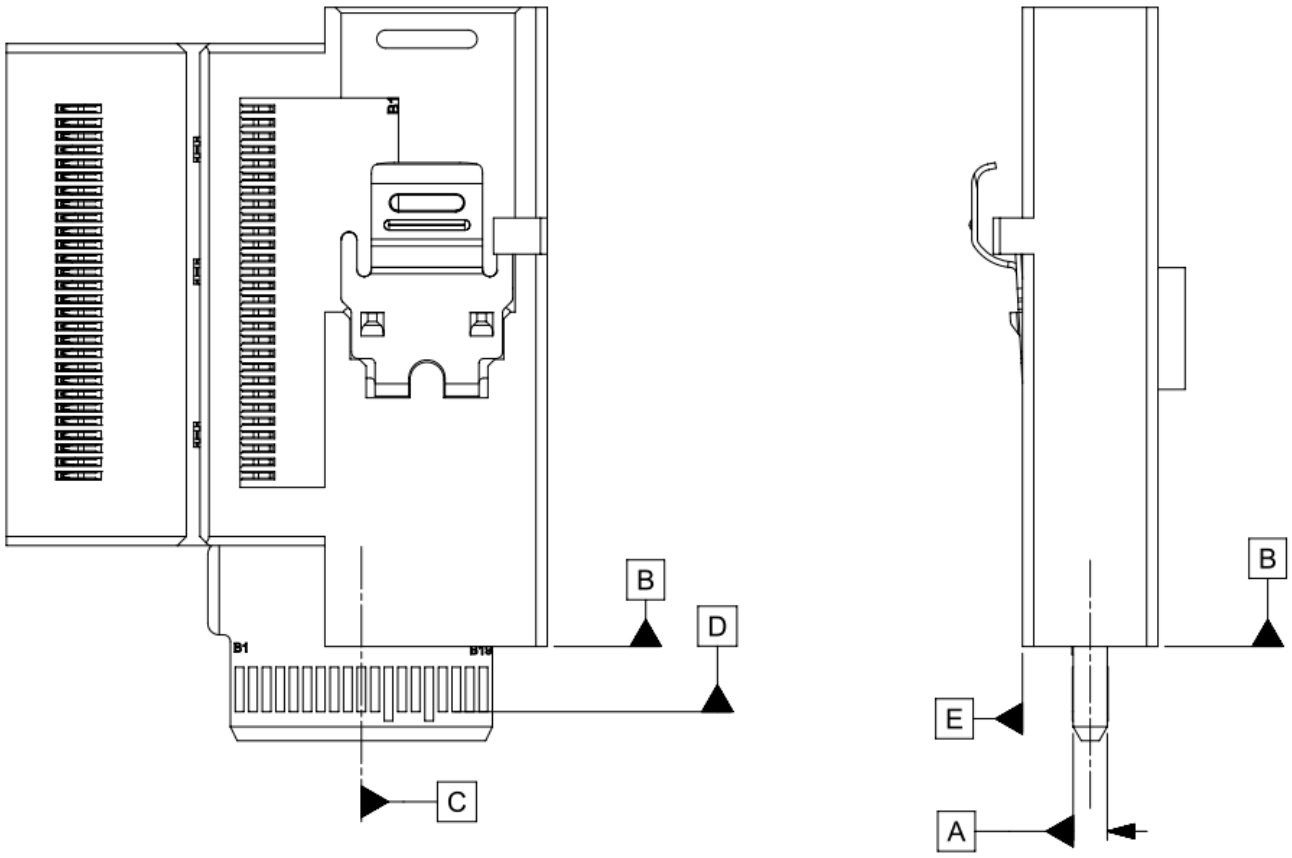


Figure 5-5 38-Pin Style B Connector Plug Datum Definitions

Table 5-3 Datum Descriptions for 38-Pin Style B Connector Plug

DATUM	DESCRIPTION
A	Center Plane of Paddle Card Thickness
B	Plug and Receptable Mechanical Stop
C	Centerline of the Paddle Card / Mating Interface Centerline
D	Leading Edge of Second-mate Contacts on Paddle Card
E	Top Surface of Pug Body

5.2 Mechanical Description: Vertical Connector

5.2.1 Vertical Connector with 38 Contacts – Style A

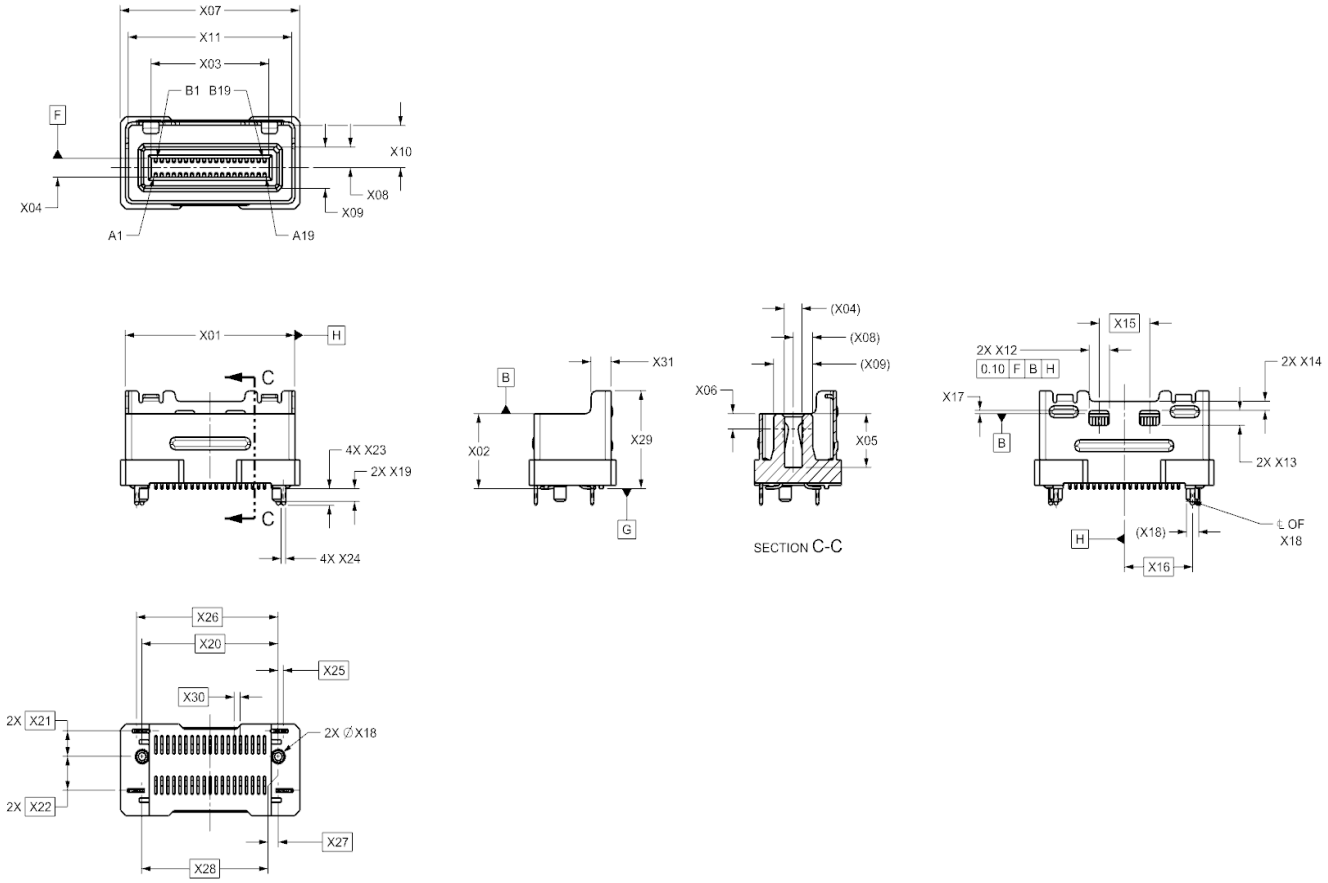


Figure 5-6 38-Pin Style A Connector Receptacle Dimensions

Table 5-4 Dimensions Table for 38-Pin Style A Connector Receptacle

Designator	Description	Dimension (mm)	Tolerance +/-
X01	Vertical Connector Width	16.90	MAX
X02	Datum B (Mating Face) Height from PCB	7.05	±0.20
X03	Interface Card Slot Width	11.68	±0.03
X04	Interface Card Slot Height	1.80	MAX
X05	Interface Card Slot Depth	5.05	REF
X06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
X07	Connector Length	17.78	REF
X08	Interface Card Slot Centerline to Housing Wall	1.94	±0.08
X09	Interface Card Slot Opening Width	3.88	±0.05
X10	Latch Shroud Inner Height	3.97	±0.08
X11	Latch Shroud Inner Width	16.20	±0.08
X12	Latch Slot Width	2.00	±0.10
X13	Latch Slot Length	1.40	+0.10/-0.00
X14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05

Designator	Description	Dimension (mm)	Tolerance +/-
X15	Latch Slots Spacing	5.00	Basic
X16	Right Peg Center to Datum H (Connector Centerline)	6.75	Basic
X17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
X18	Peg Diameter	1.20	±0.05
X19	Peg Length	1.20	REF
X20	Right Peg Center to Left Peg Center	13.50	Basic
X21	Peg Centers to First Latch Shroud Solder Pin	2.40	Basic
X22	Peg Centers to Second Latch Shroud Solder Pin	3.19	Basic
X23	Latch Shroud Solder Pin Height	1.55	REF
X24	Latch Shroud Solder Pin Width	0.45	±0.05
X25	Right Peg Center to Right First Latch Shroud Solder Pin	0.525	Basic
X26	Right Peg Center to Left First Latch Shroud Solder Pin	14.025	Basic
X27	Right Peg Center to Right Second Latch Shroud Solder Pin	0.025	Basic
X28	Right Peg Center to Left Second Latch Shroud Solder Pin	13.525	Basic
X29	Vertical Connector Height	9.20	±0.30
X30	Contact Pitch	0.60	Basic
X31	Latch Shroud Extension Width at Side	2.00	±0.05

5.2.2 Vertical Connector with 44 Contacts

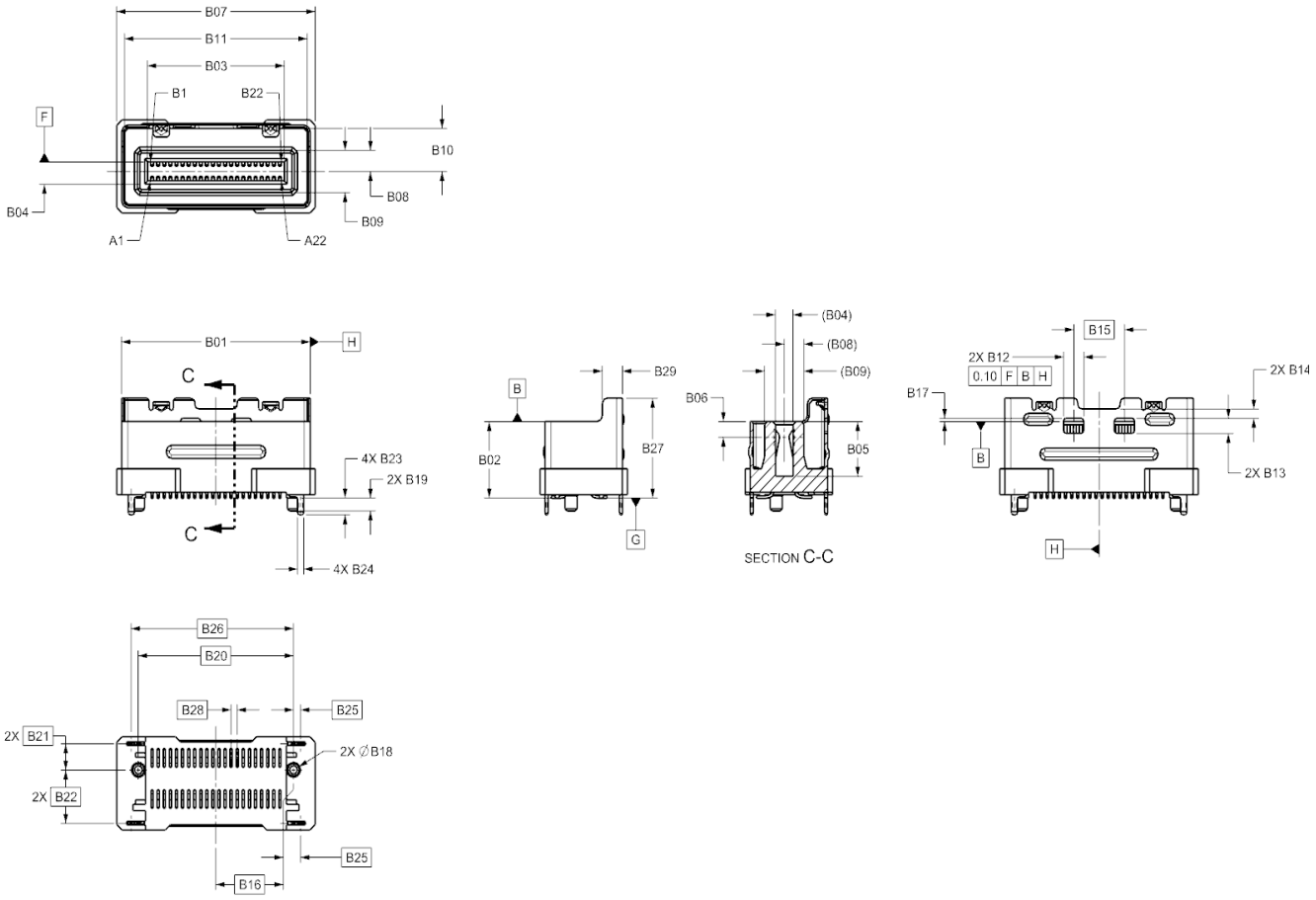


Figure 5-7 Vertical Connector with 44 Contacts

Table 5-5 Dimensions Table for Vertical Connector with 44 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
B01	Vertical Connector Width	18.70	MAX
B02	Datum B (Mating Face) Height from PCB	7.05	±0.20
B03	Interface Card Slot Width	13.48	±0.03
B04	Interface Card Slot Height	1.80	MAX
B05	Interface Card Slot Depth	5.05	REF
B06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
B07	Connector Length	19.58	REF
B08	Interface Card Slot Centerline to Housing Wall	1.94	±0.08
B09	Interface Card Slot Opening Width	3.88	±0.05
B10	Latch Shroud Inner Height	3.97	±0.08
B11	Latch Shroud Inner Width	18.00	±0.08
B12	Latch Slot Width	2.00	±0.10
B13	Latch Slot Length	1.40	+0.10/-0.00
B14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
B15	Latch Slots Spacing	5.00	Basic
B16	Right Peg Center to Datum H (Connector Centerline)	7.65	Basic

Designator	Description	Dimension (mm)	Tolerance +/-
B17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
B18	Peg Diameter	1.20	±0.05
B19	Peg Length	1.20	REF
B20	Right Peg Center to Left Peg Center	15.30	Basic
B21	Peg Centers to First Latch Shroud Solder Pin	2.42	Basic
B22	Peg Centers to Second Latch Shroud Solder Pin	4.92	Basic
B23	Latch Shroud Solder Pin Height	1.55	REF
B24	Latch Shroud Solder Pin Width	0.60	±0.05
B25	Right Peg Center to Right Latch Shroud Solder Pin	0.70	Basic
B26	Right Peg Center to Left Latch Shroud Solder Pin	16.00	Basic
B27	Vertical Connector Height	9.20	±0.30
B28	Contact Pitch	0.60	Basic
B29	Latch Shroud Extension Width at Side	2.00	±0.05

5.2.3 Vertical Connector with 74 Contacts

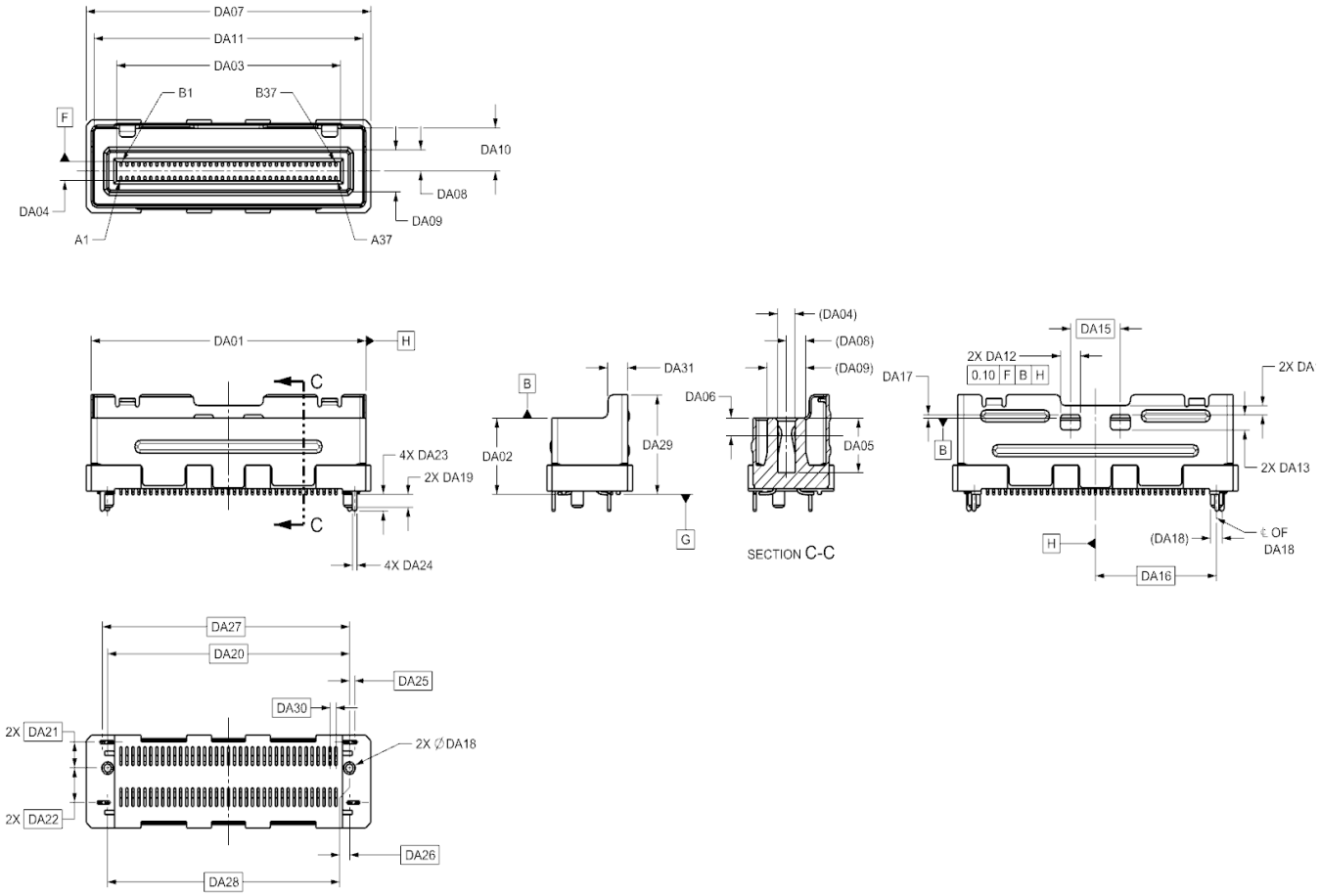


Figure 5-8 Vertical Connector with 74 Contacts

Table 5-6 Dimensions Table for Vertical Connector with 74 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
DA01	Vertical Connector Width	27.7	MAX
DA02	Datum B (Mating Face) Height from PCB	7.05	±0.20
DA03	Interface Card Slot Width	22.48	±0.03
DA04	Interface Card Slot Height	1.8	MAX
DA05	Interface Card Slot Depth	5.05	REF
DA06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
DA07	Connector Length	28.58	REF
DA08	Interface Card Slot Centerline to Housing Wall	1.94	±0.08
DA09	Interface Card Slot Opening Width	3.88	±0.05
DA10	Latch Shroud Inner Height	3.97	±0.08
DA11	Latch Shroud Inner Width	27	±0.08
DA12	Latch Slot Width	2	±0.10
DA13	Latch Slot Length	1.4	+0.10/-0.00
DA14	Latch Slots to Latch Shroud Leading Edge	0.85	REF
DA15	Latch Slots Spacing	5	Basic
DA16	Right Peg Center to Datum H (Connector Centerline)	12.15	Basic
DA17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.3	±0.10
DA18	Peg Diameter	1.2	±0.05
DA19	Peg Length	1.2	REF
DA20	Right Peg Center to Left Peg Center	24.3	Basic
DA21	Peg Centers to First Pair Latch Shroud Solder Pin Center	2.4	Basic
DA22	Peg Centers to Second Pair Latch Shroud Solder Pin Center	3.19	Basic
DA23	Latch Shroud Solder Pin Height	1.55	REF
DA24	Latch Shroud Solder Pin Width	0.45	±0.05
DA25	Right Peg Center to First Right Latch Shroud Solder Pin Center	0.525	Basic
DA26	Right Peg Center to Second Right Latch Shroud Solder Pin Center	0.025	Basic
DA27	Right Peg Center to First Left Latch Shroud Solder Pin Center	24.825	Basic
DA28	Right Peg Center to Second Left Latch Shroud Solder Pin Center	24.325	Basic
DA29	Vertical Connector Height	9.2	±0.30
DA30	Contact Pitch	0.6	Basic
DA31	Latch Slot Width	2	±0.1

5.2.4 Vertical Connector with 80 Contacts

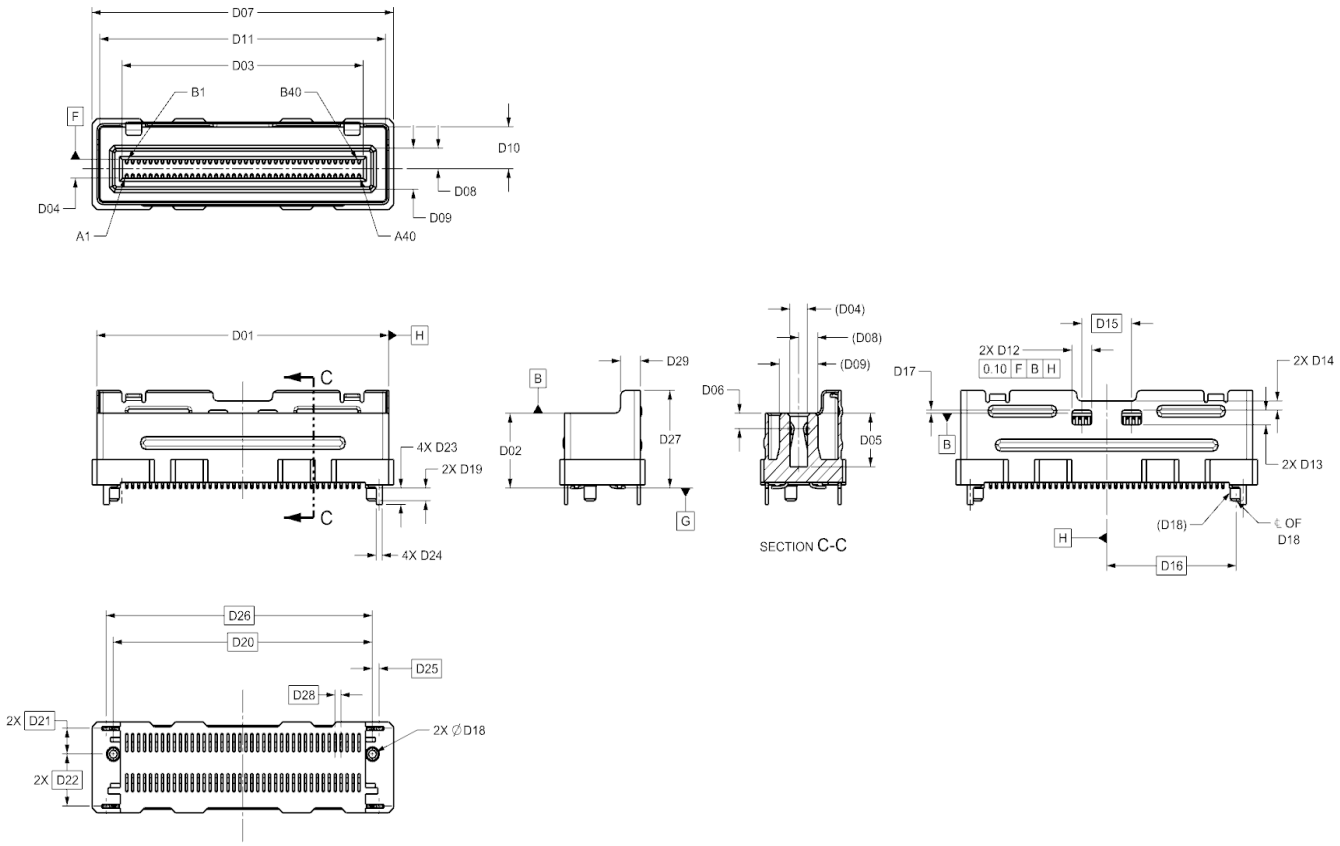


Figure 5-9 Vertical Connector with 80 Contacts

Table 5-7 Dimensions Table for Vertical Connector with 80 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
D01	Vertical Connector Width	29.50	MAX
D02	Datum B (Mating Face) Height from PCB	7.05	±0.20
D03	Interface Card Slot Width	24.28	±0.03
D04	Interface Card Slot Height	1.80	MAX
D05	Interface Card Slot Depth	5.05	REF
D06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
D07	Connector Length	30.38	REF
D08	Interface Card Slot Centerline to Housing Wall	1.94	±0.08
D09	Interface Card Slot Opening Width	3.88	±0.05
D10	Latch Shroud Inner Height	3.97	±0.08
D11	Latch Shroud Inner Width	28.80	±0.08
D12	Latch Slot Width	2.00	±0.10
D13	Latch Slot Length	1.40	+0.10/-0.00
D14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
D15	Latch Slots Spacing	5.00	Basic
D16	Right Peg Center to Datum H (Connector Centerline)	13.75	Basic
D17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
D18	Peg Diameter	1.20	±0.05

Designator	Description	Dimension (mm)	Tolerance +/-
D19	Peg Length	1.20	REF
D20	Right Peg Center to Left Peg Center	26.10	Basic
D21	Peg Centers to First Latch Shroud Solder Pin	2.42	Basic
D22	Peg Centers to Second Latch Shroud Solder Pin	4.92	Basic
D23	Latch Shroud Solder Pin Height	1.55	REF
D24	Latch Shroud Solder Pin Width	0.60	±0.05
D25	Right Peg Center to Right Latch Shroud Solder Pin	0.70	Basic
D26	Right Peg Center to Left Latch Shroud Solder Pin	26.80	Basic
D27	Vertical Connector Height	9.20	±0.30
D28	Contact Pitch	0.60	Basic
D29	Latch Shroud Extension Width at Side	2.00	±0.05

5.2.5 Vertical Connector with 124 Contacts

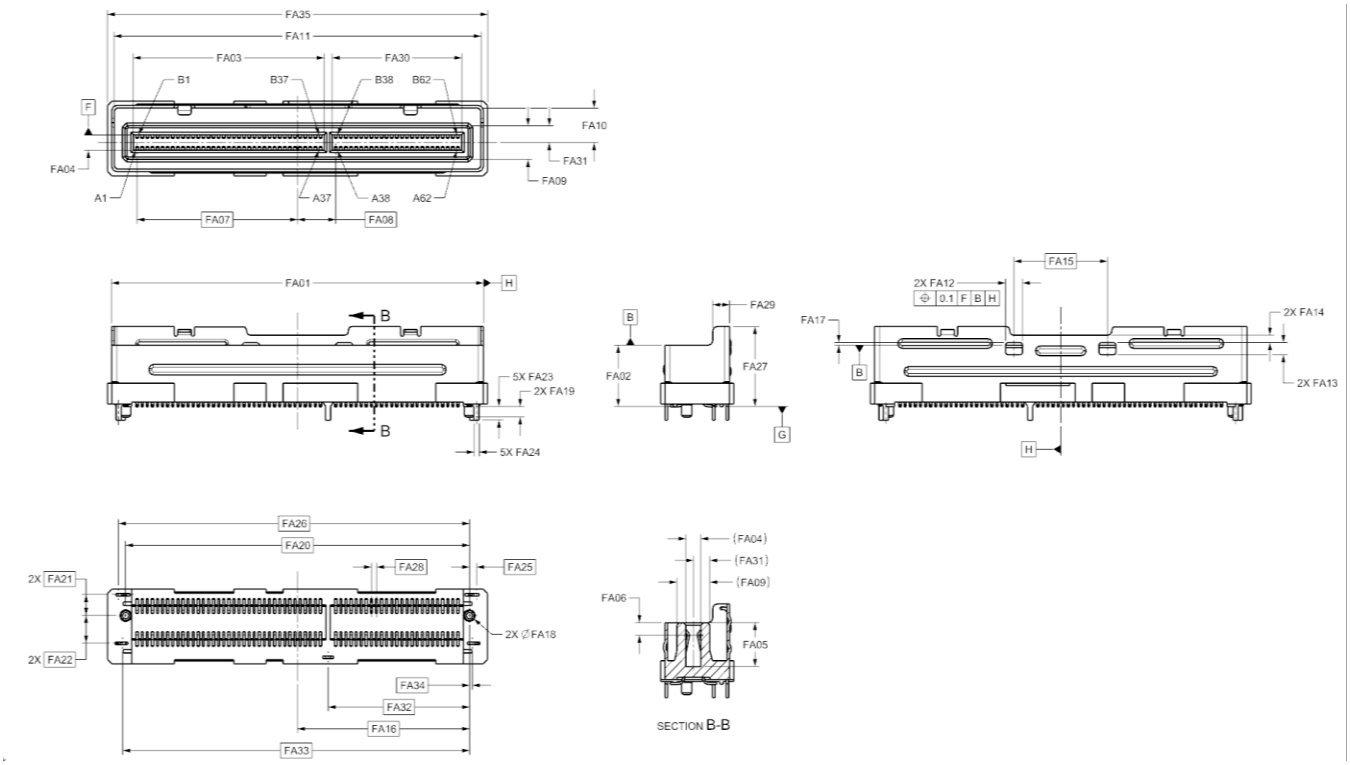


Figure 5-10 Vertical Connector with 124 Contacts

Table 5-8 Dimensions Table for Vertical Connector with 124 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
FA01	Vertical Connector Length	43.90	MAX
FA02	Datum B (Mating Face) Height from PCB	7.05	±0.20
FA03	Interface Card Slot Width	22.48	±0.03
FA04	Interface Card Slot Height	1.80	MAX

Designator	Description	Dimension (mm)	Tolerance +/-
FA05	Interface Card Slot Depth	5.05	REF
FA06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
FA07	Datum H (connector center) to pin A1/B1	18.90	Basic
FA08	Datum H (connector center) to pin A38/B38	4.50	Basic
FA09	Interface Card Slot Opening Width	3.88	±0.05
FA10	Latch Shroud Inner Height	3.97	±0.08
FA11	Latch Shroud Inner Width	43.20	±0.08
FA12	Latch Slot Width	2.00	±0.10
FA13	Latch Slot Length	1.40	REF
FA14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
FA15	Latch Slots Spacing	11.00	Basic
FA16	Right Peg Center to Datum H (Connector Centerline)	20.25	Basic
FA17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
FA18	Peg Diameter	1.20	±0.05
FA19	Peg Length	1.20	REF
FA20	Right Peg Center to Left Peg Center	40.50	Basic
FA21	Peg Centers to First Latch Shroud Solder Pin	2.40	Basic
FA22	Peg Centers to Second Latch Shroud Solder Pin	3.19	Basic
FA23	Latch Shroud Solder Pin Height	1.55	REF
FA24	Latch Shroud Solder Pin Width	0.60	±0.05
FA25	Right Peg Center to Right First Solder Pin	0.825	Basic
FA26	Right Peg Center to Left First Solder Pin	41.325	Basic
FA27	Vertical Connector Height	9.20	±0.30
FA28	Contact Pitch	0.60	Basic
FA29	Latch Shroud Extension Width at Side	2.00	±0.05
FA30	Interface Card Slot Width-1	15.28	±0.03
FA31	Interface Card Slot Centerline to Housing Wall	1.94	±0.08
FA32	Right Peg Center to Middle Latch Shroud Solder Pin	16.65	Basic
FA33	Right Peg Center to Left Second Latch Shroud Solder Pin	40.825	Basic
FA34	Right Peg Center to Right Second Latch Shroud Solder Pin	0.325	Basic

5.2.6 Vertical Connector with 130 Contacts

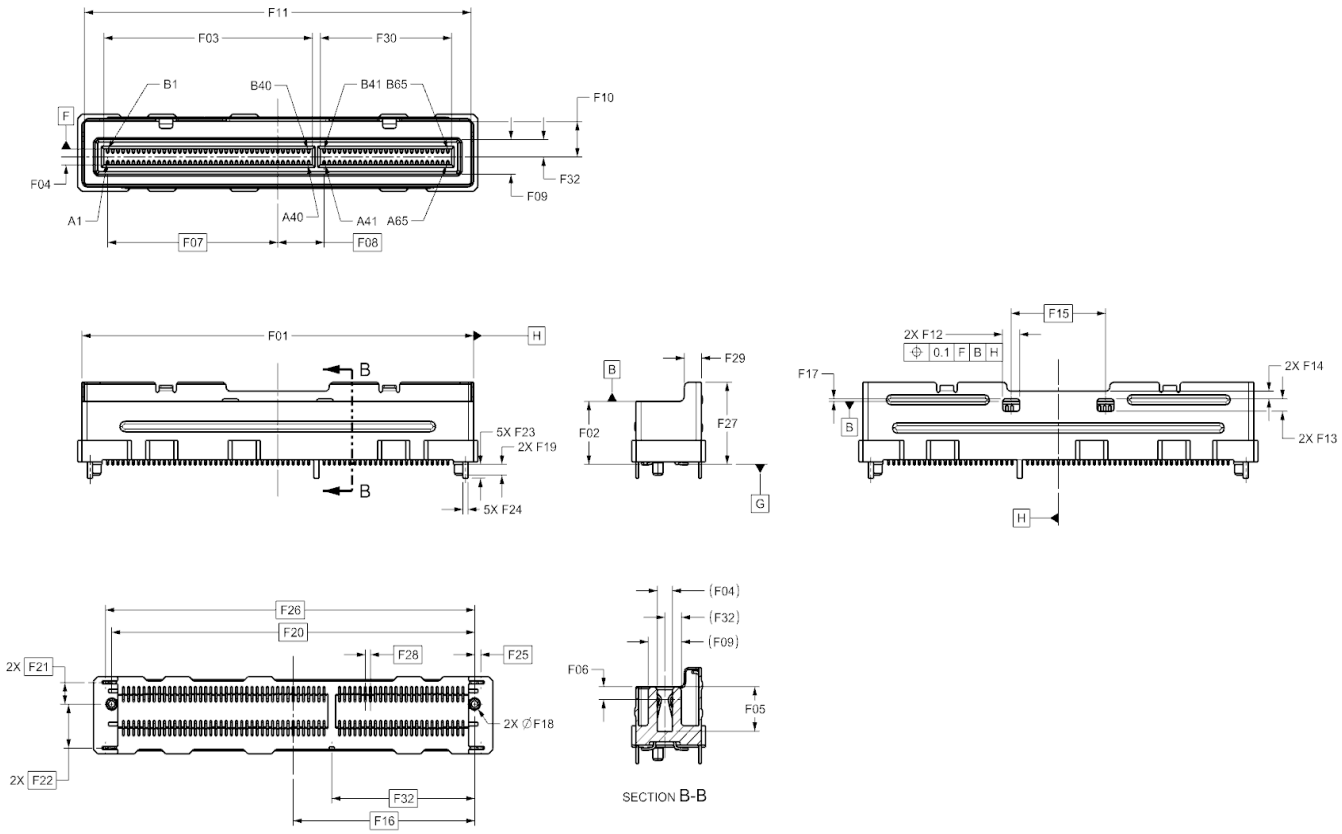


Figure 5-11 Vertical Connector with 130 Contacts

Table 5-9 Dimensions Table for Vertical Connector with 130 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
F01	Vertical Connector Length	45.70	MAX
F02	Datum B (Mating Face) Height from PCB	7.05	±0.20
F03	Interface Card Slot Width	24.28	±0.03
F04	Interface Card Slot Height	1.80	MAX
F05	Interface Card Slot Depth	5.05	REF
F06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
F07	Datum H (connector center) to pin A1/B1	19.80	Basic
F08	Datum H (connector center) to pin A41/B41	5.40	Basic
F09	Interface Card Slot Opening Width	3.88	±0.05
F10	Latch Shroud Inner Height	3.97	±0.08
F11	Latch Shroud Inner Width	45.00	±0.08
F12	Latch Slot Width	2.00	±0.10
F13	Latch Slot Length	1.40	+0.10/-0.00
F14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
F15	Latch Slots Spacing	11.00	Basic
F16	Right Peg Center to Datum H (Connector Centerline)	21.15	Basic
F17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
F18	Peg Diameter	1.20	±0.05

Designator	Description	Dimension (mm)	Tolerance +/-
F19	Peg Length	1.20	REF
F20	Right Peg Center to Left Peg Center	42.30	Basic
F21	Peg Centers to First Latch Shroud Solder Pin	2.42	Basic
F22	Peg Centers to Second Latch Shroud Solder Pin	4.92	Basic
F23	Latch Shroud Solder Pin Height	1.55	REF
F24	Latch Shroud Solder Pin Width	0.60	±0.05
F25	Right Peg Center to Right Latch Shroud Solder Pin	0.70	Basic
F26	Right Peg Center to Left Latch Shroud Solder Pin	43.00	Basic
F27	Vertical Connector Height	9.20	±0.30
F28	Contact Pitch	0.60	Basic
F29	Latch Shroud Extension Width at Side	2.00	±0.05
F30	Interface Card Slot Width-1	15.28	±0.03
F31	Connector Length	46.58	REF.
F32	Interface Card Slot Centerline to Housing Wall	1.94	±0.08

5.2.7 Vertical Connector with 148 Contacts

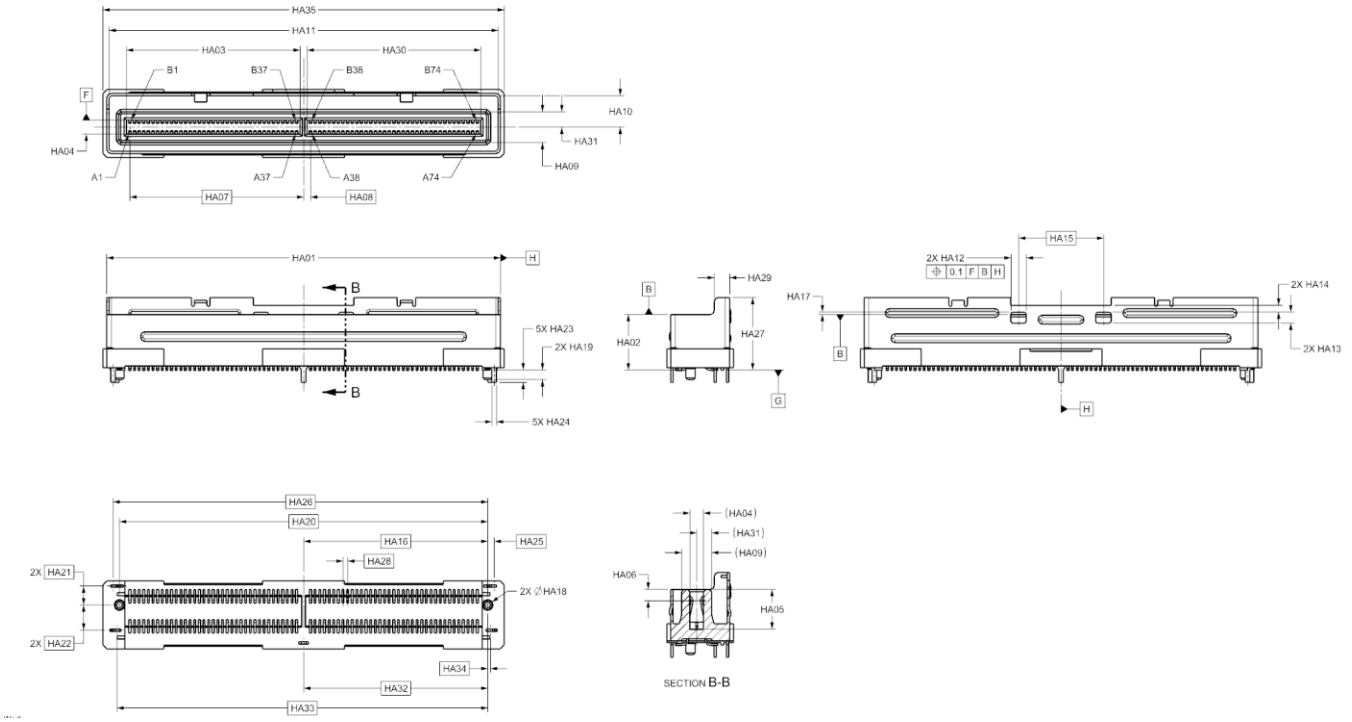


Figure 5-12 Vertical Connector with 148 Contacts

Table 5-10 Dimensions Table for Vertical Connector with 148 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
HA01	Vertical Connector Length	51.10	MAX
HA02	Datum B (Mating Face) Height from PCB	7.05	±0.20

Designator	Description	Dimension (mm)	Tolerance +/-
HA03	Interface Card Slot Width	22.48	±0.03
HA04	Interface Card Slot Height	1.80	MAX
HA05	Interface Card Slot Depth	5.05	REF
HA06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
HA07	Datum H (connector center) to pin A1/B1	22.50	Basic
HA08	Datum H (connector center) to pin A38/B38	0.90	Basic
HA09	Interface Card Slot Opening Width	3.88	±0.05
HA10	Latch Shroud Inner Height	3.97	±0.08
HA11	Latch Shroud Inner Width	50.40	±0.08
HA12	Latch Slot Width	2.00	±0.10
HA13	Latch Slot Length	1.40	+0.10/-0.00
HA14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
HA15	Latch Slots Spacing	11.00	Basic
HA16	Right Peg Center to Datum H (Connector Centerline)	23.85	Basic
HA17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
HA18	Peg Diameter	1.20	±0.05
HA19	Peg Length	1.20	REF
HA20	Right Peg Center to Left Peg Center	47.70	Basic
HA21	Peg Centers to First Latch Shroud Solder Pin	2.40	Basic
HA22	Peg Centers to Second Latch Shroud Solder Pin	3.19	Basic
HA23	Latch Shroud Solder Pin Height	1.55	REF
HA24	Latch Shroud Solder Pin Width	0.60	±0.05
HA25	Right Peg Center to Right First Solder Pin	0.825	Basic
HA26	Right Peg Center to Left First Solder Pin	48.525	Basic
HA27	Vertical Connector Height	9.20	±0.30
HA28	Contact Pitch	0.60	Basic
HA29	Latch Shroud Extension Width at Side	2.00	±0.05
HA30	Interface Card Slot Width-1	22.48	±0.03
HA31	Interface Card Slot Centerline to Housing Wall	1.94	±0.08
HA32	Right Peg Center to Middle Latch Shroud Solder Pin	23.85	Basic
HA33	Right Peg Center to Left Latch Shroud Second Solder Pin	48.025	Basic
HA34	Right Peg Center to Right Latch Shroud Second Solder Pin	0.325	Basic

5.2.8 Vertical Connector with 154 Contacts

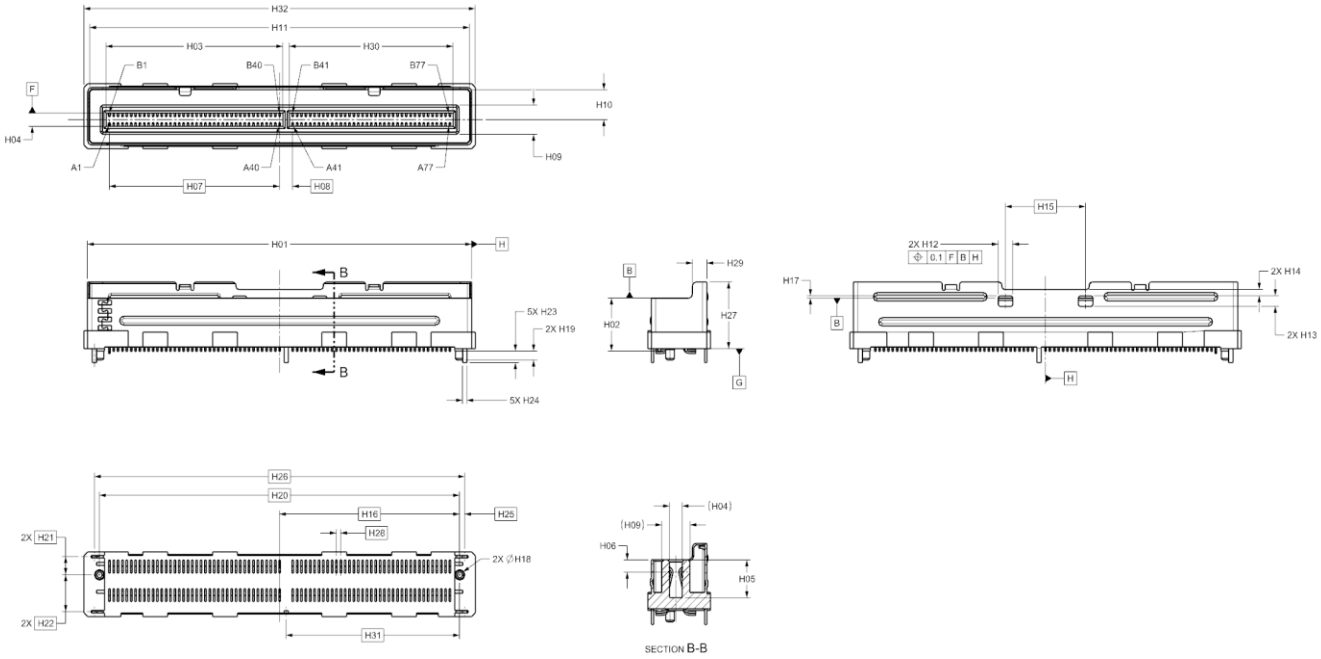


Figure 5-13 Vertical Connector with 154 Contacts

Table 5-11 Dimensions Table for Vertical Connector with 154 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
H01	Vertical Connector Length	52.90	MAX
H02	Datum B (Mating Face) Height from PCB	7.05	±0.20
H03	Interface Card Slot Width	24.28	±0.03
H04	Interface Card Slot Height	1.80	MAX
H05	Interface Card Slot Depth	5.05	REF
H06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
H07	Datum H (connector center) to pin A1/B1	23.40	Basic
H08	Datum H (connector center) to pin A41/B41	1.80	Basic
H09	Interface Card Slot Opening Width	3.88	±0.05
H10	Latch Shroud Inner Height	3.97	±0.08
H11	Latch Shroud Inner Width	52.20	±0.08
H12	Latch Slot Width	2.00	±0.10
H13	Latch Slot Length	1.40	+0.10/-0.00
H14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
H15	Latch Slots Spacing	11.00	Basic
H16	Right Peg Center to Datum H (Connector Centerline)	24.75	Basic
H17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
H18	Peg Diameter	1.20	±0.05
H19	Peg Length	1.20	REF
H20	Right Peg Center to Left Peg Center	49.50	Basic
H21	Peg Centers to First Latch Shroud Solder Pin	2.42	Basic
H22	Peg Centers to Second Latch Shroud Solder Pin	4.92	Basic

Designator	Description	Dimension (mm)	Tolerance +/-
H23	Latch Shroud Solder Pin Height	1.55	REF
H24	Latch Shroud Solder Pin Width	0.60	±0.05
H25	Right Peg Center to Right Latch Shroud Solder Pin	0.70	Basic
H26	Right Peg Center to Left Latch Shroud Solder Pin	50.20	Basic
H27	Vertical Connector Height	9.20	±0.30
H28	Contact Pitch	0.60	Basic
H29	Latch Shroud Extension Width at Side	2.00	±0.05
H30	Interface Card Slot Width-1	22.48	±0.03
H31	Right Peg Center to Middle Latch Shroud Solder Pin	23.85	Basic
H32	Connector Length	53.78	REF.

5.2.9 Vertical Connector with 38 Contacts – Style B

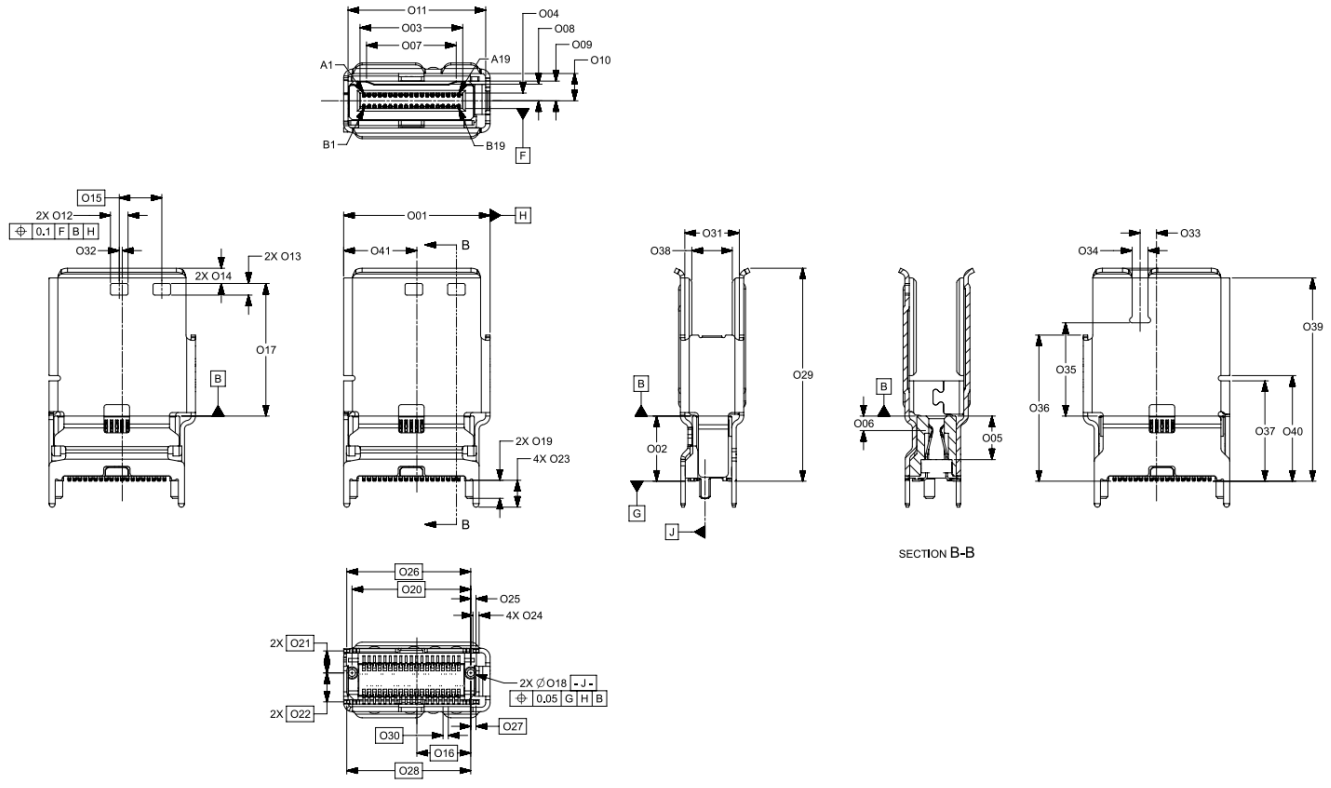


Figure 5-14 38-Pin Style B Connector Receptacle Dimensions

Table 5-12 Dimensions Table for 38-Pin Style B Connector Receptacle

Designator	Description	Dimension (mm)	Tolerance +/-
O01	Vertical Connector Width	16.65	Max
O02	Datum B (Mating Face) Height from PCB	7.40	±0.20
O03	Interface Card Slot Width	11.68	±0.03

Designator	Description	Dimension (mm)	Tolerance +/-
O04	Interface Card Slot Height	1.76	Max
O05	Interface Card Slot Depth	4.95	Min
O06	Datum B (Mating Face) to Contact Point Centerline	1.65	±0.10
O07	Latch Shroud Room	10.20	Min
O08	Interface Card Slot Centerline to Housing Wall	1.89	±0.08
O09	Interface Card Slot Centerline to Housing Wall	2.24	±0.08
O10	Latch Shroud Inner Height	3.10	±0.08
O11	Latch Shroud Inner Width	15.65	±0.08
O12	Latch Slot Width	2.00	REF
O13	Latch Slot Length	1.32	+0.10/-0.00
O14	Latch Slots to Latch Shroud Leading Edge	1.73	±0.05
O15	Latch Slots Spacing	4.84	Basic
O16	Datum J (Peg Center) to Datum H (Connector Centerline)	6.12	Basic
O17	Datum B (Mating Face) to Leading Edge of Latch Slots	15.07	±0.10
O18	Peg Diameter	1.20	±0.05
O19	Peg Length	2.05	REF
O20	Datum J (Peg Center) to Other Peg Center	13.50	Basic
O21	Datum J (Peg Center) to First Latch Shroud Solder Pin	2.50	Basic
O22	Datum J (Peg Center) to Second Latch Shroud Solder Pin	3.29	Basic
O23	Latch Shroud Solder Pin Height	3.05	REF
O24	Latch Shroud Solder Pin Width	0.70	±0.05
O25	Datum J (Peg Center) to Right Solder Pin	0.60	Basic
O26	Datum J (Peg Center) to Left Solder Pin	14.10	Basic
O27	Datum J (Peg Center) to Right Solder Pin	0.60	Basic
O28	Datum J (Peg Center) to Left Solder Pin	14.10	Basic
O29	Vertical Connector Height	24.20	±0.1
O30	Contact Pitch	0.60	Basic
O31	Latch Shroud Extension Width	6.20	±0.05
O32	Datum H (Center of Connector Width) to latch window center	0.34	±0.1
O33	Datum H (Center of Connector Width) to leading slot center	1.86	±0.1
O34	Leading slot width	1.80	±0.05
O35	Datum B to leading slot bottom	10.60	±0.1
O36	Back shround height	16.60	REF
O37	Front shround height	11.40	REF
O38	Front leading width	4.60	±0.05
O39	Front leading height (Start)	23.10	REF
O40	Front leading height (End)	12.00	REF
O41	Datum H (Center of Connector Width) to front leading edge	8.32	±0.05

5.3 Mechanical Description: Right Angle Connector

5.3.1 Right Angle Connector with 44 Contacts

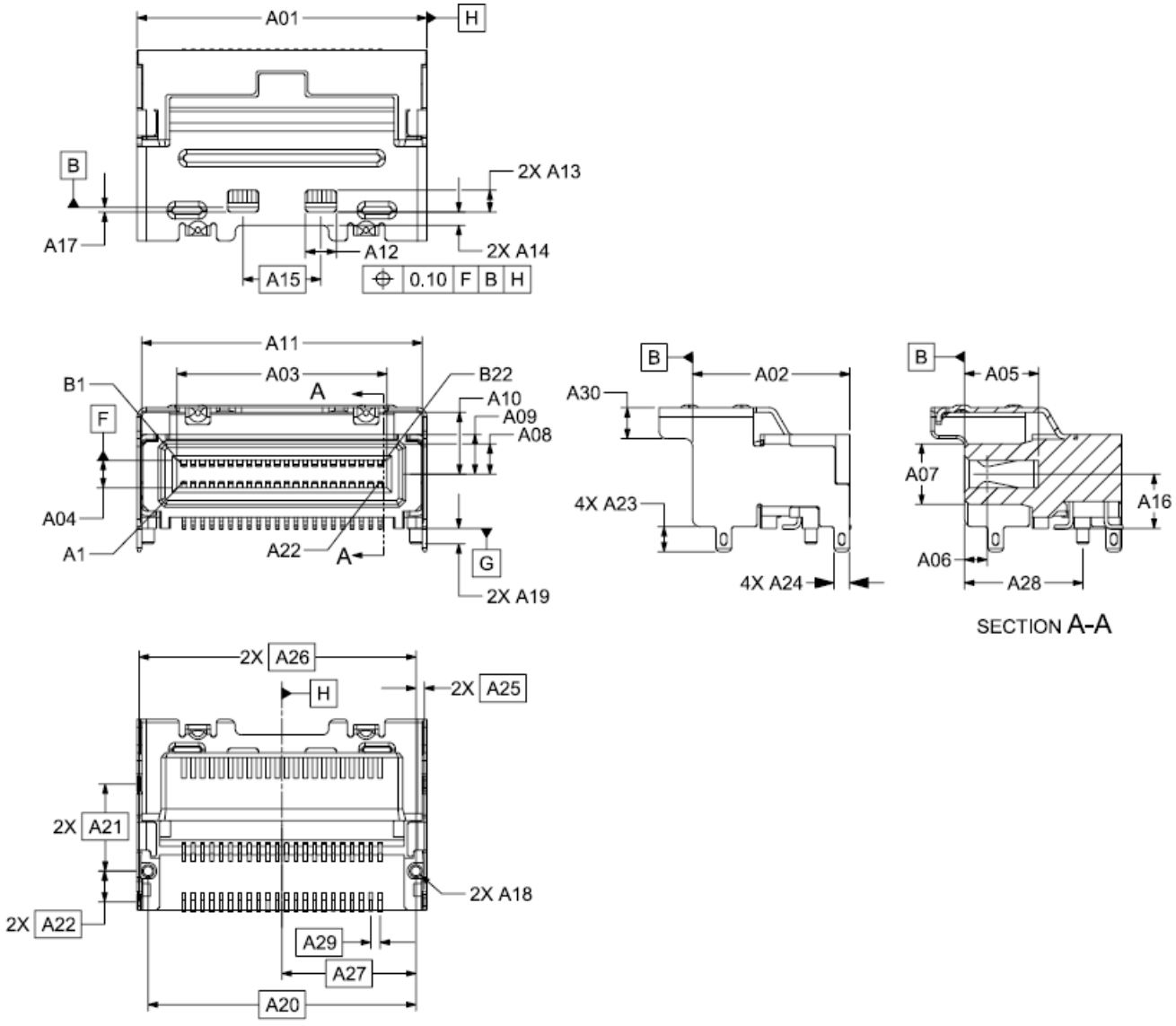


Figure 5-15 Right-Angle Connector with 44 Contacts

Table 5-13 Dimensions Table for Right-Angle Connector with 44 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
A01	Right Angle Connector Width	18.70	MAX
A02	Right Angle Connector Length	10.10	±0.20
A03	Interface Card Slot Width	13.48	±0.03
A04	Interface Card Slot Height	1.80	MAX
A05	Interface Card Slot Depth	4.70	MIN

Designator	Description	Dimension (mm)	Tolerance +/-
A06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
A07	Interface Card Slot Opening Width	3.88	±0.05
A08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
A09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
A10	Latch Shroud Inner Height	3.97	±0.08
A11	Latch Shroud Inner Width	18.00	±0.08
A12	Latch Slot Width	2.00	±0.10
A13	Latch Slot Length	1.40	+0.10/-0.00
A14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
A15	Latch Slot Spacing	5.00	Basic
A16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
A17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
A18	Peg Diameter	0.80	±0.05
A19	Peg Length	1.00	REF
A20	Right Peg Center to Left Peg Center	17.20	Basic
A21	Right Peg Center to First Latch Shroud Solder Pin	5.60	Basic
A22	Right Peg Center to Second Latch Shroud Solder Pin	1.98	Basic
A23	Latch Shroud Solder Pin Height	1.60	REF
A24	Latch Shroud Solder Pin Width	1.00	±0.05
A25	Right Peg Center to Right Solder Pins	0.55	Basic
A26	Right Peg Center to Left Solder Pins	17.75	Basic
A27	Right Peg Center to Datum H (Connector Centerline)	8.60	Basic
A28	Datum B (Mating Face) to Right Peg Center)	7.60	±0.05
A29	Contact Pitch	0.60	Basic
A30	Latch Shroud Extension Height at opening	2.00	±0.05

5.3.2 Right Angle Connector with 74 Contacts

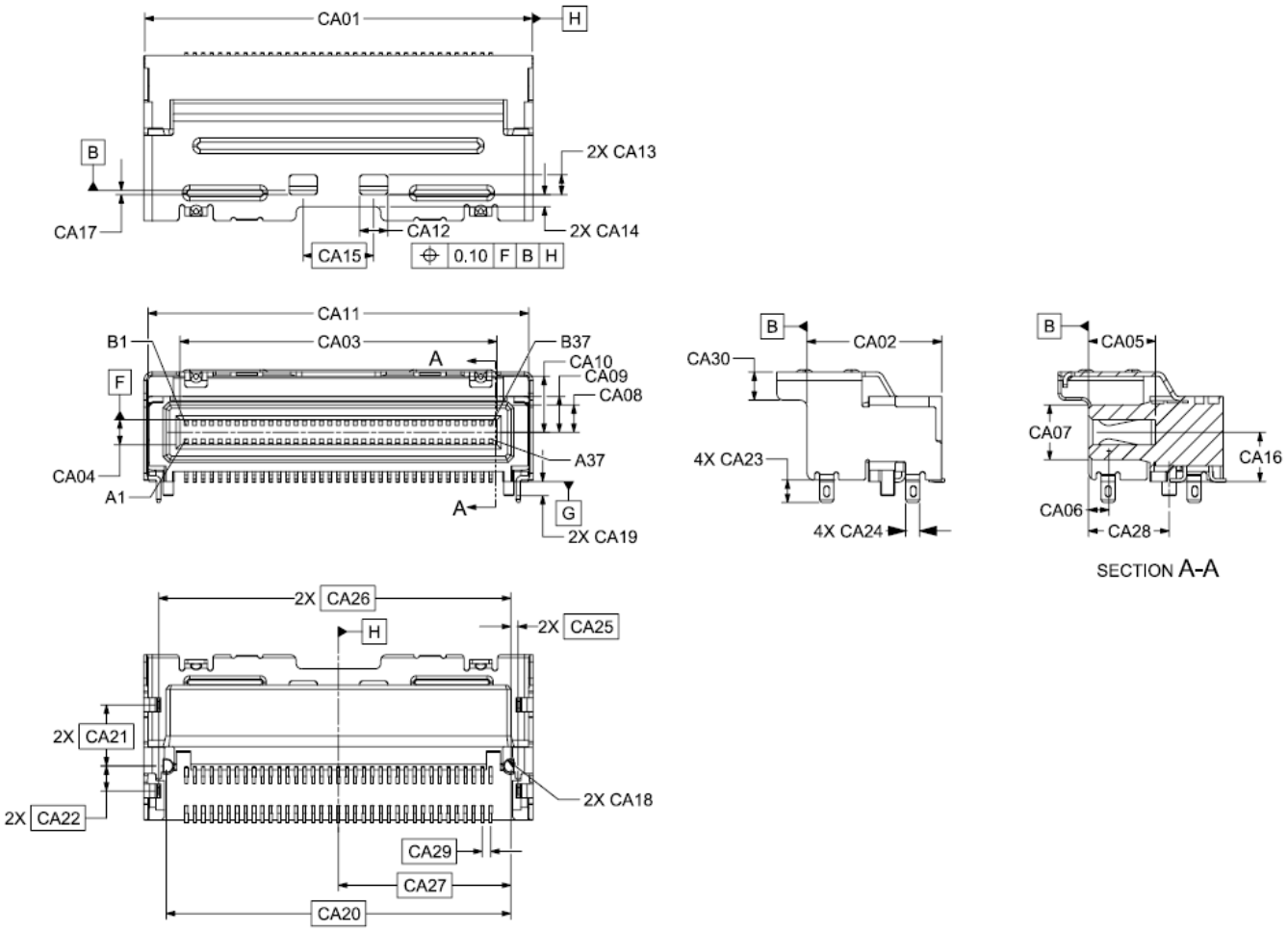


Figure 5-16 Right-Angle Connector with 74 Contacts

Table 5-14 Right-Angle Connector with 74 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
CA01	Right Angle Connector Width	27.70	MAX
CA02	Right Angle Connector Length	9.55	±0.20
CA03	Interface Card Slot Width	22.48	±0.03
CA04	Interface Card Slot Height	1.80	MAX
CA05	Interface Card Slot Depth	4.70	MIN
CA06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
CA07	Interface Card Slot Opening Width	3.88	±0.05
CA08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
CA09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
CA10	Latch Shroud Inner Height	3.97	±0.08
CA11	Latch Shroud Inner Width	27.00	±0.08
CA12	Latch Slot Width	2.00	±0.10

Designator	Description	Dimension (mm)	Tolerance +/-
CA13	Latch Slot Length	1.40	+0.10/-0.00
CA14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
CA15	Latch Slot Spacing	5.00	Basic
CA16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
CA17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
CA18	Peg Diameter	1.00	±0.05
CA19	Peg Length	1.00	REF
CA20	Right Peg Center to Left Peg Center	24.445	Basic
CA21	Right Peg Center to First Latch Shroud Solder Pin	4.325	Basic
CA22	Right Peg Center to Second Latch Shroud Solder Pin	1.775	Basic
CA23	Latch Shroud Solder Pin Height	1.60	REF
CA24	Latch Shroud Solder Pin Width	1.00	±0.05
CA25	Right Peg Center to Right Solder Pins	0.53	Basic
CA26	Right Peg Center to Left Solder Pins	24.98	Basic
CA27	Right Peg Center to Datum H (Connector Centerline)	12.22	Basic
CA28	Datum B (Mating Face) to Right Peg Center)	5.72	±0.05
CA29	Contact Pitch	0.60	Basic
CA30	Latch Shroud Extension Height at opening	2.00	±0.05

5.3.3 Right Angle Connector with 80 Contacts

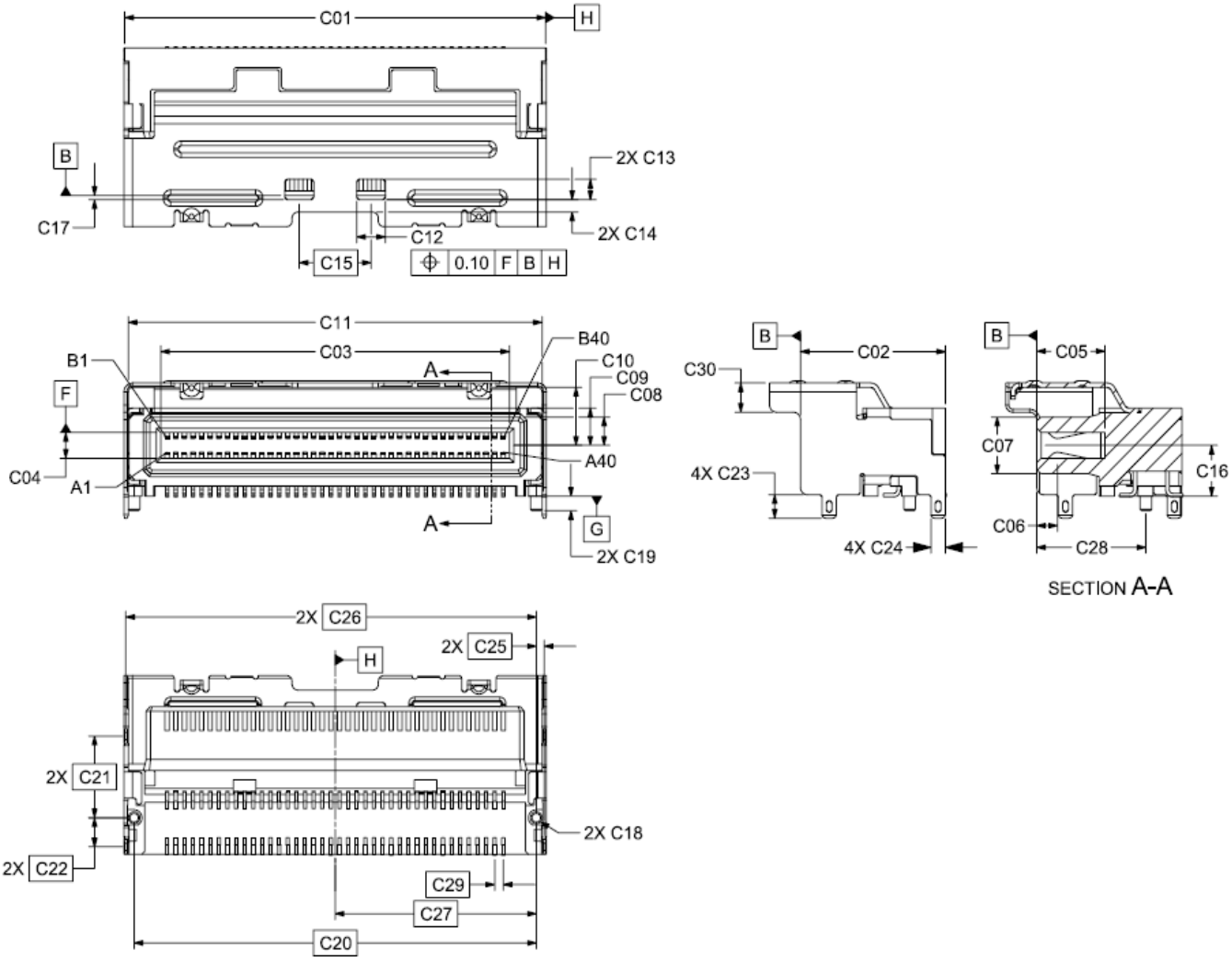


Figure 5-17 Right-Angle Connector with 80 Contacts

Table 5-15 Dimensions Table for Right-Angle Connector with 80 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
C01	Right Angle Connector Width	29.50	MAX
C02	Right Angle Connector Length	10.10	±0.20
C03	Interface Card Slot Width	24.28	±0.03
C04	Interface Card Slot Height	1.80	MAX
C05	Interface Card Slot Depth	4.70	MIN
C06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
C07	Interface Card Slot Opening Width	3.88	±0.05
C08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
C09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
C10	Latch Shroud Inner Height	3.97	±0.08
C11	Latch Shroud Inner Width	28.80	±0.08
C12	Latch Slot Width	2.00	±0.10

Designator	Description	Dimension (mm)	Tolerance +/-
C13	Latch Slot Length	1.40	+0.10/-0.00
C14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
C15	Latch Slot Spacing	5.00	Basic
C16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
C17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
C18	Peg Diameter	0.80	±0.05
C19	Peg Length	1.00	REF
C20	Right Peg Center to Left Peg Center	28.00	Basic
C21	Right Peg Center to First Latch Shroud Solder Pin	5.60	Basic
C22	Right Peg Center to Second Latch Shroud Solder Pin	1.98	Basic
C23	Latch Shroud Solder Pin Height	1.60	REF
C24	Latch Shroud Solder Pin Width	1.00	±0.05
C25	Right Peg Center to Right Solder Pins	0.55	Basic
C26	Right Peg Center to Left Solder Pins	28.55	Basic
C27	Right Peg Center to Datum H (Connector Centerline)	14.00	Basic
C28	Datum B (Mating Face) to Right Peg Center)	7.60	±0.05
C29	Contact Pitch	0.60	Basic
C30	Latch Shroud Extension Height at opening	2.00	±0.05

5.3.4 Right Angle Connector with 124 Contacts

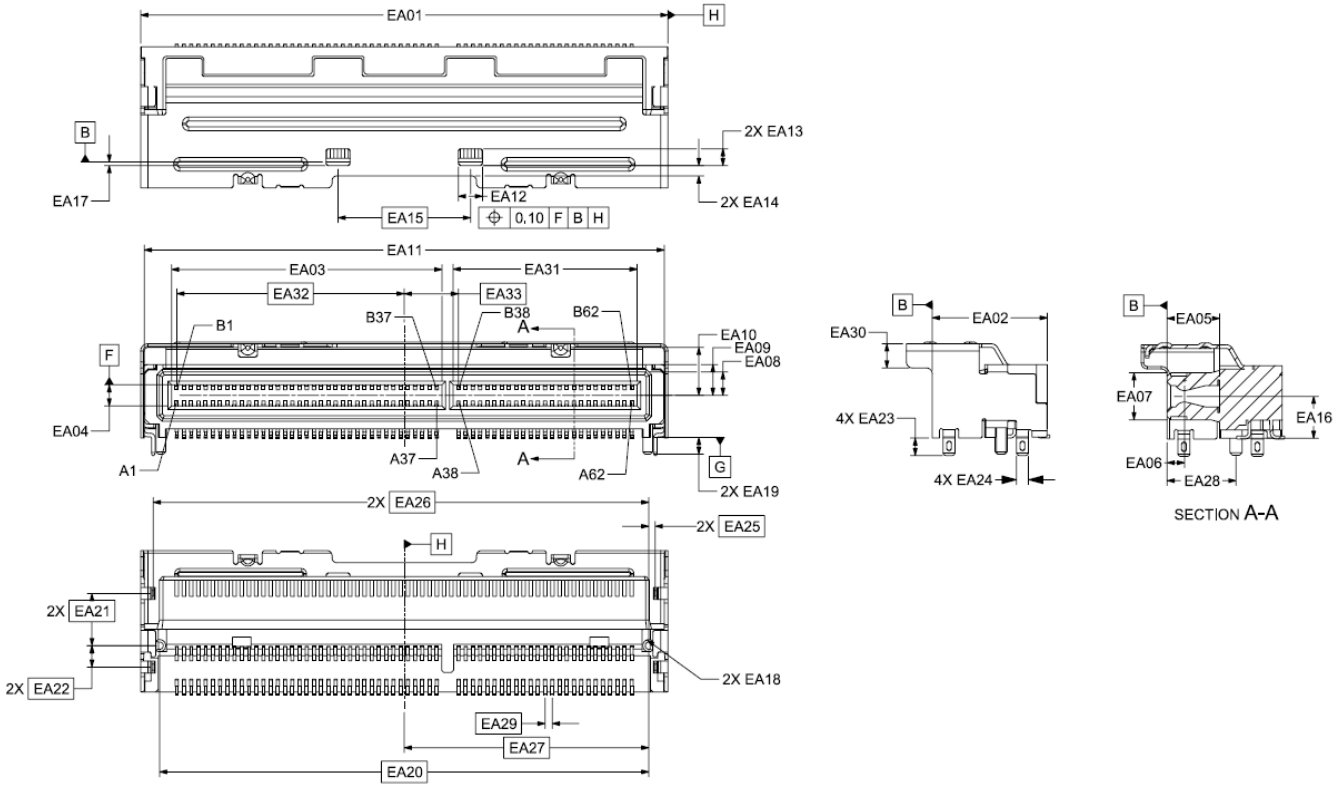


Figure 5-18 Right-Angle Connector with 124 Contacts

Table 5-16 Dimensions Table for Right-Angle Connector with 124 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
EA01	Right Angle Connector Width	43.90	MAX
EA02	Right Angle Connector Length	9.55	±0.20
EA03	Interface Card Slot Width	22.48	±0.03
EA04	Interface Card Slot Height	1.80	MAX
EA05	Interface Card Slot Depth	4.70	MIN
EA06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
EA07	Interface Card Slot Opening Width	3.88	±0.05
EA08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
EA09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
EA10	Latch Shroud Inner Height	3.97	±0.08
EA11	Latch Shroud Inner Width	43.20	±0.08
EA12	Latch Slot Width	2.00	±0.10
EA13	Latch Slot Length	1.40	REF
EA14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
EA15	Latch Slot Spacing	11.00	Basic
EA16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
EA17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
EA18	Peg Diameter	1.00	±0.05
EA19	Peg Length	1.40	REF
EA20	Right Peg Center to Left Peg Center	40.645	Basic
EA21	Right Peg Center to First Latch Shroud Solder Pin	4.325	Basic

Designator	Description	Dimension (mm)	Tolerance +/-
EA22	Right Peg Center to Second Latch Shroud Solder Pin	1.775	Basic
EA23	Latch Shroud Solder Pin Height	1.45	REF
EA24	Latch Shroud Solder Pin Width	1.00	±0.05
EA25	Right Peg Center to Right Solder Pins	0.53	Basic
EA26	Right Peg Center to Left Solder Pins	41.17	Basic
EA27	Right Peg Center to Datum H (Connector Centerline)	20.32	Basic
EA28	Datum B (Mating Face) to Right Peg Center)	5.72	±0.05
EA29	Contact Pitch	0.60	Basic
EA30	Latch Shroud Extension Height at opening	2.00	±0.05
EA31	Interface Card Slot Width-1	15.28	±0.03
EA32	DATUM H TO PIN A1/B1	18.90	Basic
EA33	DATUM H TO PIN A41/B41	4.50	Basic

5.3.5 Right Angle Connector with 130 Contacts

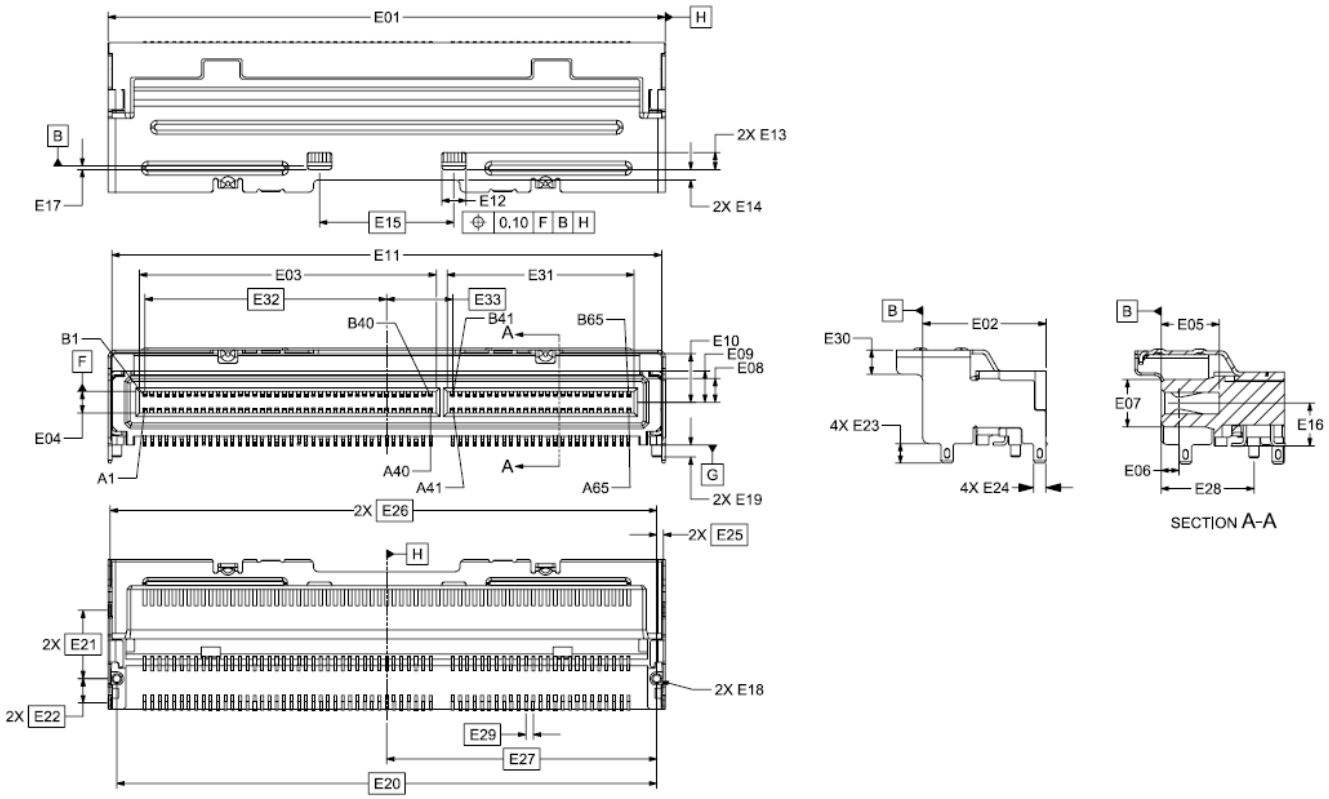


Figure 5-19 Right-Angle Connector with 130 Contacts

Table 5-17 Dimensions Table for Right-Angle Connector with 130 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
E01	Right Angle Connector Width	45.70	MAX
E02	Right Angle Connector Length	10.10	±0.20
E03	Interface Card Slot Width	24.28	±0.03

Designator	Description	Dimension (mm)	Tolerance +/-
E04	Interface Card Slot Height	1.80	MAX
E05	Interface Card Slot Depth	4.70	MIN
E06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
E07	Interface Card Slot Opening Width	3.88	±0.05
E08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
E09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
E10	Latch Shroud Inner Height	3.97	±0.08
E11	Latch Shroud Inner Width	45.00	±0.08
E12	Latch Slot Width	2.00	±0.10
E13	Latch Slot Length	1.40	+0.10/-0.00
E14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
E15	Latch Slot Spacing	11.00	Basic
E16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
E17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
E18	Peg Diameter	0.80	±0.05
E19	Peg Length	1.00	REF
E20	Right Peg Center to Left Peg Center	44.20	Basic
E21	Right Peg Center to First Latch Shroud Solder Pin	5.60	Basic
E22	Right Peg Center to Second Latch Shroud Solder Pin	1.98	Basic
E23	Latch Shroud Solder Pin Height	1.60	REF
E24	Latch Shroud Solder Pin Width	1.00	±0.05
E25	Right Peg Center to Right Solder Pins	0.55	Basic
E26	Right Peg Center to Left Solder Pins	44.75	Basic
E27	Right Peg Center to Datum H (Connector Centerline)	22.10	Basic
E28	Datum B (Mating Face) to Right Peg Center)	7.60	±0.05
E29	Contact Pitch	0.60	Basic
E30	Latch Shroud Extension Height at opening	2.00	±0.05
E31	Interface Card Slot Width-1	15.28	±0.03
E32	DATUM H TO PIN A1/B1	19.80	Basic
E33	DATUM H TO PIN A41/B41	5.40	Basic

5.3.6 Right Angle Connector with 148 Contacts

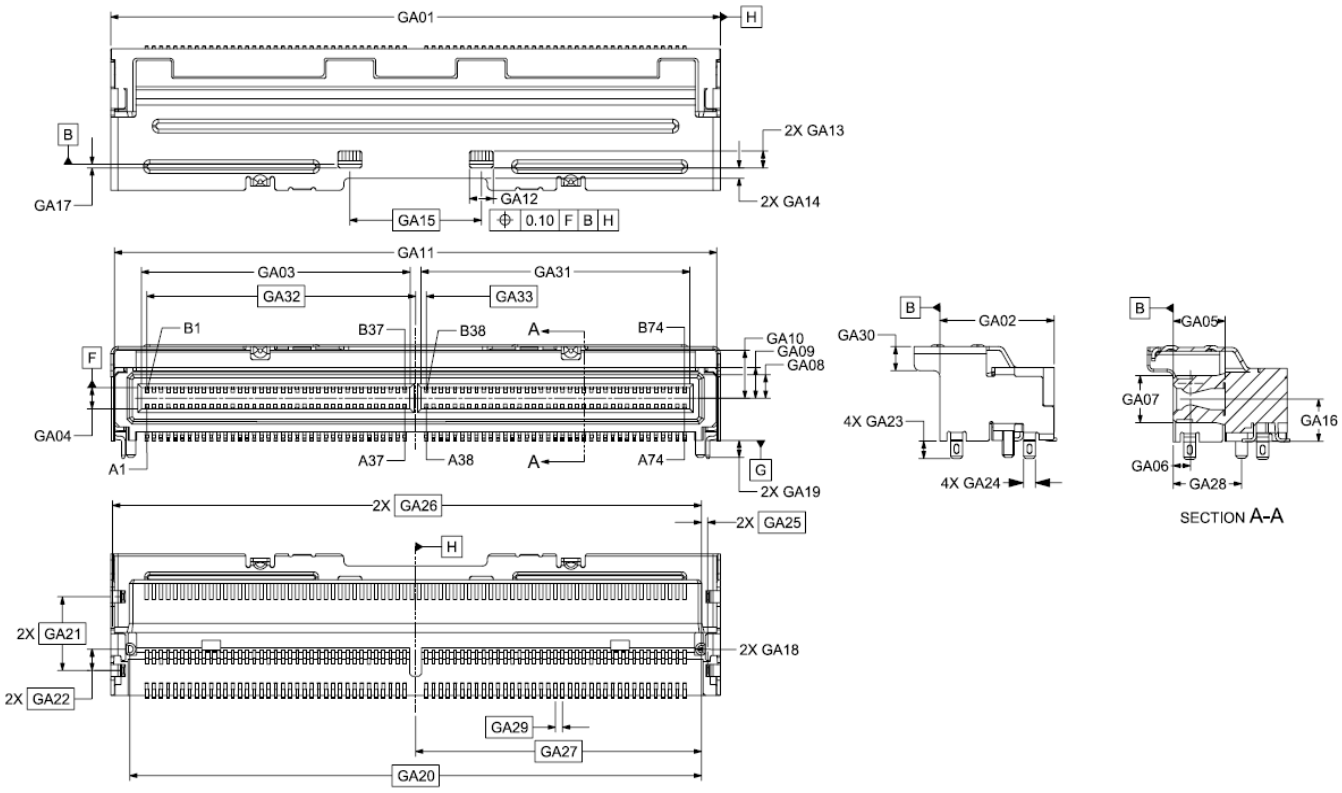


Figure 5-20 Right-Angle Connector with 148 Contacts

Table 5-18 Dimensions Table for Right-Angle Connector with 148 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
GA01	Right Angle Connector Width	51.10	MAX
GA02	Right Angle Connector Length	9.55	±0.20
GA03	Interface Card Slot Width	22.48	±0.03
GA04	Interface Card Slot Height	1.80	MAX
GA05	Interface Card Slot Depth	4.70	MIN
GA06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
GA07	Interface Card Slot Opening Width	3.88	±0.05
GA08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
GA09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
GA10	Latch Shroud Inner Height	3.97	±0.08
GA11	Latch Shroud Inner Width	50.40	±0.08
GA12	Latch Slot Width	2.00	±0.10
GA13	Latch Slot Length	1.40	REF
GA14	Latch Slots to Latch Shroud LGAding Edge	0.85	±0.05
GA15	Latch Slot Spacing	11.00	Basic
GA16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
GA17	Datum B (Mating Face) to LGAding Edge of Latch Slots	0.30	±0.10
GA18	Peg Diameter	1.00	±0.05
GA19	Peg Length	1.40	REF
GA20	Right Peg Center to Left Peg Center	47.845	Basic
GA21	Right Peg Center to First Latch Shroud Solder Pin	4.325	Basic

Designator	Description	Dimension (mm)	Tolerance +/-
GA22	Right Peg Center to Second Latch Shroud Solder Pin	1.775	Basic
GA23	Latch Shroud Solder Pin Height	1.45	REF
GA24	Latch Shroud Solder Pin Width	1.00	±0.05
GA25	Right Peg Center to Right Solder Pins	0.53	Basic
GA26	Right Peg Center to Left Solder Pins	48.37	Basic
GA27	Right Peg Center to Datum H (Connector Centerline)	23.92	Basic
GA28	Datum B (Mating Face) to Right Peg Center)	5.72	±0.05
GA29	Contact Pitch	0.60	Basic
GA30	Latch Shroud Extension Height at opening	2.00	±0.05
GA31	Interface Card Slot Width-1	22.48	±0.03
GA32	DATUM H TO PIN A1/B1	22.50	Basic
GA33	DATUM H TO PIN A41/B41	0.90	Basic

5.3.7 Right Angle Connector with 154 Contacts

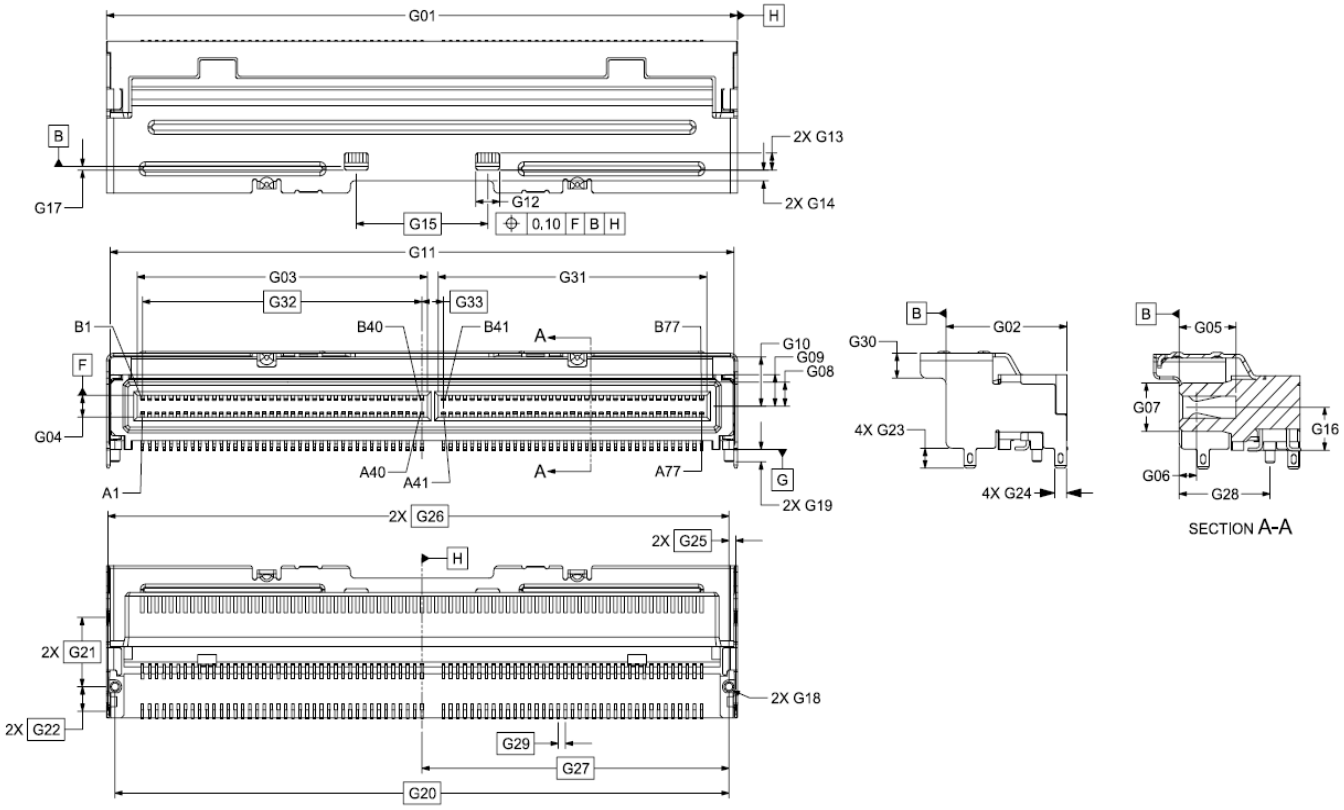


Figure 5-21 Right-Angle Connector with 154 Contacts

Table 5-19 Dimensions Table for Right-Angle Connector with 154 Contacts

Designator	Description	Dimension (mm)	Tolerance +/-
G01	Right Angle Connector Width	52.90	MAX
G02	Right Angle Connector Length	10.10	±0.20
G03	Interface Card Slot Width	24.28	±0.03

Designator	Description	Dimension (mm)	Tolerance +/-
G04	Interface Card Slot Height	1.80	MAX
G05	Interface Card Slot Depth	4.70	MIN
G06	Datum B (Mating Face) to Contact Point Centerline	1.45	±0.10
G07	Interface Card Slot Opening Width	3.88	±0.05
G08	Interface Card Slot Centerline to Housing Wall	1.94	±0.03
G09	Interface Card Slot Centerline to Housing Wall	2.54	±0.08
G10	Latch Shroud Inner Height	3.97	±0.08
G11	Latch Shroud Inner Width	52.20	±0.08
G12	Latch Slot Width	2.00	±0.10
G13	Latch Slot Length	1.40	+0.10/-0.00
G14	Latch Slots to Latch Shroud Leading Edge	0.85	±0.05
G15	Latch Slot Spacing	11.00	Basic
G16	Datum G (PCB) to Interface Card Slot Centerline	3.48	±0.20
G17	Datum B (Mating Face) to Leading Edge of Latch Slots	0.30	±0.10
G18	Peg Diameter	0.80	±0.05
G19	Peg Length	1.00	REF
G20	Right Peg Center to Left Peg Center	51.40	Basic
G21	Right Peg Center to First Latch Shroud Solder Pin	5.60	Basic
G22	Right Peg Center to Second Latch Shroud Solder Pin	1.98	Basic
G23	Latch Shroud Solder Pin Height	1.60	REF
G24	Latch Shroud Solder Pin Width	1.00	±0.05
G25	Right Peg Center to Right Solder Pins	0.55	Basic
G26	Right Peg Center to Left Solder Pins	51.98	Basic
G27	Right Peg Center to Datum H (Connector Centerline)	25.70	Basic
G28	Datum B (Mating Face) to Datum J (Peg Center)	7.60	±0.05
G29	Contact Pitch	0.60	Basic
G30	Latch Shroud Extension Height at opening	2.00	±0.05
G31	Interface Card Slot Width-1	22.48	±0.03
G32	DATUM H TO PIN A1/B1	23.40	Basic
G33	DATUM H TO PIN A41/B41	1.80	Basic

6. Module Mechanical Specification

6.1 Overview

Refer to section 5.1.1 for definitions of datums used throughout the following sections.

6.2 Mechanical Description: Plug Modules

6.2.1 Plug Connector with 38 Contacts – Style A

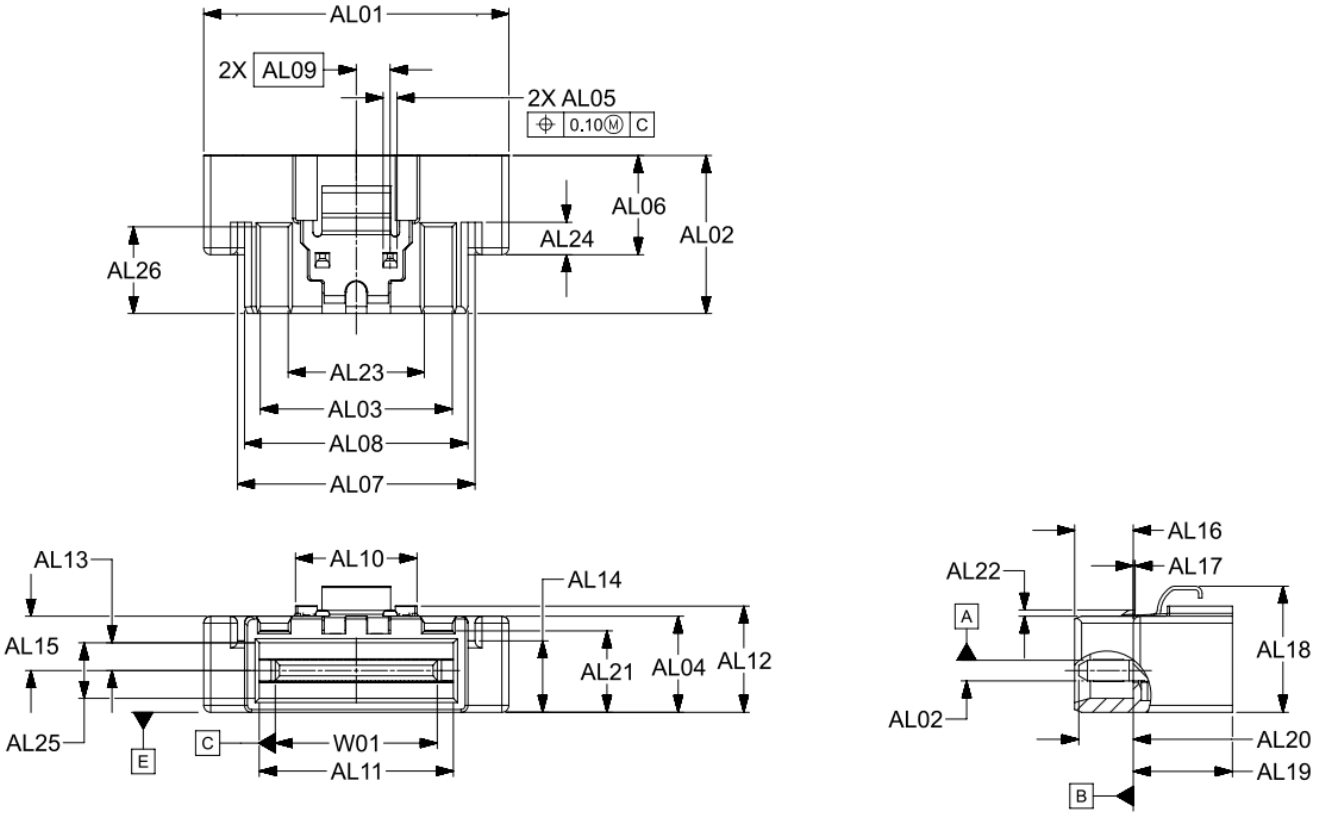


Figure 6-1 Mechanical Description of 38-Pin Style A Plug

Table 6-1 Dimensions Table for 38-Pin Style A Plug

Designator	Description	Dimension	Tolerance +/-
AL01	Plug Body Rear Width	21.85	Max
AL02	Straight Plug Length	11.30	Ref
AL03	Outer Width of Anti-reserve Feature	13.75	Min
AL04	Plug Body Thickness	6.88	±0.10
AL05	Latch Tab Width	1.00	±0.10
AL06	Outer Shroud Length	7.10	Ref
AL07	Anti-skew Flange Width	17.01	Min
AL08	Shroud Width	16.00	Max
AL09	Datum C (Interface Centerline) to Latch Tab Center	2.42	Basic
AL10	Latch Stopper Width	8.70	±0.20
AL11	Inner Shroud Width	13.90	Min
AL12	Datum E to Latch Stopper	7.60	Ref
AL13	Datum A to Bottom Surface of Shroud	1.99	Min
AL14	Datum E to Top Surface of Anti-skew Flange	5.11	Max
AL15	Datum A to Top Surface of Shroud	3.89	Max

Designator	Description		Dimension	Tolerance +/-
AL16	Datum B to Edge of Shroud		4.20	±0.10
AL17	Datum B to Back Edge of Latch Tab		0.13	±0.10
AL18	Datum E to Latch		9.02	Ref
AL19	Datum B to Plug Body End		7.10	Ref
AL20	Datum B to Card Edge		3.90	±0.13
AL21	Datum E to Middle Surface of Shroud		5.83	Ref
AL22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
AL23	Inner Width of Anti-reserve Feature		9.75	Max
AL24	Datum B to Middle Surface of Anti-skew Flange		2.32	Min
AL25	Inner Shroud Height		3.98	±0.05
AL26	Depth of Anti-reserve Feature		6.20	Min
W01	Interface Card Width		11.60	±0.05
W02	Paddle Card Thickness		1.57	±0.13

6.2.2 Plug Connector with 44 Contacts

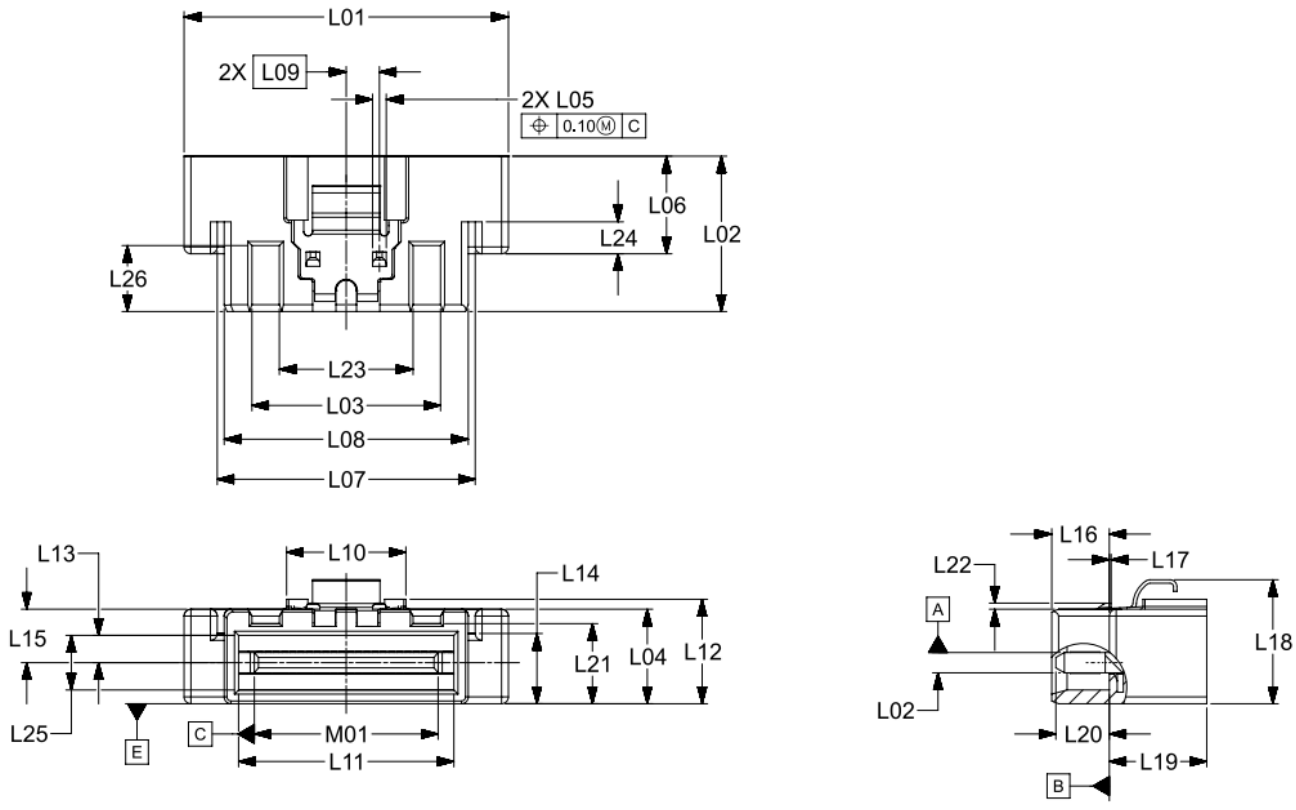


Figure 6-2 Straight Plug with 44 Contacts

Table 6-2 Dimensions Table for Straight Plug with 44 Contacts

Designator	Description		Dimension	Tolerance +/-
L01	Plug Body Rear Width		23.65	Max
L02	Straight Plug Length		11.30	Ref
L03	Outer Width of Anti-reserve Feature		13.75	Min
L04	Plug Body Thickness		6.88	±0.10
L05	Latch Tab Width		1.00	±0.10
L06	Outer Shroud Length		7.10	Ref
L07	Anti-skew Flange Width		18.81	Min
L08	Shroud Width		17.80	Max
L09	Datum C (Interface Centerline) to Latch Tab Center		2.42	Basic
L10	Latch Stopper Width		8.70	±0.20
L11	Inner Shroud Width		15.70	Min
L12	Datum E to Latch Stopper		7.60	Ref
L13	Datum A to Bottom Surface of Shroud		1.99	Min
L14	Datum E to Top Surface of Anti-skew Flange		5.11	Max
L15	Datum A to Top Surface of Shroud		3.89	Max
L16	Datum B to Edge of Shroud		4.20	±0.10
L17	Datum B to Back Edge of Latch Tab		0.13	±0.10
L18	Datum E to Latch		9.02	Ref
L19	Datum B to Plug Body End		7.10	Ref
L20	Datum B to Card Edge		3.90	±0.13
L21	Datum E to Middle Surface of Shroud		5.83	Ref
L22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
L23	Inner Width of Anti-reserve Feature		9.75	Max
L24	Datum B to Middle Surface of Anti-skew Flange		2.32	Min
L25	Inner Shroud Height		3.98	±0.05
L26	Depth of Anti-reserve Feature		6.20	Min
M01	Interface Card Width		13.4	±0.05
M02	Paddle Card Thickness		1.57	±0.13

6.2.3 Plug Connector with 74 Contacts

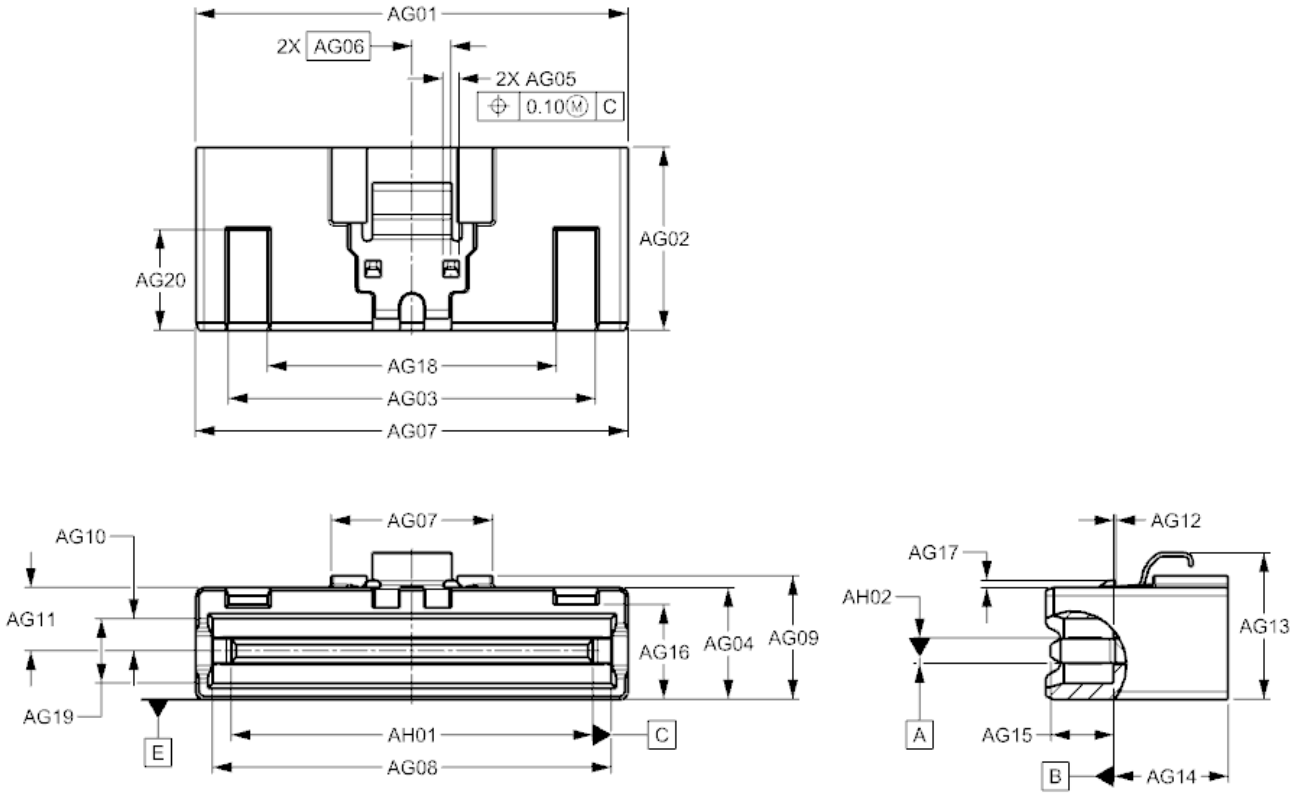


Figure 6-3 Straight Plug with 74 Contacts

Table 6-3 Dimensions Table for Straight Plug with 74 Contacts

Designator	Description		Dimension	Tolerance +/-
AG01	Plug Body Rear Width		26.8	Max
AG02	Straight Plug Length		11.3	Ref
AG03	Outer Width of Anti-reserve Feature		22.75	Min
AG04	Plug Body Thickness		6.88	±0.10
AG05	Latch Tab Width		1	±0.10
AG06	Datum C (Interface Centerline) to Latch Tab Center		2.42	Basic
AG07	Latch Stopper Width		10	±0.20
AG08	Inner Shroud Width		24.7	Min
AG09	Datum E to Latch Stopper		7.6	Ref
AG10	Datum A to Bottom Surface of Shroud		1.98	Min
AG11	Datum A to Top Surface of Shroud		3.89	Max
AG12	Datum B to Back Edge of Latch Tab		0.13	±0.10
AG13	Datum E to Latch		9.02	Ref
AG14	Datum B to Plug Body End		7.1	Ref
AG15	Datum B to Card Edge		3.9	±0.13
AG16	Datum E to Middle Surface of Shroud		5.83	Ref
AG17	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max

Designator	Description	Dimension	Tolerance +/-
AG18	Inner Width of Anti-reserve Feature	17.9	Max
AG19	Inner Shroud Height	3.98	±0.05
AG20	Depth of Anti-reserve Feature	6.2	Min
AH01	Interface Card Width	22.4	±0.05
AH02	Paddle Card Thickness	1.57	±0.13

6.2.4 Plug Connector with 80 Contacts

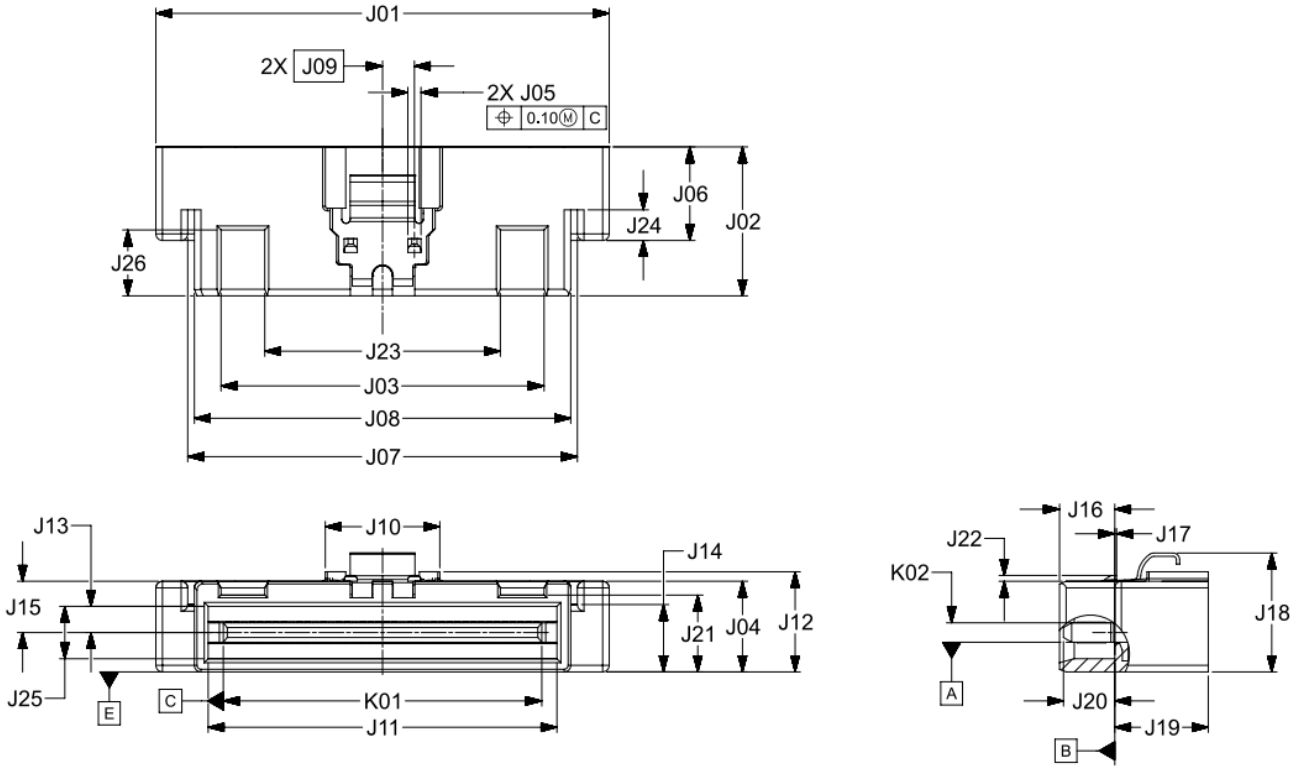


Figure 6-4 Straight Plug with 80 Contacts

Table 6-4 Dimensions Table for Straight Plug with 80 Contacts

Designator	Description	Dimension	Tolerance +/-
J01	Plug Body Rear Width	34.45	Max
J02	Straight Plug Length	11.30	Ref
J03	Outer Width of Anti-reserve Feature	24.55	Min
J04	Plug Body Thickness	6.88	±0.10
J05	Latch Tab Width	1.00	±0.10
J06	Outer Shroud Length	7.10	Ref
J07	Anti-skew Flange Width	29.61	Min
J08	Shroud Width	28.60	Max
J09	Datum C (Interface Centerline) to Latch Tab Center	2.42	Basic
J10	Latch Stopper Width	8.70	±0.20
J11	Inner Shroud Width	26.50	Min
J12	Datum E to Latch Stopper	7.60	Ref
J13	Datum A to Bottom Surface of Shroud	1.99	Min

Designator	Description		Dimension	Tolerance +/-
J14	Datum E to Top Surface of Anti-skew Flange		5.11	Max
J15	Datum A to Top Surface of Shroud		3.89	Max
J16	Datum B to Edge of Shroud		4.20	±0.10
J17	Datum B to Back Edge of Latch Tab		0.13	±0.10
J18	Datum E to Latch		9.02	Ref
J19	Datum B to Plug Body End		7.10	Ref
J20	Datum B to Card Edge		3.90	±0.13
J21	Datum E to Middle Surface of Shroud		5.83	Ref
J22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
J23	Inner Width of Anti-reserve Feature		17.90	Max
J24	Datum B to Middle Surface of Anti-skew Flange		2.32	Min
J25	Inner Shroud Height		3.98	±0.05
J26	Depth of Anti-reserve Feature		6.20	Min
K01	Interface Card Width		24.2	±0.05
K02	Paddle Card Thickness		1.57	±0.13

6.2.5 Plug Connector with 124 Contacts

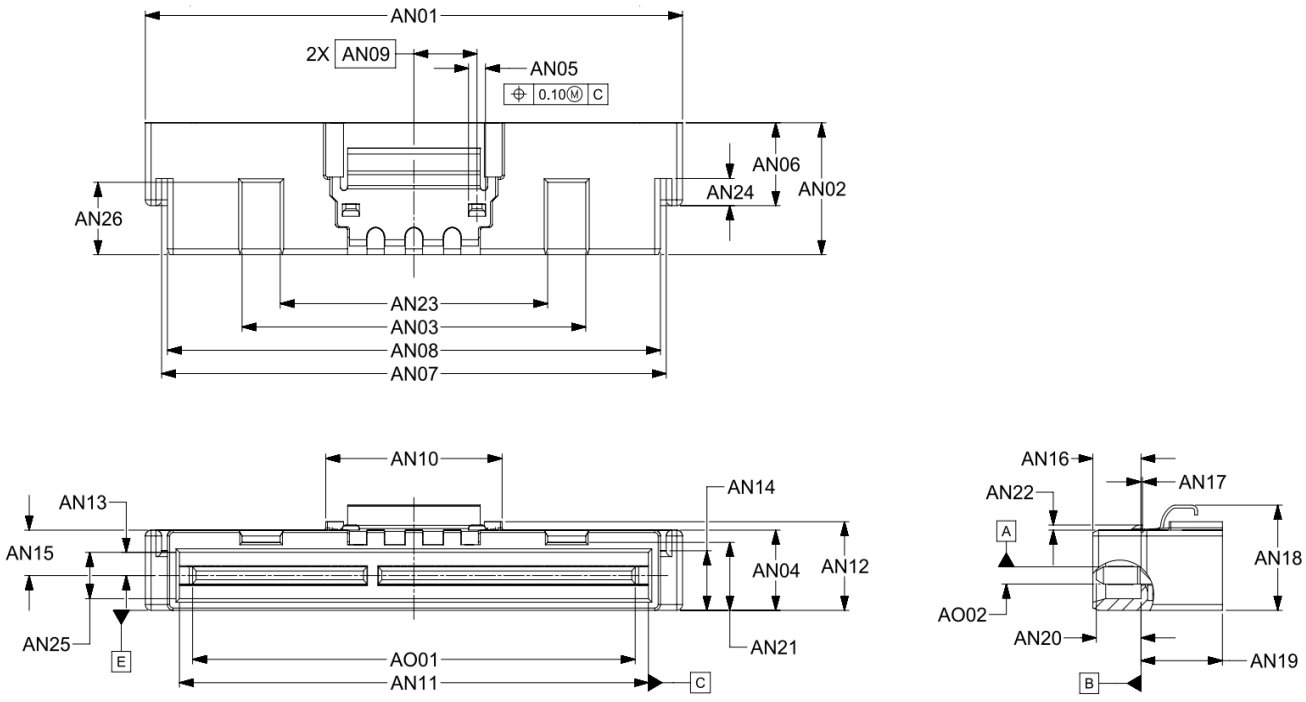


Figure 6-5 Straight Plug with 124 Contacts

Table 6-5 Dimensions Table for Straight Plug with 124 Contacts

Designator	Description	Dimension	Tolerance +/-
AN01	Plug Body Rear Width	46.85	Max
AN02	Straight Plug Length	11.30	Ref
AN03	Outer Width of Anti-reserve Feature	29.97	Min
AN04	Plug Body Thickness	6.88	±0.10

Designator	Description		Dimension	Tolerance +/-
AN05	Latch Tab Width		1.00	±0.10
AN06	Outer Shroud Length		7.10	Ref
AN07	Anti-skew Flange Width		44.01	Min
AN08	Shroud Width		43.00	Max
AN09	Datum C (Interface Centerline) to Latch Tab Center		2.42	Basic
AN10	Latch Stopper Width		15.38	±0.20
AN11	Inner Shroud Width		26.50	Min
AN12	Datum E to Latch Stopper		7.60	Ref
AN13	Datum A to Bottom Surface of Shroud		1.99	Min
AN14	Datum E to Top Surface of Anti-skew Flange		5.11	Max
AN15	Datum A to Top Surface of Shroud		3.89	Max
AN16	Datum B to Edge of Shroud		4.20	±0.10
AN17	Datum B to Back Edge of Latch Tab		0.13	±0.10
AN18	Datum E to Latch		9.02	Ref
AN19	Datum B to Plug Body End		7.10	Ref
AN20	Datum B to Card Edge		3.90	±0.13
AN21	Datum E to Middle Surface of Shroud		5.83	Ref
AN22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
AN23	Inner Width of Anti-reserve Feature		23.32	Max
AN24	Datum B to Middle Surface of Anti-skew Flange		2.32	Min
AN25	Inner Shroud Height		3.98	±0.05
AN26	Depth of Anti-reserve Feature		6.20	Min
AO01	Interface Card Width		38.60	±0.05
AO02	Paddle Card Thickness		1.57	±0.13

6.2.6 Plug Connector with 130 Contacts

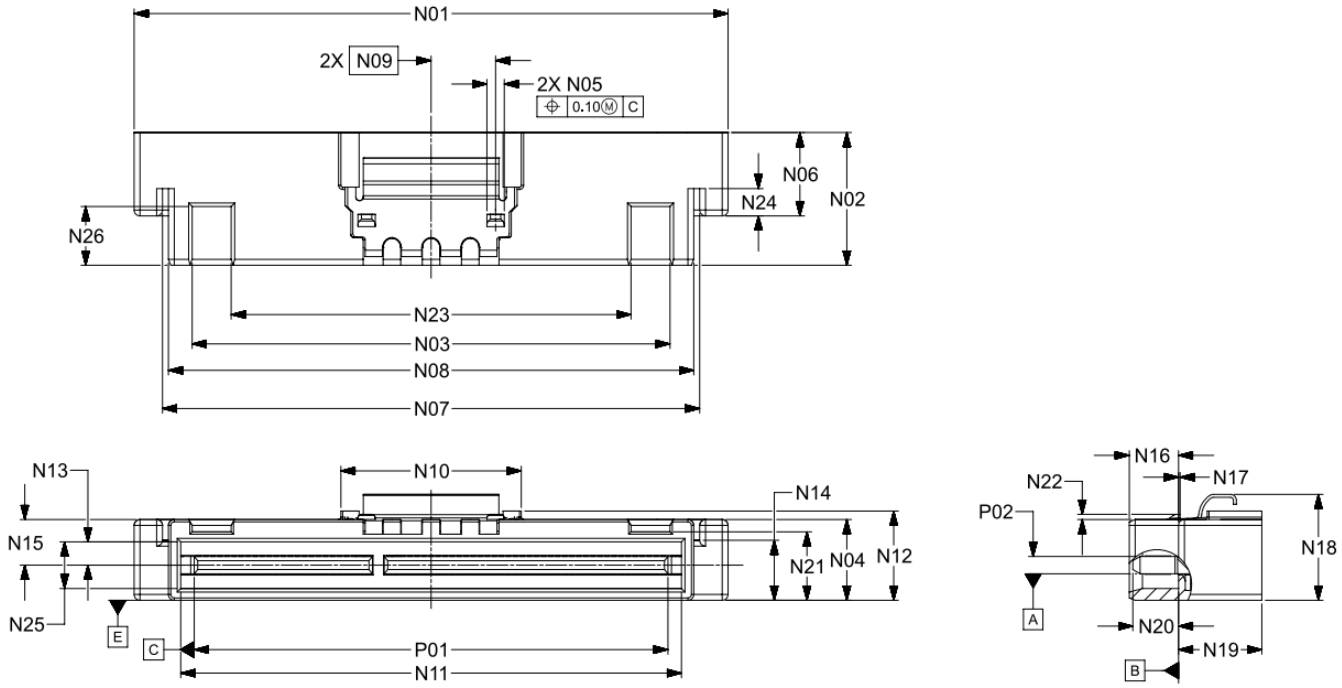


Figure 6-6 Straight Plug with 130 Contacts

Table 6-6 Dimensions Table for Straight Plug with 130 Contacts

Designator	Description		Dimension	Tolerance +/-
N01	Plug Body Rear Width		50.65	Max
N02	Straight Plug Length		11.30	Ref
N03	Outer Width of Anti-reserve Feature		40.75	Min
N04	Plug Body Thickness		6.88	±0.10
N05	Latch Tab Width		1.48	±0.10
N06	Outer Shroud Length		7.10	Ref
N07	Anti-skew Flange Width		45.81	Min
N08	Shroud Width		44.80	Max
N09	Datum C (Interface Centerline) to Latch Tab Center		5.50	Basic
N10	Latch Stopper Width		15.38	±0.20
N11	Inner Shroud Width		42.7	Min
N12	Datum E to Latch Stopper		7.60	Ref
N13	Datum A to Bottom Surface of Shroud		1.99	Min
N14	Datum E to Top Surface of Anti-skew Flange		5.11	Max
N15	Datum A to Top Surface of Shroud		3.89	Max
N16	Datum B to Edge of Shroud		4.20	±0.10
N17	Datum B to Back Edge of Latch Tab		0.13	±0.10
N18	Datum E to Latch		9.02	Ref
N19	Datum B to Plug Body End		7.10	Ref
N20	Datum B to Card Edge		3.90	±0.13
N21	Datum E to Middle Surface of Shroud		5.83	Ref
N22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
N23	Inner Width of Anti-reserve Feature		34.10	Max

Designator	Description	Dimension	Tolerance +/-
N24	Datum B to Middle Surface of Anti-skew Flange	2.32	Min
N25	Inner Shroud Height	3.98	±0.05
N26	Depth of Anti-reserve Feature	6.20	Min
P01	Interface Card Width	40.40	±0.05
P02	Paddle Card Thickness	1.57	±0.13

6.2.7 Plug Connector with 148 Contacts

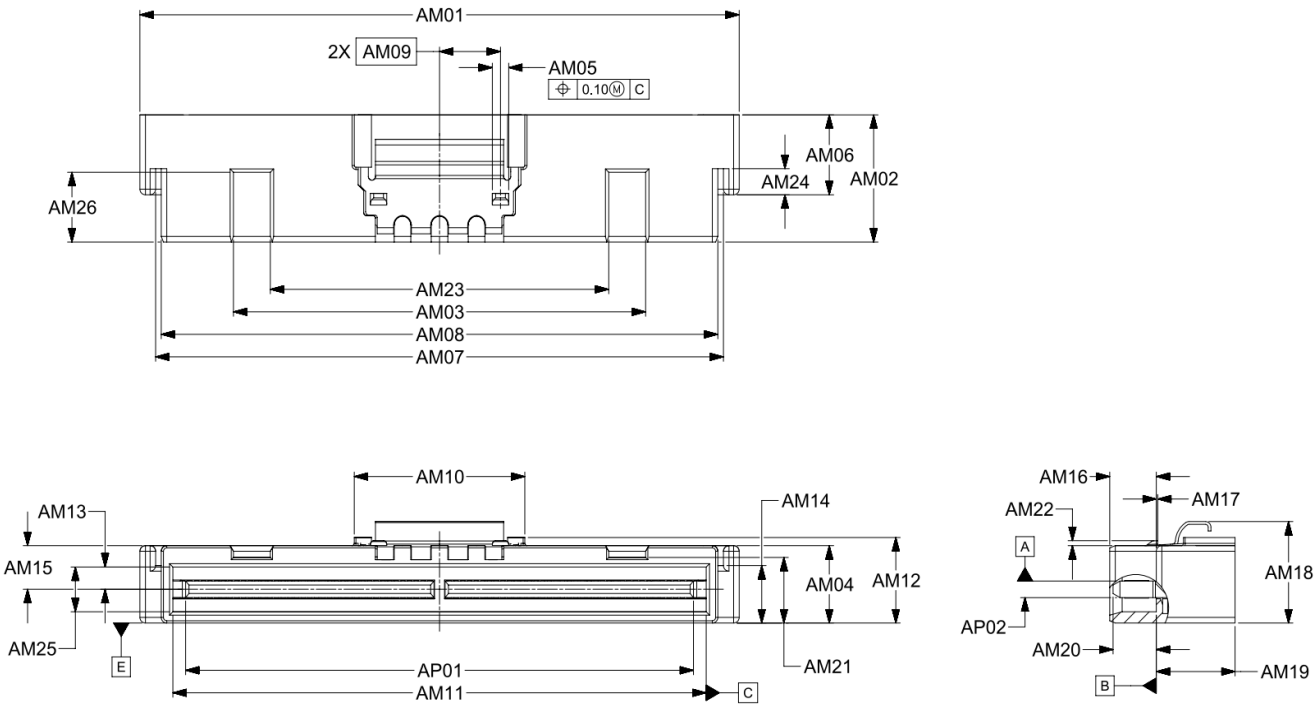


Figure 6-7 Straight Plug with 148 Contacts

Table 6-7 Dimensions Table for Straight Plug with 148 Contacts

Designator	Description	Dimension	Tolerance +/-
AM01	Plug Body Rear Width	54.05	Max
AM02	Straight Plug Length	11.30	Ref
AM03	Outer Width of Anti-reserve Feature	37.17	Min
AM04	Plug Body Thickness	6.88	±0.10
AM05	Latch Tab Width	1.00	±0.10
AM06	Outer Shroud Length	7.10	Ref
AM07	Anti-skew Flange Width	51.21	Min
AM08	Shroud Width	50.20	Max
AM09	Datum C (Interface Centerline) to Latch Tab Center	2.42	Basic
AM10	Latch Stopper Width	15.38	±0.20
AM11	Inner Shroud Width	48.10	Min
AM12	Datum E to Latch Stopper	7.60	Ref

Designator	Description		Dimension	Tolerance +/-
AM13	Datum A to Bottom Surface of Shroud		1.99	Min
AM14	Datum E to Top Surface of Anti-skew Flange		5.11	Max
AM15	Datum A to Top Surface of Shroud		3.89	Max
AM16	Datum B to Edge of Shroud		4.20	±0.10
AM17	Datum B to Back Edge of Latch Tab		0.13	±0.10
AM18	Datum E to Latch		9.02	Ref
AM19	Datum B to Plug Body End		7.10	Ref
AM20	Datum B to Card Edge		3.90	±0.13
AM21	Datum E to Middle Surface of Shroud		5.83	Ref
AM22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
AM23	Inner Width of Anti-reserve Feature		30.52	Max
AM24	Datum B to Middle Surface of Anti-skew Flange		2.32	Min
AM25	Inner Shroud Height		3.98	±0.05
AM26	Depth of Anti-reserve Feature		6.20	Min
AP01	Interface Card Width		45.80	±0.05
AP02	Paddle Card Thickness		1.57	±0.13

6.2.8 Plug Connector with 154 Contacts

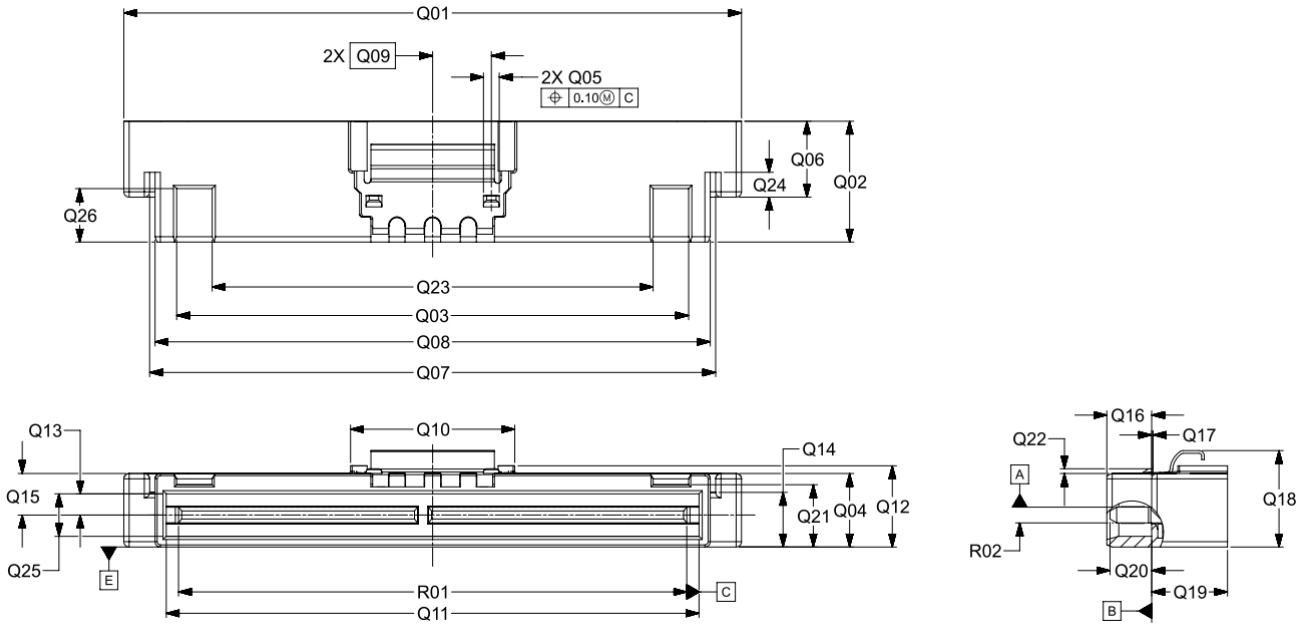


Figure 6-8 Straight Plug with 154 Contacts

Table 6-8 Dimensions Table for Straight Plug with 154 Contacts

Designator	Description		Dimension	Tolerance +/-
Q01	Plug Body Rear Width		57.85	Max
Q02	Straight Plug Length		11.30	Ref
Q03	Outer Width of Anti-reserve Feature		47.95	Min
Q04	Plug Body Thickness		6.88	±0.10
Q05	Latch Tab Width		1.48	±0.10
Q06	Outer Shroud Length		7.10	Ref
Q07	Anti-skew Flange Width		53.01	Min
Q08	Shroud Width		52.00	Max
Q09	Datum C (Interface Centerline) to Latch Tab Center		5.50	Basic
Q10	Latch Stopper Width		15.38	±0.20
Q11	Inner Shroud Width		49.90	Min
Q12	Datum E to Latch Stopper		7.60	Ref
Q13	Datum A to Bottom Surface of Shroud		1.99	Min
Q14	Datum E to Top Surface of Anti-skew Flange		5.11	Max
Q15	Datum A to Top Surface of Shroud		3.89	Max
Q16	Datum B to Edge of Shroud		4.20	±0.10
Q17	Datum B to Back Edge of Latch Tab		0.13	±0.10
Q18	Datum E to Latch		9.02	Ref
Q19	Datum B to Plug Body End		7.10	Ref
Q20	Datum B to Card Edge		3.90	±0.13
Q21	Datum E to Middle Surface of Shroud		5.83	Ref
Q22	Top Surface of Shroud to Latch Tab Height	(When Free)	0.44	Min
		(For Release)	0.05	Max
Q23	Inner Width of Anti-reserve Feature		41.30	Max
Q24	Datum B to Middle Surface of Anti-skew Flange		2.32	Min
Q25	Inner Shroud Height		3.98	±0.05
Q26	Depth of Anti-reserve Feature		6.20	Min
R01	Interface Card Width		47.60	±0.05
R02	Paddle Card Thickness		1.57	±0.13

6.2.9 Plug Connector with 38 Contacts – Style B

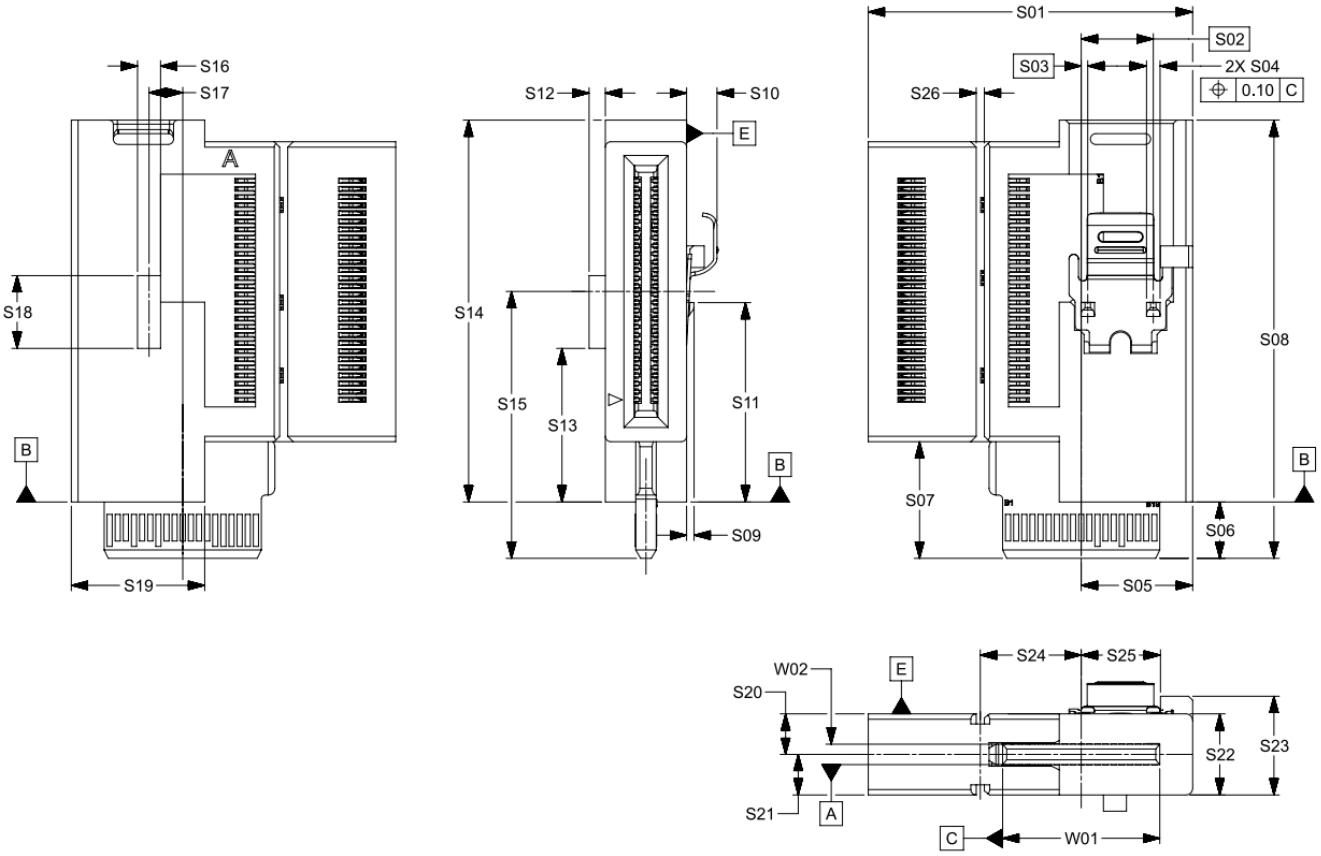


Figure 6-9 Dimensions of 38-Pin Style B Connector Plug E3-1C

Table 6-9 Dimensions Table for 38-Pin Style B Connector Plug E3-1C

Designator	Description	Dimension (mm)	Tolerance +/-
S01	Plug Body Top Width	23.95	REF
S02	Datum C (Interface Centerline) to Right Latch Tab Center	5.32	Basic
S03	Datum C (Interface Centerline) to Left Latch Tab Center	0.48	Basic
S04	Latch Tab Width	1.00	±0.10
S05	Datum C (Interface Centerline) to Plug Body End	8.23	±0.10
S06	Datum B to Paddle Card Edge	4.16	±0.05
S07	Paddle Card Edge to Sliver 1C Conn Bottom Edge	8.62	±0.10
S08	Paddle Card Edge to Plug Body Top	32.40	REF
S09	Top Surface of Shroud to Latch Tab Height (Free)	0.45	Min
	Top Surface of Shroud to Latch Tab Height (Release)	0.05	Max
S10	Datum E to Latch	2.24	REF
S11	Datum E to Latch Tip	14.74	+0.10/-0.20
S12	Height of Leading	1.20	REF
S13	Datum B to Leading Bottom	11.36	±0.10
S14	Datum B to Plug Body Top	28.24	REF
S15	Paddle Card Edge to Center of Sliver 1C Conn	19.74	±0.10
S16	Leading width	1.70	±0.05

Designator	Description	Dimension (mm)	Tolerance +/-
S17	Datum C to Center of Leading	2.49	±0.10
S18	Leading Length	5.38	REF
S19	Plug Body Bottom Width	9.85	REF
S20	Datum A to Datum E (Top Surface Plug Body)	3.00	Max
S21	Datum A to Bottom Surface Plug Body	3.00	Max
S22	Plug Body Width	6.00	Max
S23	Bottom Surface Plug Body to Latch Stopper	7.30	REF
S24	Datum C to Sliver 1C Conn Leading Slot	7.45	±0.10
S25	Datum C to Latch Stopper	5.85	REF
S26	Leading Slot Width	0.60	±0.05
W01	Interface Card Width	11.60	±0.05
W02	Paddle Card Thickness	1.57	±0.13

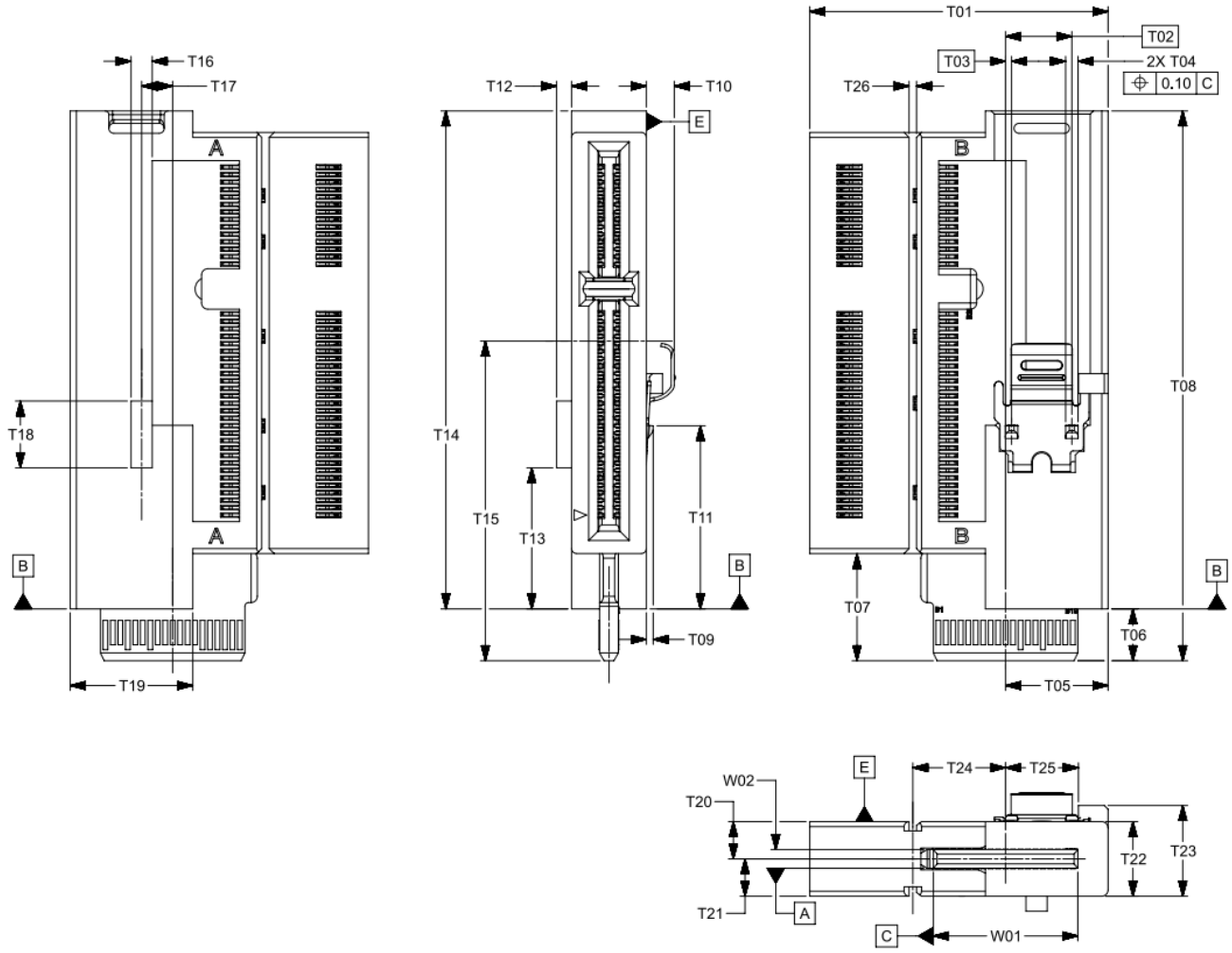


Figure 6-10 Dimensions of 38-Pin Style B Connector Plug E3-2C

Table 6-10 Dimensions Table for 38-Pin Style B Connector Plug E3-2C

Designator	Description	Dimension (mm)	Tolerance +/-
T01	Plug Body Top Width	44.26	REF
T02	Datum C (Interface Centerline) to Right Latch Tab Center	5.32	Basic
T03	Datum C (Interface Centerline) to Left Latch Tab Center	0.48	Basic
T04	Latch Tab Width	1.00	±0.10
T05	Datum C (Interface Centerline) to Plug Body End	8.23	±0.10
T06	Datum B to Paddle Card Edge	4.16	±0.05
T07	Paddle Card Edge to Sliver 1C Conn Bottom Edge	8.62	±0.10
T08	Paddle Card Edge to Plug Body Top	32.40	REF
T09	Top Surface of Shroud to Latch Tab Height (Free)	0.45	Min
	Top Surface of Shroud to Latch Tab Height (Release)	0.05	Max
T10	Datum E to Latch	2.24	REF
T11	Datum E to Latch Tip	14.74	+0.10/-0.20
T12	Height of Leading	1.20	REF
T13	Datum B to Leading Bottom	11.36	±0.10
T14	Datum B to Plug Body Top	40.09	REF
T15	Paddle Card Edge to Center of Sliver 1C Conn	25.73	±0.10
T16	Leading width	1.70	±0.05
T17	Datum C to Center of Leading	2.49	±0.10
T18	Leading Length	5.38	REF
T19	Plug Body Bottom Width	9.85	REF
T20	Datum A to Datum E (Top Surface Plug Body)	3.00	Max
T21	Datum A to Bottom Surface Plug Body	3.00	Max
T22	Plug Body Width	6.00	Max
T23	Bottom Surface Plug Body to Latch Stopper	7.30	REF
T24	Datum C to Sliver 1C Conn Leading Slot	7.45	±0.10
T25	Datum C to Latch Stopper	5.85	REF
T26	Leading Slot Width	0.60	±0.05
W01	Interface Card Width	11.60	±0.05
W02	Paddle Card Thickness	1.57	±0.13

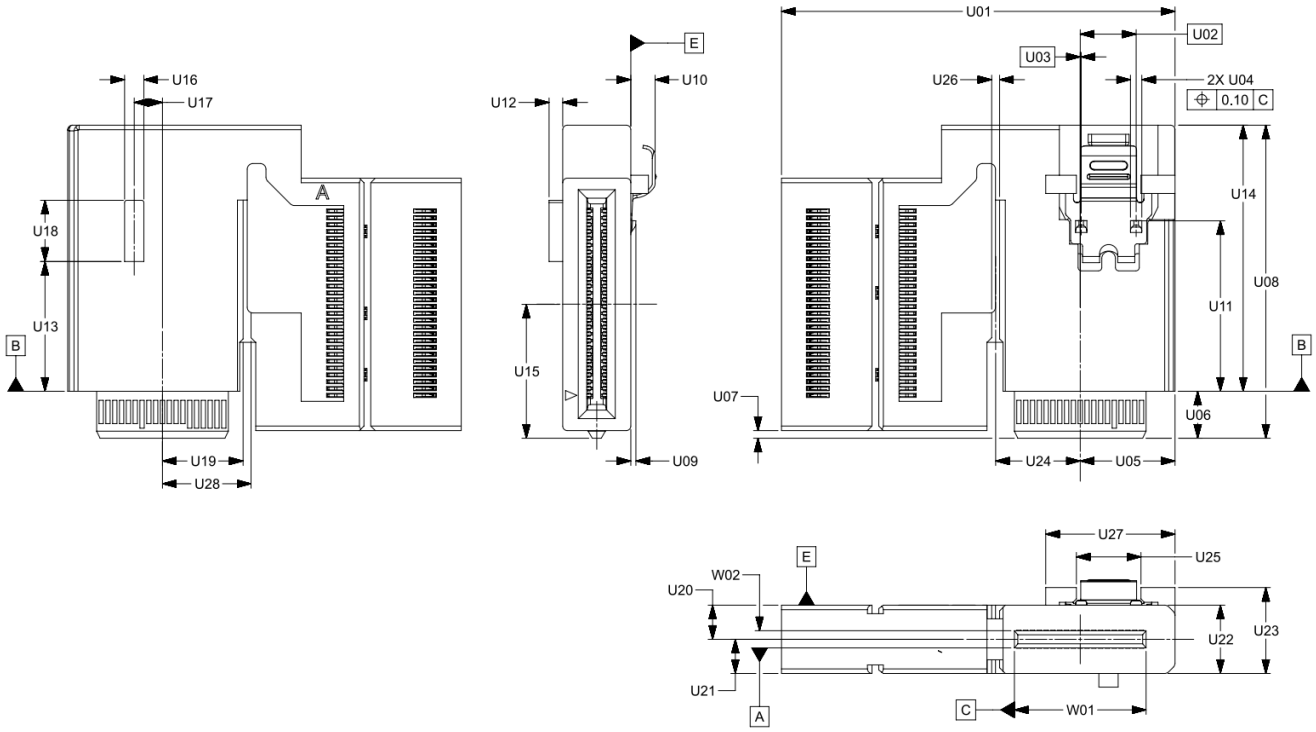


Figure 6-11 Dimensions of 38-Pin Style B Connector Plug E1-1C

Table 6-11 Dimensions Table for 38-Pin Style B Connector Plug E1-1C

Designator	Description	Dimension (mm)	Tolerance +/-
U01	Plug Body Top Width	34.67	REF
U02	Datum C (Interface Centerline) to Right Latch Tab Center	4.93	Basic
U03	Datum C (Interface Centerline) to Left Latch Tab Center	0.09	Basic
U04	Latch Tab Width	1.00	±0.10
U05	Datum C (Interface Centerline) to Plug Body End	8.35	±0.10
U06	Datum B to Paddle Card Edge	4.12	±0.05
U07	Paddle Card Edge to Sliver 1C Conn Bottom Edge	0.67	±0.10
U08	Paddle Card Edge to Plug Body Top	27.50	REF
U09	Top Surface of Shroud to Latch Tab Height (Free)	0.45	Min
	Top Surface of Shroud to Latch Tab Height (Release)	0.05	Max
U10	Datum E to Latch	2.14	REF
U11	Datum E to Latch Tip	14.97	+0.10/-0.20
U12	Height of Leading	1.20	REF
U13	Datum B to Leading Bottom	11.40	±0.10
U14	Datum B to Plug Body Top	23.38	REF
U15	Paddle Card Edge to Center of Sliver 1C Conn	11.76	±0.10
U16	Leading width	1.70	±0.05
U17	Datum C to Center of Leading	2.49	±0.10
U18	Leading Length	5.38	REF
U19	Datum C to Plug leasding slot inner	7.10	±0.10

Designator	Description	Dimension (mm)	Tolerance +/-
U20	Datum A to Datum E (Top Surface Plug Body)	3.00	Max
U21	Datum A to Bottom Surface Plug Body	3.00	Max
U22	Plug Body Width	6.00	Max
U23	Bottom Surface Plug Body to Latch Stopper	7.55	REF
U24	Datum C to Sliver 1C Conn Leading Slot	7.45	±0.10
U25	Latch Stopper Inner Width	5.69	REF
U26	Plug Leading Slot Width	0.70	±0.05
U27	Latch Stopper Outter Width	11.39	REF
U28	Datum C to Plug leasding slot Outter	7.80	±0.10
W01	Interface Card Width	11.60	±0.05
W02	Paddle Card Thickness	1.57	±0.13

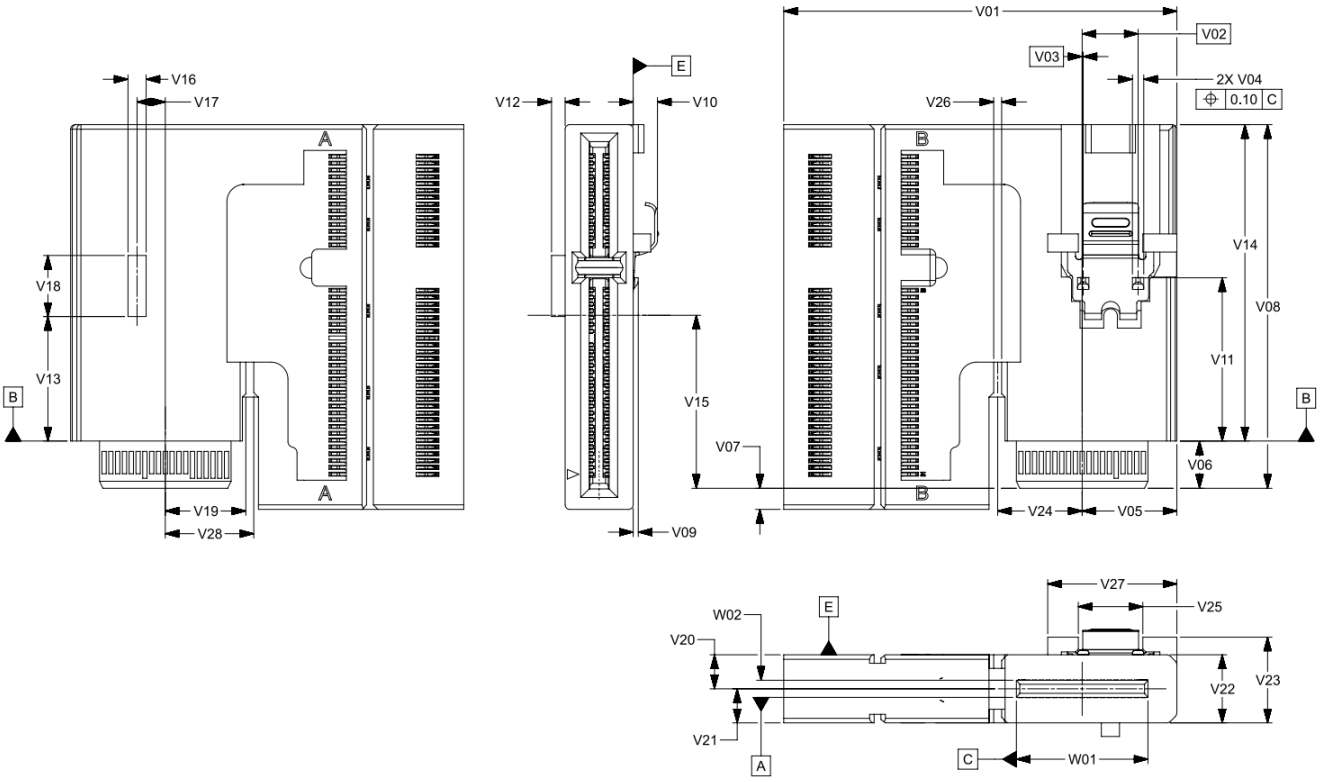


Figure 6-12 Dimensions of 38-Pin Style B Connector Plug E1-2C

Table 6-12 Dimensions Table for 38-Pin Style B Connector Plug E1-2C

Designator	Description	Dimension (mm)	Tolerance +/-
V01	Plug Body Top Width	34.67	REF
V02	Datum C (Interface Centerline) to Right Latch Tab Center	4.93	Basic
V03	Datum C (Interface Centerline) to Left Latch Tab Center	0.09	Basic
V04	Latch Tab Width	1.00	±0.10
V05	Datum C (Interface Centerline) to Plug Body End	8.35	±0.10
V06	Datum B to Paddle Card Edge	4.12	±0.05

Designator	Description	Dimension (mm)	Tolerance +/-
V07	Paddle Card Edge to Sliver 1C Conn Bottom Edge	1.86	±0.10
V08	Paddle Card Edge to Plug Body Top	32.04	REF
V09	Top Surface of Shroud to Latch Tab Height (Free)	0.45	Min
	Top Surface of Shroud to Latch Tab Height (Release)	0.05	Max
V10	Datum E to Latch	2.14	REF
V11	Datum E to Latch Tip	14.97	+0.10/-0.20
V12	Height of Leading	1.20	REF
V13	Datum B to Leading Bottom	11.40	±0.10
V14	Datum B to Plug Body Top	27.88	REF
V15	Paddle Card Edge to Center of Sliver 1C Conn	15.24	±0.10
V16	Leading width	1.70	±0.05
V17	Datum C to Center of Leading	2.49	±0.10
V18	Leading Length	5.38	REF
V19	Datum C to Plug leasding slot inner	7.10	±0.10
V20	Datum A to Datum E (Top Surface Plug Body)	3.00	Max
V21	Datum A to Bottom Surface Plug Body	3.00	Max
V22	Plug Body Width	6.00	Max
V23	Bottom Surface Plug Body to Latch Stopper	7.55	REF
V24	Datum C to Sliver 1C Conn Leading Slot	7.45	±0.10
V25	Latch Stopper Inner Width	5.69	REF
V26	Plug Leading Slot Width	0.70	±0.05
V27	Latch Stopper Outter Width	11.39	REF
V28	Datum C to Plug leasding slot Outter	7.80	±0.10
W01	Interface Card Width	11.60	±0.05
W02	Paddle Card Thickness	1.57	±0.13

6.2.10 Right Angle Plug Connector with 38/44/74/80/124/130/148/154 Contacts

The following figure shows dimensions that are specific to right angle plug connectors. For other detailed dimensions, refer to the previous figures and tables within Section 6.2 associated with the appropriate size of straight plug connector.

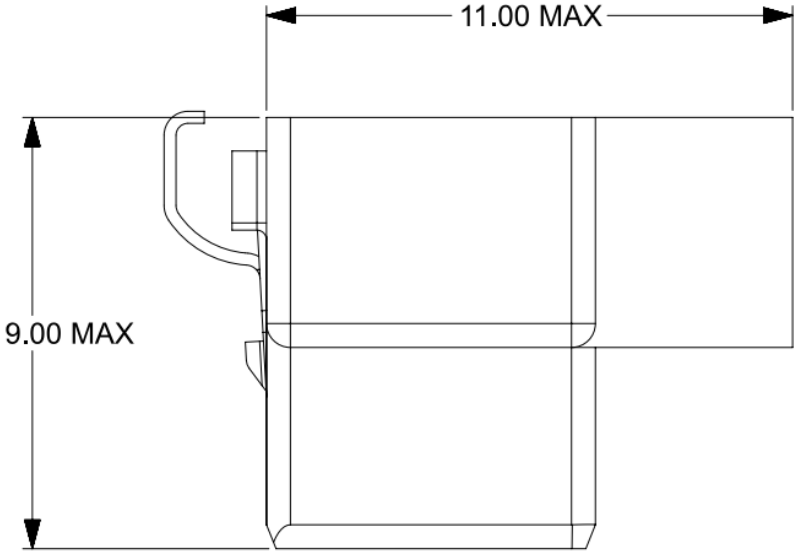


Figure 6-13 Right-Angle Plug Dimensions

6.3 Card Edge Description (Mechanical Interface)

The following figures and tables detail the mating interface pads and paddle card dimensions applicable to the mating interface of the plug connectors within this specification.

6.3.1 Plug Paddle Card with 38 Contacts

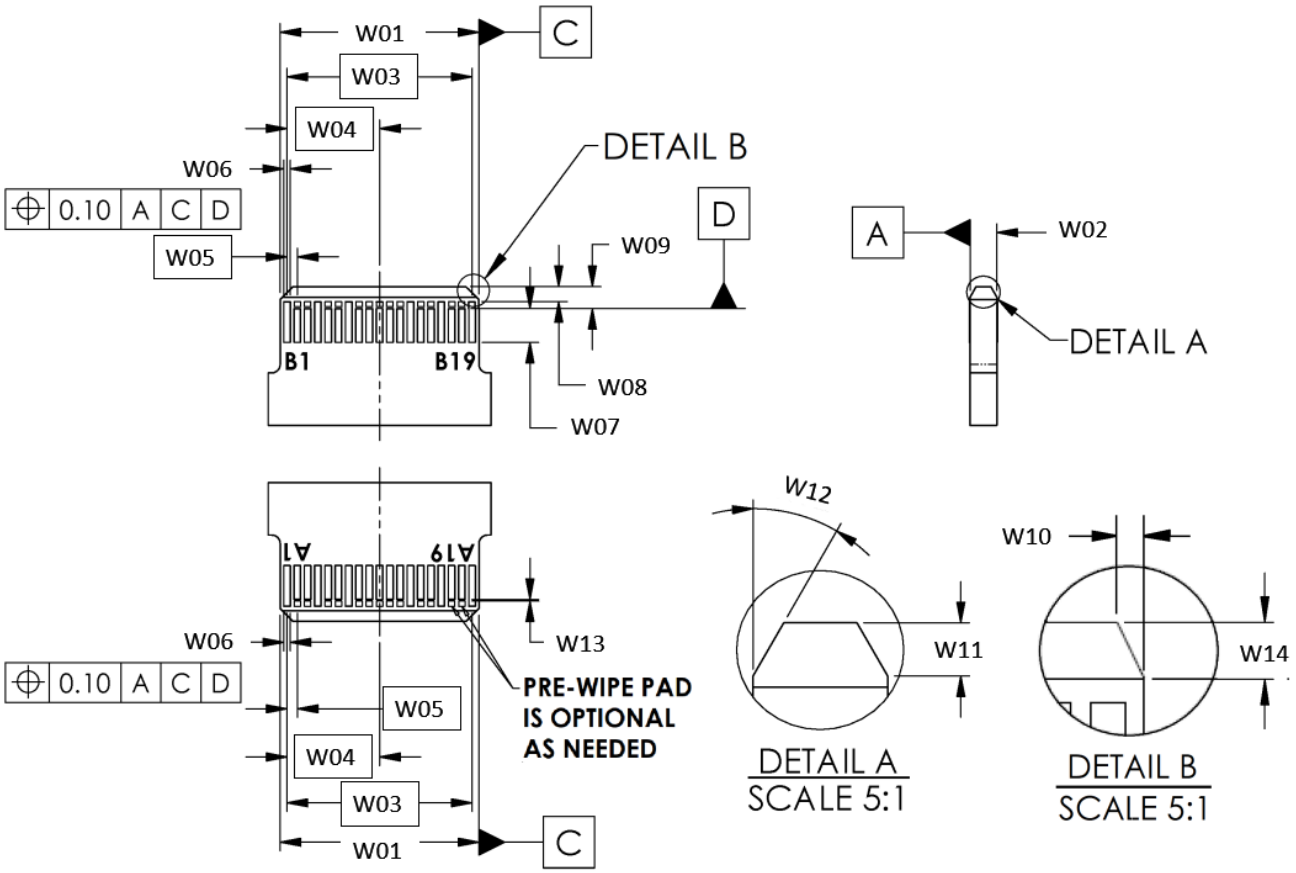


Figure 6-14 Paddle-Card Description for 38-Pin Style A & B Connector Receptacles

Table 6-13 Dimensions Table for 38-Pin Plug Paddle-Card

Designator	Description	Dimension	Tolerance +/-
W01	Interface Card Width	11.60	±0.05
W02	Paddle Card Thickness	1.57	±0.15
W03	First Pad to Last Pad Centers	10.80	Basic
W04	Card Center to Outer Pad Center	5.40	Basic
W05	Pad Pitch (Center to Center)	0.60	Basic
W06	Pad Width	0.38	±0.03
W07	Pad Length – Second-mate	1.97	Min
W08	First-mate Pad to Card Edge	0.88	±0.10
W09	Second-mate Pad to Card Edge	1.28	±0.10
W10	Corner Chamfer Width	0.30	±0.13
W11	Lead-in Angle Length	0.62	±0.13
W12	Lead-in Angle	30.00	±5°
W13	Second Mate Pad to Pre-wipe Pad Gap	0.10	Ref.
W14	Corner Chamfer Length	0.62	±0.13

6.3.2 Plug Paddle Card with 44 Contacts

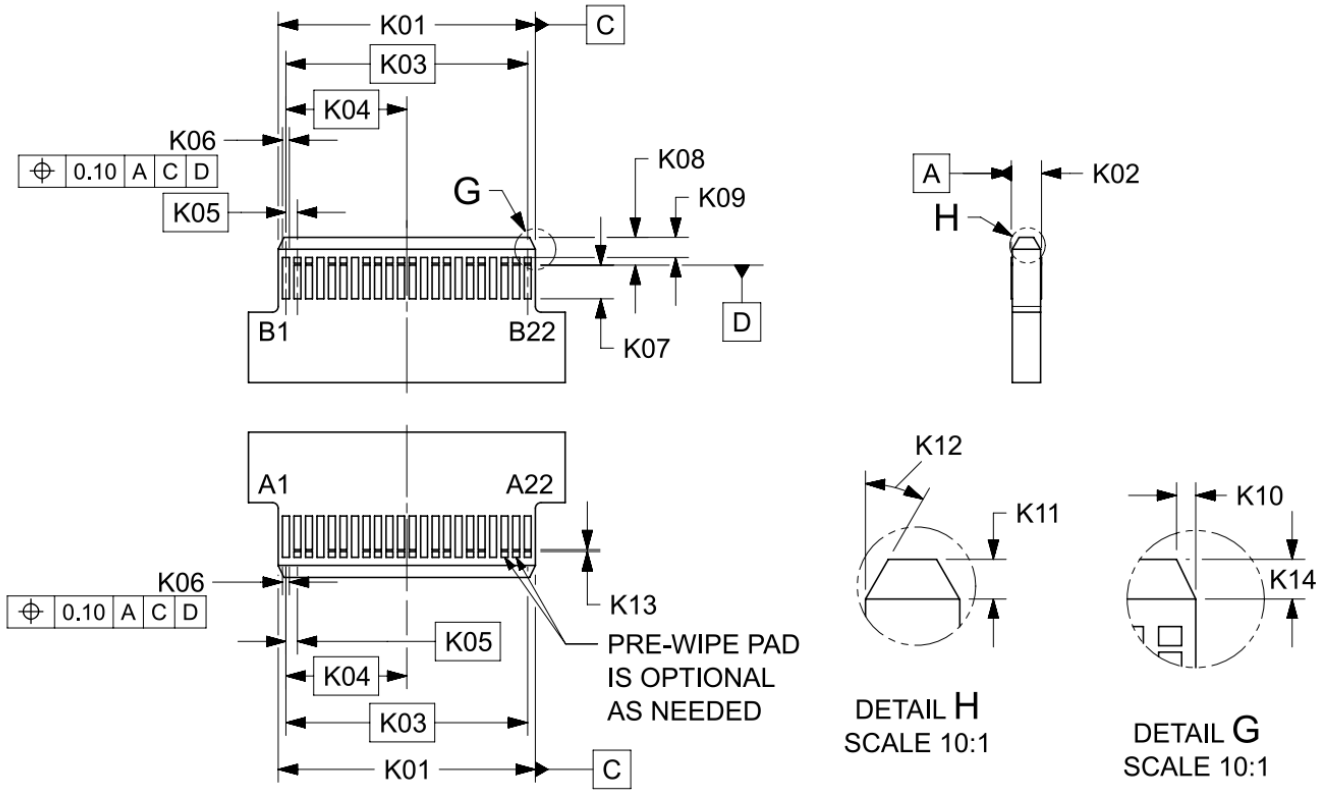


Figure 6-15 Plug Paddle-Card with 44 Contacts

Table 6-14 Dimensions Table for Plug Paddle-Card with 44 Contacts

Designator	Description	Dimension	Tolerance +/-
K01	Interface Card Width	13.40	±0.05
K02	Paddle Card Thickness	1.57	±0.15
K03	First Pad to Last Pad Centers	12.6	Basic
K04	Card Center to Outer Pad Center	6.30	Basic
K05	Pad Pitch (Center to Center)	0.60	Basic
K06	Pad Width	0.36	±0.03
K07	Pad Length – Second-mate	1.70	Min
K08	Second-mate Pad to Card Edge	1.45	±0.10
K09	First-mate Pad to Card Edge	1.05	±0.10
K10	Corner Chamfer Width	0.30	±0.13
K11	Lead-in Angle Length	0.62	±0.13
K12	Lead-in Angle	30	±5°
K13	Second Mate Pad to Pre-wipe Pad Gap	0.1	Ref.
K14	Corner Chamfer Length	0.62	±0.13

6.3.3 Plug Paddle Card with 74 Contacts

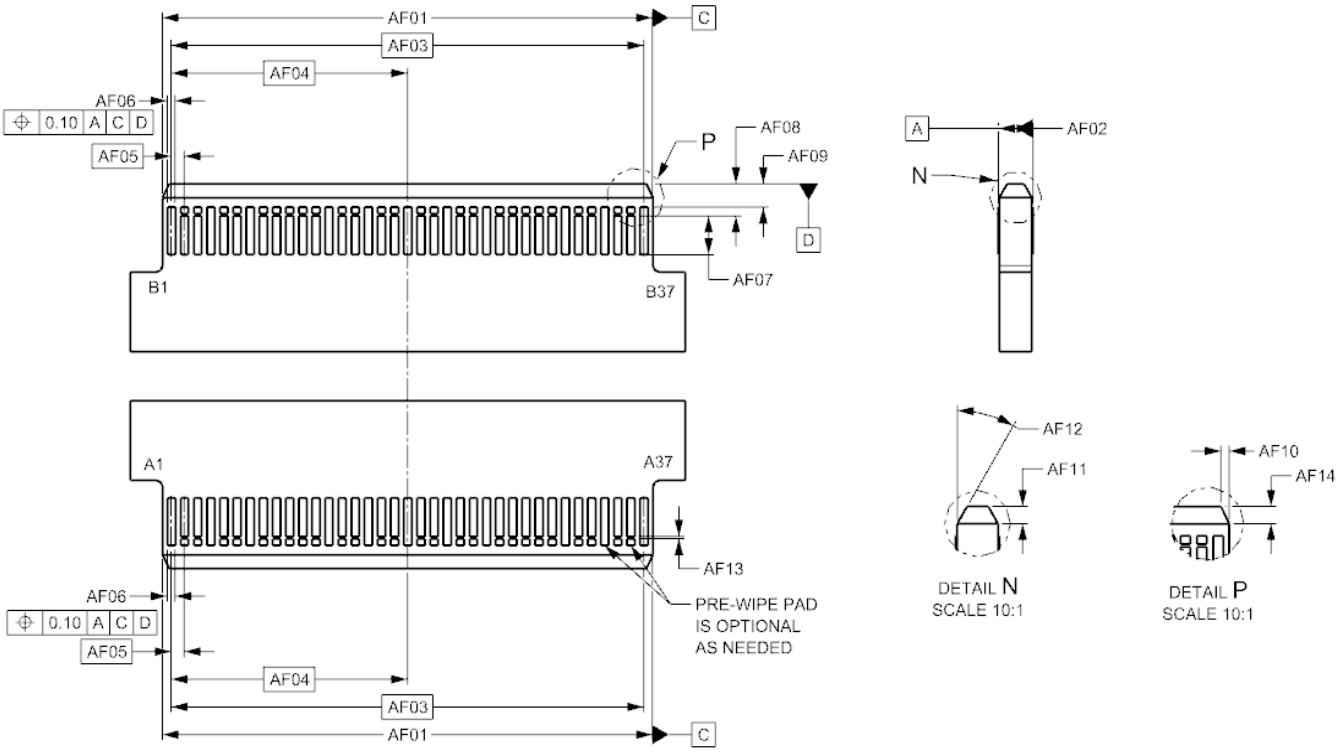


Figure 6-16 Plug Paddle-Card with 74 Contacts

Table 6-15 Dimensions for Plug Paddle-Card with 74 Contacts

Designator	Description	Dimension	Tolerance +/-
AF01	Interface Card Width	22.4	±0.05
AF02	Paddle Card Thickness	1.57	±0.15
AF03	First Pad to Last Pad Centers	21.6	Basic
AF04	Card Center to Outer Pad Center	10.8	Basic
AF05	Pad Pitch (Center to Center)	0.60	Basic
AF06	Pad Width	0.36	±0.03
AF07	Pad Length – Second-mate	1.70	Min
AF08	Second-mate Pad to Card Edge	1.45	±0.10
AF09	First-mate Pad to Card Edge	1.05	±0.10
AF10	Corner Chamfer Width	0.3	±0.13
AF11	Lead-in Angle Length	0.62	±0.13
AF12	Lead-in Angle	30	±5°
AF13	Second Mate Pad to Pre-wipe Pad Gap	0.1	Ref.
AF14	Corner Chamfer Length	0.62	±0.13

6.3.4 Plug Paddle Card with 80 Contacts

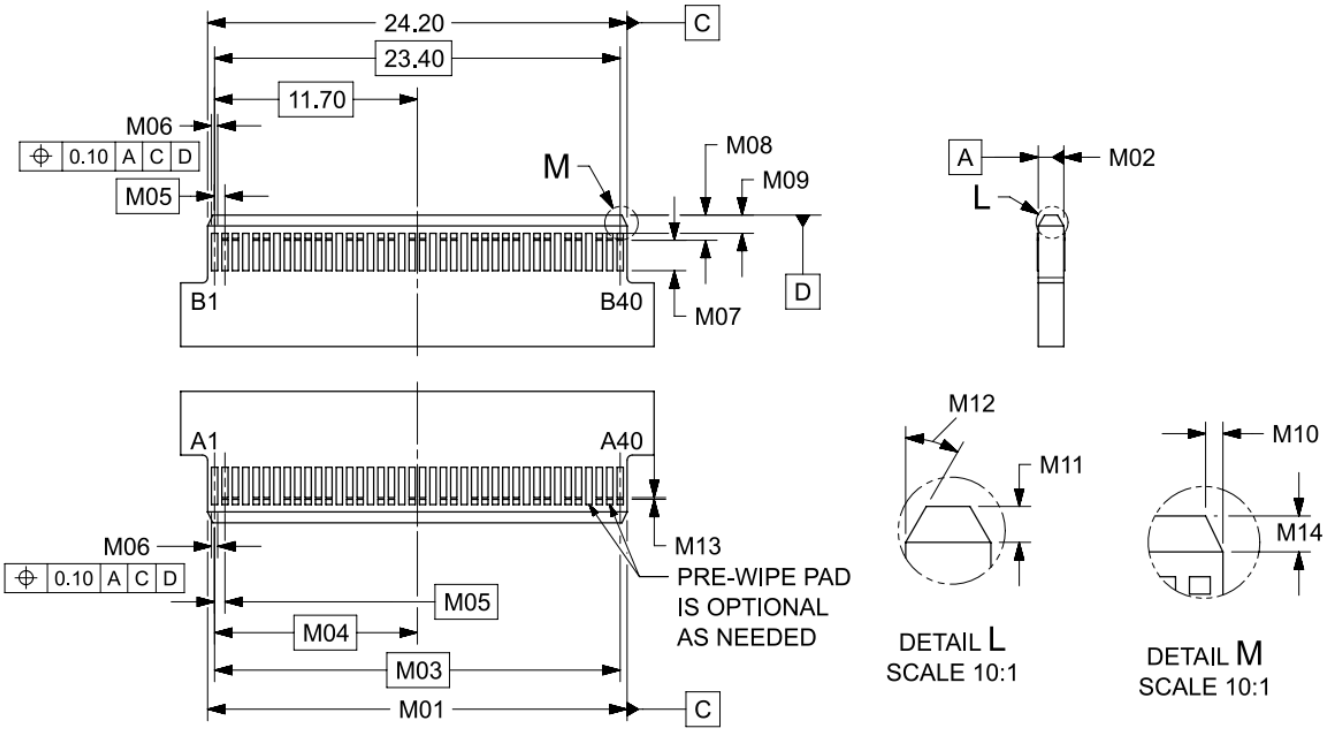


Figure 6-17 Plug Paddle-Card with 80 Contacts

Table 6-16 Dimensions Table for Plug Paddle-Card with 80 Contacts

Designator	Description	Dimension	Tolerance +/-
M01	Interface Card Width	24.20	±0.05
M02	Paddle Card Thickness	1.57	±0.15
M03	First Pad to Last Pad Centers	23.40	Basic
M04	Card Center to Outer Pad Center	11.70	Basic
M05	Pad Pitch (Center to Center)	0.60	Basic
M06	Pad Width	0.36	±0.03
M07	Pad Length – Second-mate	1.70	Min
M08	Second-mate Pad to Card Edge	1.45	±0.10
M09	First-mate Pad to Card Edge	1.05	±0.10
M10	Corner Chamfer Width	0.30	±0.13
M11	Lead-in Angle Length	0.62	±0.13
M12	Lead-in Angle	30	±5°
M13	Second Mate Pad to Pre-wipe Pad Gap	0.1	Ref.
M14	Corner Chamfer Length	0.62	±0.13

6.3.5 Plug Paddle Card with 124 Contacts

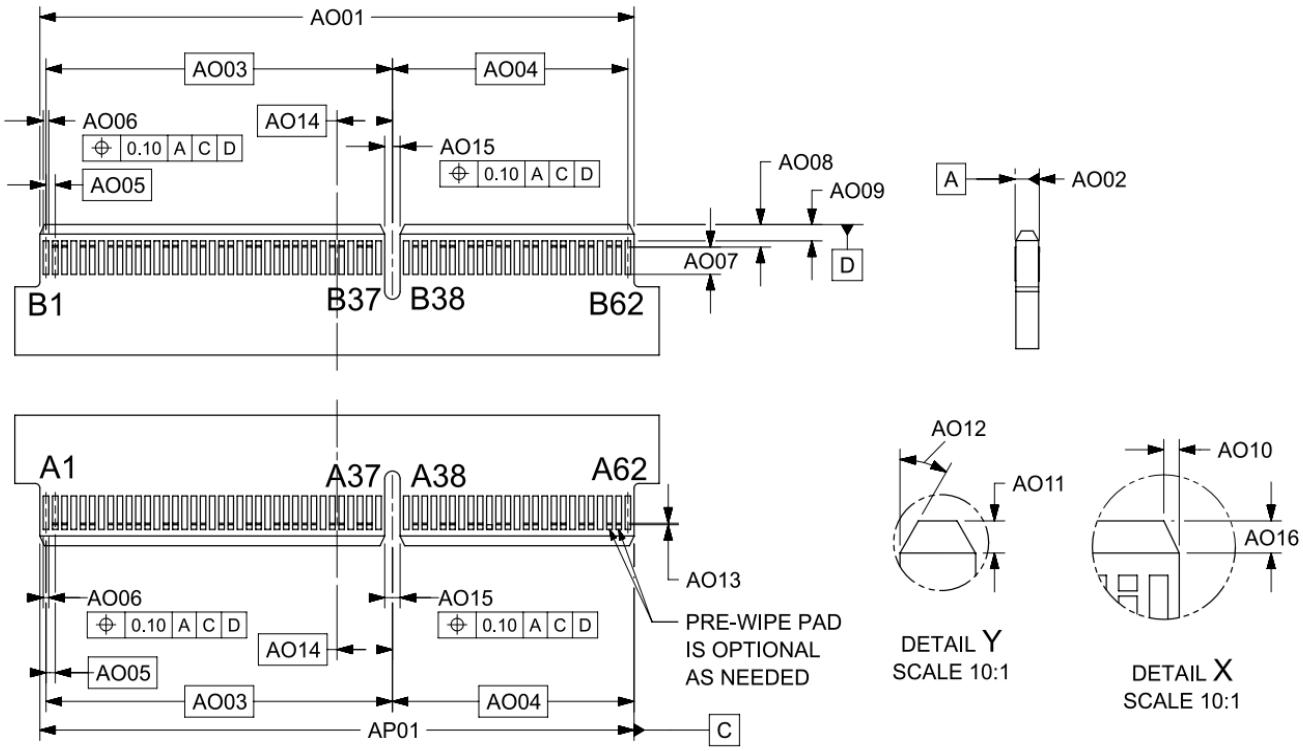


Figure 6-18 Plug Paddle-Card with 124 Contacts

Table 6-17 Dimensions Table for Plug Paddle-Card with 124 Contacts

Designator	Description	Dimension	Tolerance +/-
AO01	Interface Card Width	38.60	±0.05
AO02	Paddle Card Thickness	1.57	±0.15
AO03	Key Slot Center to First Pad Center	22.50	Basic
AO04	Key Slot Center to Last Pad Center	15.30	Basic
AO05	Pad Pitch (Center to Center)	0.60	Basic
AO06	Pad Width	0.36	±0.03
AO07	Pad Length – Second-mate	1.70	Min
AO08	Second-mate Pad to Card Edge	1.45	±0.10
AO09	First-mate Pad to Card Edge	1.05	±0.10
AO10	Corner Chamfer Width	0.30	±0.13
AO11	Lead-in Angle Length	0.62	±0.13
AO12	Lead-in Angle	30.00	±5°
AO13	Second Mate Pad to Pre-wipe Pad Gap	0.10	Ref.
AO14	Key Slot to Datum C (Paddle Card Centerline)	3.60	Basic
AO15	Key Slot Width	1.00	±0.05
AO16	Corner Chamfer Length	0.62	±0.13

6.3.6 Plug Paddle Card with 130 Contacts

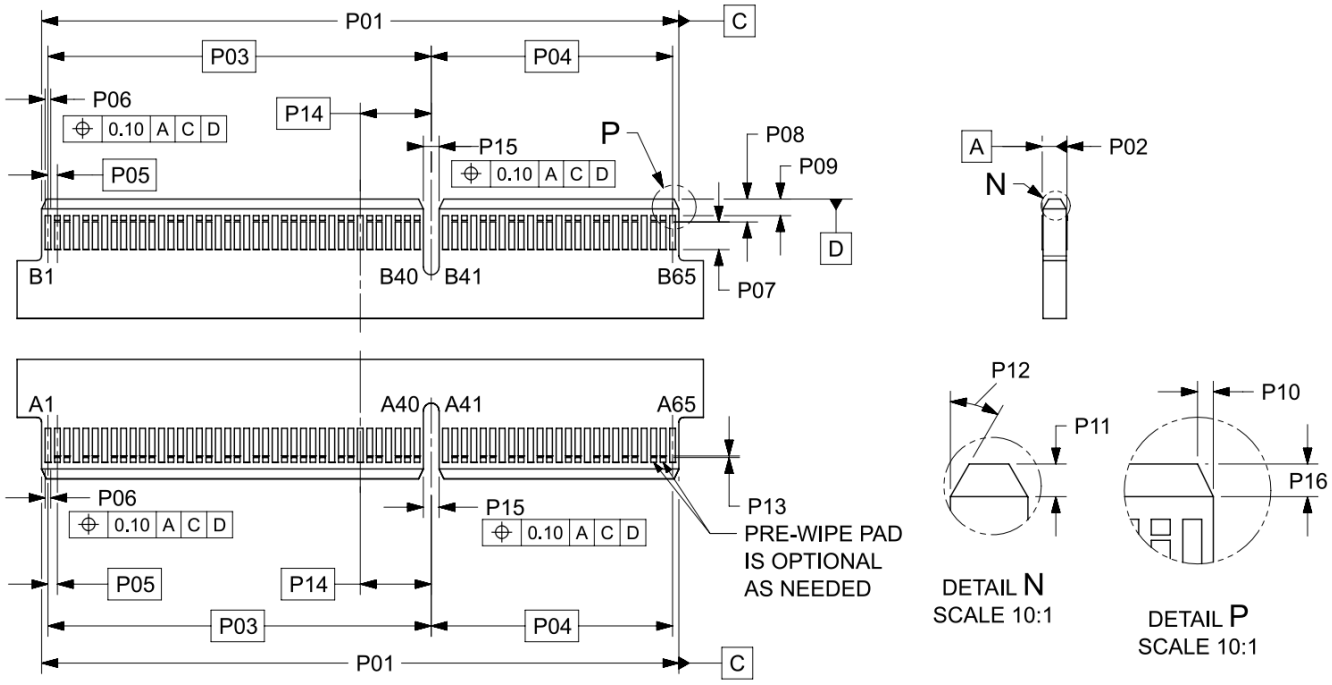


Figure 6-19 Plug Paddle-Card with 130 Contacts

Table 6-18 Dimensions Table for Plug Paddle-Card with 130 Contacts

Designator	Description	Dimension	Tolerance +/-
P01	Interface Card Width	40.40	±0.05
P02	Paddle Card Thickness	1.57	±0.15
P03	Key Slot Center to First Pad Center	24.30	Basic
P04	Key Slot Center to Last Pad Center	15.30	Basic
P05	Pad Pitch (Center to Center)	0.60	Basic
P06	Pad Width	0.36	±0.03
P07	Pad Length – Second-mate	1.70	Min
P08	Second-mate Pad to Card Edge	1.45	±0.10
P09	First-mate Pad to Card Edge	1.05	±0.10
P10	Corner Chamfer Width	0.30	±0.13
P11	Lead-in Angle Length	0.62	±0.13
P12	Lead-in Angle	30	±5°
P13	Second Mate Pad to Pre-wipe Pad Gap	0.1	Ref.
P14	Key Slot to Datum C (Paddle Card Centerline)	4.50	Basic
P15	Key Slot Width	1.00	±0.05
P16	Corner Chamfer Length	0.62	±0.13

6.3.7 Plug Paddle Card with 148 Contacts

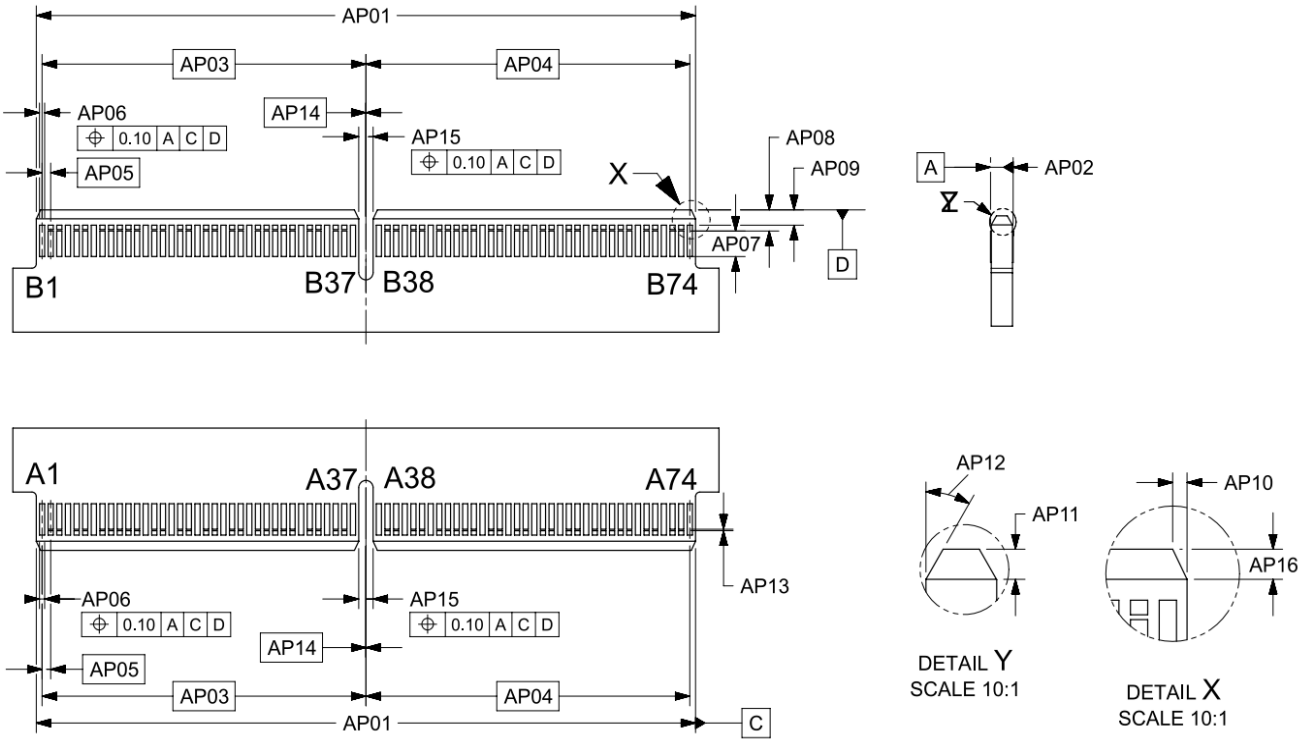


Figure 6-20 Plug Paddle-Card with 148 Contacts

Table 6-19 Dimensions Table for Plug Paddle-Card with 148 Contacts

Designator	Description	Dimension	Tolerance +/-
AP01	Interface Card Width	45.80	±0.05
AP02	Paddle Card Thickness	1.57	±0.15
AP03	Key Slot Center to First Pad Center	22.50	Basic
AP04	Key Slot Center to Last Pad Center	22.50	Basic
AP05	Pad Pitch (Center to Center)	0.60	Basic
AP06	Pad Width	0.36	±0.03
AP07	Pad Length – Second-mate	1.70	Min
AP08	Second-mate Pad to Card Edge	1.45	±0.10
AP09	First-mate Pad to Card Edge	1.05	±0.10
AP10	Corner Chamfer Width	0.30	±0.13
AP11	Lead-in Angle Length	0.62	±0.13
AP12	Lead-in Angle	30.00	±5°
AP13	Second Mate Pad to Pre-wipe Pad Gap	0.10	Ref.
AP14	Key Slot to Datum C (Paddle Card Centerline)	0.00	Basic
AP15	Key Slot Width	1.00	±0.05
AP16	Corner Chamfer Length	0.62	±0.13

6.3.8 Plug Paddle Card with 154 Contacts

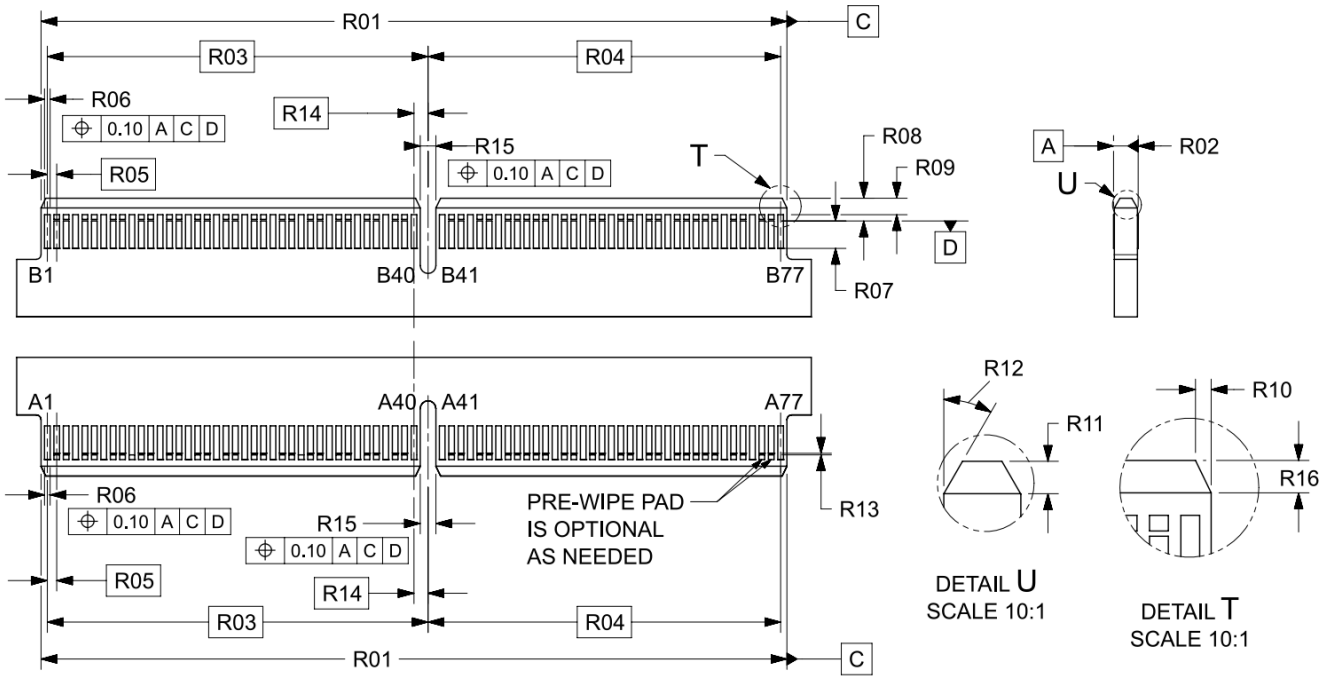


Figure 6-21 Plug Paddle-Card with 154 Contacts

Table 6-20 Dimensions Table for Plug Paddle-Card with 154 Contacts

Designator	Description	Dimension	Tolerance +/-
R01	Interface Card Width	47.60	±0.05
R02	Paddle Card Thickness	1.57	±0.15
R03	Key Slot Center to First Pad Center	24.30	Basic
R04	Key Slot Center to Last Pad Center	22.50	Basic
R05	Pad Pitch (Center to Center)	0.60	Basic
R06	Pad Width	0.36	±0.03
R07	Pad Length – Second-mate	1.70	Min
R08	Second-mate Pad to Card Edge	1.45	±0.10
R09	First-mate Pad to Card Edge	1.05	±0.10
R10	Corner Chamfer Width	0.30	±0.13
R11	Lead-in Angle Length	0.62	±0.13
R12	Lead-in Angle	30	±5°
R13	Second Mate Pad to Pre-wipe Pad Gap	0.1	Ref.
R14	Key Slot to Datum C (Paddle Card Centerline)	0.90	Basic
R15	Key Slot Width	1.00	±0.05
R16	Corner Chamfer Length	0.62	±0.13

7. Test Requirements and Methodologies (TS-1000, etc.)

7.1 Performance Tables

EIA-364-1000 (TS-1000) shall be used to define the test sequences and procedures for evaluating the connector system described in this document. Where multiple test options are available, the manufacturer shall select the appropriate option where not previously specified. The selected procedure should be noted when reporting data.

If there are conflicting requirements or test procedures between EIA-364 procedures and those contained within this document, this document shall be considered the prevailing authority.

Unless otherwise specified, procedures for sample size, data, and collection to be followed as specified in EIA-364-1000. See EIA-364-1000 Annex B for objectives of tests and test groups.

Table 7-1 summarizes the performance criteria that are to be satisfied by the connector described in this document. Most performance criteria are validated by EIA-364-1000 testing, but this test suite leaves some test details to be determined. To ensure that testing is repeatable, these details are identified in Table 7-2. Finally, testing procedures used to validate any performance criteria not included in EIA-364-1000 are provided in Table 7-3.

Table 7-1 Form Factor Performance Requirements

Performance Parameters	Description/ Details	Requirement
Mechanical/ Physical Requirements		
Plating Type	Plating type on connector contacts	Precious
Surface Treatment	Surface treatment on connector contacts	Non-lubricated
Wipe length	Designed distance a contact traverses over a mating contact surface during mating and resting at a final position	Greater than 0.127mm
Rated Durability Cycles	The expected number of durability cycles a component is expected to encounter over the course of its life	Connector/ cage: 200 cycles Module: 200 cycles
Latched Mating Force*	Amount of force needed to mate a module with a connector when latches are deactivated	1.1N/contact pair +10 N MAX
Latched Unmating Force*	Amount of forced needed to separate a module from a connector when latches are deactivated	0.1N/contact pair MIN
Latch Retention*	Amount of force the latching mechanism can withstand	50 N MIN

Table 7-1 Form Factor Performance Requirements (Continued)

Performance Parameters	Description/ Details	Requirement
Environmental Requirements		
Field Life	The expected service life for a component	10 years
Field Temperature	The expected service temperature for a component	0°C to +65°C
Storage Temperature*	The expected storage temperature for a component when not in use	-20°C to +80°C
Storage Humidity*	The expected storage humidity for a component when not in use	80% Relative Humidity
Environmental Requirements		
Current*	*Maximum current to which a contact is exposed in use*	1.1A per contact MAX 1.1A per power contact MAX
Operating Rating Voltage	*Maximum voltage to which a contact is exposed in use*	30V DC per contact MAX
NOTE: Performance criteria denoted with stars (*) are not validated by EIA-364-1000 testing. Refer to **Table 7-3** for test procedures and pass/fail criteria.		

Table 7-2 describes the details necessary to perform the tests described in the EIA-364-1000 test sequences. Testing shall be done in accordance with EIA-364-1000 and the test procedures it identifies in such a way that the parameters/ requirements defined in Table 7-1 are met. Any information in this table supersedes EIA-364-1000.

Table 7-2 EIA-364-1000 Test Details

Test	Test Descriptions and Details	Pass/ Fail Criteria
Mechanical/ Physical Tests		
Durability (preconditioning)	EIA-364-09 To be tested with connector, cage, and module (Latches should be locked)	No evidence of physical damage
Durability (see Note 1)	EIA-364-09 To be tested with connector, cage, and module (Latches should be locked out per EIA-364-1000)	No visual damage to mating interface or latching mechanism
Environmental Tests		
Mixed Flowing Gas (see Note 2)	EIA-364-65 Class II See Table 4.1 in EIA-364-1000 for exposure times Test option Per EIA-364-1000: 4	No intermediate test criteria
Electrical Tests		
Low Level Contact Resistance (see Note 3)	EIA-364-23 20 mV DC MAX, 100 mA MAX To include wire termination or connector-to-board termination	20 mΩ MAX change from baseline
Dielectric Withstanding Voltage	EIA-364-20 Method B 300 VDC minimum for 1 minute Applied voltage may be product / application specific	No defect or breakdown between adjacent contacts -AND- 0.5 mA Max Leakage Current

NOTES:
1. If the durability requirement on the connector is greater than that of the module, modules may be replaced after their specified durability rating.
2. Test option, temperature, duration must be reported.
3. The first low level contact resistance reading in each test sequence is used to determine a baseline measurement. Subsequent measurements in each sequence are measured against this baseline.

Table 7-3 describes the testing procedures necessary to validate performance criteria not validated by EIA-364-1000 testing. The tests are to be performed in such a way that the parameters/ requirements defined in Table 7-1 are met.

Table 7-3 Additional Test Procedures

Test	Test Descriptions and Details	Pass/ Fail Criteria
Mechanical/ Physical Tests		
Latched Mating Force	EIA-364-13 To be tested with cage, connector, and module without heat sinks Latching mechanism deactivated (locked out)	Refer to Table 7-1 -AND- No physical damage to any components
Latched Unmating Force	EIA-364-13 To be tested with cage, connector, and module without heat sinks Latching mechanism deactivated (locked out)	
Latch Retention	EIA-364-13 To be tested with cage, connector, and module without heat sinks Latching mechanism engaged (not locked out)	
Environmental Tests		
Storage Temperature	EIA-364-32 Method A, Test Condition 1, Duration 4 Use min and max Field Temperatures listed in Table 7-1 for temperature range	Refer to Table 7-1
Storage Humidity	EIA-364-31	Refer to Table 7-1
Electrical Tests		
Current	EIA-364-70 Method 3, 30-degree temperature rise Contacts energized: Up to a maximum of 6 adjacent contacts per side, 12 contacts total.	Refer to Table 7-1 for current magnitude

8. Signal Integrity Requirements

Refer to the appropriate performance specifications required by the specific application e.g PCIe, Ethernet, SAS, Fibre Channel, InfiniBand, etc.

Appendix A. System Mechanical Specification

All material within this section, whether defined as normative or informative, is subject to IP disclosure and RAND terms by SNIA SFF TA TWG member companies.

A.1 PCB Layout

This section provides recommended footprints for vertical and right angle connector receptacles.

A.1.1. Recommended PCB layout for 38P Connector Footprints

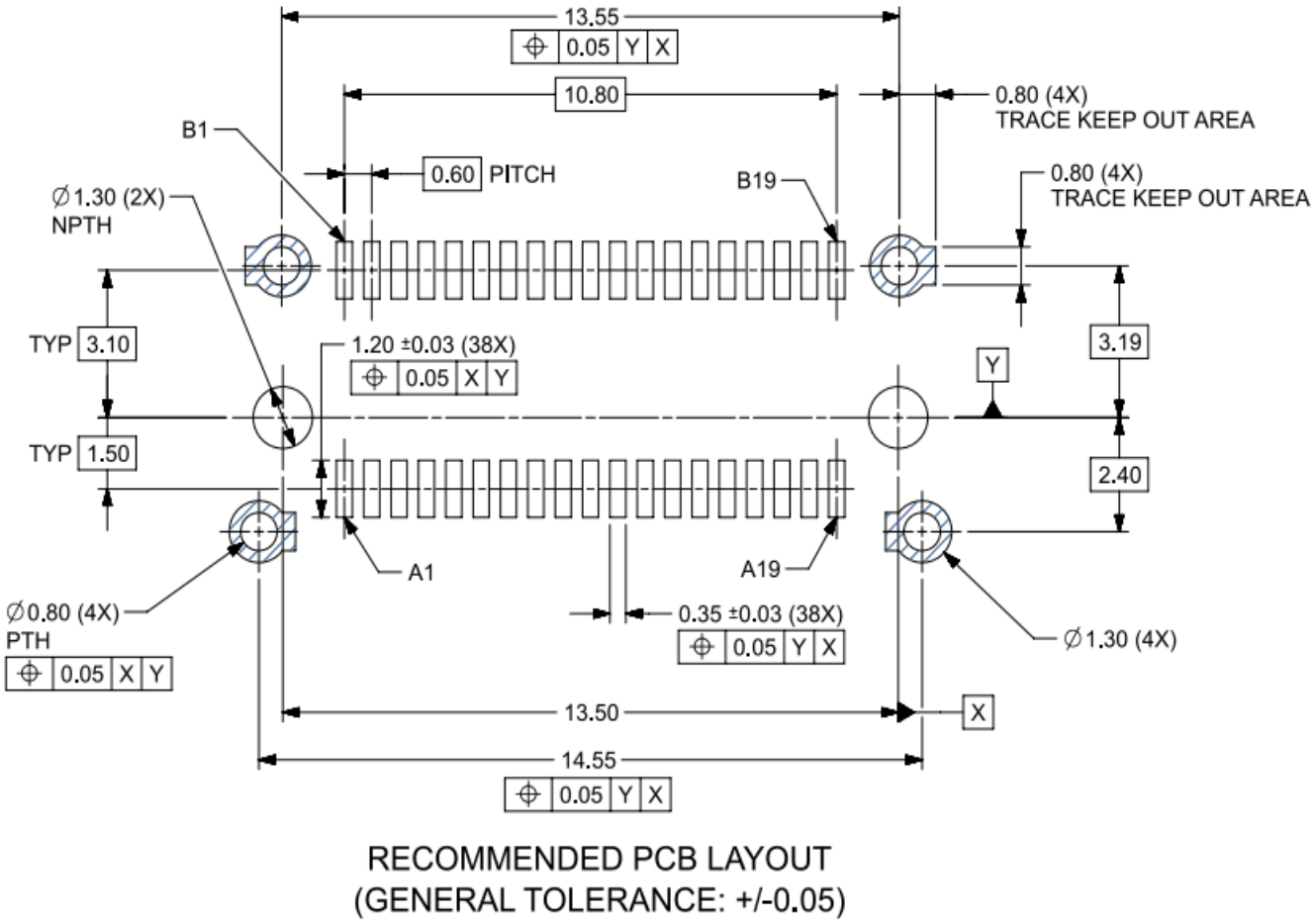


Figure A-1 Recommended Footprint for Vertical 38P Style A Connector Receptacle

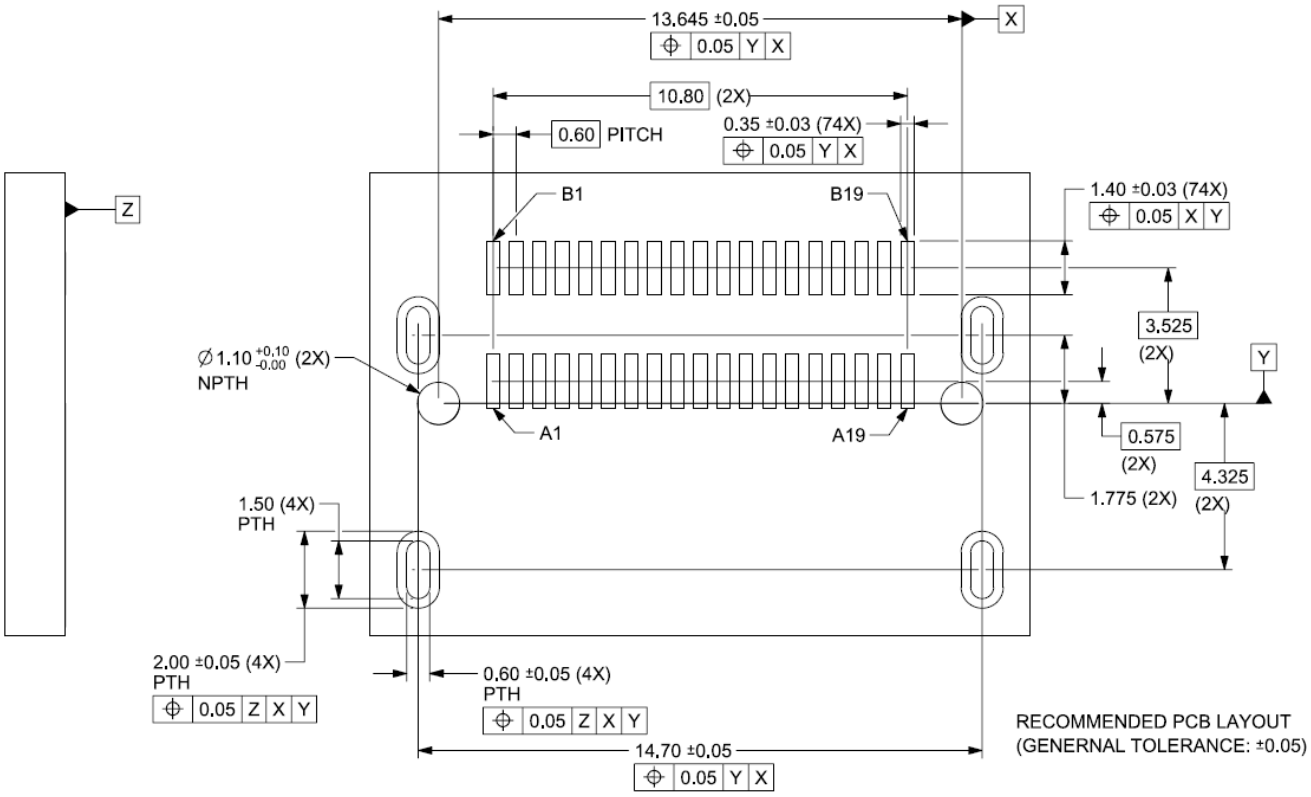


Figure A-2 Recommended Footprint for Right Angle 38P Style A Connector Receptacle

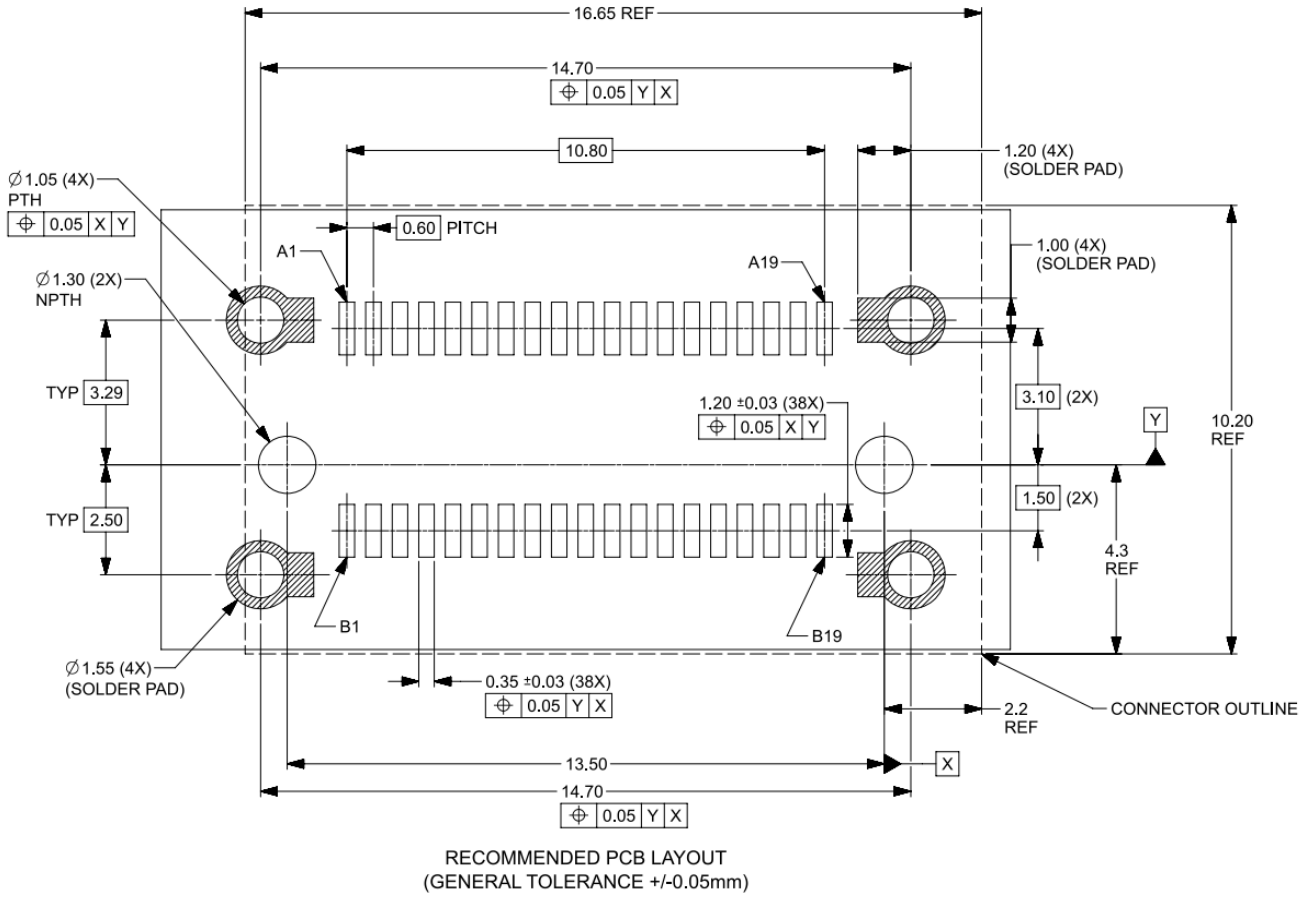
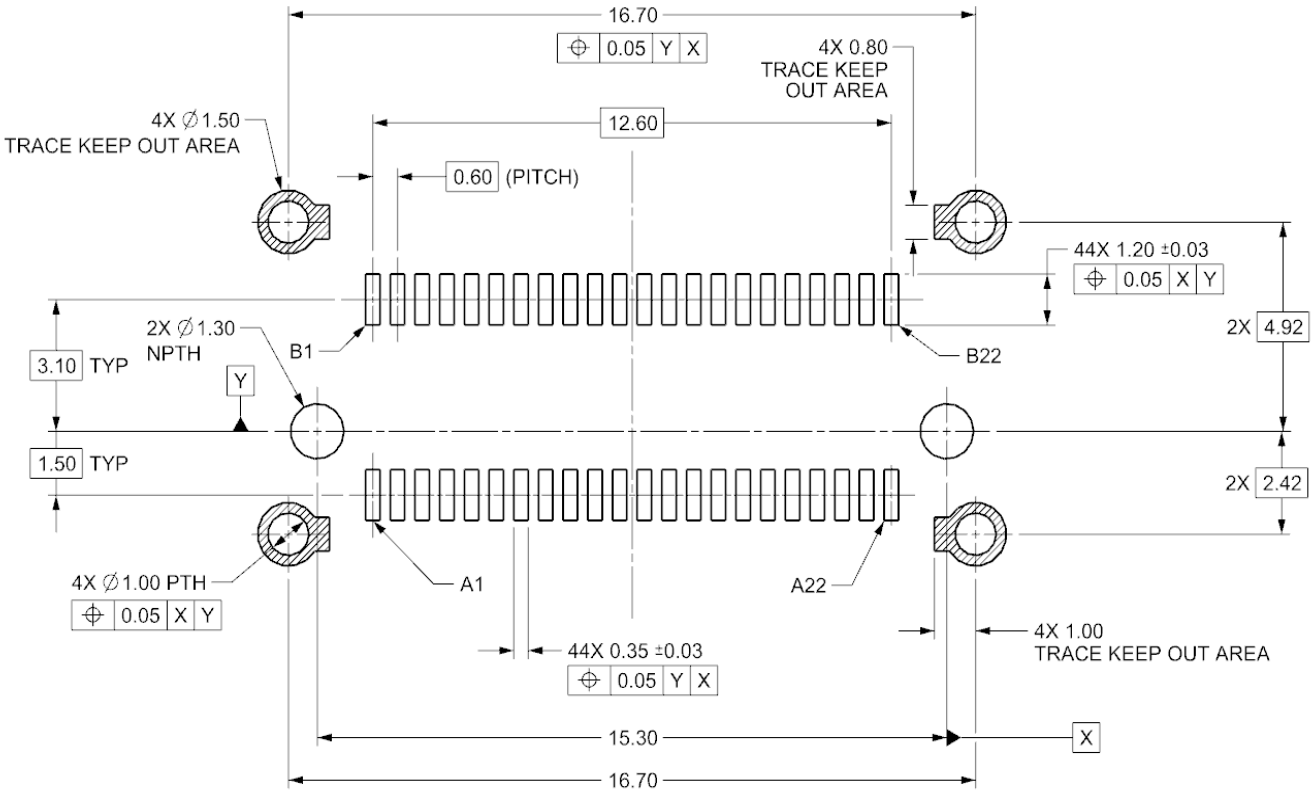


Figure A-3 Recommended Footprint for Vertical 38P Style B "Ortho" Connector Receptacle

A.1.2. Recommended PCB layout for 44P Connector Footprints



RECOMMENDED PCB LAYOUT FOR CONNECTOR WITHOUT CAP
(GENERAL TOLERANCES: ±0.05)

Figure A-4 Recommended Footprint for Vertical 44P Connector Receptacle

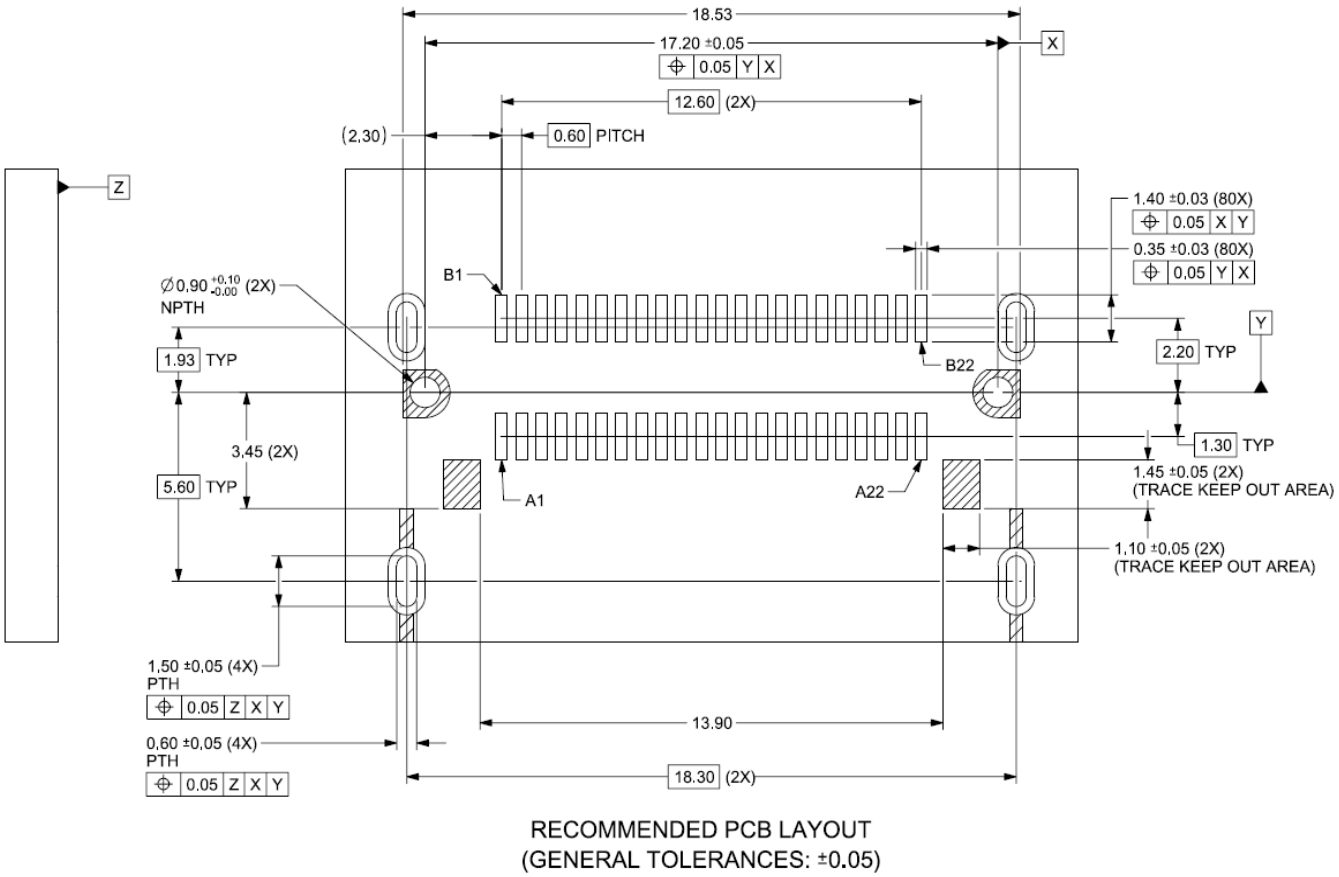


Figure A-5 Recommended Footprint for Right Angle 44P Connector Receptacle

A.1.3. Recommended PCB layout for 74P Connector Footprints

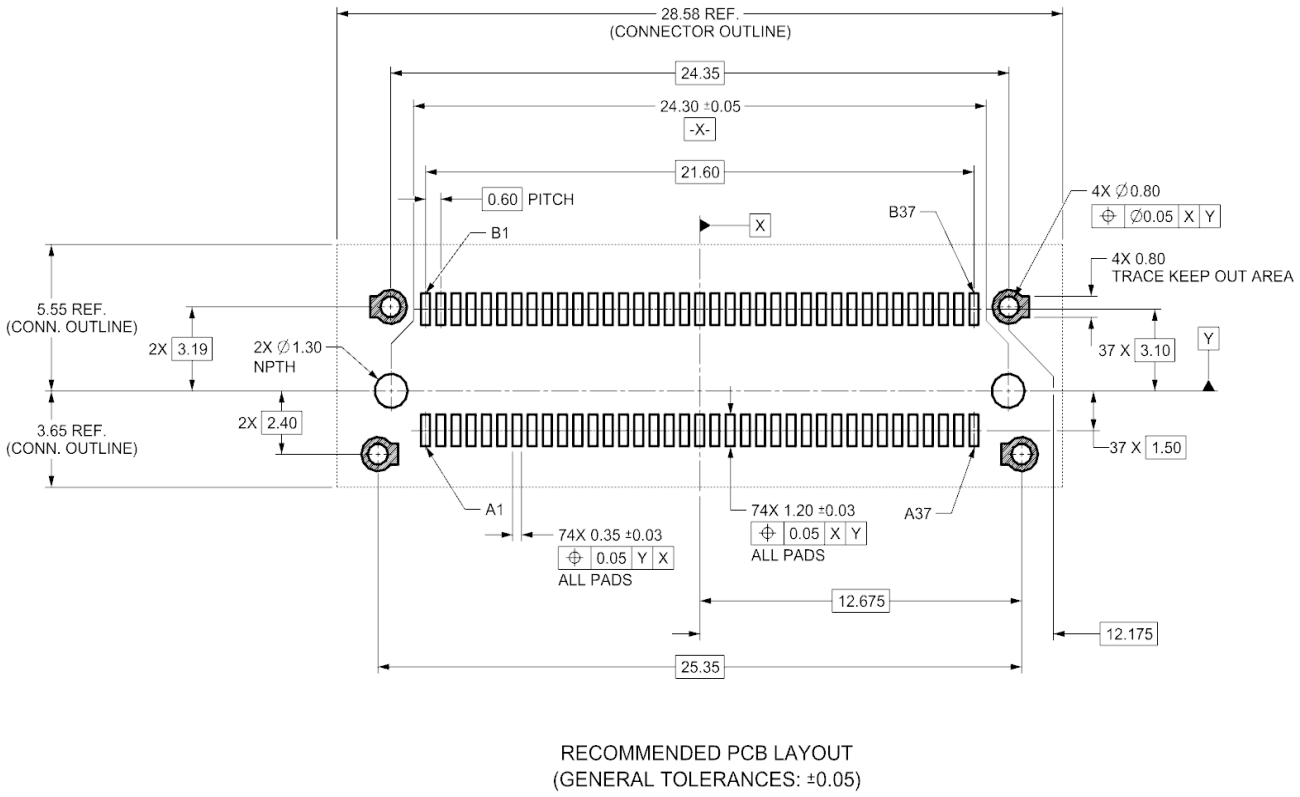


Figure A-6 Recommended Footprint for Vertical 74P Connector Receptacle

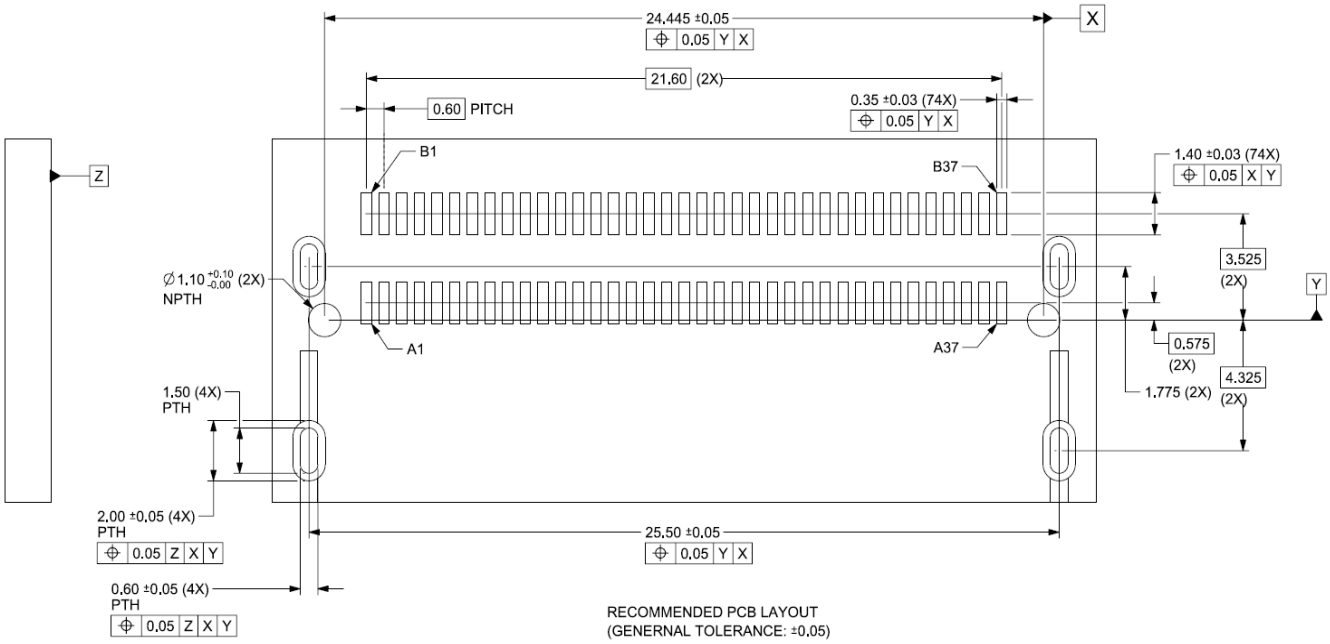
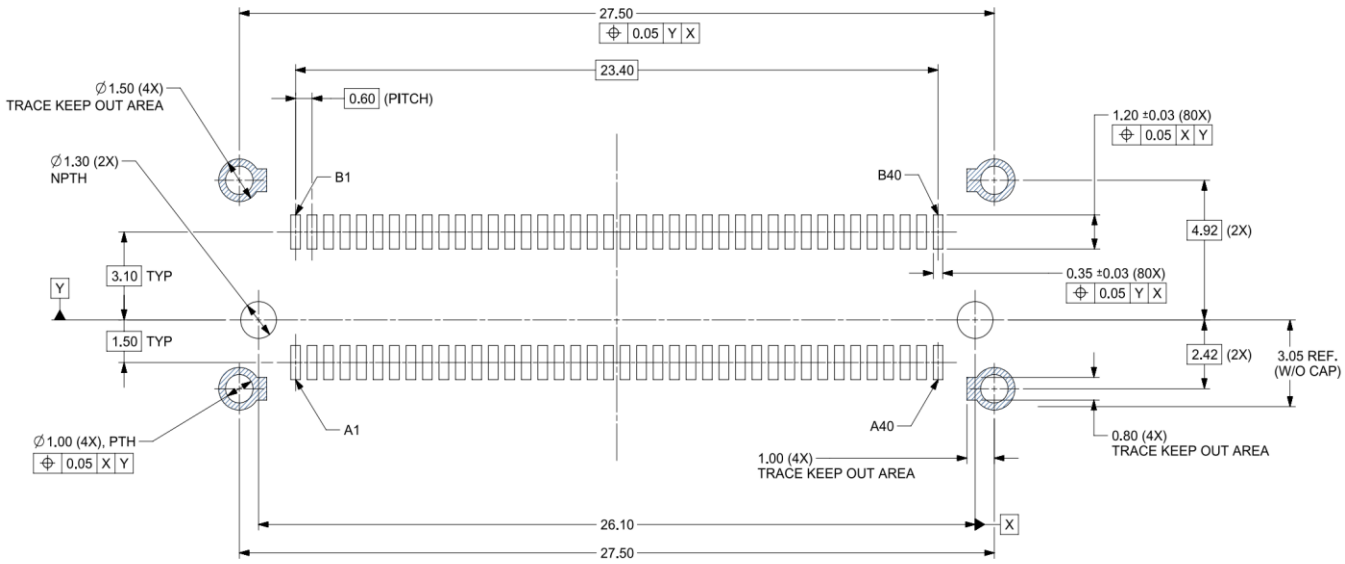


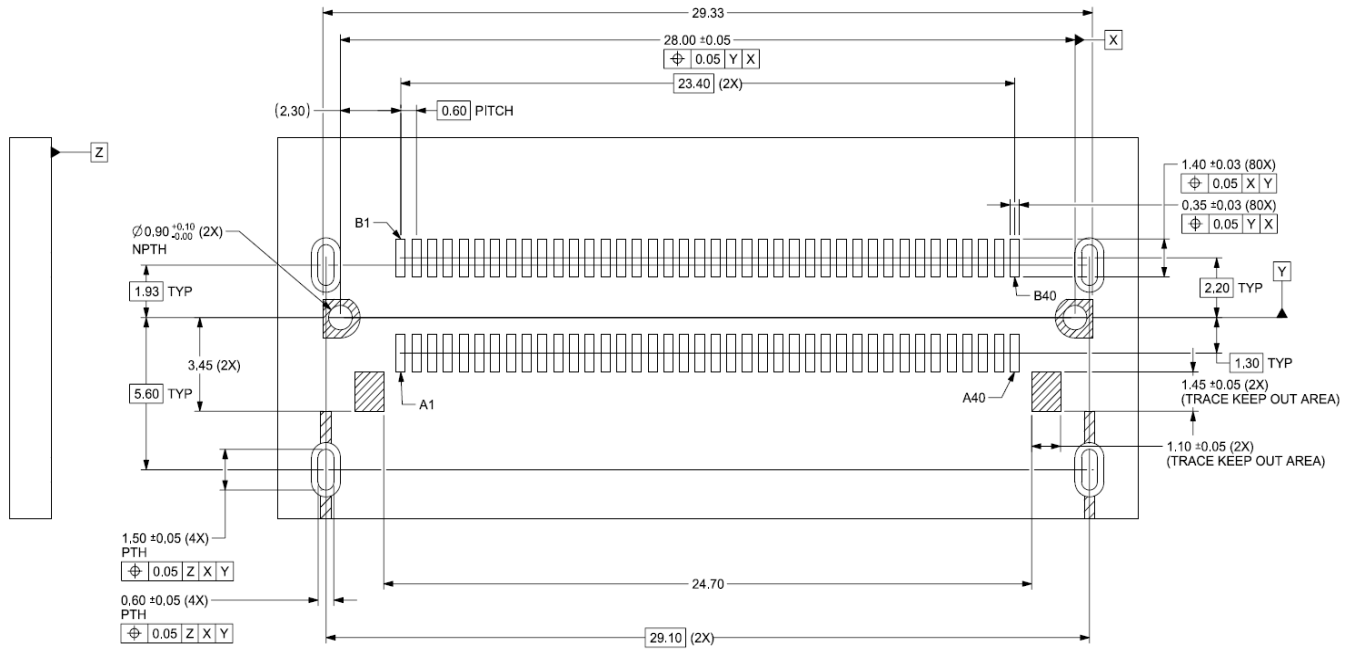
Figure A-7 Recommended Footprint for Right Angle 74P Connector Receptacle

A.1.4. Recommended PCB layout for 80P Connector Footprints



RECOMMENDED PCB LAYOUT FOR CONNECTOR WITHOUT CAP
(GENERAL TOLERANCES: ±0.05)

Figure A-8 Recommended Footprint for Vertical 80P Connector Receptacle



RECOMMENDED PCB LAYOUT
(GENERAL TOLERANCES: ±0.05)

Figure A-9 Recommended Footprint for Right Angle 80P Connector Receptacle

A.1.5. Recommended PCB layout for 124P Connector Footprints

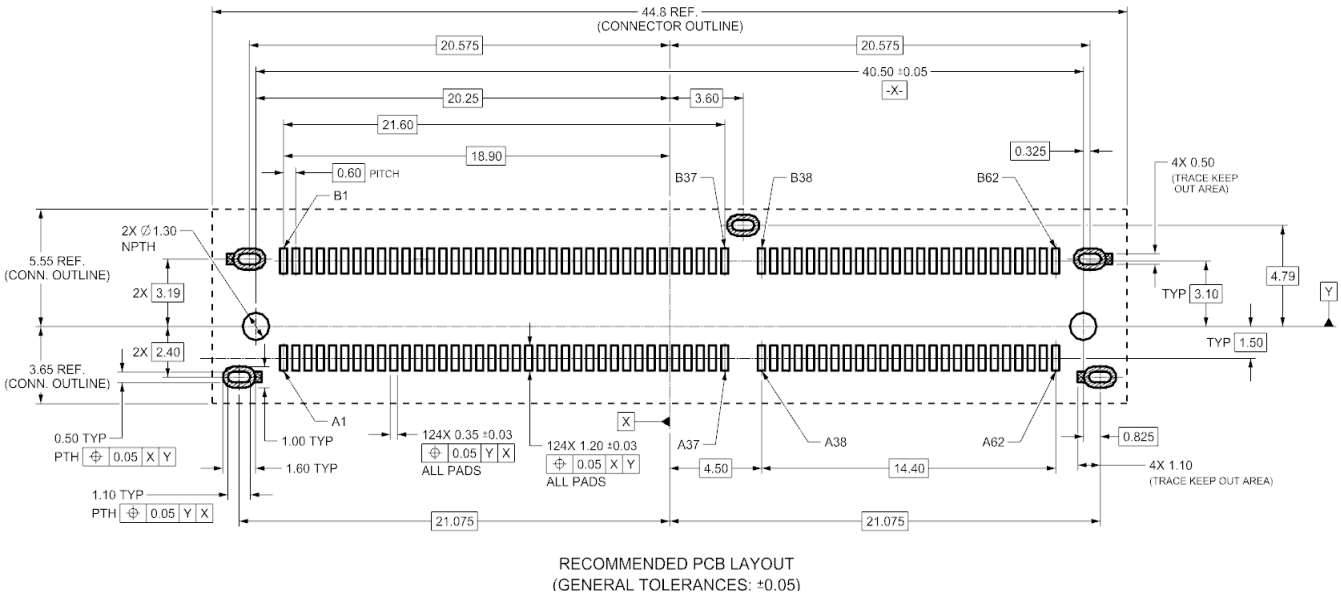


Figure A-10 Recommended Footprint for Vertical 124P Connector Receptacle

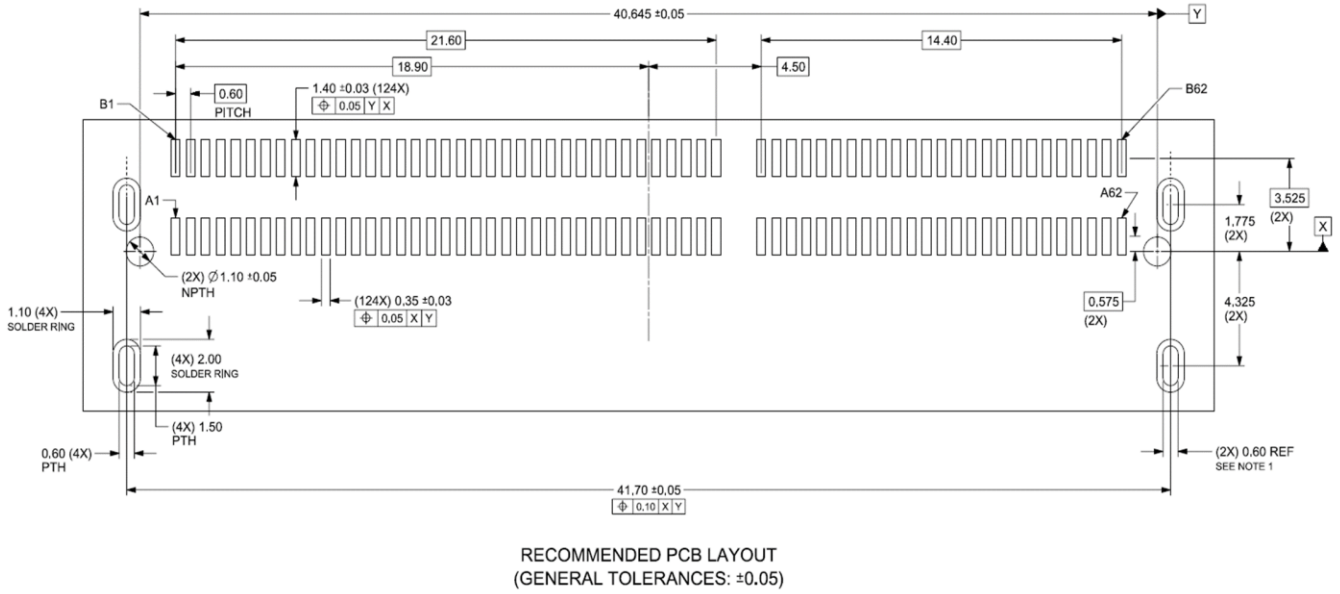
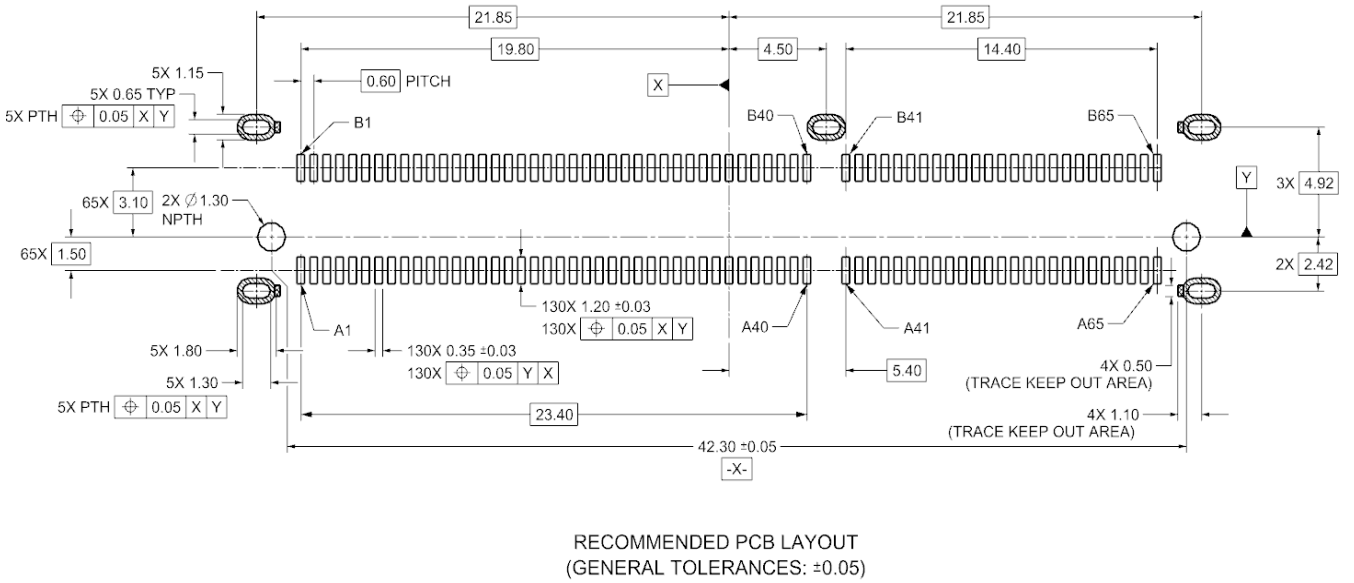


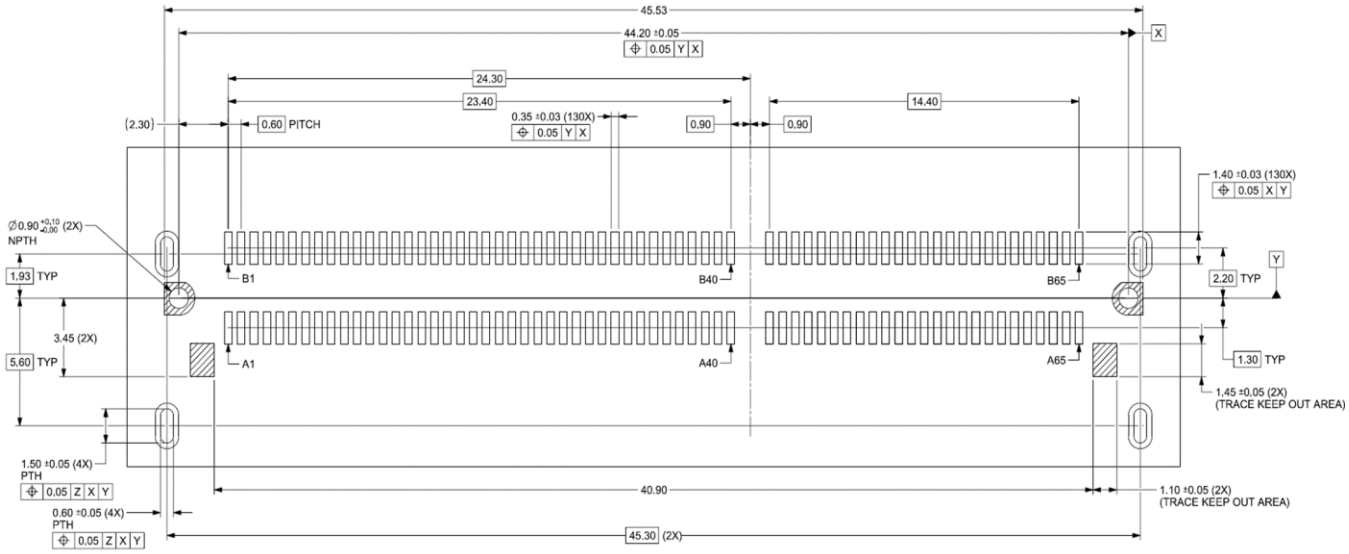
Figure A-11 Recommended Footprint for Right Angle 124P Connector Receptacle

A.1.6. Recommended PCB layout for 130P Connector Footprints



RECOMMENDED PCB LAYOUT
(GENERAL TOLERANCES: ±0.05)

Figure A-12 Recommended Footprint for Vertical 130P Connector Receptacle



RECOMMENDED PCB LAYOUT
(GENERAL TOLERANCES: ±0,05)

Figure A-13 Recommended Footprint for Right Angle 130P Connector Receptacle

A.1.7. Recommended PCB layout for 148P Connector Footprints

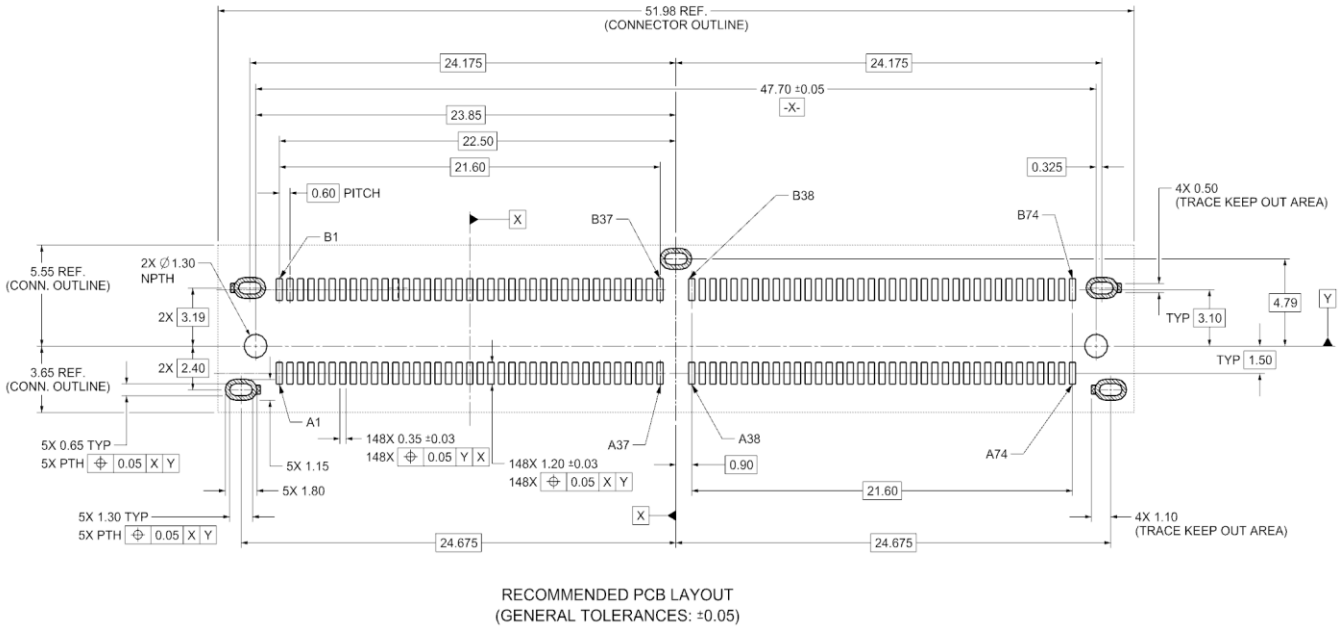


Figure A-14 Recommended Footprint for Vertical 148P Connector Receptacle

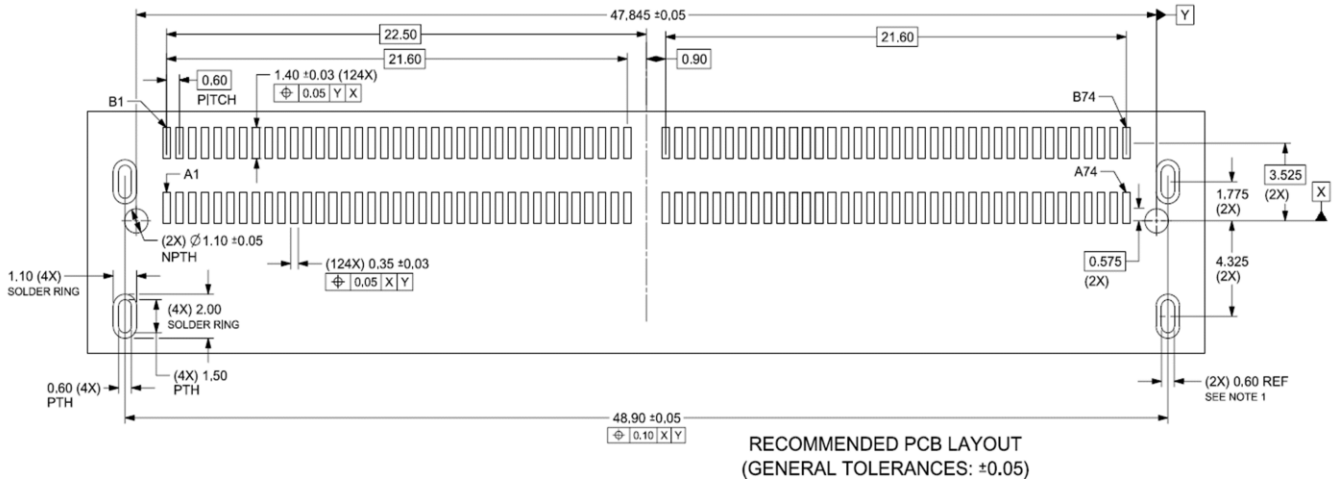
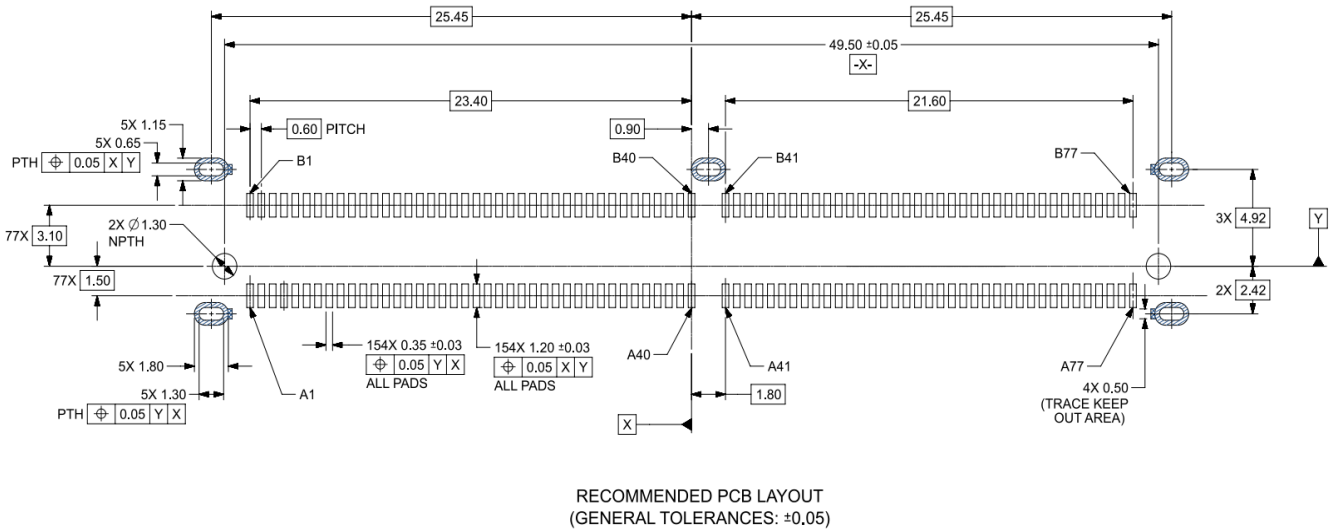


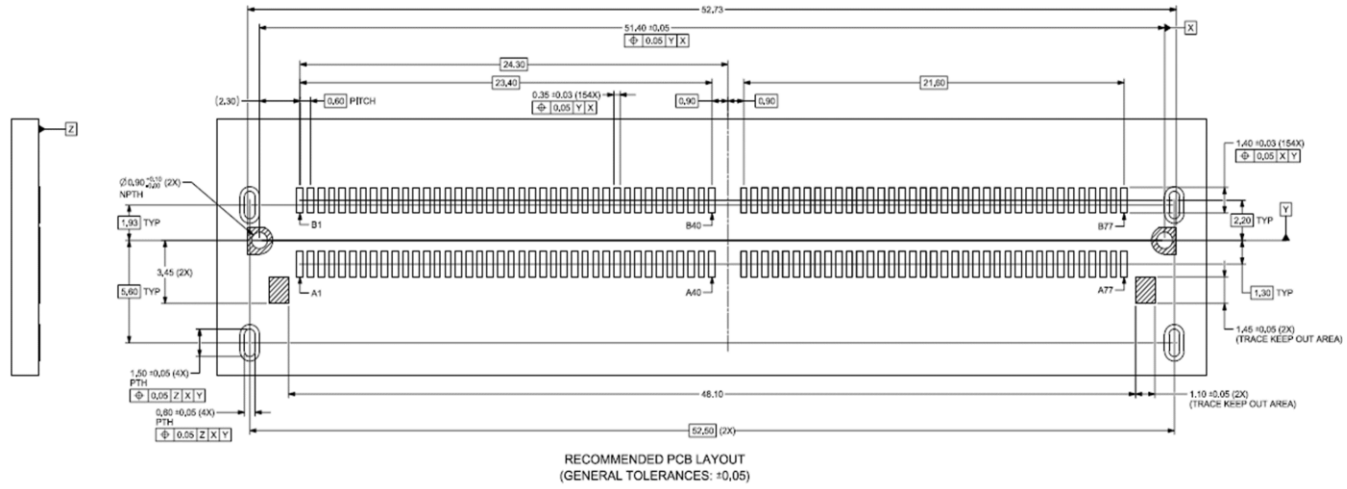
Figure A-15 Recommended Footprint for Right Angle 148P Connector Receptacle

A.1.8. Recommended PCB layout for 154P Connector Footprints



RECOMMENDED PCB LAYOUT
(GENERAL TOLERANCES: ±0.05)

Figure A-16 Recommended Footprint for Vertical 154P Connector Receptacle



RECOMMENDED PCB LAYOUT
(GENERAL TOLERANCES: ±0,05)

Figure A-17 Recommended Footprint for Right Angle 154P Connector Receptacle

Appendix B. Reference Pinout for Style B Connector Cable Assembly (Informative)

B.1 Overview

This section contains the recommended pinout for different variants of the Style B "EDSFF Ortho" connector cable assembly. "GND" indicates a "Ground Contact", "NC" indicates "No Connect".

Table B-1 PCB Pinmap for Sliver Ortho Connector

CONTACT LOCATION	A-SIDE CONTACT TYPES	B-SIDE CONTACT TYPES	CONTACT LOCATION	Connector Variation		
A1	GND	P12V	B1	SLIVER	SLIVER	SLIVER
A2			B2			

CONTACT LOCATION	A-SIDE CONTACT TYPES	B-SIDE CONTACT TYPES	CONTACT LOCATION	Connector Variation		
A3			B3			
A4			B4			
A5			B5			
A6			B6			
A7	SSD_SMBCLK	Unused	B7			
A8	SSD_SMBDATA	Unused	B8			
A9	SSD_EDSFF_SMBRST_N	Reserved	B9			
A10	SSD_EDSFF_LED	SSD_PERST0_N	B10			
A11	Reserved	P3V3_AUX	B11			
A12	SSD_PRSNT_N	SSD_PWRDIS_DEVSLP	B12			
A13	GND	GND	B13			
A14	Unused	SSD_REFCLK0_DN	B14			
A15	Unused	SSD_REFCLK0_DP	B15			
A16	GND	GND	B16			
A17	PERn0	PETn0	B17			
A18	PERp0	PETp0	B18			
A19	GND	GND	B19			
A20	PERn1	PETn1	B20			
A21	PERp1	PETp1	B21			
A22	GND	GND	B22			
A23	PERn2	PETn2	B23			
A24	PERp2	PETp2	B24			
A25	GND	GND	B25			
A26	PERn3	PETn3	B26			
A27	PERp3	PETp3	B27			
A28	GND	GND	B28			
	KEY					
A29	GND	GND	B29			
A30	PERn4	PETn4	B30			
A31	PERp4	PETp4	B31			
A32	GND	GND	B32			
A33	PERn5	PETn5	B33			
A34	PERp5	PETp5	B34			
A35	GND	GND	B35			
A36	PERn6	PETn6	B36			
A37	PERp6	PETp6	B37			
A38	GND	GND	B38			
A39	PERn7	PETn7	B39			
A40	PERp7	PETp7	B40			

CONTACT LOCATION	A-SIDE CONTACT TYPES	B-SIDE CONTACT TYPES	CONTACT LOCATION	Connector Variation		
A41	GND	GND	B41			
A42	Reserved	Reserved	B42			
	KEY					
A43	GND	GND	B29			
A44	PERn8	PETn8	B30			
A45	PERp8	PETp8	B31			
A46	GND	GND	B32			
A47	PERn9	PETn9	B33			
A48	PERp9	PETp9	B34			
A49	GND	GND	B35			
A50	PERn10	PETn10	B36			
A51	PERp10	PETp10	B37			
A52	GND	GND	B38			
A53	PERn11	PETn11	B39			
A54	PERp11	PETp11	B40			
A55	GND	GND	B41			
A56	PERn12	PETn12	B30			
A57	PERp12	PETp12	B31			
A58	GND	GND	B32			
A59	PERn13	PETn13	B33			
A60	PERp13	PETp13	B34			
A61	GND	GND	B35			
A62	PERn14	PETn14	B36			
A63	PERp14	PETp14	B37			
A64	GND	GND	B38			
A65	PERn15	PETn15	B39			
A66	PERp15	PETp15	B40			
A67	GND	GND	B41			
A68	Reserved	Reserved	B39			
A69	Reserved	Reserved	B40			
A70	Reserved	Reserved	B41			
A1	GND	P12V	B1	SFF-TA-1035 (x4)		
A2			B2			
A3			B3			
A4			B4			
A5			B5			
A6			B6			
A7	SSD_SMBCLK	Reserved	B7			
A8	SSD_SMBDATA	SSD_PERST0_N	B8			

CONTACT LOCATION	A-SIDE CONTACT TYPES	B-SIDE CONTACT TYPES	CONTACT LOCATION	Connector Variation
A9	SSD_EDSFF_SMBRST_N	P3V3_AUX	B9	
A10	SSD_EDSFF_LED	SSD_PWRDIS_DEVSLP	B10	
A11	Reserved	GND	B11	
A12	SSD_PRSNT_N	SSD_REFCLK0_DN	B12	
A13	GND	SSD_REFCLK0_DP	B13	
A14	NXS_FLEXIO3_A	NXS_I3C_DAT	B14	
A15	NXS_FLEXIO4_A	NXS_I3C_CLK	B15	
A16	NXS_FLEXIO0_A	NXS_FLEXIO1_A	B16	
A17	GND	NXS_FLEXIO2_A	B17	
A18	NXS_REFCLK_A_DN	NXS_PERST_A_N	B18	
A19	NXS_REFCLK_A_DP	CBL_PRES_A_PESTI_A_N	B19	

Table B-2 Cable Pinout 74P to 2-Silver 1C Ortho

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3)**		
Pin#	**Net Name**	**Signal**	**Net Name**	**Pin#**	
A1	GND	- -	GND	A16	P2-SFF-TA-1002 (Sliver 1C)
A2	PERp0	—	PERn0	A17	
A3	PERn0	—	PERp0	A18	
A4	GND	- -	GND	A19	
A5	PERp1	—	PERn1	A20	
A6	PERn1	—	PERp1	A21	
A7	GND	- -	GND	A22	
A8	3p3AUX_MGMT	NC	NC		
A9	FLEXIO0_A	—	NXS_FLEXIO0_A(SMB_HP_ALERT_N)	A16	P2-SFF-TA-1035 (38P)
A10	GND	- -	GND	A17	
A11	REFCLK_A_DP	—	NXS_REFCLK_A_DP	A18	
A12	REFCLK_A_DN	—	NXS_REFCLK_A_DN	A19	
A13	GND	- -	GND	A22	P2-SFF-TA-1002 (Sliver 1C)
A14	PERp2	—	PERn2	A23	
A15	PERn2	—	PERp2	A24	
A16	GND	- -	GND	A25	
A17	PERp3	—	PERn3	A26	
A18	PERn3	—	PERp3	A27	
A19	GND	- -	GND	A28	
		- -		A16	P3-SFF-TA-1002 (Sliver 1C)
A20	PERp4	—	PERn4	A17	
A21	PERn4	—	PERp4	A18	
A22	GND	- -	GND	A19	
A23	PERp5	—	PERn5	A20	

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3)**		
A24	PERn5	—	PERp5	A21	
A25	GND	- -	GND	A22	
A26	FLEXIO5_A	NC	NC		
A27	FLEXIO6_A	NC	NC		
A28	GND	- -	NC		
A29	USB2_A_DP	NC	NC		
A30	USB2_A_DP	NC	NC		
A31	GND	- -	GND	A22	P3-SFF-TA-1002 (Sliver 1C)
A32	PERp6	—	PERn6	A23	
A33	PERn6	—	PERp6	A24	
A34	GND	- -	GND	A25	
A35	PERp7	—	PERn7	A26	
A36	PERn7	—	PERp7	A27	
A37	GND	- -	GND	A28	
B1	GND	- -	GND	B16	P2-SFF-TA-1002 (Sliver 1C)
B2	PETp0	—	PETn0	B17	
B3	PETn0	—	PETp0	B18	
B4	GND	- -	GND	B19	
B5	PETp1	—	PETn1	B20	
B6	PETn1	—	PETp1	B21	
B7	GND	- -	GND	B22	
B8	SMSCL_A		NXS_I3C_DAT	B14	P2-SFF-TA-1035 (38P)
B9	SMSDA_A		NXS_I3C_CLK	B15	
B10	GND	- -	GND	/	
B11	PERST_A_N	—	NXS_PERST_A_N	B18	
B12	CBL_PRES_A_PESTI_A_N	—	CBL_PRES_A_PESTI_A_N	B19	
B13	GND	- -	GND	B22	P2-SFF-TA-1002 (Sliver 1C)
B14	PETp2	—	PETn2	B23	
B15	PETn2	—	PETp2	B24	
B16	GND	- -	GND	B25	
B17	PETp3	—	PETn3	B26	
B18	PETn3	—	PETp3	B27	
B19	GND	- -	GND	B28	
		- -		B16	P3-SFF-TA-1002 (Sliver 1C)
B20	PETp4	—	PETn4	B17	
B21	PETn4	—	PETp4	B18	
B22	GND	- -	GND	B19	
B23	PETp5	—	PETn5	B20	
B24	PETn5	—	PETp5	B21	
B25	GND	- -	GND	B22	

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3)**		
B26	FLEXIO3_A	—	NXS_FLEXIO3_A(SMB_HP_CLK)	A14	P3-SFF-TA-1035 (38P)
B27	FLEXIO4_A	—	NXS_FLEXIO4_A(SMB_HP_DAT)	A15	
B28	GND	NC	NC		
B29	FLEXIO1_A	—	NXS_FLEXIO1_A(SPARE)	B16	
B30	FLEXIO2_A	—	NXS_FLEXIO2_A(ENDPOINT_PRSNT_N)	B17	
B31	GND	- -	GND	B22	P3-SFF-TA-1002 (Sliver 1C)
B32	PETp6	—	PETn6	B23	
B33	PETn6	—	PETp6	B24	
B34	GND	- -	GND	B25	
B35	PETp7	—	PETn7	B26	
B36	PETn7	—	PETp7	B27	
B37	GND	- -	GND	B28	

Table B-3 Cable Pinout 74P to 4-Sliver 1C Ortho

SFF-TA-1035 (P1)			**4- Sliver 1C Ortho (P2/P3/P4/P5)**		
Pin#	**Net Name**	**Signal**	**Net Name**	**Pin#**	
A1	GND	- -	GND	A16	P2-SFF-TA-1002 (Sliver 1C)
A2	PERp0	—	PERn0	A17	
A3	PERn0	—	PERp0	A18	
A4	GND	- -	GND	A19	
A5	PERp1	—	PERn1	A20	
A6	PERn1	—	PERp1	A21	
A7	GND	- -	GND	A22	
A8	3p3AUX_MGMT	NC	NC		
A9	FLEXIO0_A	—	NXS_FLEXIO0_A(SMB_HP_ALERT_N)	A16	P2-SFF-TA-1035 (38P)
A10	GND	- -	GND	A17	
A11	REFCLK_A_DP	—	NXS_REFCLK_A_DP	A18	
A12	REFCLK_A_DN	—	NXS_REFCLK_A_DN	A19	
A13	GND	- -	GND	A22	P3-SFF-TA-1002 (Sliver 1C)
A14	PERp2	—	PERn2	A23	
A15	PERn2	—	PERp2	A24	
A16	GND	- -	GND	A25	
A17	PERp3	—	PERn3	A26	
A18	PERn3	—	PERp3	A27	
A19	GND	- -	GND	A28	
		- -		A16	P4-SFF-TA-1002 (Sliver 1C)
A20	PERp4	—	PERn4	A17	
A21	PERn4	—	PERp4	A18	
A22	GND	- -	GND	A19	
A23	PERp5	—	PERn5	A20	

SFF-TA-1035 (P1)			**4- Sliver 1C Ortho (P2/P3/P4/P5)**		
A24	PERn5	—	PERp5	A21	
A25	GND	- -	GND	A22	
A26	FLEXIO5_A	NC	NC		
A27	FLEXIO6_A	NC	NC		
A28	GND	- -	NC		
A29	USB2_A_DP	NC	NC		
A30	USB2_A_DP	NC	NC		
A31	GND	- -	GND	A22	P5-SFF-TA-1002 (Sliver 1C)
A32	PERp6	—	PERn6	A23	
A33	PERn6	—	PERp6	A24	
A34	GND	- -	GND	A25	
A35	PERp7	—	PERn7	A26	
A36	PERn7	—	PERp7	A27	
A37	GND	- -	GND	A28	
B1	GND	- -	GND	B16	P2-SFF-TA-1002 (Sliver 1C)
B2	PETp0	—	PETn0	B17	
B3	PETn0	—	PETp0	B18	
B4	GND	- -	GND	B19	
B5	PETp1	—	PETn1	B20	
B6	PETn1	—	PETp1	B21	
B7	GND	- -	GND	B22	
B8	SMSCL_A		NXS_I3C_DAT	B14	P2-SFF-TA-1035 (38P)
B9	SMSDA_A		NXS_I3C_CLK	B15	
B10	GND	- -	GND	/	
B11	PERST_A_N	—	NXS_PERST_A_N	B18	
B12	CBL_PRES_A_PESTI_A_N	—	CBL_PRES_A_PESTI_A_N	B19	
B13	GND	- -	GND	B22	P3-SFF-TA-1002 (Sliver 1C)
B14	PETp2	—	PETn2	B23	
B15	PETn2	—	PETp2	B24	
B16	GND	- -	GND	B25	
B17	PETp3	—	PETn3	B26	
B18	PETn3	—	PETp3	B27	
B19	GND	- -	GND	B28	
		- -		B16	P4-SFF-TA-1002 (Sliver 1C)
B20	PETp4	—	PETn4	B17	
B21	PETn4	—	PETp4	B18	
B22	GND	- -	GND	B19	
B23	PETp5	—	PETn5	B20	
B24	PETn5	—	PETp5	B21	
B25	GND	- -	GND	B22	

SFF-TA-1035 (P1)			4- Sliver 1C Ortho (P2/P3/P4/P5)		
B26	FLEXIO3_A	—	NXS_FLEXIO3_A(SMB_HP_CLK)	A14	P3-SFF-TA-1035 (38P)
B27	FLEXIO4_A	—	NXS_FLEXIO4_A(SMB_HP_DAT)	A15	
B28	GND	NC	NC		
B29	FLEXIO1_A	—	NXS_FLEXIO1_A(SPARE)	B16	
B30	FLEXIO2_A	—	NXS_FLEXIO2_A(ENDPOINT_PRSNT_N)	B17	
B31	GND	- -	GND	B22	P5-SFF-TA-1002 (Sliver 1C)
B32	PETp6	—	PETn6	B23	
B33	PETn6	—	PETp6	B24	
B34	GND	- -	GND	B25	
B35	PETp7	—	PETn7	B26	
B36	PETn7	—	PETp7	B27	
B37	GND	- -	GND	B28	

Table B-4 Cable Pinout for 74P to 1-Sliver 2C Ortho

SFF-TA-1035 (P1)			1- Sliver 2C Ortho (P2)		
Pin#	**Net Name**	**Signal**	**Net Name**	**Pin#**	
A1	GND	- -	GND	A16	P2-SFF-TA-1002 (Sliver 2C)
A2	PERp0	—	PERn0	A17	
A3	PERn0	—	PERp0	A18	
A4	GND	- -	GND	A19	
A5	PERp1	—	PERn1	A20	
A6	PERn1	—	PERp1	A21	
A7	GND	- -	GND	A22	
A8	3p3AUX_MGMT	NC	NC		
A9	FLEXIO0_A	—	NXS_FLEXIO0_A(SMB_HP_ALERT_N)	A16	P2-SFF-TA-1035 (38P)
A10	GND	- -	GND	A17	
A11	REFCLK_A_DP	—	NXS_REFCLK_A_DP	A18	
A12	REFCLK_A_DN	—	NXS_REFCLK_A_DN	A19	
A13	GND	- -	GND	A22	P2-SFF-TA-1002 (Sliver 2C)
A14	PERp2	—	PERn2	A23	
A15	PERn2	—	PERp2	A24	
A16	GND	- -	GND	A25	
A17	PERp3	—	PERn3	A26	
A18	PERn3	—	PERp3	A27	
A19	GND	- -	GND	A28	
		- -		A29	
A20	PERp4	—	PERn4	A30	
A21	PERn4	—	PERp4	A31	
A22	GND	- -	GND	A32	
A23	PERp5	—	PERn5	A33	

SFF-TA-1035 (P1)			**1- Sliver 2C Ortho (P2)**		
A24	PERn5	—	PERp5	A34	
A25	GND	- -	GND	A35	
A26	FLEXIO5_A	NC	NC		
A27	FLEXIO6_A	NC	NC		
A28	GND	- -	NC		
A29	USB2_A_DP	NC	NC		
A30	USB2_A_DP	NC	NC		
A31	GND	- -	GND	A35	
A32	PERp6	—	PERn6	A36	
A33	PERn6	—	PERp6	A37	
A34	GND	- -	GND	A38	
A35	PERp7	—	PERn7	A39	
A36	PERn7	—	PERp7	A40	
A37	GND	- -	GND	A41	
B1	GND	- -	GND	B16	P2-SFF-TA-1002 (Sliver 2C)
B2	PETp0	—	PETn0	B17	
B3	PETn0	—	PETp0	B18	
B4	GND	- -	GND	B19	
B5	PETp1	—	PETn1	B20	
B6	PETn1	—	PETp1	B21	
B7	GND	- -	GND	B22	
B8	SMSCL_A		NXS_I3C_DAT	B14	P2-SFF-TA-1035 (38P)
B9	SMSDA_A		NXS_I3C_CLK	B15	
B10	GND	- -	GND	/	
B11	PERST_A_N	—	NXS_PERST_A_N	B18	
B12	CBL_PRES_A_PESTI_A_N	—	CBL_PRES_A_PESTI_A_N	B19	
B13	GND	- -	GND	B22	P2-SFF-TA-1002 (Sliver 2C)
B14	PETp2	—	PETn2	B23	
B15	PETn2	—	PETp2	B24	
B16	GND	- -	GND	B25	
B17	PETp3	—	PETn3	B26	
B18	PETn3	—	PETp3	B27	
B19	GND	- -	GND	B28	
		- -		B29	
B20	PETp4	—	PETn4	B30	
B21	PETn4	—	PETp4	B31	
B22	GND	- -	GND	B32	
B23	PETp5	—	PETn5	B33	
B24	PETn5	—	PETp5	B34	
B25	GND	- -	GND	B35	

SFF-TA-1035 (P1)			**1- Sliver 2C Ortho (P2)**		
B26	FLEXIO3_A	—	NXS_FLEXIO3_A(SMB_HP_CLK)	A14	P2-SFF-TA-1035 (38P)
B27	FLEXIO4_A	—	NXS_FLEXIO4_A(SMB_HP_DAT)	A15	
B28	GND	NC	NC		
B29	FLEXIO1_A	—	NXS_FLEXIO1_A(SPARE)	B16	
B30	FLEXIO2_A	—	NXS_FLEXIO2_A(ENDPOINT_PRSNT_N)	B17	
B31	GND	- -	GND	B35	P2-SFF-TA-1002 (Sliver 2C)
B32	PETp6	—	PETn6	B36	
B33	PETn6	—	PETp6	B37	
B34	GND	- -	GND	B38	
B35	PETp7	—	PETn7	B39	
B36	PETn7	—	PETp7	B40	
B37	GND	- -	GND	B41	

Table B-5 Cable Pinout 148P to 4-Sliver 1C Ortho

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3/P4/P5)**		
Pin#	**Net Name**	**Signal**	**Net Name**	**Pin#**	
A1	GND	- -	GND	A16	P2-SFF-TA-1002 (Sliver 1C)
A2	PERp0	—	PERn0	A17	
A3	PERn0	—	PERp0	A18	
A4	GND	- -	GND	A19	
A5	PERp1	—	PERn1	A20	
A6	PERn1	—	PERp1	A21	
A7	GND	- -	GND	A22	
A8	3p3AUX_MGMT	NC	NC		
A9	FLEXIO0_A	—	NXS_FLEXIO0_A(SMB_HP_ALERT_N)	A16	P2-SFF-TA-1035 (38P)
A10	GND	- -	GND	A17	
A11	REFCLK_A_DP	—	NXS_REFCLK_A_DP	A18	
A12	REFCLK_A_DN	—	NXS_REFCLK_A_DN	A19	
A13	GND	- -	GND	A22	P2-SFF-TA-1002 (Sliver 1C)
A14	PERp2	—	PERn2	A23	
A15	PERn2	—	PERp2	A24	
A16	GND	- -	GND	A25	
A17	PERp3	—	PERn3	A26	
A18	PERn3	—	PERp3	A27	
A19	GND	- -	GND	A28	
		- -		A16	P3-SFF-TA-1002 (Sliver 1C)
A20	PERp4	—	PERn4	A17	
A21	PERn4	—	PERp4	A18	
A22	GND	- -	GND	A19	
A23	PERp5	—	PERn5	A20	

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3/P4/P5)**		
A24	PERn5	—	PERp5	A21	
A25	GND	- -	GND	A22	
A26	FLEXIO5_A	NC	NC		
A27	FLEXIO6_A	NC	NC		
A28	GND	- -	NC		
A29	USB2_A_DP	NC	NC		
A30	USB2_A_DP	NC	NC		
A31	GND	- -	GND	A22	P3-SFF-TA-1002 (Sliver 1C)
A32	PERp6	—	PERn6	A23	
A33	PERn6	—	PERp6	A24	
A34	GND	- -	GND	A25	
A35	PERp7	—	PERn7	A26	
A36	PERn7	—	PERp7	A27	
A37	GND	- -	GND	A28	
B1	GND	- -	GND	B16	P2-SFF-TA-1002 (Sliver 1C)
B2	PETp0	—	PETn0	B17	
B3	PETn0	—	PETp0	B18	
B4	GND	- -	GND	B19	
B5	PETp1	—	PETn1	B20	
B6	PETn1	—	PETp1	B21	
B7	GND	- -	GND	B22	
B8	SMSCL_A		NXS_I3C_DAT	B14	P2-SFF-TA-1035 (38P)
B9	SMSDA_A		NXS_I3C_CLK	B15	
B10	GND	- -	GND	/	
B11	PERST_A_N	—	NXS_PERST_A_N	B18	
B12	CBL_PRES_A_PESTI_A_N	—	CBL_PRES_A_PESTI_A_N	B19	
B13	GND	- -	GND	B22	P2-SFF-TA-1002 (Sliver 1C)
B14	PETp2	—	PETn2	B23	
B15	PETn2	—	PETp2	B24	
B16	GND	- -	GND	B25	
B17	PETp3	—	PETn3	B26	
B18	PETn3	—	PETp3	B27	
B19	GND	- -	GND	B28	
		- -		B16	P3-SFF-TA-1002 (Sliver 1C)
B20	PETp4	—	PETn4	B17	
B21	PETn4	—	PETp4	B18	
B22	GND	- -	GND	B19	
B23	PETp5	—	PETn5	B20	
B24	PETn5	—	PETp5	B21	
B25	GND	- -	GND	B22	

SFF-TA-1035 (P1)			2- Sliver 1C Ortho (P2/P3/P4/P5)		
B26	FLEXIO3_A	—	NXS_FLEXIO3_A(SMB_HP_CLK)	A14	P3-SFF-TA-1035 (38P)
B27	FLEXIO4_A	—	NXS_FLEXIO4_A(SMB_HP_DAT)	A15	
B28	GND	NC	NC		
B29	FLEXIO1_A	—	NXS_FLEXIO1_A(SPARE)	B16	
B30	FLEXIO2_A	—	NXS_FLEXIO2_A(ENDPOINT_PRSNT_N)	B17	
B31	GND	- -	GND	B22	P3-SFF-TA-1002 (Sliver 1C)
B32	PETp6	—	PETn6	B23	
B33	PETn6	—	PETp6	B24	
B34	GND	- -	GND	B25	
B35	PETp7	—	PETn7	B26	
B36	PETn7	—	PETp7	B27	
B37	GND	- -	GND	B28	
A38	GND	- -	GND	A16	P4-SFF-TA-1002 (Sliver 1C)
A39	PERp8	—	PERn8	A17	
A40	PERn8	—	PERp8	A18	
A41	GND	- -	GND	A19	
A42	PERp9	—	PERn9	A20	
A43	PERn9	—	PERp9	A21	
A44	GND	- -	GND	A22	
A45	3p3AUX_MGMT	NC	NC		
A46	FLEXIO0_A	—	NXS_FLEXIO0_A(SMB_HP_ALERT_N)	A16	P4-SFF-TA-1035 (38P)
A47	GND	- -	GND	A17	
A48	REFCLK_A_DP	—	NXS_REFCLK_A_DP	A19	
A49	REFCLK_A_DN	—	NXS_REFCLK_A_DN	A18	
A50	GND	- -	GND	A22	P4-SFF-TA-1002 (Sliver 1C)
A51	PERp10	—	PERn10	A23	
A52	PERn10	—	PERp10	A24	
A53	GND	- -	GND	A25	
A54	PERp11	—	PERn11	A26	
A55	PERn11	—	PERp11	A27	
A56	GND	- -	GND	A28	
		- -		A16	P5-SFF-TA-1002 (Sliver 1C)
A57	PERp12	—	PERn12	A17	
A58	PERn12	—	PERp12	A18	
A59	GND	- -	GND	A19	
A60	PERp13	—	PERn13	A20	
A61	PERn13	—	PERp13	A21	
A62	GND	- -	GND	A22	
A63	FLEXIO5_A	NC	NC		
A64	FLEXIO6_A	NC	NC		

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3/P4/P5)**		
A65	GND	- -	NC		
A66	USB2_A_DP	NC	NC		
A67	USB2_A_DP	NC	NC		
A68	GND	- -	GND	A22	P5-SFF-TA-1002 (Sliver 1C)
A69	PERp14	—	PERn14	A23	
A70	PERn14	—	PERp14	A24	
A71	GND	- -	GND	A25	
A72	PERp15	—	PERn15	A26	
A73	PERn15	—	PERp15	A27	
A74	GND	- -	GND	A28	
B38	GND	- -	GND	B16	P4-SFF-TA-1002 (Sliver 1C)
B39	PETp8	—	PETn8	B17	
B40	PETn8	—	PETp8	B18	
B41	GND	- -	GND	B19	
B42	PETp9	—	PETn9	B20	
B43	PETn9	—	PETp9	B21	
B44	GND	- -	GND	B22	
B45	SMSCL_A	—	NXS_I3C_DAT	B14	P4-SFF-TA-1035 (38P)
B46	SMSDA_A	—	NXS_I3C_CLK	B15	
B47	GND	- -	GND	/	
B48	PERST_A_N	—	NXS_PERST_A_N	B18	
B49	CBL_PRES_A_PESTI_A_N	—	CBL_PRES_A_PESTI_A_N	B19	
B50	GND	- -	GND	B22	P4-SFF-TA-1002 (Sliver 1C)
B51	PETp10	—	PETn10	B23	
B52	PETn10	—	PETp10	B24	
B53	GND	- -	GND	B25	
B54	PETp11	—	PETn11	B26	
B55	PETn11	—	PETp11	B27	
B56	GND	- -	GND	B28	
		- -		B16	P5-SFF-TA-1002 (Sliver 1C)
B57	PETp12	—	PETn12	B17	
B58	PETn12	—	PETp12	B18	
B59	GND	- -	GND	B19	
B60	PETp13	—	PETn13	B20	
B61	PETn13	—	PETp13	B21	
B62	GND	- -	GND	B22	
B63	FLEXIO3_A	—	NXS_FLEXIO3_A(SMB_HP_CLK)	A14	P5-SFF-TA-1035 (38P)
B64	FLEXIO4_A	—	NXS_FLEXIO4_A(SMB_HP_DAT)	A15	
B65	GND	NC	NC		
B66	FLEXIO1_A	—	NXS_FLEXIO1_A(SPARE)	B16	

SFF-TA-1035 (P1)			**2- Sliver 1C Ortho (P2/P3/P4/P5)**		
B67	FLEXIO2_A	—	NXS_FLEXIO2_A(ENDPOINT_PRSNT_N)	B17	
B68	GND	- -	GND	B22	P5-SFF-TA-1002 (Sliver 1C)
B69	PETp14	—	PETn14	B23	
B70	PETn14	—	PETp14	B24	
B71	GND	- -	GND	B25	
B72	PETp15	—	PETn15	B26	
B73	PETn15	—	PETp15	B27	
B74	GND	- -	GND	B28	

Appendix C. Gatherability (Informative)

Figures below show a representation of the linear and angular gatherability of the connectors.

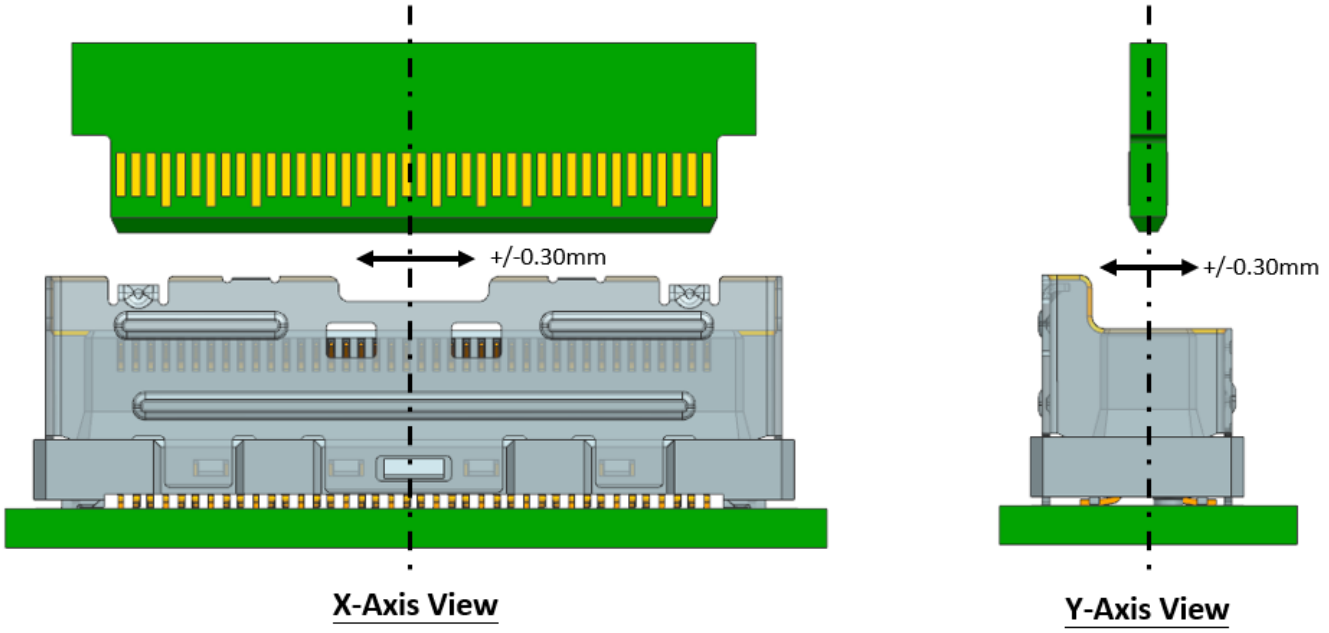


Figure C-1 Linear Gatherability

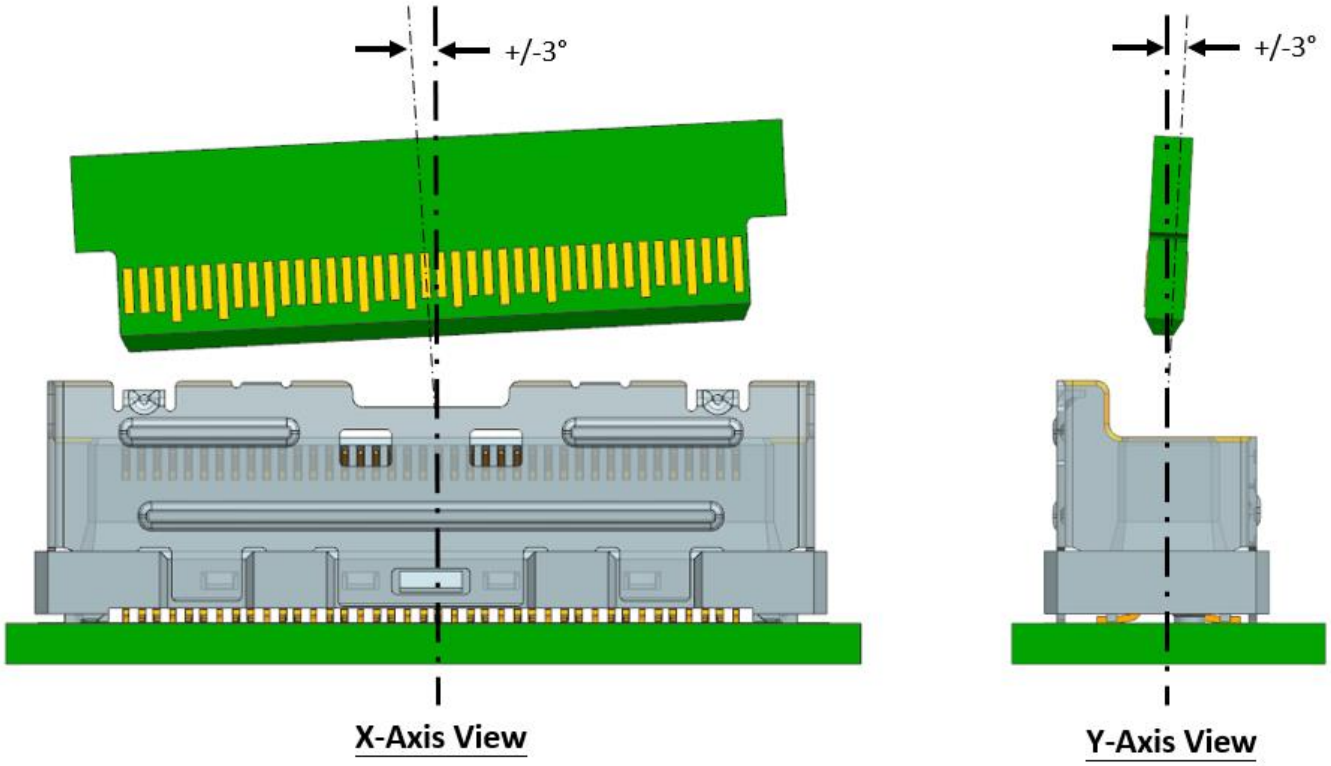


Figure C-2 Angular Gatherability