

AirBorn

Bringing Your Innovations To Life



Signal Integrity Interconnects

Table of Contents

MicroQUAD

MMHS – Cable I/O (Male).....	4
MMHS – Cable I/O (Female)	5
MJHS – Jumper Cable	6
MKHS – Right Angle Surface Board-Mount (Male)	7
MKHS – Right Angle Surface Board-Mount (Female)	8
MLHS – Vertical Surface Board-Mount w/Fixed Hardware (Male).....	9
MLHS – Vertical Surface Board-Mount w/Fixed Hardware (Female).....	10
MLHS – Vertical Surface Board-Mount w/Turning Hardware (Male)	11
MLHS – Vertical Surface Board-Mount w/Turning Hardware (Female).....	12

MicroSI

MMSI – Cable I/O (Male)	17
MMSI – Cable I/O (Female).....	20
MJSI – Cable Assembly	23
MKSI – Right Angle (Male)	27
MKSI – Right Angle (Female).....	35
MLSI – Vertical (Male).....	43
MLSI – Vertical (Female)	51

RC

Stackable, Press-Fit, Compliant Pin/Socket	65
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RCII

Stackable, Press-Fit, Compliant Pin/Socket	81
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Z-Series

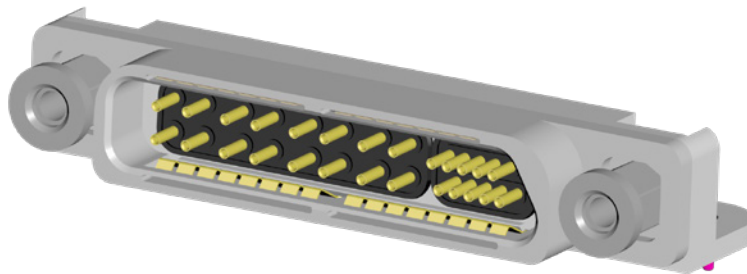
Vertical Compression (Z-axis), Open-Pin Field.....	92
--	----

VerSI

VSM – Vertical (Male).....	97
VSF – Vertical (Female).....	98
VRM – Vertical Rugged (Male).....	99
VRF – Vertical Rugged	100
VSRAM – Right Angle (Male)	101
VRRAM – Rugged Right Angle (Male)	102
VSRAF – Right Angle (Female)	103
VRRAF – Rugged Right Angle (Female).....	104
VRD – Differential Pair Twinax Cable Assembly.....	105
VRW – Discrete Wire Cable Assembly with Internal Solder Connection	106
VSX – Flexible Circuit Jumper Assembly.....	109

microQUAD™

AirBorn introduces a Micro-D, multi-gigabit, high-speed connector designed to meet the performance requirements of MIL-DTL-83513, where applicable. This rugged connector system is designed to handle LVDS serial bus signals like Ethernet, serial rapid IO, etc. This versatile product has a range from one to ten high-speed modules and up to fifty signal contacts making it ideal for most high-reliability applications.





microQUAD™

MMHS – Cable I/O (Male)

MMHS cable connectors are used in cable applications where both signal and quadrax modules are desired. These connectors come with a variety of wiring and hardware options and all cable connectors are available in custom lengths.

DIMENSIONS

DIMENSIONS	
A	Body Length (see calculation below)
B	"A" minus 0.744
C	"A" minus 0.560
D	"A" minus 0.320

TABLE A	
Module	Dimension
Module	0.200
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

TABLE B		
Module	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module
Module	0.028	0.025
SIG xx		0.028

+ 0.896

Sample Part Number Format: MMHS-02L4-11D-018-5000

MMHS	HIGH-SPEED MODULES	BODY STYLE	WIRE TYPE & GAUGE, QUADRIX	WIRE TYPE & GAUGE, SIGNALS	WIRE LENGTH	HARDWARE
Cable I/O (Male)	01 – 1 Module 02 – 2 Modules 03 – 3 Modules 04 – 4 Modules 05 – 5 Modules (max. sig. 40) 06 – 6 Modules (max. sig. 30) 07 – 7 Modules (max. sig. 20) 08 – 8 Modules (max. sig. 10) 09 – 9 Modules (max. sig. 10) 0A – 10 Modules (no signals)	1 – Plug	X – See Quadrax Wire Codes on page 13	0 – No signal contacts X – See Wire Codes on page 14	XXX – Wire length in inches (minimum 3") Example: 018 = 18"	000 – No hardware 620 – Two fixed jacknuts, captivated** 810 – Turning jackscrews, captivated** NXX – Keying jackscrews*** JXX – Keying jackscrews***
		SIGNAL CONTACTS L0 – Left-side key – No signal contacts L1 – Left-side key – 10 signal contacts L2 – Left-side key – 20 signal contacts L3 – Left-side key – 30 signal contacts L4 – Left-side key – 40 signal contacts L5 – Left-side key – 50 signal contacts R0 – Right-side key – No signal contacts R1 – Right-side key – 10 signal contacts R2 – Right-side key – 20 signal contacts R3 – Right-side key – 30 signal contacts R4 – Right-side key – 40 signal contacts R5 – Right-side key – 50 signal contacts				BODY PLATING (LCP INSULATORS) 1 – Electroless nickel-plated aluminum shell 2 – Electroless nickel-plated aluminum shell ☒ 3 – Electrodeposited cadmium-plated aluminum shell ☒ 5 – Gold-plated aluminum shell 6 – Gold-plated aluminum shell ☒

High-Reliability Contact
MIL-DTL-83513

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to "Hardware Keying Options" on page 15.

MATERIALS and FINISHES

Socket Contact: Brass
 Pin Contacts: BeCu alloy strip
 Contact Finish: Gold plate, 50 μ" minimum
 Shells: Aluminum alloy 6061-T6
 Shell Finishes: Electroless nickel, electrodeposited cadmium, or gold-plated
 Molded Insulators: Glass-filled liquid crystal polymer (LCP)
 Embedment: Frey Eng. Co. compound CF3003-80 & L-II-49
 Hardware: Corrosion-resistant steel
 Interfacial Seal Gaskets: Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating: 3 amperes maximum
 Operating Temperature: -55° C to 125° C
 Maximum Working Voltage: 600V, RMS, 60Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Engaging Force: 6.0 ounces maximum/contact
 Contact Separating Force: 0.5 ounces minimum/contact
 Mating and Unmating Force: 10 ounces maximum/contact



microQUAD™

MMHS – Cable I/O (Female)

MMHS cable connectors are used in cable applications where both signal and quadrax modules are desired. These connectors come with a variety of wiring and hardware options and all cable connectors are available in custom lengths.

DIMENSIONS

DIMENSIONS	
A	Body Length (see calculation below)
C	"A" minus 0.560
D	"A" minus 0.320
Y	"A" minus 0.624

TABLE A	
Module	Dimension
Module	0.200
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

TABLE B		
Module	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module
Module	0.028	0.025
SIG xx		0.028

+ 0.896

Sample Part Number Format: MMHS-01R1-410-006-1810

MMHS							
SERIES Cable I/O (Female)	HIGH-SPEED MODULES 01 – 1 Module 02 – 2 Modules 03 – 3 Modules 04 – 4 Modules 05 – 5 Modules (max. sig. 40) 06 – 6 Modules (max. sig. 30) 07 – 7 Modules (max. sig. 20) 08 – 8 Modules (max. sig. 10) 09 – 9 Modules (max. sig. 10) 0A – 10 Modules (no signals)	BODY STYLE 2 – Receptacle 4 – Receptacle with ground fingers (preferred)	WIRE TYPE & GAUGE, QUADRAX X - See Quadrax Wire Codes on page 13	WIRE TYPE & GAUGE, SIGNALS 0 – No signal contacts X – See Wire Codes on page 14	WIRE LENGTH XXX – Wire length in inches (minimum 3") Example: 018 = 18"	HARDWARE 000 – No hardware 620 – Two fixed jacknuts, captivated** 810 – Turning jack screws, captivated** NXX – Keying jacknuts*** JXX – Keying jack screws***	BODY PLATING (LCP INSULATORS) 1 – Electroless nickel-plated aluminum shell 2 – Electroless nickel-plated aluminum shell ☒ 3 – Electrodeposited cadmium-plated aluminum shell ☒ 5 – Gold-plated aluminum shell 6 – Gold-plated aluminum shell ☒
High-Reliability Contact MIL-DTL-83513 	SIGNAL CONTACTS L0 – Left-side key – No signal contacts L1 – Left-side key – 10 signal contacts L2 – Left-side key – 20 signal contacts L3 – Left-side key – 30 signal contacts L4 – Left-side key – 40 signal contacts L5 – Left-side key – 50 signal contacts R0 – Right-side key – No signal contacts R1 – Right-side key – 10 signal contacts R2 – Right-side key – 20 signal contacts R3 – Right-side key – 30 signal contacts R4 – Right-side key – 40 signal contacts R5 – Right-side key – 50 signal contacts						

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

1. All high-speed receptacles have fluoropolymer interfacial seals.
- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to "Hardware Keying Options" on page 15.

MATERIALS and FINISHES

Socket Contact: Brass
 Pin Contacts: BeCu alloy strip
 Contact Finish: Gold plate, 50 μ" minimum
 Shells: Aluminum alloy 6061-T6
 Shell Finishes: Electroless nickel, electrodeposited cadmium, or gold-plated
 Molded Insulators: Glass-filled liquid crystal polymer (LCP)
 Embedment: Frey Eng. Co. compound CF3003-80 & L-II-49
 Hardware: Corrosion-resistant steel
 Interfacial Seal Gaskets: Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating: 3 amperes maximum
 Operating Temperature: -55° C to 125° C
 Maximum Working Voltage: 600V, RMS, 60Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Engaging Force: 6.0 ounces maximum/contact
 Contact Separating Force: 0.5 ounces minimum/contact
 Mating and Unmating Force: 10 ounces maximum/contact



microQUAD™

MJHS – Jumper Cable

MJHS rugged metal cable assemblies are used in jumper applications where both signal and quadrx modules are desired. These connectors come with a variety of wiring and hardware options and all cable connectors are available in custom lengths.

DIMENSIONS

TABLE A	
Module	Dimension
Module	0.200
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

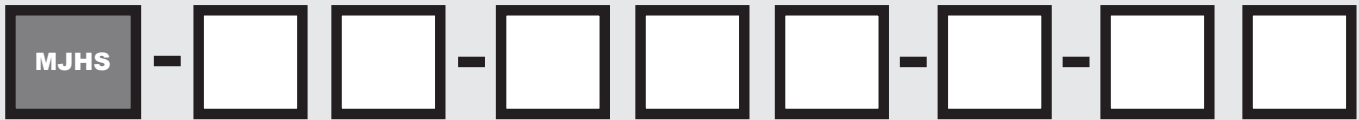
DIMENSIONS		
Body Length (see calculation below)		
A	"A" minus 0.744	
B	"A" minus 0.560	
C	"A" minus 0.320	
D	"A" minus 0.264	
Y	"A" minus 0.624	

TABLE B		
Module	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module
Module	0.028	0.025
SIG xx	0.028	0.028

+ 0.896

SHOWN WITH CAPTIVE #4-40 JACKNUT/SCREW (2 PCS EA)

Sample Part Number Format: MJHS-04R1-33D-022-5N41



SERIES
 Jumper Cable

HIGH-SPEED MODULES
 01 – 1 Module
 02 – 2 Modules
 03 – 3 Modules
 04 – 4 Modules
 05 – 5 Modules (max. sig. 40)
 06 – 6 Modules (max. sig. 30)
 07 – 7 Modules (max. sig. 20)
 08 – 8 Modules (max. sig. 10)
 09 – 9 Modules (max. sig. 10)
 0A – 10 Modules (no signals)

BODY STYLE
 1 – Male-to-Male
 2 – Male-to-Female
 3 – Male-to-Female, ground fingers
 4 – Female-to-Female
 5 – Female-to-Female (both with ground fingers)

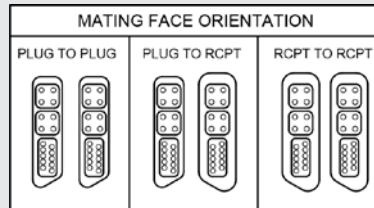
WIRE TYPE & GAUGE, QUADRX
 X – See Quadrx Wire Codes on page 13

WIRE TYPE & GAUGE, SIGNALS
 0 – No signal contacts
 X – See Wire Codes on page 14

WIRE LENGTH
 XXX – Wire length in inches (minimum 3")
 Example: 018 = 18"

BODY PLATING (LCP INSULATORS)
 1 – Electroless nickel-plated aluminum shell
 2 – Electroless nickel-plated aluminum shell ☒
 3 – Electrodeposited cadmium-plated aluminum shell ☒
 5 – Gold-plated aluminum shell
 6 – Gold-plated aluminum shell ☒

SIGNAL CONTACTS
 L0 – Left-side key – No signal contacts
 L1 – Left-side key – 10 signal contacts
 L2 – Left-side key – 20 signal contacts
 L3 – Left-side key – 30 signal contacts
 L4 – Left-side key – 40 signal contacts
 L5 – Left-side key – 50 signal contacts
 R0 – Right-side key – No signal contacts
 R1 – Right-side key – 10 signal contacts
 R2 – Right-side key – 20 signal contacts
 R3 – Right-side key – 30 signal contacts
 R4 – Right-side key – 40 signal contacts
 R5 – Right-side key – 50 signal contacts



HARDWARE
 000 – No hardware
 610 – Fixed jacknuts, captivated** (both)
 810 – Turning jackscrews, captivated** (both)
 860 – Fixed jacknuts, captivated (female) & turning jackscrews (male)
 870 – Fixed jacknuts, captivated (male) & turning jackscrews (female)
 NXX – Keying jacknuts (both)***
 JXX – Keying jackscrews (both)***
 AXX – Keying jacknuts (female) & keying jackscrews (male)***
 BXX – Keying jacknuts (male) & keying jackscrews (female)***

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- All high-speed receptacles have fluoropolymer interfacial seals.
- Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to "Hardware Keying Options" on page 15.

MATERIALS and FINISHES

Socket Contact: Brass
 Pin Contacts: BeCu alloy strip
 Contact Finish: Gold plate, 50 μ" minimum
 Shells: Aluminum alloy 6061-T6
 Shell Finishes: Electroless nickel, electrodeposited cadmium, or gold-plated
 Molded Insulators: Glass-filled liquid crystal polymer (LCP)
 Embedment: Frey Eng. Co. compound CF3003-80 & L-II-49
 Hardware: Corrosion-resistant steel
 Interfacial Seal Gaskets: Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE

1	1 Meter Long	1.0 GHz @ -2 dB
2	2 Meters Long	1.0 GHz @ -4 dB
3	3 Meters Long	1.0 GHz @ -6 dB

PERFORMANCE

Contact Rating: 3 amperes maximum
 Operating Temperature: -55° C to 125° C
 Maximum Working Voltage: 600V, RMS, 60Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Engaging Force: 6.0 ounces maximum/contact
 Contact Separating Force: 0.5 ounces minimum/contact
 Mating and Unmating Force: 10 ounces maximum/contact



microQUAD™

MKHS – Right Angle Surface Board-Mount (Male)

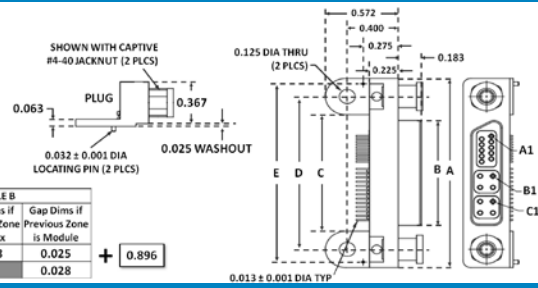
MKHS are rugged metal connectors used in applications where a right angle orientation and a surface board-mount termination style are desired.

DIMENSIONS

DIMENSIONS	
A	Body Length (see calculation below)
B	"A" minus 0.744
C	"A" minus 0.640
D	"A" minus 0.320
E	"A" minus 0.096

TABLE A	
Module	Dimension
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

TABLE B			
Module	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module	
Module	0.028	0.025	+ 0.896
SIG xx		0.028	



Sample Part Number Format: MKHS-06L3-100-175-3J45

MKHS	-	[]	-	[]	-	[]	-	[]	-	[]	-	[]
SERIES Right Angle Surface Mount (Male)		HIGH-SPEED MODULES 01 – 1 Module 02 – 2 Modules 03 – 3 Modules 04 – 4 Modules 05 – 5 Modules (max. sig. 40) 06 – 6 Modules (max. sig. 30) 07 – 7 Modules (max. sig. 20) 08 – 8 Modules (max. sig. 10) 09 – 9 Modules (max. sig. 10) 0A – 10 Modules (no signals)		BODY STYLE 100 – Plug		CONTACT TERMINATION 17 – Pin, horizontal surface-mount (SMT)		TERMINATION PLATING 5 – 50 μ" Gold contact, Sn/Pb alloy termination ☒ 7 – 50 μ" Gold contact, SAC305-plated termination		HARDWARE 000 – No hardware 620 – Two fixed jacksnuts, captivated** 810 – Turning jackscrews, captivated** NXX – Keying jacksnuts*** JXX – Keying jackscrews***		BODY PLATING (LCP INSULATORS) 2 – Electroless nickel-plated aluminum shell 3 – Electrodeposited cadmium-plated aluminum shell ☒ 6 – Gold-plated aluminum shell
High-Reliability Contact MIL-DTL-83513												

PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

Socket Contact:	.....Brass
Pin Contacts:	.....BeCu alloy strip
Contact Finish:	.....Gold plate, 50 μ" minimum
Shells:	.....Aluminum alloy 6061-T6
Shell Finishes:	.....Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators:	.....Glass-filled liquid crystal polymer (LCP)
Embedment:	.....Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....Corrosion-resistant steel
Interfacial Seal Gaskets:	.....Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating:	..... 3 amperes maximum
Operating Temperature:	..... -55° C to 125° C
Maximum Working Voltage:	..... 600V, RMS, 60Hz
Insulation Resistance:	..... 5,000 megohms minimum @ 500 VDC
Durability:	..... 500 connector mating cycles
Contact Engaging Force:	..... 6.0 ounces maximum/contact
Contact Separating Force:	..... 0.5 ounces minimum/contact
Mating and Unmating Force:	..... 10 ounces maximum/contact

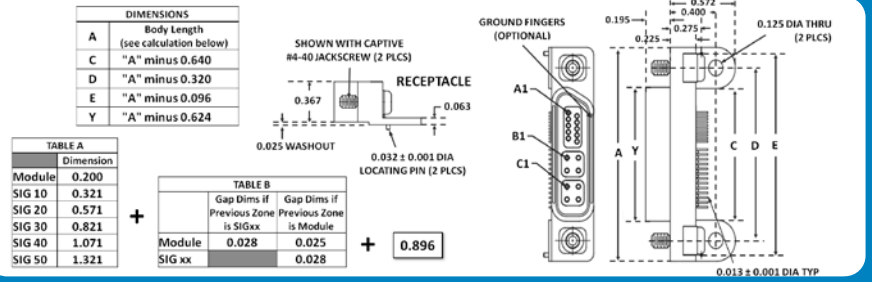


microQUAD™

MKHS – Right Angle Surface Board-Mount (Female)

MKHS are rugged metal connectors used in applications where a right angle orientation and a surface board-mount termination style are desired.

DIMENSIONS



Sample Part Number Format: MKHS-04R1-400-275-2620



SERIES
 Right Angle
 Surface Mount
 (Female)



HIGH-SPEED MODULES
 01 – 1 Module
 02 – 2 Modules
 03 – 3 Modules
 04 – 4 Modules
 05 – 5 Modules (max. sig. 40)
 06 – 6 Modules (max. sig. 30)
 07 – 7 Modules (max. sig. 20)
 08 – 8 Modules (max. sig. 10)
 09 – 9 Modules (max. sig. 10)
 0A – 10 Modules (no signals)



BODY STYLE
 200 – Female
 400 – Female with ground fingers (preferred)



TERMINATION PLATING
 5 – 50 μ" Gold contact, Sn/Pb alloy termination ☒
 7 – 50 μ" Gold contact, SAC305-plated termination



HARDWARE
 000 – No hardware
 620 – Two fixed jacknuts, captivated**
 810 – Turning jackscrews, captivated**
 NXX – Keying jacknuts***
 JXX – Keying jackscrews***

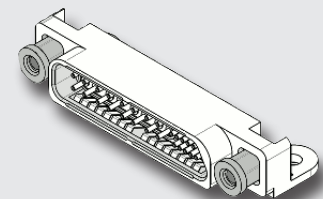
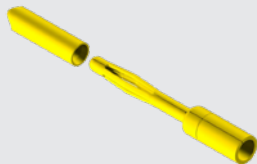
CONTACT TERMINATION
 27 – Socket, horizontal surface-mount (SMT)

SIGNAL CONTACTS
 L0 – Left-side key – No signal contacts
 L1 – Left-side key – 10 signal contacts
 L2 – Left-side key – 20 signal contacts
 L3 – Left-side key – 30 signal contacts
 L4 – Left-side key – 40 signal contacts
 L5 – Left-side key – 50 signal contacts
 R0 – Right-side key – No signal contacts
 R1 – Right-side key – 10 signal contacts
 R2 – Right-side key – 20 signal contacts
 R3 – Right-side key – 30 signal contacts
 R4 – Right-side key – 40 signal contacts
 R5 – Right-side key – 50 signal contacts

BODY PLATING (LCP INSULATORS)
 2 – Electroless nickel-plated aluminum shell
 3 – Electrodeposited cadmium-plated aluminum shell ☒
 6 – Gold-plated aluminum shell

High-Reliability Contact

MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- All high-speed receptacles have fluoropolymer interfacial seals.
- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

Socket Contact:	.....Brass
Pin Contacts:	.....BeCu alloy strip
Contact Finish:	.....Gold plate, 50 μ" minimum
Shells:	.....Aluminum alloy 6061-T6
Shell Finishes:	.....Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators:	.....Glass-filled liquid crystal polymer (LCP)
Embedment:	.....Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....Corrosion-resistant steel
Interfacial Seal Gaskets:	.....Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating:	.....3 amperes maximum
Operating Temperature:	.....-55° C to 125° C
Maximum Working Voltage:	.....600V, RMS, 60Hz
Insulation Resistance:	.....5,000 megohms minimum @ 500 VDC
Durability:	.....500 connector mating cycles
Contact Engaging Force:	.....6.0 ounces maximum/contact
Contact Separating Force:	.....0.5 ounces minimum/contact
Mating and Unmating Force:	.....10 ounces maximum/contact



microQUAD™

MLHS – Vertical Surface Board-Mount w/Fixed Hardware (Male)

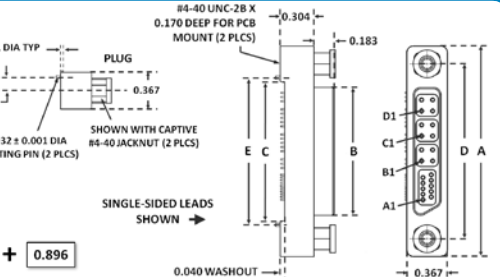
MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have fixed hardware.

DIMENSIONS

DIMENSIONS	
A	Body Length (w/o feet) for V-SMT Turning Hardware (see calculation below)
B	"A" minus 0.744
C	"A" minus 0.640
D	"A" minus 0.320
E	"A" minus 0.570

TABLE A	
Module	0.200
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

TABLE B		
Module	0.028	0.025
SIG xx	0.028	0.028



Sample Part Number Format: MLHS-04L2-100-A77-3N35



SERIES
 Vertical
 Surface Mount
 (Male)



HIGH-SPEED MODULES
 01 – 1 Module
 02 – 2 Modules
 03 – 3 Modules
 04 – 4 Modules
 05 – 5 Modules (max. sig. 40)
 06 – 6 Modules (max. sig. 30)
 07 – 7 Modules (max. sig. 20)
 08 – 8 Modules (max. sig. 10)
 09 – 9 Modules (max. sig. 10)
 0A – 10 Modules (no signals)



BODY STYLE
 100 – Plug



TERMINATION PLATING
 5 – 50 μ" Gold contact, Sn/Pb alloy termination ☒
 7 – 50 μ" Gold contact, SAC305-plated termination



CONTACT TERMINATION
 37 – Pin: vertical SMT, staggered leads
 57 – Pin: vertical SMT, staggered leads - high-speed; single-sided leads - signals
 77 – Pin: vertical SMT, single-sided leads - high-speed; staggered leads - signals
 A7 – Pin: vertical SMT, single-sided leads

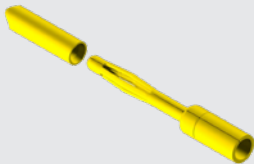


HARDWARE
 000 – No hardware
 620 – Two fixed jacknuts, captivated***
 NXX – Keying jacknuts***

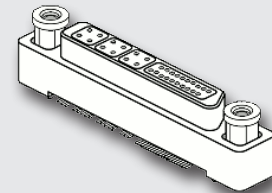
BODY PLATING (LCP INSULATORS)
 2 – Electroless nickel-plated aluminum shell
 3 – Electrodeposited cadmium-plated aluminum shell ☒
 6 – Gold-plated aluminum shell

High-Reliability Contact

MIL-DTL-83513



SIGNAL CONTACTS
 L0 – Left-side key – No signal contacts
 L1 – Left-side key – 10 signal contacts
 L2 – Left-side key – 20 signal contacts
 L3 – Left-side key – 30 signal contacts
 L4 – Left-side key – 40 signal contacts
 L5 – Left-side key – 50 signal contacts
 R0 – Right-side key – No signal contacts
 R1 – Right-side key – 10 signal contacts
 R2 – Right-side key – 20 signal contacts
 R3 – Right-side key – 30 signal contacts
 R4 – Right-side key – 40 signal contacts
 R5 – Right-side key – 50 signal contacts



PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

Socket Contact:	.....	Brass
Pin Contacts:	.....	BeCu alloy strip
Contact Finish:	.....	Gold plate, 50 μ" minimum
Shells:	.....	Aluminum alloy 6061-T6
Shell Finishes:	.....	Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators:	.....	Glass-filled liquid crystal polymer (LCP)
Embedment:	.....	Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....	Corrosion-resistant steel
Interfacial Seal Gaskets:	.....	Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating:	.....	3 amperes maximum
Operating Temperature:	.....	-55° C to 125° C
Maximum Working Voltage:	.....	600V, RMS, 60Hz
Insulation Resistance:	.....	5,000 megohms minimum @ 500 VDC
Durability:	.....	500 connector mating cycles
Contact Engaging Force:	.....	6.0 ounces maximum/contact
Contact Separating Force:	.....	0.5 ounces minimum/contact
Mating and Unmating Force:	.....	10 ounces maximum/contact



microQUAD™

MLHS – Vertical Surface Board-Mount w/Fixed Hardware (Female)

MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have captivated fixed hardware.

DIMENSIONS

DIMENSIONS	
A	Body Length (see calculation below)
C	"A" minus 0.640
D	"A" minus 0.320
E	"A" minus 0.570
Y	"A" minus 0.624

TABLE A	
Module	0.200
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

TABLE B		
Module	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module
SIG xx	0.028	0.025
SIG xx		0.028

0.032 ± 0.001 DIA LOCATING PIN (2 PLCS)

0.013 ± 0.001 DIA TYP

0.367

0.134

RECEPTACLE

SHOWN WITH CAPTIVE #4-40 JACKNUT (2 PLCS)

0.040 WASHOUT

GROUNDING FINGERS (OPTIONAL)

0.195

0.305

#4-40 UNC-2B X 0.170 DEEP FOR PCB MOUNT (2 PLCS)

D1

C1

B1

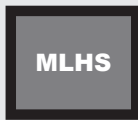
A1

STAGGERED LEADS SHOWN →

0.367

0.896

Sample Part Number Format: MLHS-03R2-400-B77-3620



SERIES
 Vertical
 Surface-Mount
 (Female)



HIGH-SPEED MODULES
 01 – 1 Module
 02 – 2 Modules
 03 – 3 Modules
 04 – 4 Modules
 05 – 5 Modules (max. sig. 40)
 06 – 6 Modules (max. sig. 30)
 07 – 7 Modules (max. sig. 20)
 08 – 8 Modules (max. sig. 10)
 09 – 9 Modules (max. sig. 10)
 0A – 10 Modules (no signals)

SIGNAL CONTACTS

L0 – Left-side key – No signal contacts
 L1 – Left-side key – 10 signal contacts
 L2 – Left-side key – 20 signal contacts
 L3 – Left-side key – 30 signal contacts
 L4 – Left-side key – 40 signal contacts
 L5 – Left-side key – 50 signal contacts
 R0 – Right-side key – No signal contacts
 R1 – Right-side key – 10 signal contacts
 R2 – Right-side key – 20 signal contacts
 R3 – Right-side key – 30 signal contacts
 R4 – Right-side key – 40 signal contacts
 R5 – Right-side key – 50 signal contacts



BODY STYLE
 200 – Female
 400 – Female with ground fingers (preferred)



TERMINATION PLATING
 5 – 50 μ" Gold contact, Sn/Pb alloy termination ☒
 7 – 50 μ" Gold contact, SAC305-plated termination

CONTACT TERMINATION

47 – Socket: vertical SMT, staggered leads
 67 – Socket: vertical SMT, staggered leads - high-speed; single-sided leads - signals
 87 – Socket: vertical SMT, single-sided leads - high-speed; staggered leads - signals
 B7 – Socket: vertical SMT, single-sided leads

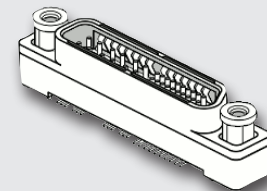
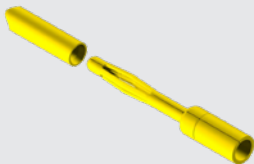


BODY PLATING (LCP INSULATORS)
 2 – Electroless nickel-plated aluminum shell
 3 – Electrodeposited cadmium-plated aluminum shell ☒
 6 – Gold-plated aluminum shell



HARDWARE
 000 – No hardware
 620 – Two fixed jacknuts, captivated**
 NXX – Keying jacknuts***

High-Reliability Contact
 MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☒ Option not RoHS-compliant.
- 1. All high-speed receptacles have fluoropolymer interfacial seals.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

Socket Contact: Brass
 Pin Contacts: BeCu alloy strip
 Contact Finish: Gold plate, 50 μ" minimum
 Shells: Aluminum alloy 6061-T6
 Shell Finishes: Electroless nickel, electrodeposited cadmium, or Gold-plated
 Molded Insulators: Glass-filled liquid crystal polymer (LCP)
 Embedment: Frey Eng. Co. compound CF3003-80 & L-II-49
 Hardware: Corrosion-resistant steel
 Interfacial Seal Gaskets: Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating: 3 amperes maximum
 Operating Temperature: -55° C to 125° C
 Maximum Working Voltage: 600V, RMS, 60Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Engaging Force: 6.0 ounces maximum/contact
 Contact Separating Force: 0.5 ounces minimum/contact
 Mating and Unmating Force: 10 ounces maximum/contact



microQUAD™

MLHS – Vertical Surface Board-Mount w/Turning Hardware (Female)

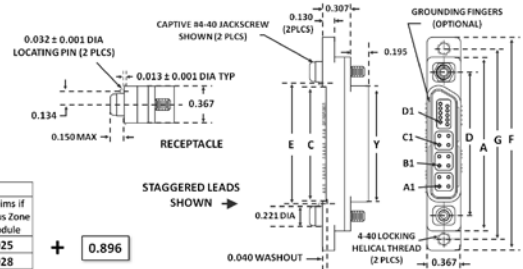
MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have turning hardware.

DIMENSIONS

DIMENSIONS	
A	Body Length (w/o feet) for V-SMT Turning Hardware (see calculation below)
C	"A" minus 0.640
D	"A" minus 0.320
E	"A" minus 0.570
F	"A" PLUS 0.430
G	"F" minus 0.250
Y	"A" minus 0.624

TABLE A	
Module	0.200
SIG 10	0.321
SIG 20	0.571
SIG 30	0.821
SIG 40	1.071
SIG 50	1.321

TABLE B		
Module	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module
SIG xx	0.028	0.025
		0.028



Sample Part Number Format: MLHS-03L3-800-477-2J21



SERIES
 Vertical Surface-Mount (Female)

HIGH-SPEED MODULES
 01 – 1 Module
 02 – 2 Modules
 03 – 3 Modules
 04 – 4 Modules
 05 – 5 Modules (max. sig. 40)
 06 – 6 Modules (max. sig. 30)
 07 – 7 Modules (max. sig. 20)
 08 – 8 Modules (max. sig. 10)
 09 – 9 Modules (max. sig. 10)
 0A – 10 Modules (no signals)

BODY STYLE
 600 – Female with mounting ears
 800 – Female with ground fingers & mounting ears (preferred)

TERMINATION PLATING
 5 – 50 μ" Gold contact, Sn/Pb alloy termination ☒
 7 – 50 μ" Gold contact, SAC305-plated termination

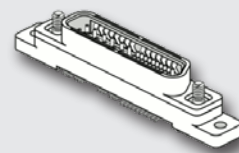
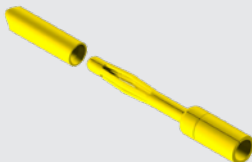
HARDWARE
 000 – No hardware
 810 – Two Turning jackscrews, captivated**
 JXX – Keying jackscrews***

SIGNAL CONTACTS
 L0 – Left-side key – No signal contacts
 L1 – Left-side key – 10 signal contacts
 L2 – Left-side key – 20 signal contacts
 L3 – Left-side key – 30 signal contacts
 L4 – Left-side key – 40 signal contacts
 L5 – Left-side key – 50 signal contacts
 R0 – Right-side key – No signal contacts
 R1 – Right-side key – 10 signal contacts
 R2 – Right-side key – 20 signal contacts
 R3 – Right-side key – 30 signal contacts
 R4 – Right-side key – 40 signal contacts
 R5 – Right-side key – 50 signal contacts

CONTACT TERMINATION
 47 – Socket: vertical SMT, staggered leads
 67 – Socket: vertical SMT, staggered leads - high-speed; single-sided leads - signals
 87 – Socket: vertical SMT, single-sided leads - high-speed; single-sided leads - signals
 B7 – Socket: vertical SMT, single-sided leads

BODY PLATING (LCP INSULATORS)
 2 – Electroless nickel-plated aluminum shell
 3 – Electrodeposited cadmium-plated aluminum shell ☒
 6 – Gold-plated aluminum shell

High-Reliability Contact
 MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☒ Option not RoHS-compliant.
- 1. All high-speed receptacles have fluoropolymer interfacial seals.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- ** Captivated hardware is factory-installed and non-removable.
- *** Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

Socket Contact:	.....Brass
Pin Contacts:	.....BeCu alloy strip
Contact Finish:	.....Gold plate, 50 μ" minimum
Shells:	.....Aluminum alloy 6061-T6
Shell Finishes:	.....Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators:	.....Glass-filled liquid crystal polymer (LCP)
Embedment:	.....Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....Corrosion-resistant steel
Interfacial Seal Gaskets:	.....Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

1	Diff. Impedance, filtered to 70 ps (20-80%)	100 ohm +/- 10
2	Diff. Insertion Loss	4.0 GHz @ -3 dB
3	Diff. Return Loss	1.8 GHz @ -20 dB
4	Intra-Pair	15 ps

PERFORMANCE

Contact Rating:	..... 3 amperes maximum
Operating Temperature:	..... -55° C to 125° C
Maximum Working Voltage:	..... 600V, RMS, 60Hz
Insulation Resistance:	..... 5,000 megohms minimum @ 500 VDC
Durability:	..... 500 connector mating cycles
Contact Engaging Force:	..... 6.0 ounces maximum/contact
Contact Separating Force:	..... 0.5 ounces minimum/contact
Mating and Unmating Force:	..... 10 ounces maximum/contact

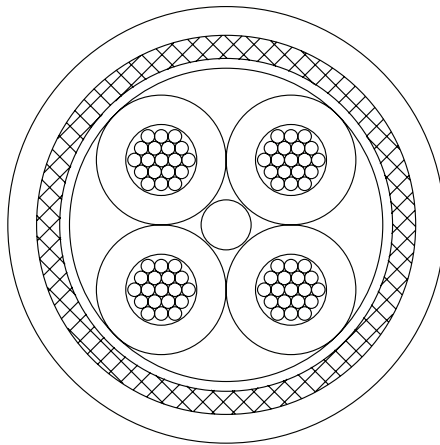


WIRE CODES

microQUAD

QUADRAX CABLE CONSTRUCTION

Conductors:	Silver-plated copper alloy
Insulation:	FEP
Cable:	Planetary twist with filler in core
Binder:	PTFE tape
Outer Shield:	Braided silver-plated copper (95% min. coverage)
Jacket:	White FEP
Differential Pairs:	Pair 1 - blue (position M1), orange (position M3) Pair 2 - green (position M2), red (position M4)
Differential Impedance:	100 Ω \pm 10 Ω ; 110 Ω \pm 6 Ω
Delay Skew within Pair:	5.0 ps/ft max.



QUADRAX WIRE CODES

1	100 Ω 24 AWG
2	100 Ω 26 AWG
3	100 Ω 28 AWG
4	100 Ω 30 AWG
5	110 Ω 24 AWG
6	110 Ω 26 AWG
7	110 Ω 28 AWG
8	110 Ω 30 AWG

NOTES

1. Additional high-speed cable types are available as standard options (i.e., drain wire, TwinAx, shielded pairs, shielded pair quad, twisted pair quad, etc.). Contact AirBorn for construction specifications of alternate cable.
2. Additional wire types are available as standard options (i.e., twisted pair, shielded, braid, etc.).



WIRE CODES

microQUAD

SIGNAL WIRE CODES

A	SAE AS22759/11-24	Ten repeating colors per M83513
B	SAE AS22759/11-24	Non-repeating colors per MIL-STD-681
C	SAE AS22759/11-24	White
D	SAE AS22759/11-26	Ten repeating colors per M83513
E	SAE AS22759/11-26	Non-repeating colors per MIL-STD-681
F	SAE AS22759/11-26	White
G	SAE AS22759/11-28	Ten repeating colors per M83513
H	SAE AS22759/11-28	White
J	SAE AS22759/33-24* <input type="checkbox"/>	Ten repeating colors per M83513
K	SAE AS22759/33-24* <input type="checkbox"/>	White
L	SAE AS22759/33-26* <input type="checkbox"/>	Ten repeating colors per M83513
M	SAE AS22759/33-26* <input type="checkbox"/>	White
N	SAE AS22759/33-28* <input type="checkbox"/>	Ten repeating colors per M83513
P	SAE AS22759/33-28* <input type="checkbox"/>	White
Q	SAE AS22759/33-30* <input type="checkbox"/>	Ten repeating colors per M83513
R	SAE AS22759/33-30* <input type="checkbox"/>	White
S	NEMA HP3-EXBEB	24 AWG non-repeating colors per MIL-STD-681
T	NEMA HP3-EXBEB	24 AWG white
U	NEMA HP3-EXBDB	26 AWG non-repeating colors per MIL-STD-681
V	NEMA HP3-EXBDB	26 AWG white
W	NEMA HP3-EXBCB	28 AWG non-repeating colors per MIL-STD-681
X	NEMA HP3-EXBCB	28 AWG white
Y	NEMA HP3-EXBBB	30 AWG non-repeating colors per M83513
Z	NEMA HP3-EXBBB	30 AWG white

NOTES

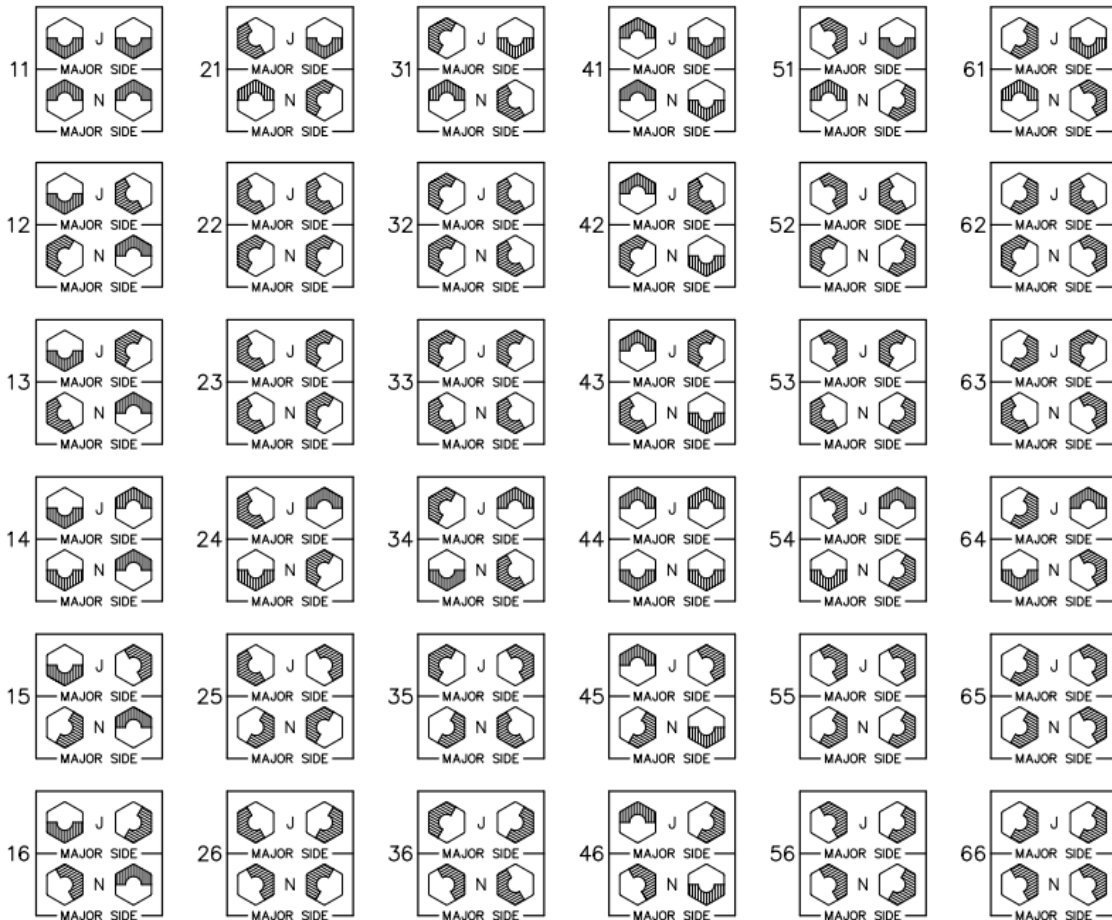
* Corrosion has been experienced on connectors that are pre-wired with M22759/33 and stored in sealed environments. Exercise caution in packaging and storing when using this wire.

Option is not RoHS-compliant



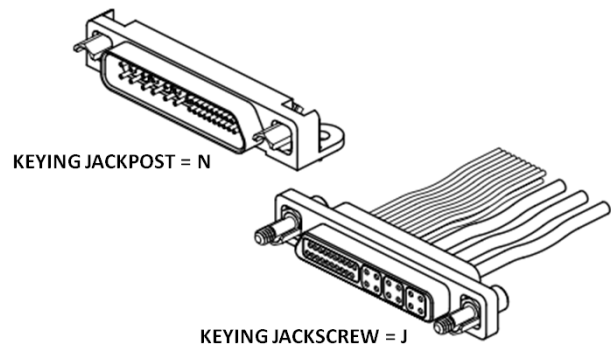
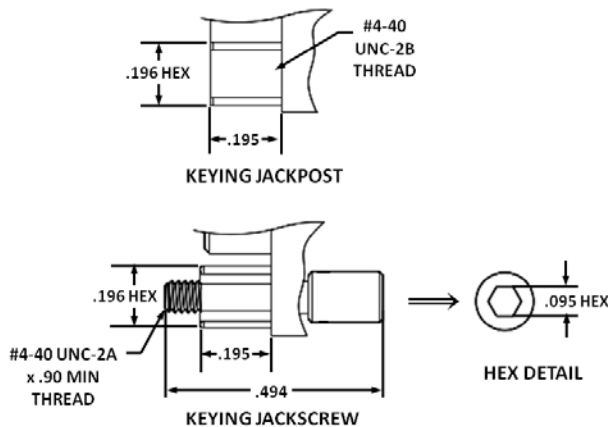
HARDWARE KEYING OPTIONS

microQUAD



Select the appropriate two-digit number above and include as the last two digits of the hardware code in the part number. (Keying is factory-installed and non-removable.)

Example: MMHS-03L2-12D-197-2J11
 MKHS-03R2-200-275-2N11

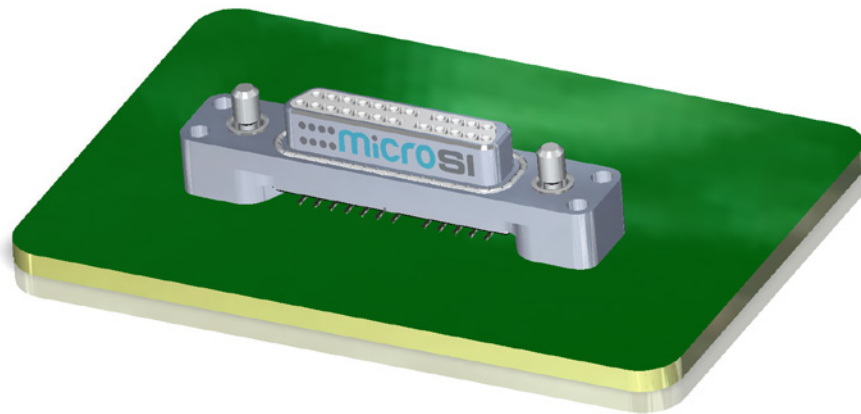


PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



microSI™

The AirBorn microSI product line is designed to meet requirements for high-speed/signal integrity applications while still delivering the reliability customers have come to expect from AirBorn. MicroSI delivers flexibility by design, offering vertical board-mount, right angle board-mount, and cable I/O configurations supporting 1X, 4X, and 8X 100 Ω and 85 Ω differential serial buses. Its balanced design limits skew within pairs. The MIL-DTL-83513 (Micro-D) qualified contact system and metal shells ensure ruggedness and durability.

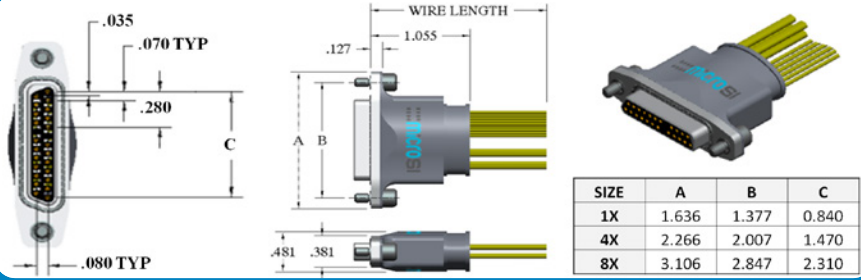




MMSI – Cable I/O (Male)

MMSI cable connectors are used in cable applications where signal integrity is desired. The connector interface controls the polarization of the twinax contact style. Comes with a variety of wiring and hardware options. All cable connectors are available in custom lengths.

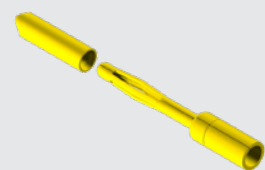
GENERAL DIMENSIONS



Sample Part Number Format: MMSI-01L-14B0-006-2810

MMSI	-	-	-	-	-	-	-
SERIES Cable I/O (Male) 1.78 mm			STYLE 11 – Male, Twinax 100Ω 24 AWG 14 – Male, Twinax 100Ω 30 AWG		WIRE LENGTH* Inches, 3 digits Ex. 018 = 18 inches		HARDWARE 620 – Fixed jacknut 810 – Turning jackscrews; captivated** NXX – Keying jacknuts*** JXX – Keying jackscrews***
SIZE & INTERFACE POLARIZATION* 01L – 1X Left (23 pins, 4 DP +9SB) 01R – 1X Right (23 pins, 4 DP +9SB) 04L – 4X Left (41 pins, 10 DP +9SB) 04R – 4X Right (41 pins, 10 DP +9SB) 08L – 8X Left (65 pins, 18 DP +9SB) 08R – 8X Right (65 pins, 18 DP +9SB)		SIDEBAND WIRES (color code per MIL-STD-681) A – 22759/11-24 B – 22759/11-26 C – 22759/11-28 D – 22759/33-24 ☒ E – 22759/33-26 ☒ F – 22759/33-28 ☒ G – 22759/33-30 ☒ H – NEMA HP3-EXBEB 24 AWG J – NEMA HP3-EXBDB 26 AWG K – NEMA HP3-EXBCB 28 AWG L – NEMA HP3-EXBBB 30 AWG		OVERALL**** 0 – None 1 – Silver-plated braid 2 – Tin-plated braid 3 – Silver-plated braid, Halar® sleeving 4 – Tin-plated braid, Halar® sleeving 5 – Halar® sleeving (no braid)		BODY PLATING, INTERNAL SOLDER 1 – Electroless nickel, SAC305 2 – Electroless nickel, Sn/Pb ☒ 5 – Gold, SAC305 6 – Gold, Sn/Pb ☒	

High-Reliability Contact
 MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- Overall braid and/or Halar® will be 1.0 ± 0.5 inches shorter than specified wire length. Minimum length without overall braid or Halar® is 3 inches. If overall braid or Halar® is specified the minimum length is 6 inches.
- ☒ Option not RoHS-compliant
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable.
- **** Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	..... Brass
Pin Contacts:	..... .BeCu alloy strip
Contact Finish:	..... Gold plate, 50 μ" minimum
Shells:	..... Aluminum alloy 6061-T6
Shell Finishes:	..... Electroless nickel or gold
Molded Insulators:	..... Glass-filled liquid crystal polymer (LCP)
Embedment:	..... Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	..... Corrosion-resistant steel
Interfacial Seal Gaskets:	..... Fluorosilicone
EMI Gaskets:	..... Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

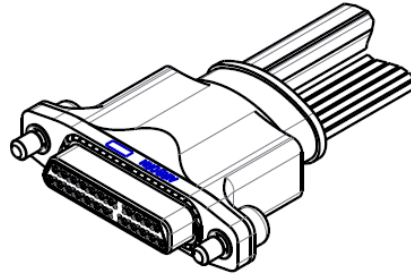
Contact Rating:	..... 3 amperes maximum
Operating Temperature:	..... -55° C to 125° C
Maximum Working Voltage:	..... 200V, RMS, 60Hz
Insulation Resistance:	..... 5,000 megohms minimum @ 500 VDC
Durability:	..... 500 connector mating cycles
Contact Engaging Force:	..... 6.0 ounces maximum/contact
Contact Separating Force:	..... 0.5 ounces minimum/contact
Mating and Unmating Force:	..... 10 ounces maximum/contact

NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

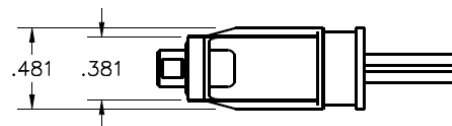
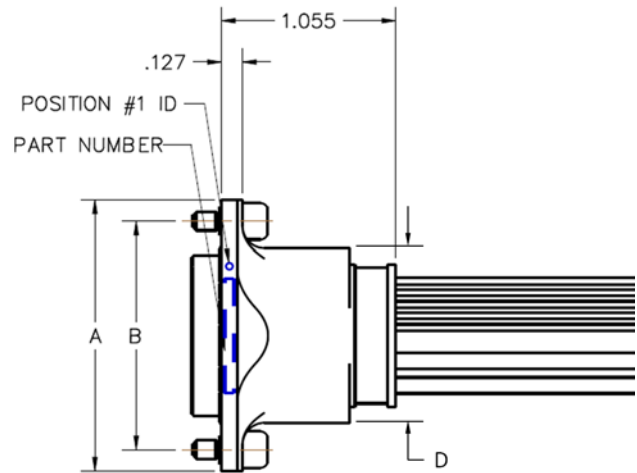
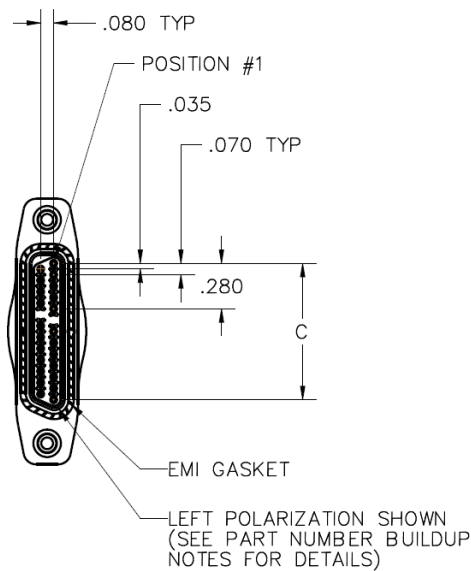
SIGNAL INTEGRITY PERFORMANCE (Connectors Only)		
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MMSI DIMENSIONS (PLUG)



ISOMETRIC VIEW
 MMSI-01L-14B0-006-2810
 FOR REFERENCE ONLY



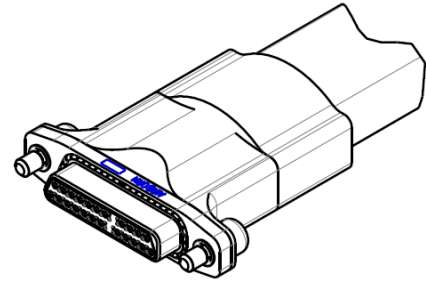
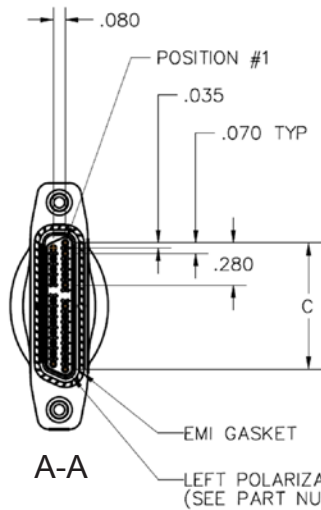
SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

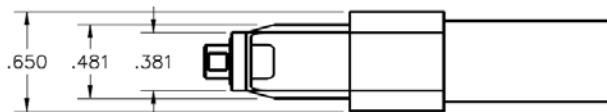
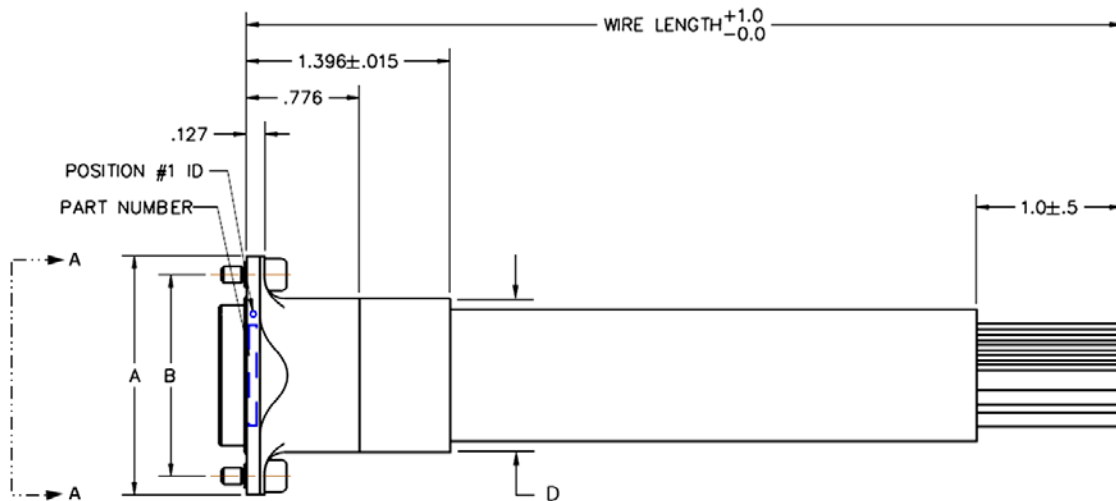
1. See next page for cable with braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



MMSI DIMENSIONS with HALAR® SLEEVE (PLUG)



ISOMETRIC VIEW OF PLUG END
 MMSI-01L-14B3-006-2810
 FOR REFERENCE ONLY



SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. See previous page for cable without braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61

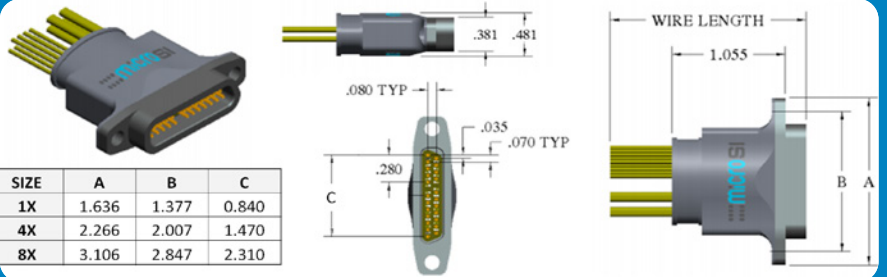


microSI™

MMSI – Cable I/O (Female)

MMSI cable connectors are used in cable applications where signal integrity is desired. The connector interface controls the polarization of the twinax contact style. Comes with a variety of wiring and hardware options. All cable connectors are available in custom lengths.

GENERAL DIMENSIONS



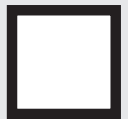
Sample Part Number Format: MMSI-01L-24B0-006-2810



SERIES
 Cable I/O
 (Female)
 1.78 mm



SIZE & INTERFACE POLARIZATION*
 01L – 1X Left (23 pins, 4 DP +9SB)
 01R – 1X Right (23 pins, 4 DP +9SB)
 04L – 4X Left (41 pins, 10 DP +9SB)
 04R – 4X Right (41 pins, 10 DP +9SB)
 08L – 8X Left (65 pins, 18 DP +9SB)
 08R – 8X Right (65 pins, 18 DP +9SB)



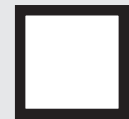
STYLE
 21 – Female, Twinax
 100Ω 24 AWG
 24 – Female, Twinax
 100Ω 30 AWG



OVERALL****
 0 – None
 1 – Silver-plated braid
 2 – Tin-plated braid
 3 – Silver-plated braid, Halar® sleeving
 4 – Tin-plated braid, Halar® sleeving
 5 – Halar® sleeving (no braid)



WIRE LENGTH'
 Inches, 3 digits
 Ex. 018 = 18 inches



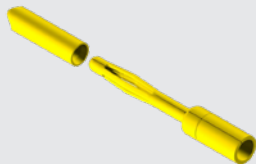
HARDWARE
 620 – Fixed jacknut
 810 – Turning jackscrews;
 captivated**
 NXX – Keying jacknuts***
 JXX – Keying jackscrews***

BODY PLATING, INTERNAL SOLDER
 1 – Electroless nickel, SAC305
 2 – Electroless nickel, Sn/Pb ☒
 5 – Gold, SAC305
 6 – Gold, Sn/Pb ☒

SIDEBAND WIRES
 (color code per MIL-STD-681)
 A – 22759/11-24
 B – 22759/11-26
 C – 22759/11-28
 D – 22759/33-24 ☒
 E – 22759/33-26 ☒
 F – 22759/33-28 ☒
 G – 22759/33-30 ☒
 H – NEMA HP3-EXBEB 24 AWG
 J – NEMA HP3-EXBDB 26 AWG
 K – NEMA HP3-EXBCB 28 AWG
 L – NEMA HP3-EXBBB 30 AWG

High-Reliability Contact

MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- Overall braid and/or Halar® will be 1.0 ± 0.5 inches shorter than specified wire length. Minimum length without overall braid or Halar® is 3 inches. If overall braid or Halar® is specified the minimum length is 6 inches.
 - All microSI females have fluorosilicone interfacial seals installed.
- ☒ Option not RoHS-compliant
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable.
- **** Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	.....	Brass
Pin Contacts:	.....	BeCu alloy strip
Contact Finish:	.....	Gold plate, 50" minimum
Shells:	.....	Aluminum alloy 6061-T6
Shell Finishes:	.....	Electroless nickel or gold
Molded Insulators:	.....	Glass-filled liquid crystal polymer (LCP)
Embedment:	.....	Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....	Corrosion-resistant steel
Interfacial Seal Gaskets:	.....	Fluorosilicone
EMI Gaskets:	.....	Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating:	.....	3 amperes maximum
Operating Temperature:	.....	-55° C to 125° C
Maximum Working Voltage:	.....	200V, RMS, 60Hz
Insulation Resistance:	.....	5,000 megohms minimum @ 500 VDC
Durability:	.....	500 connector mating cycles
Contact Engaging Force:	.....	6.0 ounces maximum/contact
Contact Separating Force:	.....	0.5 ounces minimum/contact
Mating and Unmating Force:	.....	10 ounces maximum/contact

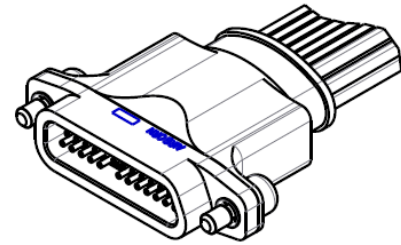
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

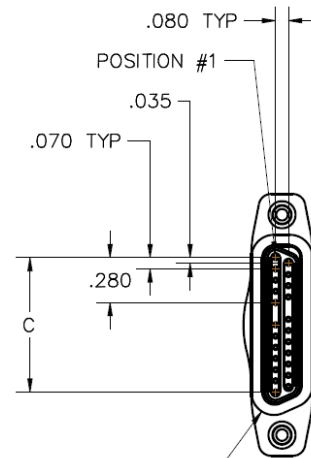
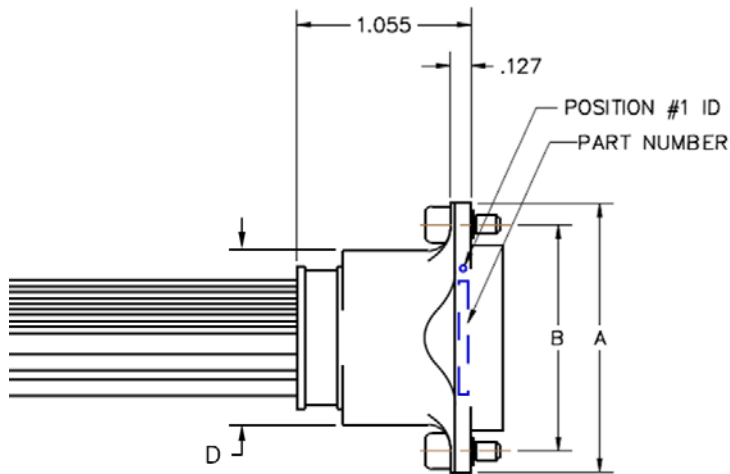
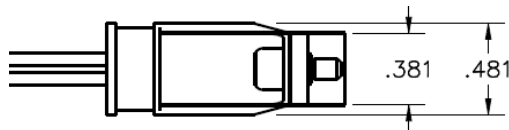
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MMSI DIMENSIONS (RECEPTACLE)



ISOMETRIC VIEW
 MMSI-01L-24B0-006-2810
 FOR REFERENCE ONLY



LEFT POLARIZATION SHOWN
 (SEE PART NUMBER BUILDUP
 NOTES FOR DETAILS)

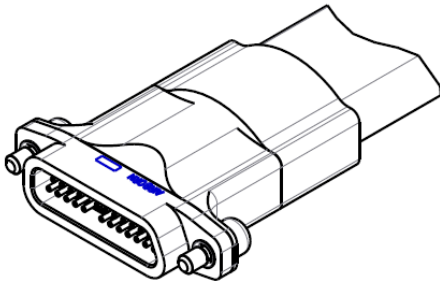
SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

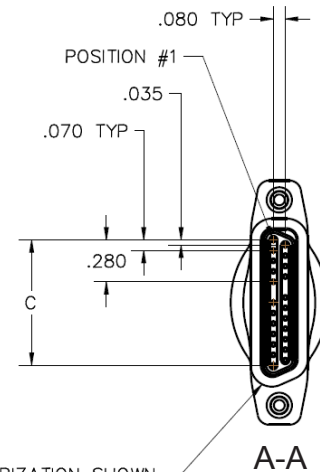
1. See next page for cable with braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



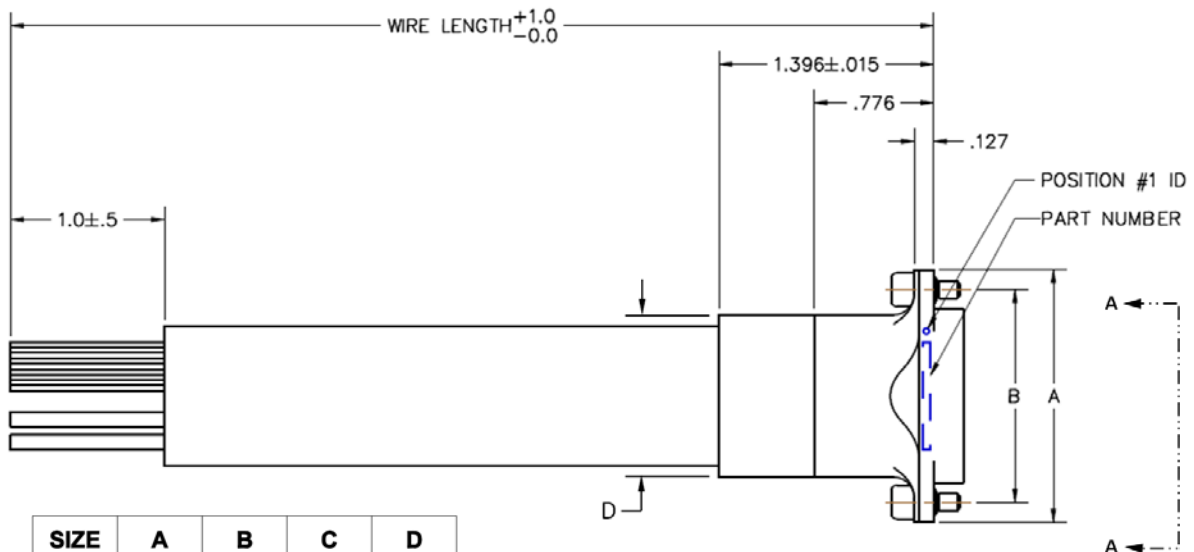
MMSI DIMENSIONS with HALAR® SLEEVE (RECEPTACLE)



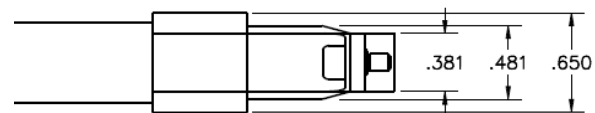
ISOMETRIC VIEW OF RCPT END
 MMSI-01L-24B3-006-2810
 FOR REFERENCE ONLY



LEFT POLARIZATION SHOWN
 (SEE PART NUMBER BUILDUP
 NOTES FOR DETAILS)



SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

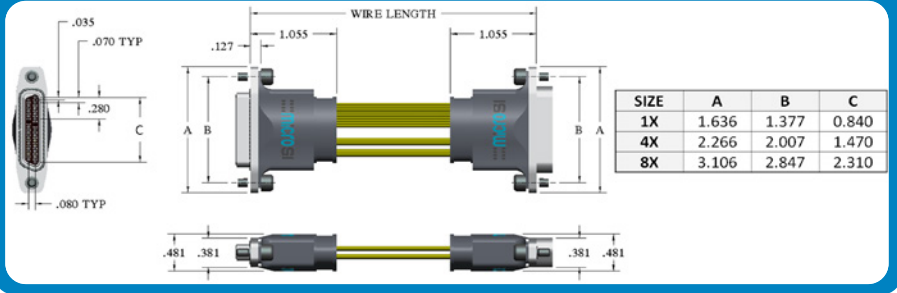
1. See previous page for cable without braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



MJSI – Cable Assembly

MJSI cable assemblies are used in jumper applications where signal integrity is desired. They have a wide range of styles, wiring options, and hardware options. All cable assemblies are available in custom lengths.

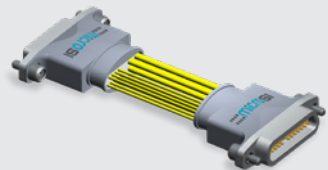
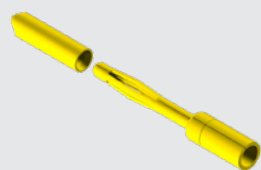
GENERAL DIMENSIONS



Sample Part Number Format: MJSI-01L-24B0-018-2810

MJSI							
SERIES Cable Assembly 1.78 mm	SIZE & INTERFACE POLARIZATION* 01L – 1X Left (23 pins, 4 DP +9SB) 01R – 1X Right (23 pins, 4 DP +9SB) 04L – 4X Left (41 pins, 10 DP +9SB) 04R – 4X Right (41 pins, 10 DP +9SB) 08L – 8X Left (65 pins, 18 DP +9SB) 08R – 8X Right (65 pins, 18 DP +9SB)	STYLE 11 – Male-to-Male, Twinax 100Ω 24 AWG 14 – Male-to-Male, Twinax 100Ω 30 AWG 21 – Male-to-Female, Twinax 100Ω 24 AWG 24 – Male-to-Female, Twinax 100Ω 30 AWG 31 – Female-to-Female, Twinax 100Ω 24 AWG 34 – Female-to-Female 100Ω 30 AWG	OVERALL**** 0 – None 1 – Silver-plated braid 2 – Tin-plated braid 3 – Silver-plated braid, Halar® sleeving 4 – Tin-plated braid, Halar® sleeving 5 – Halar® sleeving (no braid)	WIRE LENGTH¹ Inches, 3 digits Ex. 018 = 18 inches	HARDWARE 620 – Fixed jacknut 810 – Turning jackscrews, captivated** 860 – Fixed jacknut & turning jackscrews, captivated** 870 – Fixed jacknut on male & turning jackscrews, captivated** on female (styles 21 & 24, only) NXX – Keying jackscrews*** JXX – Keying jackscrews*** AXX – Keying jackscrews & keying jackscrews*** (for styles 21 & 24, jacknuts on female) BXX – Keying jackscrews on male & keying jackscrews on female*** (styles 21 & 24, only)	BODY PLATING, INTERNAL SOLDER 1 – Electroless nickel, SAC305 2 – Electroless nickel, Sn/Pb ☒ 5 – Gold, SAC305 6 – Gold, Sn/Pb ☒	SIDEBAND WIRES (color code per MIL-STD-681) A – 22759/11-24 B – 22759/11-26 C – 22759/11-28 D – 22759/33-24 ☒ E – 22759/33-26 ☒ F – 22759/33-28 ☒ G – 22759/33-30 ☒ H – NEMA HP3-EXBEB 24 AWG J – NEMA HP3-EXBDB 26 AWG K – NEMA HP3-EXBCB 28 AWG L – NEMA HP3-EXBBB 30 AWG

High-Reliability Contact
MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- All microSI females have fluorosilicone interfacial seals installed.
 - Overall braid and/or Halar® will be 1.0 ± 0.5 inches shorter than specified wire length. Minimum length without overall braid or Halar® is 3 inches. If overall braid or Halar® is specified the minimum length is 6 inches.
 - Hardware is the same for both connectors unless otherwise noted.
- ☒ Option not RoHS-compliant
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable.
- **** Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	..... Brass
Pin Contacts:	..... BeCu alloy strip
Contact Finish:	..... Gold plate, 50 μ" minimum
Shells:	..... Aluminum alloy 6061-T6
Shell Finishes:	..... Electroless nickel or Gold
Molded Insulators:	..... Glass-filled liquid crystal polymer (LCP)
Embedment:	..... Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	..... Corrosion-resistant steel
Interfacial Seal Gaskets:	..... Fluorosilicone
EMI Gaskets:	..... Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating:	..... 3 amperes maximum
Operating Temperature:	..... -55° C to 125° C
Maximum Working Voltage:	..... 200V, RMS, 60Hz
Insulation Resistance:	..... 5,000 megohms minimum @ 500 VDC
Durability:	..... 500 connector mating cycles
Contact Engaging Force:	..... 6.0 ounces maximum/contact
Contact Separating Force:	..... 0.5 ounces minimum/contact
Mating and Unmating Force:	..... 10 ounces maximum/contact

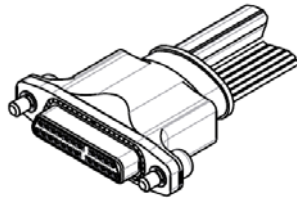
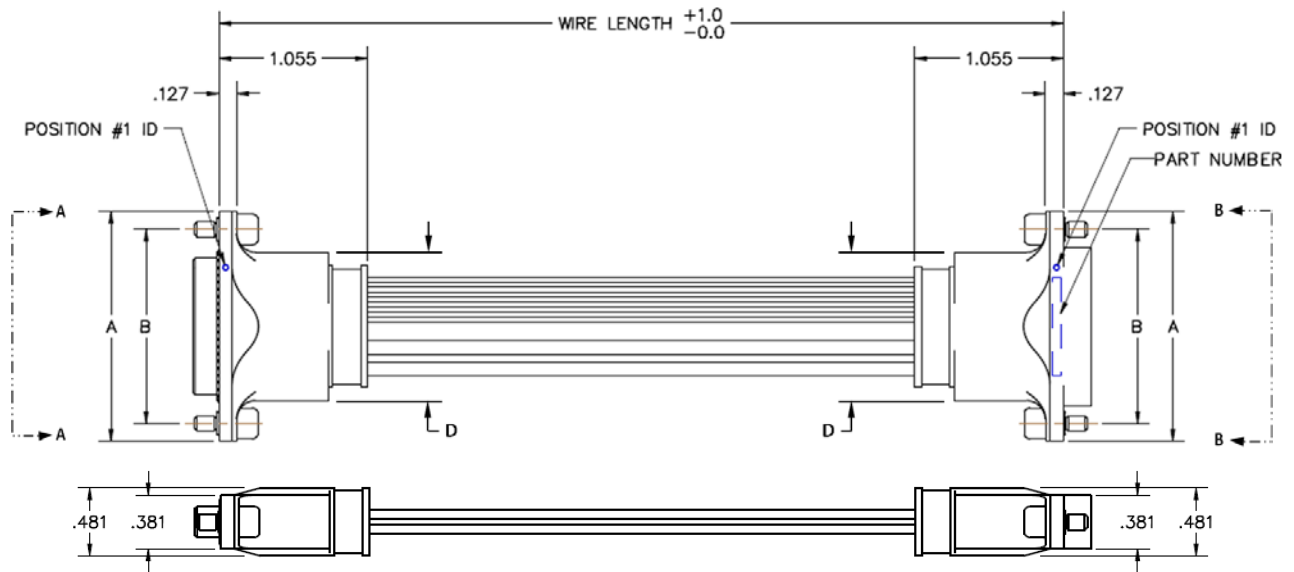
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

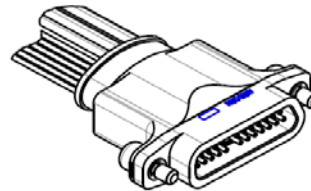
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



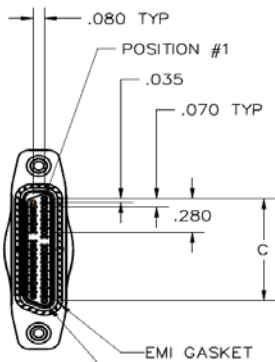
MJSI DIMENSIONS



ISOMETRIC VIEW OF PLUG END
 MJSI-01L-24B0-006-2810
 FOR REFERENCE ONLY

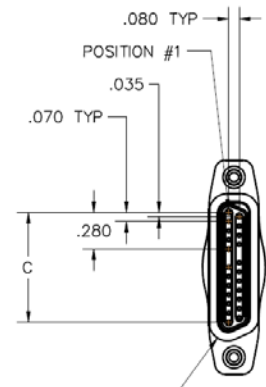


ISOMETRIC VIEW OF RCPT END
 MJSI-01L-24B0-006-2810
 FOR REFERENCE ONLY



A-A
 LEFT POLARIZATION SHOWN
 (SEE PART NUMBER BUILDUP
 NOTES FOR DETAILS)

SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523



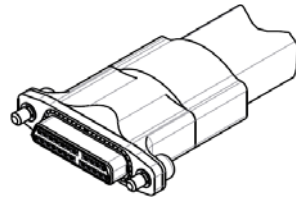
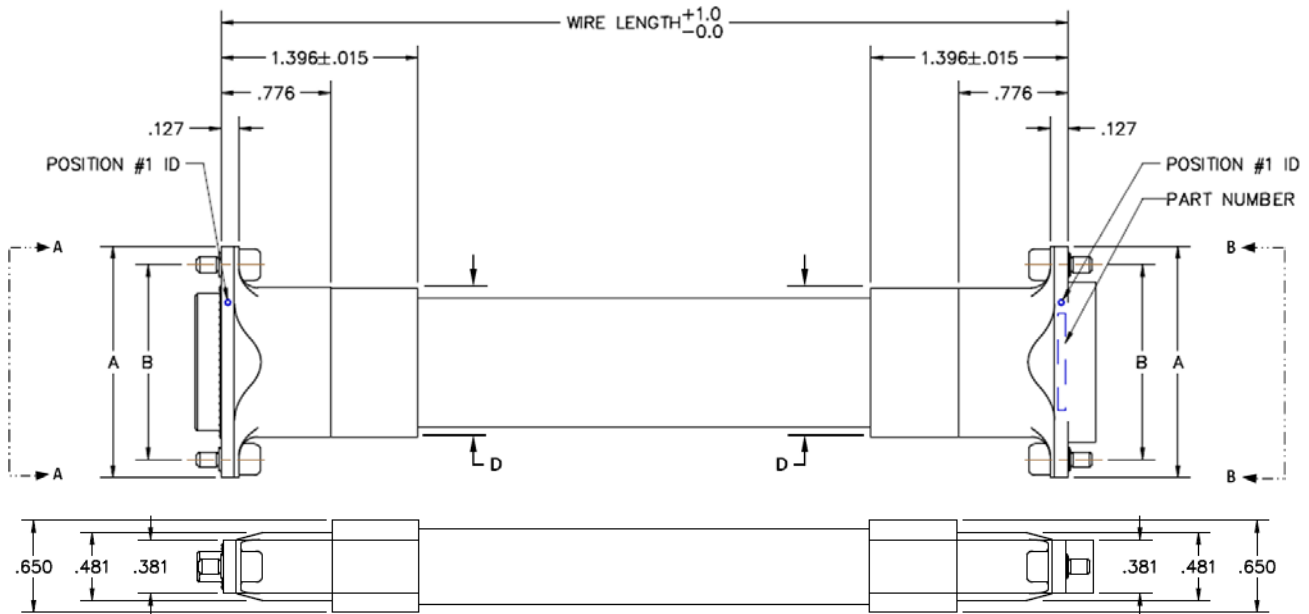
B-B
 LEFT POLARIZATION SHOWN
 (SEE PART NUMBER BUILDUP
 NOTES FOR DETAILS)

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

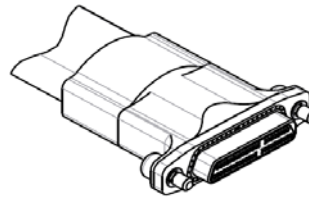
1. See next page for cable with braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



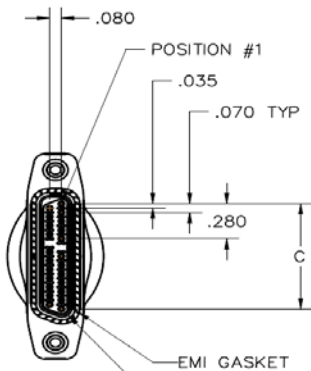
MJSI DIMENSIONS with HALAR® SLEEVE



ISOMETRIC VIEW OF PLUG END
MJSI-01L-24B3-006-2810
FOR REFERENCE ONLY



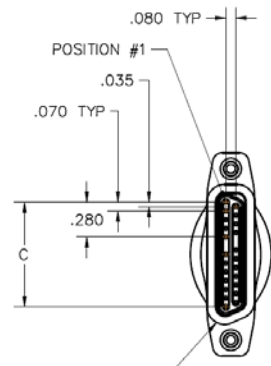
ISOMETRIC VIEW OF RCPT END
MJSI-01L-24B3-006-2810
FOR REFERENCE ONLY



A-A

LEFT POLARIZATION SHOWN
(SEE PART NUMBER BUILDUP
NOTES FOR DETAILS)

SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523



B-B

LEFT POLARIZATION SHOWN
(SEE PART NUMBER BUILDUP
NOTES FOR DETAILS)

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

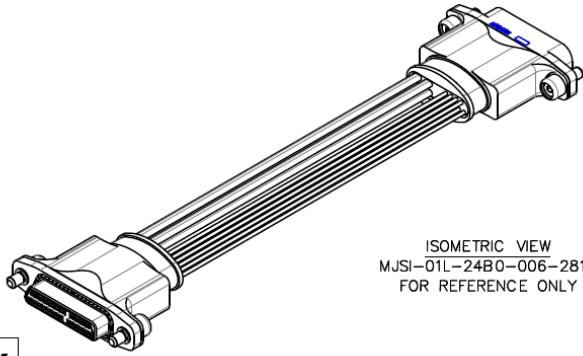
1. See previous page for cable without braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



MJSI MATING FACE ORIENTATION

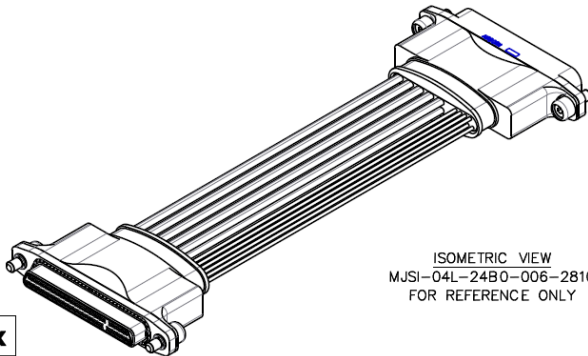


1x



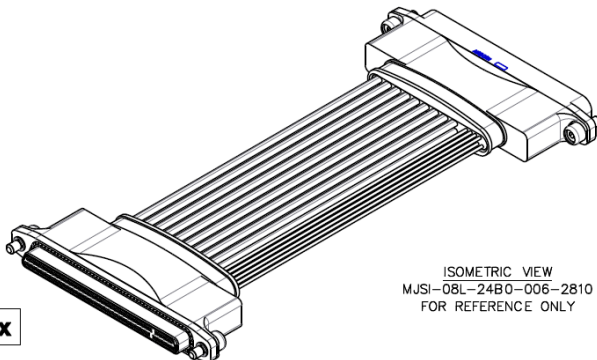
ISOMETRIC VIEW
 MJSI-01L-24B0-006-2810
 FOR REFERENCE ONLY

4x



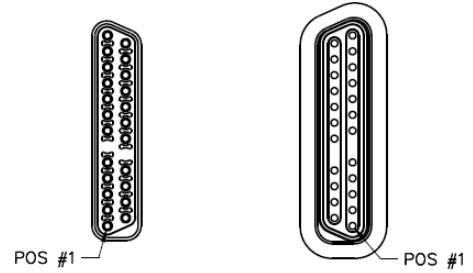
ISOMETRIC VIEW
 MJSI-04L-24B0-006-2810
 FOR REFERENCE ONLY

8x

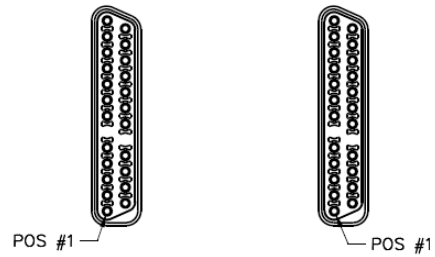


ISOMETRIC VIEW
 MJSI-08L-24B0-006-2810
 FOR REFERENCE ONLY

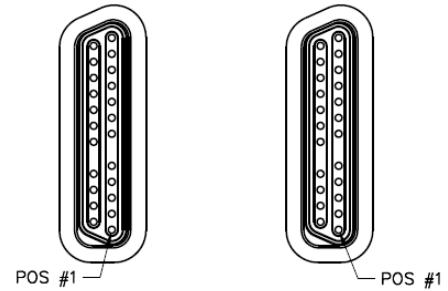
MATING FACE ORIENTATION



PLUG TO RECEPTACLE



PLUG TO PLUG



RECEPTACLE TO RECEPTACLE

LEFT POLARIZATION SHOWN
 (SEE PART NUMBER BUILDUP NOTES FOR DETAILS)

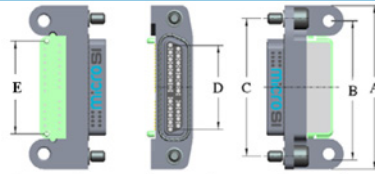


microSI™

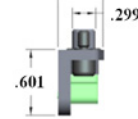
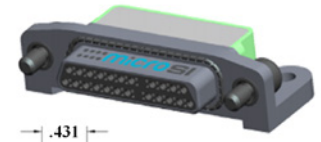
MKSI – Right Angle (Male)

MKSI right angle board surface mount connectors are used in applications where signal integrity is desired. The connector interface controls the polarization of the connector. Comes with a variety of hardware options.

GENERAL DIMENSIONS



SIZE	A	B	C	D	E
1X	1.636	1.330	1.377	0.840	0.930
4X	2.266	1.960	2.007	1.470	1.560
8X	3.106	2.800	2.847	2.310	2.400



Sample Part Number Format: MKSI-01R-1000-175-2810



SERIES
 Right Angle (Male)
 1.78 mm



SIZE & INTERFACE POLARIZATION*
 01L – 1X Left (23 pins, 4 DP +9SB)
 01R – 1X Right (23 pins, 4 DP +9SB)
 04L – 4X Left (41 pins, 10 DP +9SB)
 04R – 4X Right (41 pins, 10 DP +9SB)
 08L – 8X Left (65 pins, 18 DP +9SB)
 08R – 8X Right (65 pins, 18 DP +9SB)



STYLE
 1000 – Male



PIN TERMINATION (50 μ" Au Contact)
 175 – Sn/Pb alloy ☑
 178 – SAC305



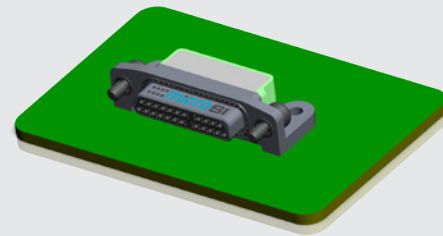
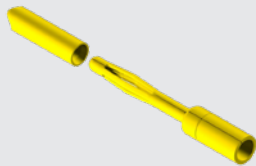
BODY PLATING
 2 – Electroless nickel
 6 – Gold



HARDWARE
 620 – Fixed jacknut
 810 – Turning jackscrews, captivated**
 NXX – Keying jacknuts***
 JXX – Keying jackscrews***

High-Reliability Contact

MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☑ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable. Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	.....	Brass
Pin Contacts:	.....	.BeCu alloy strip
Contact Finish:	.....	Gold plate, 50 μ" minimum
Shells:	.....	Aluminum alloy 6061-T6
Shell Finishes:	.....	Electroless nickel or gold
Molded Insulators:	.....	Glass-filled liquid crystal polymer (LCP)
Embedment:	.....	Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....	Corrosion-resistant steel
Interfacial Seal Gaskets:	.....	Fluorosilicone
EMI Gaskets:	.....	Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating:	.....	3 amperes maximum
Operating Temperature:	.....	-55° C to 125° C
Maximum Working Voltage:	.....	200V, RMS, 60Hz
Insulation Resistance:	.....	5,000 megohms minimum @ 500 VDC
Durability:	.....	500 connector mating cycles
Contact Engaging Force:	.....	6.0 ounces maximum/contact
Contact Separating Force:	.....	0.5 ounces minimum/contact
Mating and Unmating Force:	.....	10 ounces maximum/contact

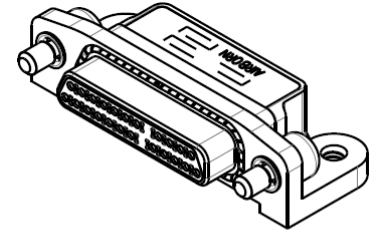
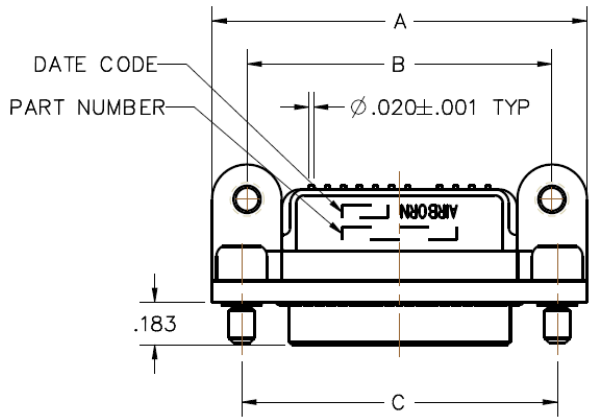
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

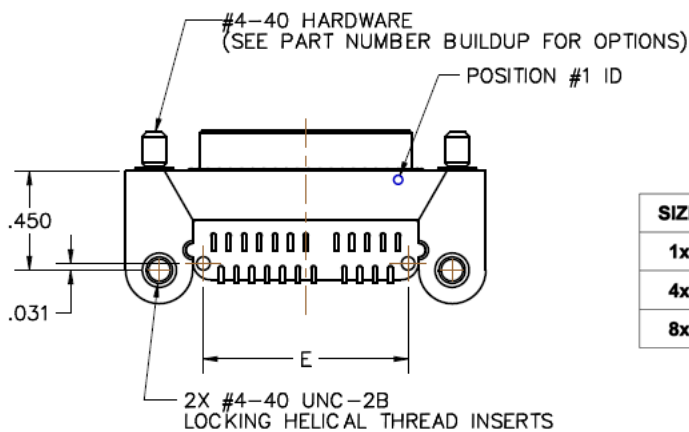
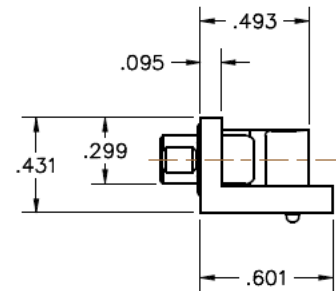
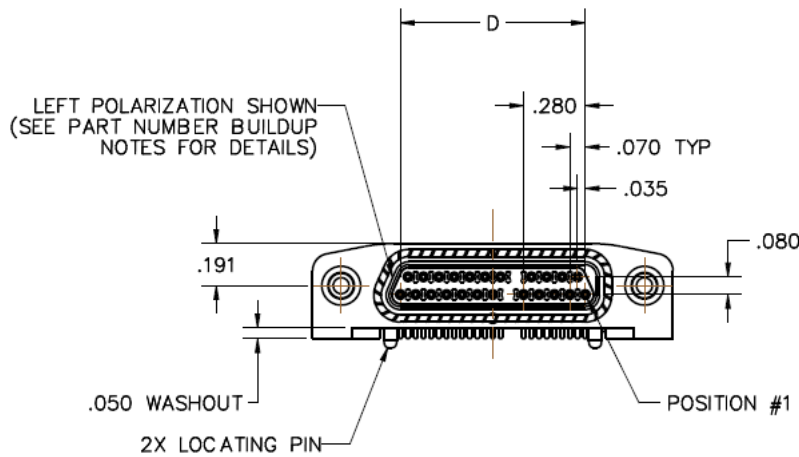
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MKSI DIMENSIONS (PLUG)



ISOMETRIC VIEW
 MKSI-01L-1000-175-2810
 FOR REFERENCE ONLY



SIZE	A	B	C	D	E
1x	1.636	1.330	1.377	.840	.930
4x	2.266	1.960	2.007	1.470	1.560
8x	3.106	2.800	2.847	2.310	2.400

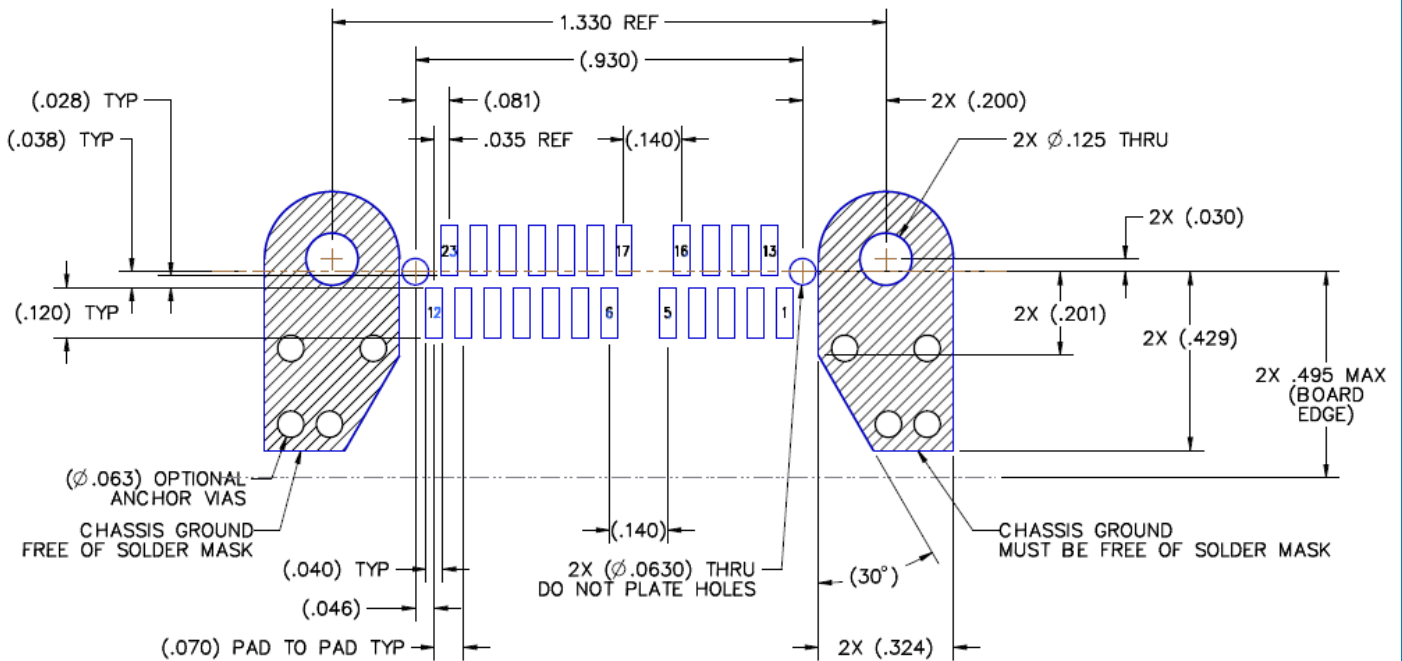
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (PLUG)

1X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

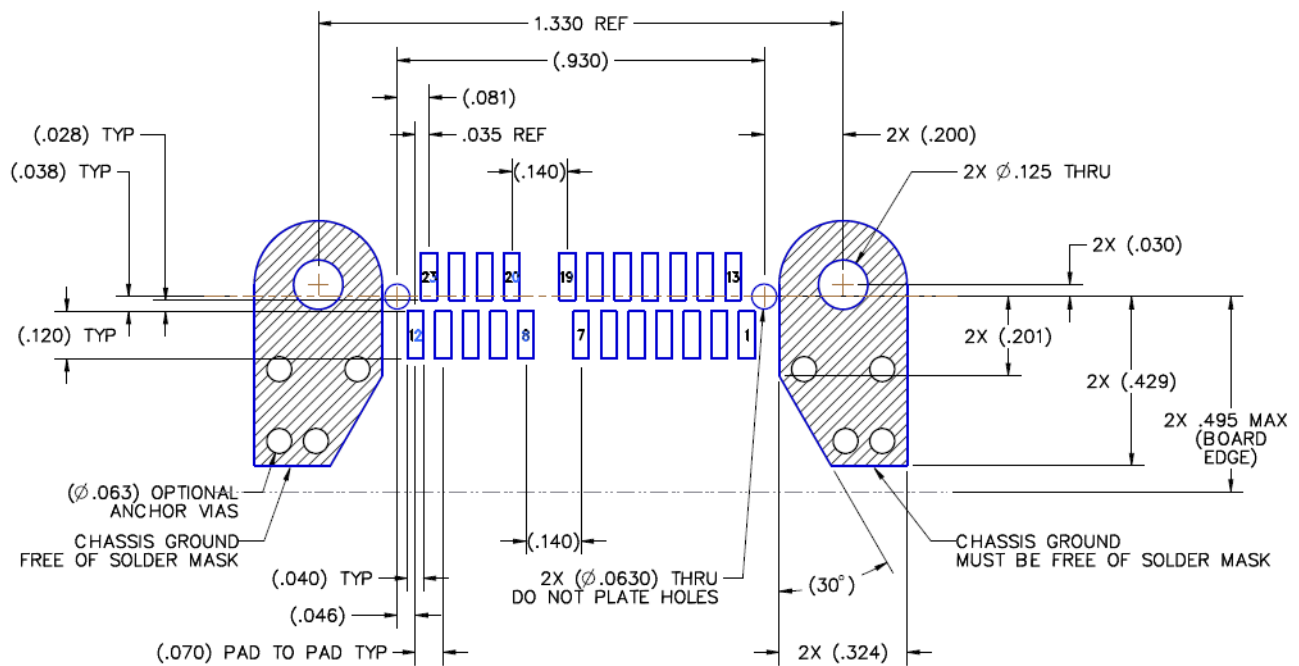
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (PLUG)

1X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

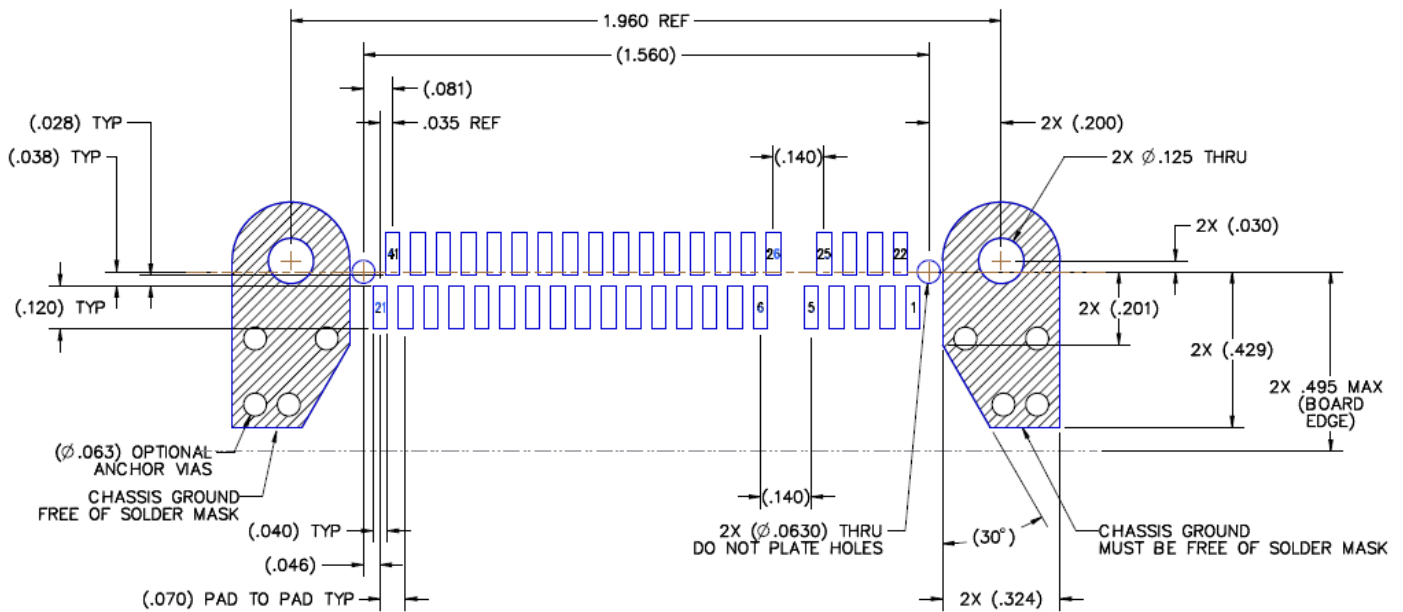
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (PLUG)

4X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

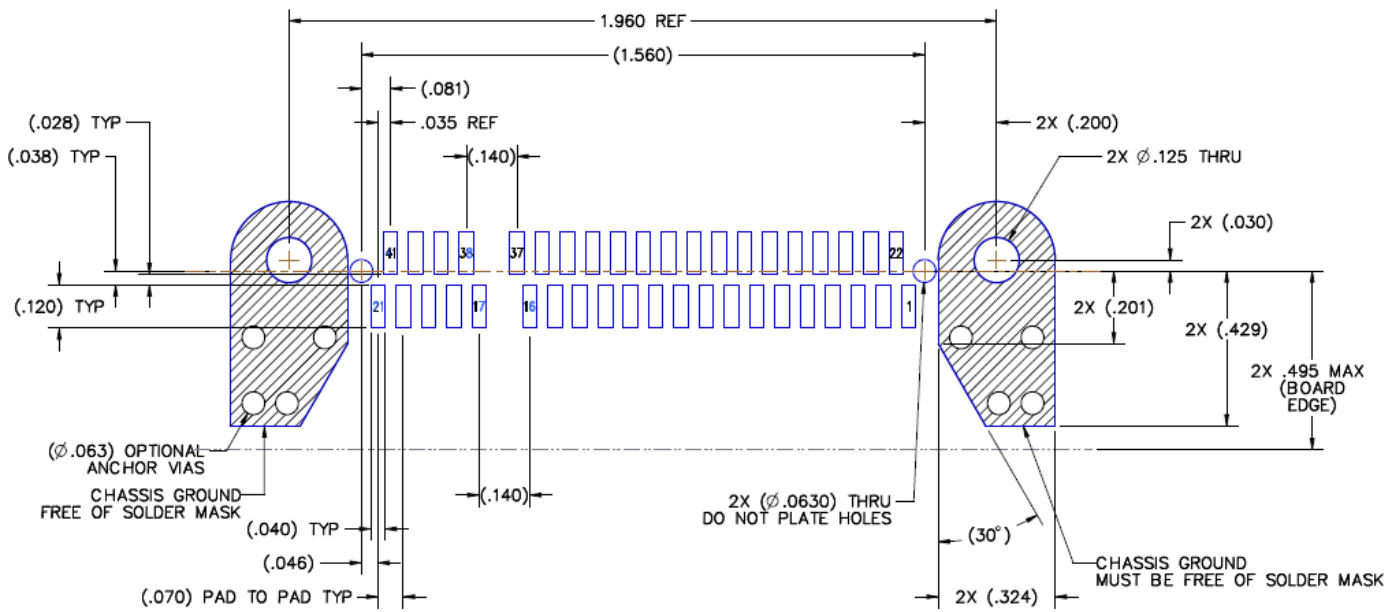
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (PLUG)

4X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

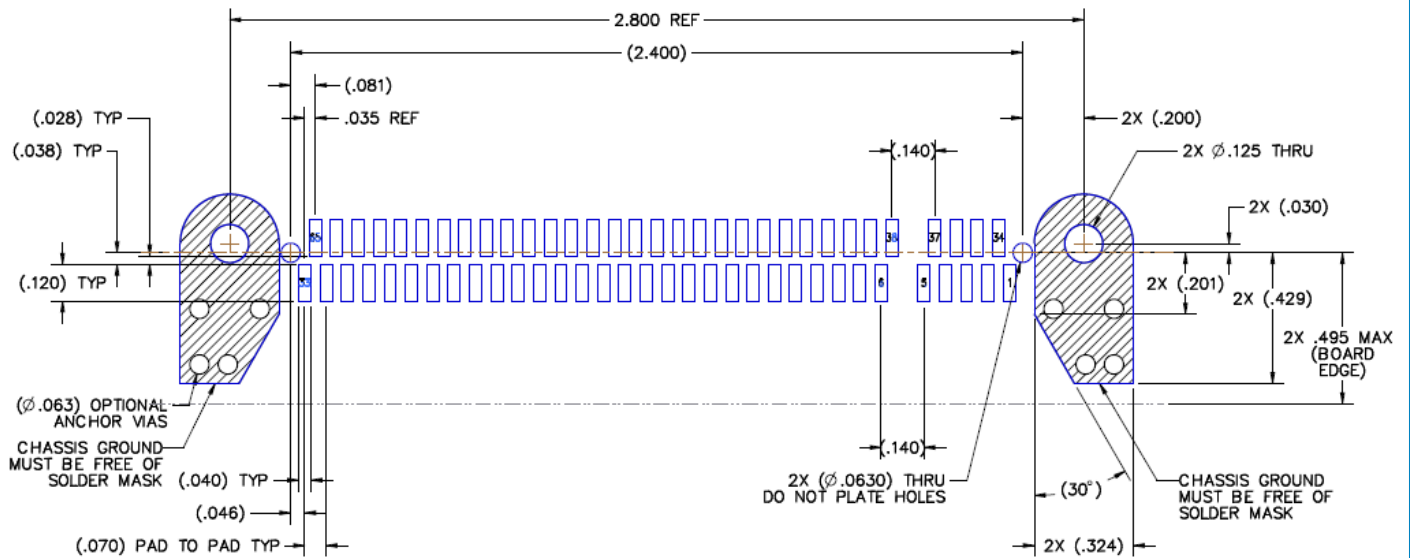
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (PLUG)

8X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

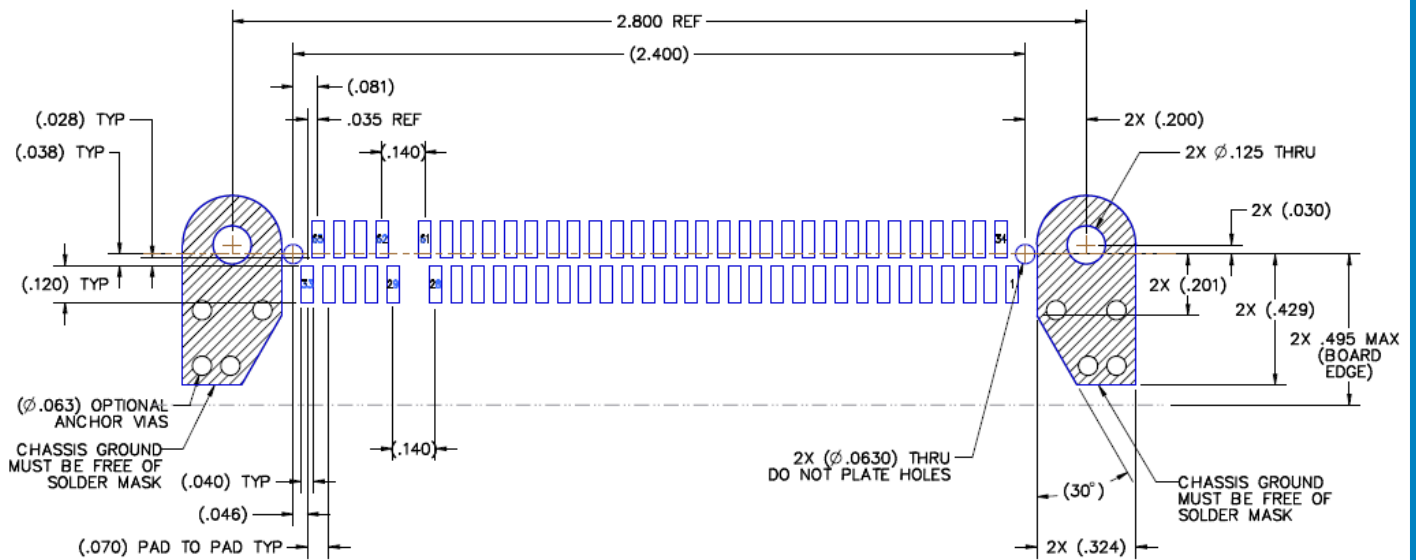
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (PLUG)

8X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61

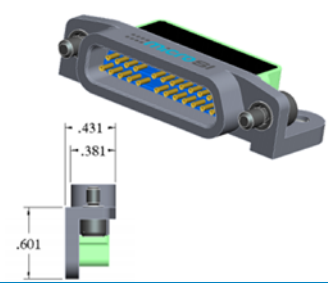
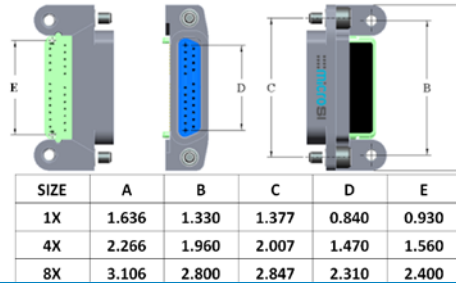


microSI™

MKSI – Right Angle (Female)

MKSI right angle board surface mount connectors are used in applications where signal integrity is desired. The connector interface controls the polarization of the connector. Comes with a variety of hardware options.

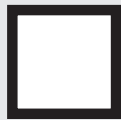
GENERAL DIMENSIONS



Sample Part Number Format: MKSI-01L-2000-275-2620



SERIES
 Right Angle
 (Female)
 1.78 mm



SIZE & INTERFACE POLARIZATION*
 01L – 1X Left (23 pins, 4 DP +9SB)
 01R – 1X Right (23 pins, 4 DP +9SB)
 04L – 4X Left (41 pins, 10 DP +9SB)
 04R – 4X Right (41 pins, 10 DP +9SB)
 08L – 8X Left (65 pins, 18 DP +9SB)
 08R – 8X Right (65 pins, 18 DP +9SB)



STYLE
 2000 – Female



SOCKET TERMINATION (50 μm Au Contact)
 275 – Sn/Pb alloy ☒
 278 – SAC305



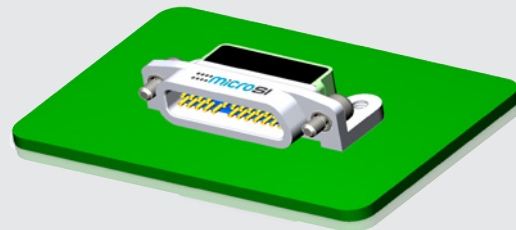
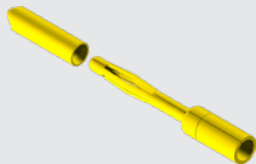
BODY PLATING
 2 – Electroless nickel
 6 – Gold



HARDWARE
 620 – Fixed jacknut
 810 – Turning jackscrews, captivated**
 NXX – Keying jacksnuts***
 JXX – Keying jackscrews***

High-Reliability Contact

MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- All microSI females have fluorosilicone interfacial seals installed.
- Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable. Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	Brass
Pin Contacts:	BeCu alloy strip
Contact Finish:	Gold plate, 50 μ" minimum
Shells:	Aluminum alloy 6061-T6
Shell Finishes:	Electroless nickel or gold
Molded Insulators:	Glass-filled liquid crystal polymer (LCP)
Embedment:	Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	Corrosion-resistant steel
Interfacial Seal Gaskets:	Fluorosilicone
EMI Gaskets:	Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating:	3 amperes maximum
Operating Temperature:	-55° C to 125° C
Maximum Working Voltage:	200V, RMS, 60Hz
Insulation Resistance:	5,000 megohms minimum @ 500 VDC
Durability:	500 connector mating cycles
Contact Engaging Force:	6.0 ounces maximum/contact
Contact Separating Force:	0.5 ounces minimum/contact
Mating and Unmating Force:	10 ounces maximum/contact

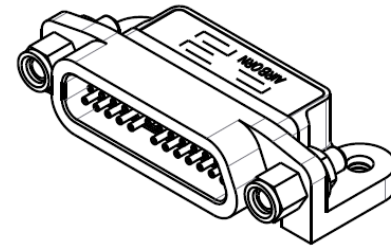
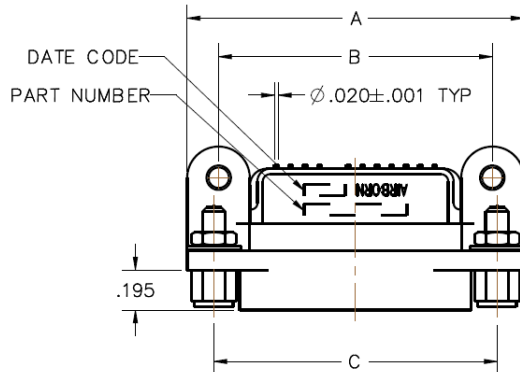
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

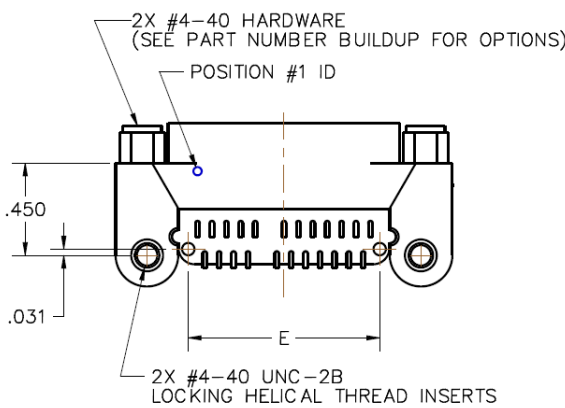
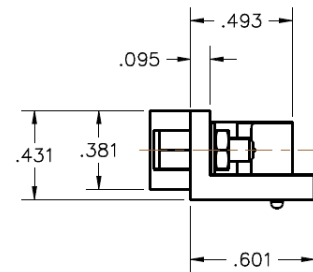
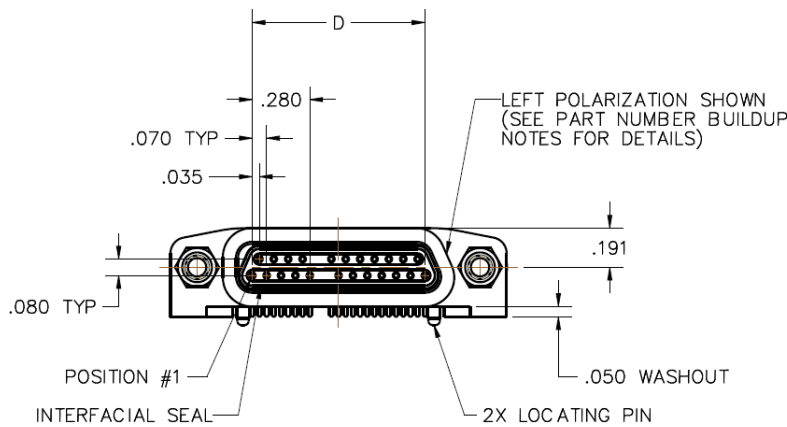
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MKSI DIMENSIONS (RECEPTACLE)



ISOMETRIC VIEW
 MKSI-01L-2000-275-2620
 FOR REFERENCE ONLY



SIZE	A	B	C	D	E
1x	1.636	1.330	1.377	.840	.930
4x	2.266	1.960	2.007	1.470	1.560
8x	3.106	2.800	2.847	2.310	2.400

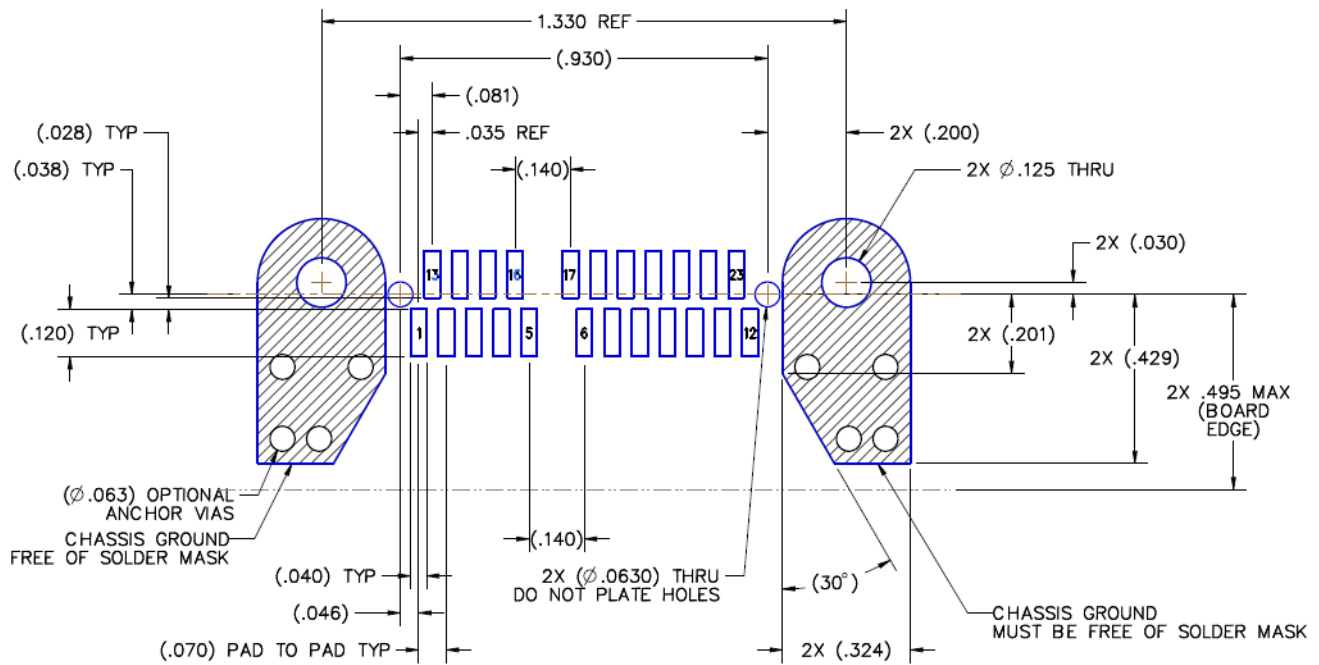
PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

1X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

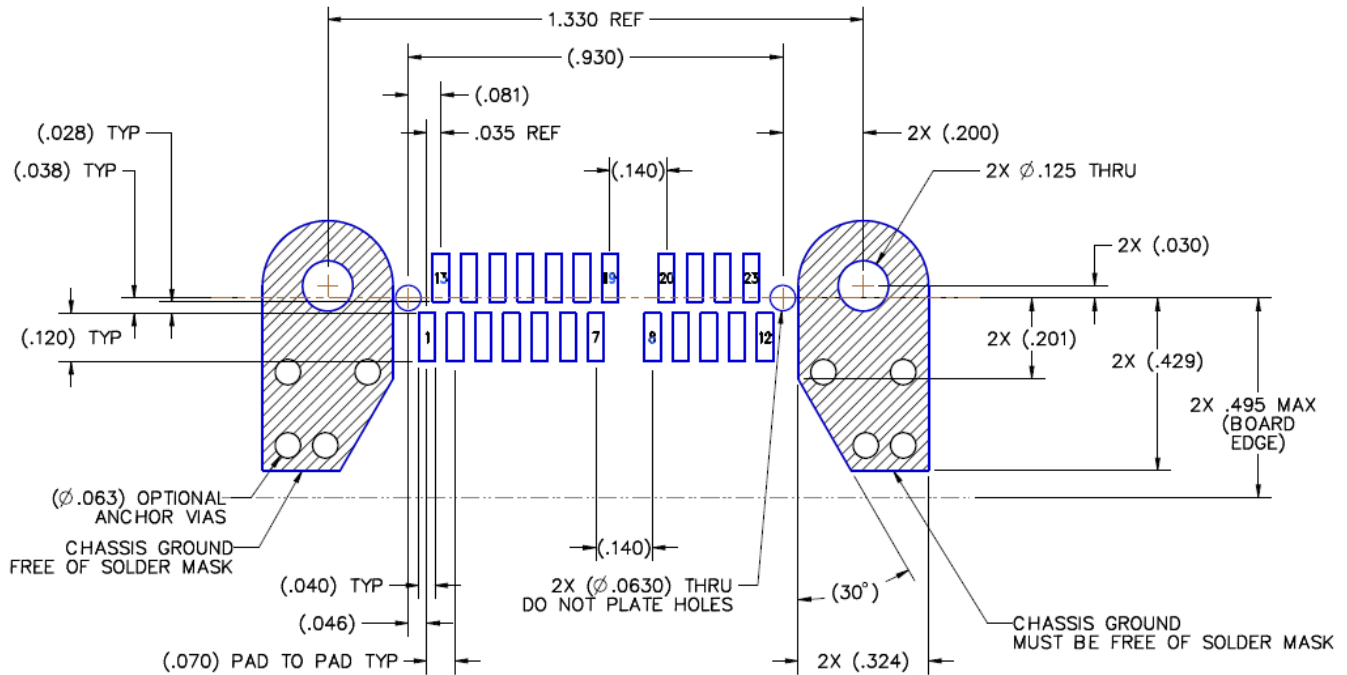
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

1X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

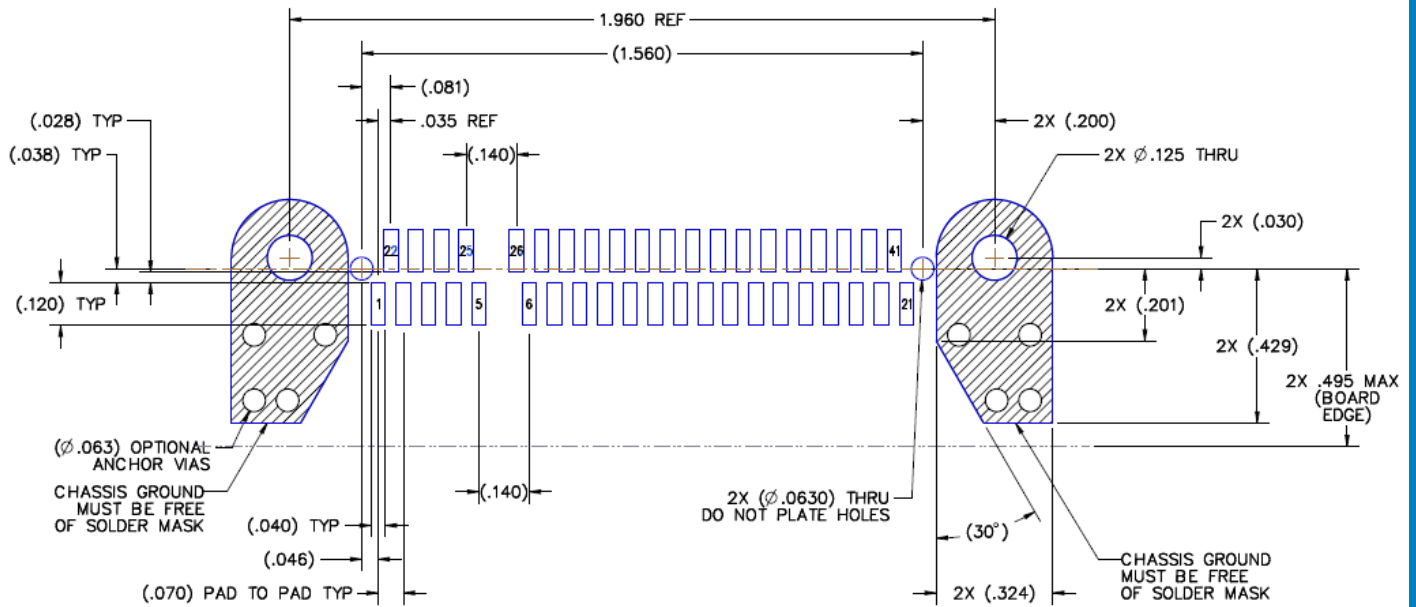
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

4X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

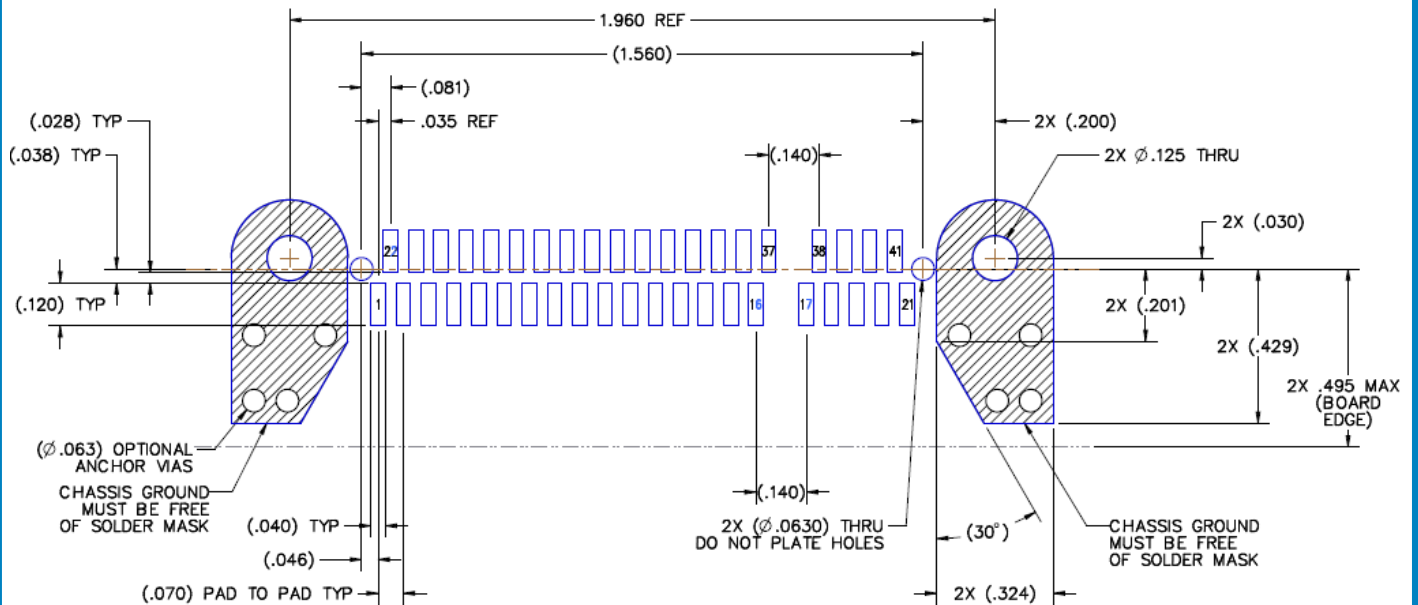
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

4X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

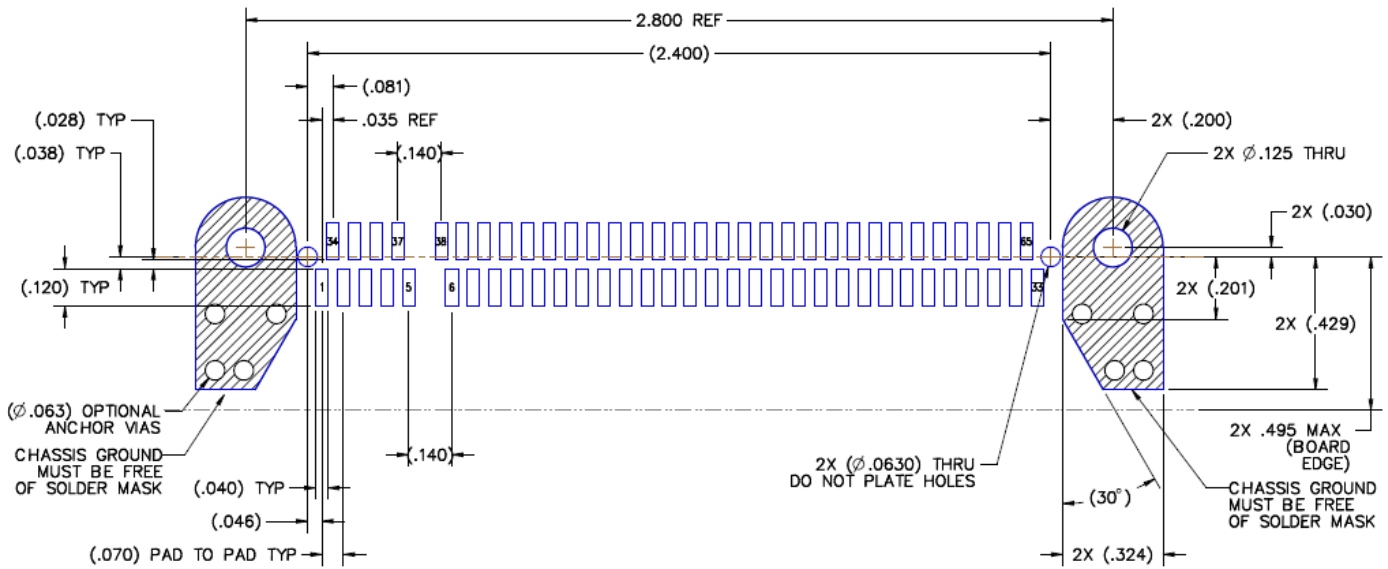
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

8X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

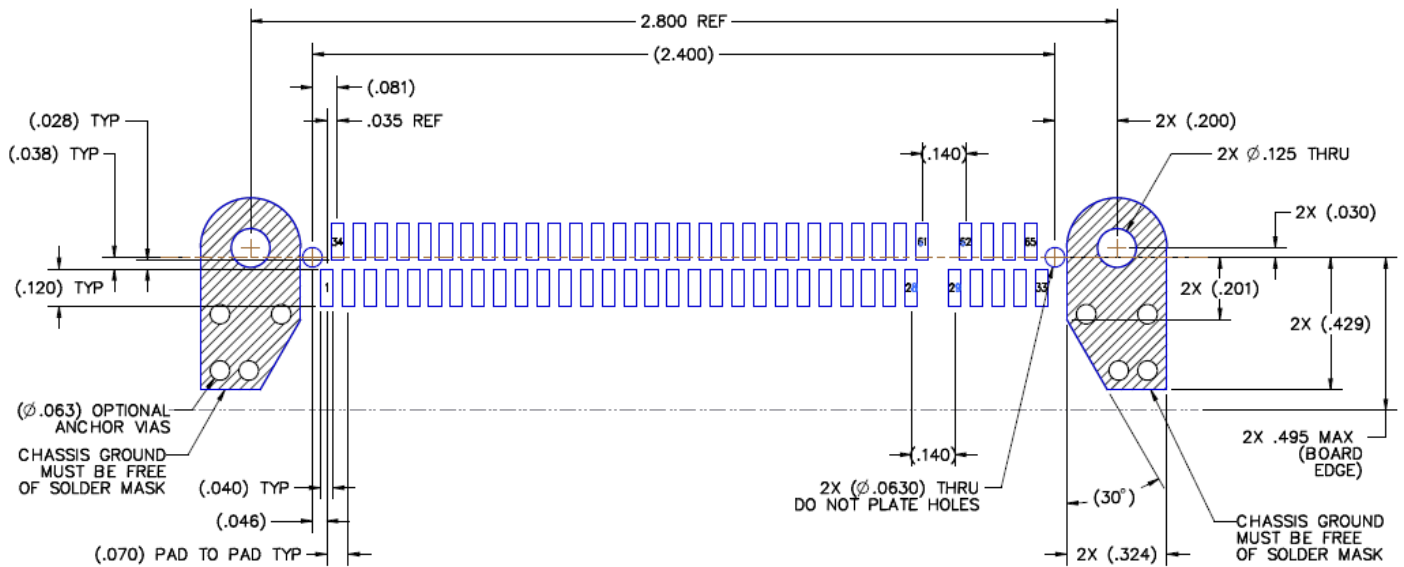
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MKSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

8X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61

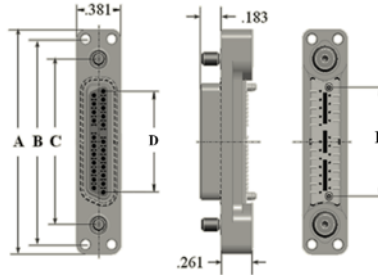


microSI™

MLSI – Vertical (Male)

MLSI vertical board surface mount connectors are used in applications where signal integrity is desired. The connector interface controls the polarization of the connector. Comes with a variety of hardware options.

GENERAL DIMENSIONS



SIZE	A	B	C	D	E
1X	1.863	1.708	1.377	0.840	0.906
4X	2.493	2.338	2.007	1.470	1.536
8X	3.333	3.178	2.847	2.310	2.376

Sample Part Number Format: MLSI-08L-1000-378-2810



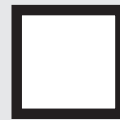
SERIES
 Vertical (Male)
 1.78 mm



SIZE & INTERFACE POLARIZATION*
 01L – 1X Left (23 pins, 4 DP +9SB)
 01R – 1X Right (23 pins, 4 DP +9SB)
 04L – 4X Left (41 pins, 10 DP +9SB)
 04R – 4X Right (41 pins, 10 DP +9SB)
 08L – 8X Left (65 pins, 18 DP +9SB)
 08R – 8X Right (65 pins, 18 DP +9SB)



STYLE
 1000 – Male



PIN TERMINATION (50 μm Au Contact)
 375 – Sn/Pb alloy ☒
 378 – SAC305



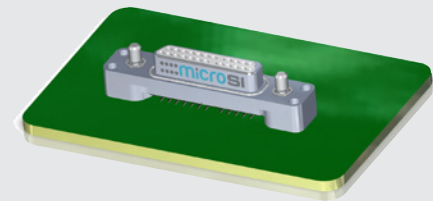
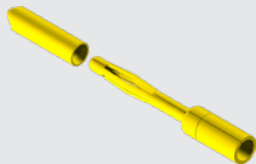
BODY PLATING
 2 – Electroless nickel
 6 – Gold



HARDWARE
 620 – Fixed jacknut
 810 – Turning jackscrews, captivated**
 NXX – Keying jackscrews***
 JXX – Keying jackscrews***

High-Reliability Contact

MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable. Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	.....	Brass
Pin Contacts:	.....	.BeCu alloy strip
Contact Finish:	.....	Gold plate, 50 μ" minimum
Shells:	.....	Aluminum alloy 6061-T6
Shell Finishes:	.....	Electroless nickel or gold
Molded Insulators:	.....	Glass-filled liquid crystal polymer (LCP)
Embedment:	.....	Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	.....	Corrosion-resistant steel
Interfacial Seal Gaskets:	.....	Fluorosilicone
EMI Gaskets:	.....	Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating:	.....	3 amperes maximum
Operating Temperature:	.....	-55° C to 125° C
Maximum Working Voltage:	.....	200V, RMS, 60Hz
Insulation Resistance:	.....	5,000 megohms minimum @ 500 VDC
Durability:	.....	500 connector mating cycles
Contact Engaging Force:	.....	6.0 ounces maximum/contact
Contact Separating Force:	.....	0.5 ounces minimum/contact
Mating and Unmating Force:	.....	10 ounces maximum/contact

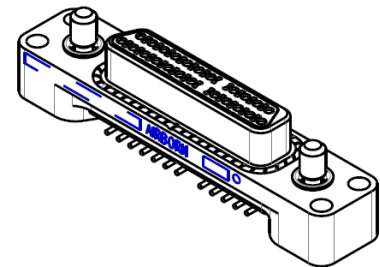
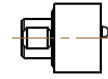
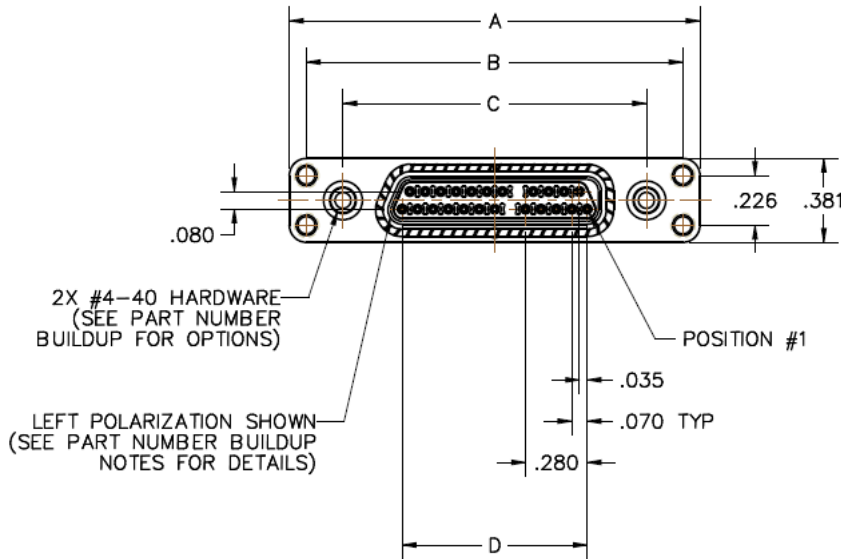
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

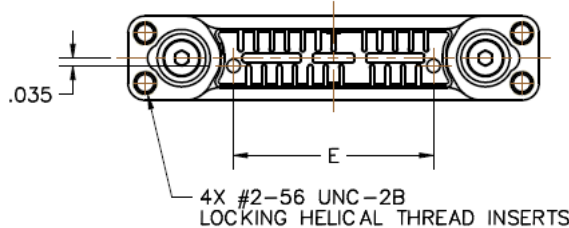
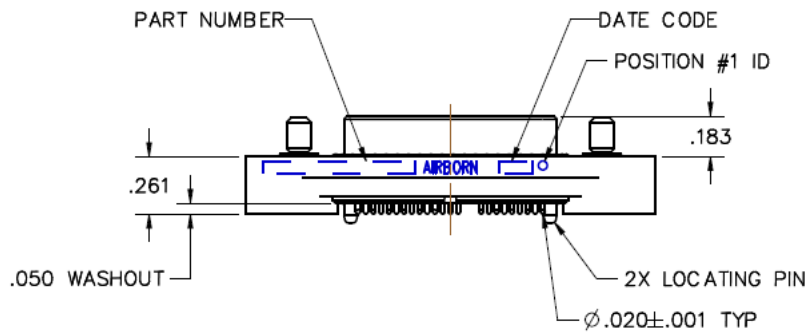
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MLSI DIMENSIONS (PLUG)



ISOMETRIC VIEW
 MLSI-01L-1000-375-2810
 FOR REFERENCE ONLY



SIZE	A	B	C	D	E
1x	1.863	1.708	1.377	.840	.906
4x	2.493	2.338	2.007	1.470	1.536
8x	3.333	3.178	2.847	2.310	2.376

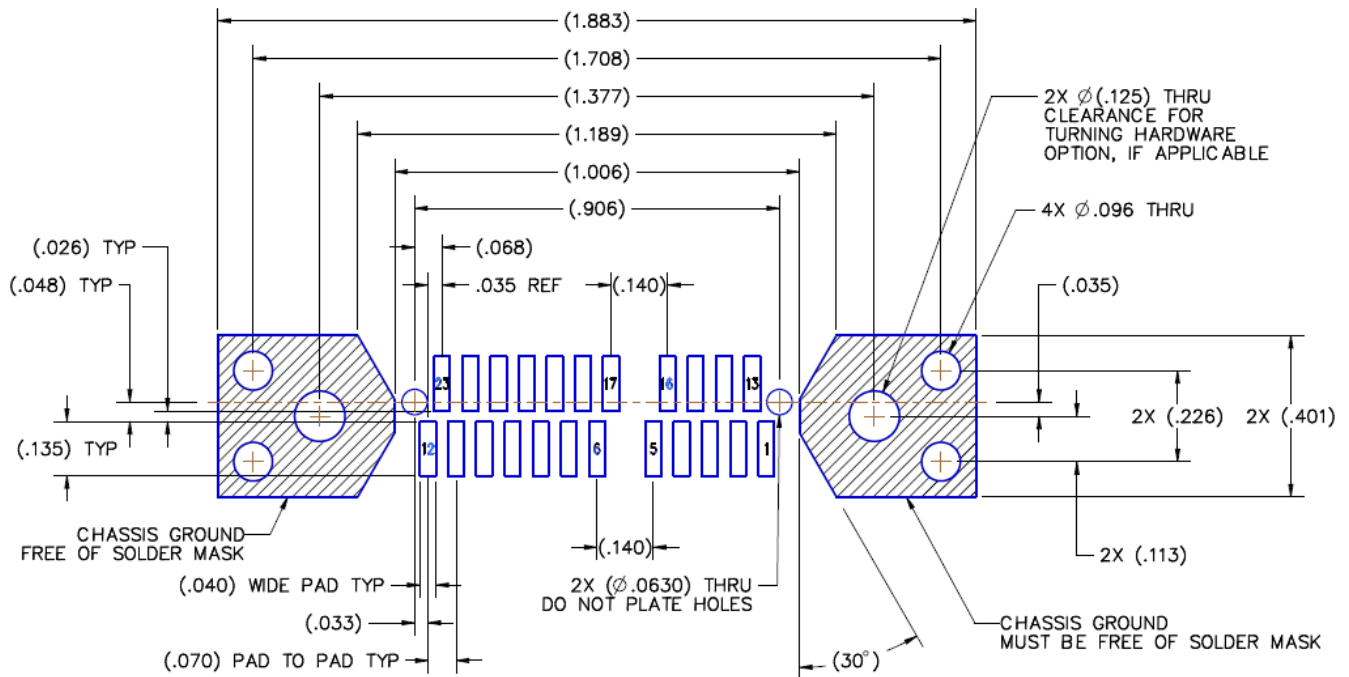
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (PLUG)

1X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

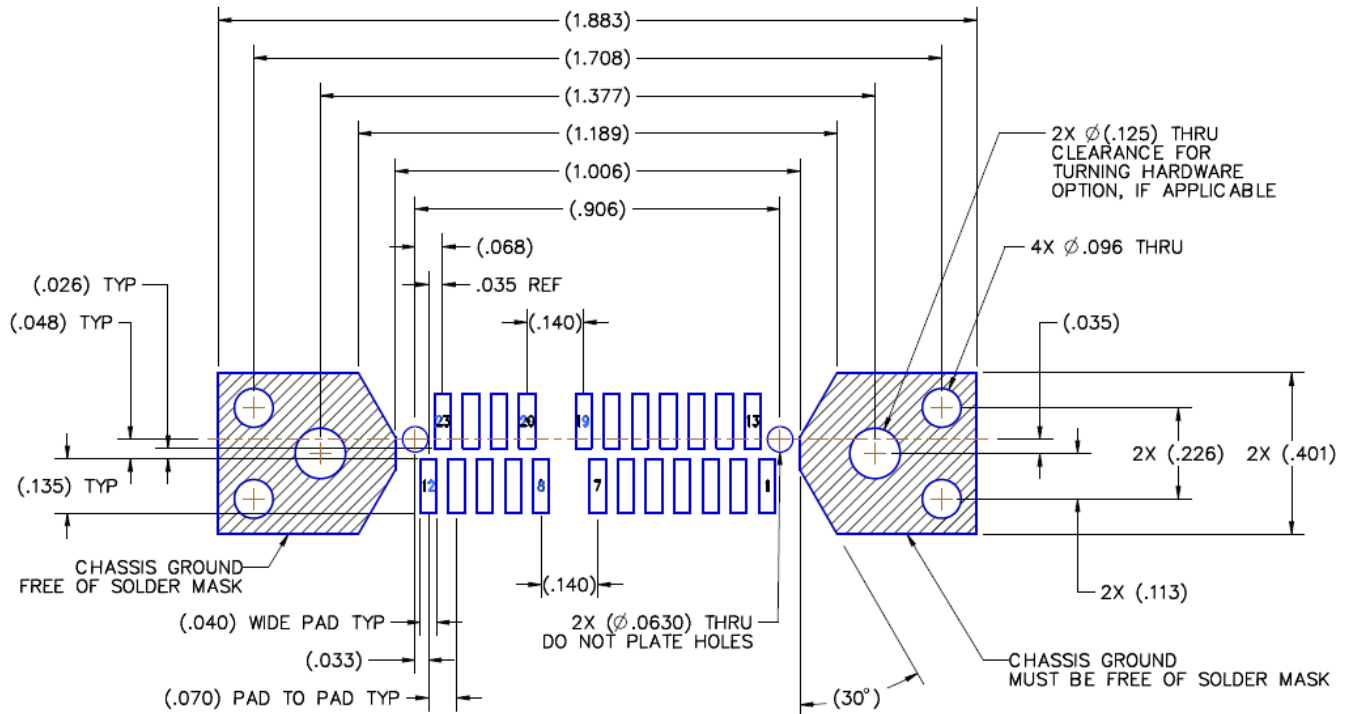
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSIM RECOMMENDED PC BOARD LAYOUT (PLUG)

1X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

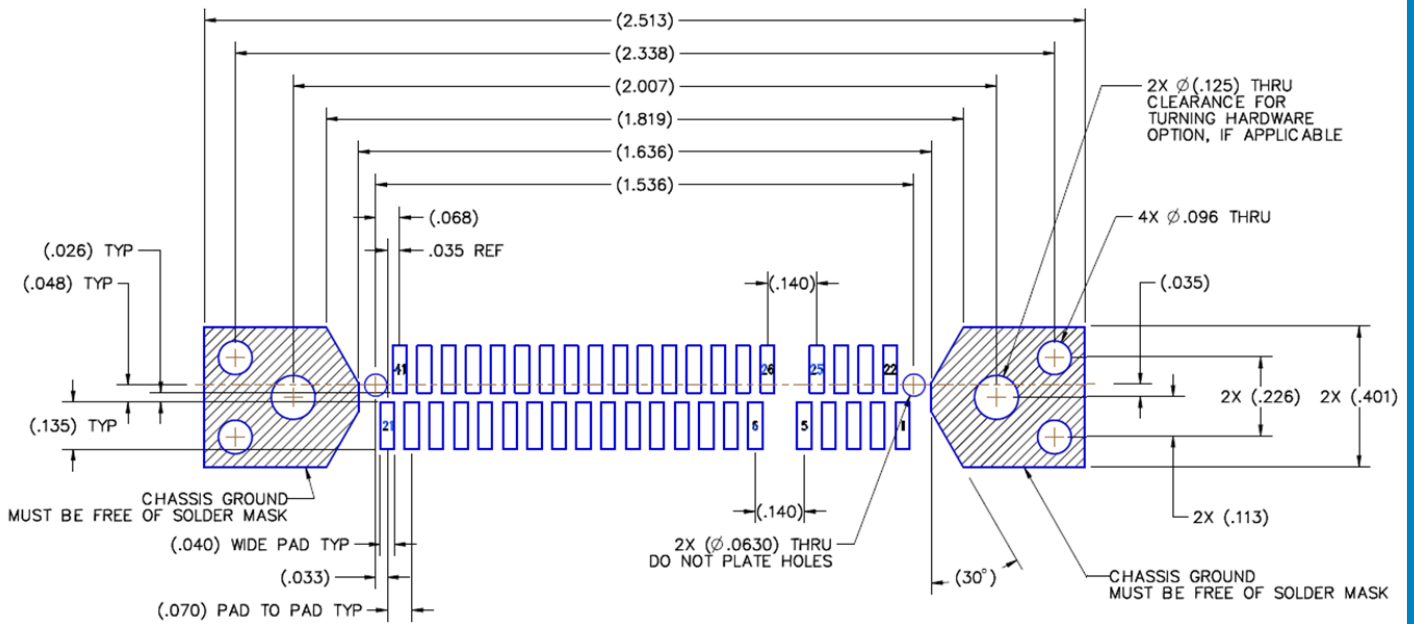
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (PLUG)

4X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

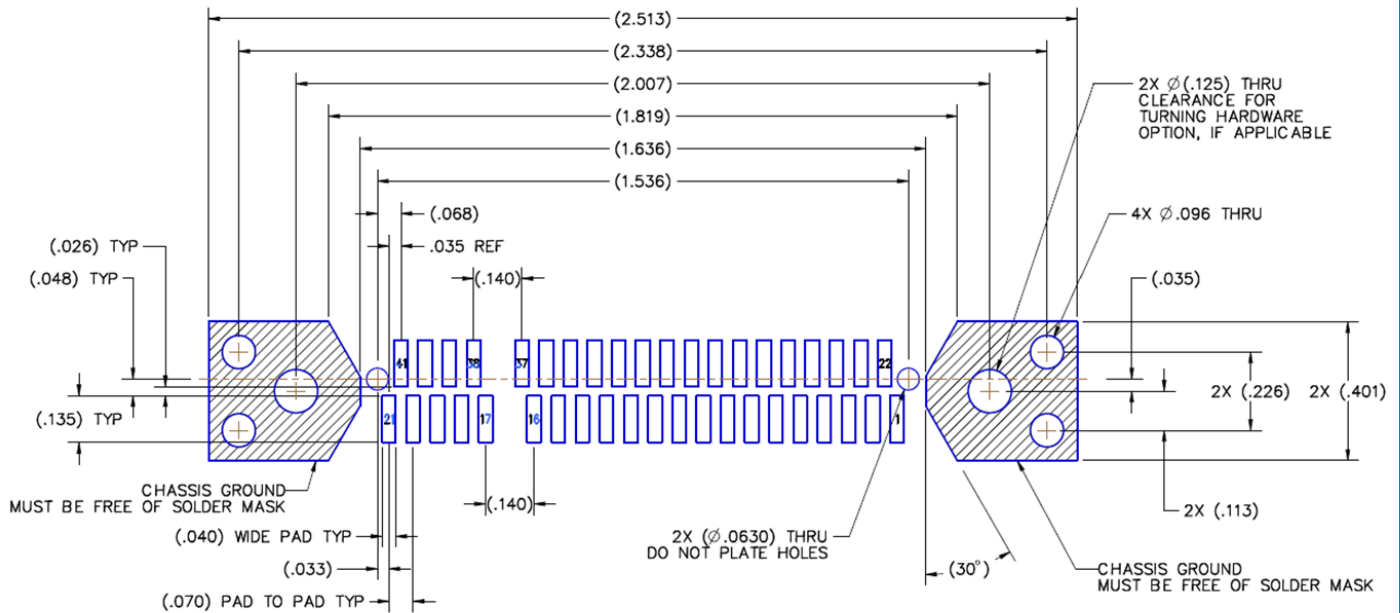
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (PLUG)

4X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

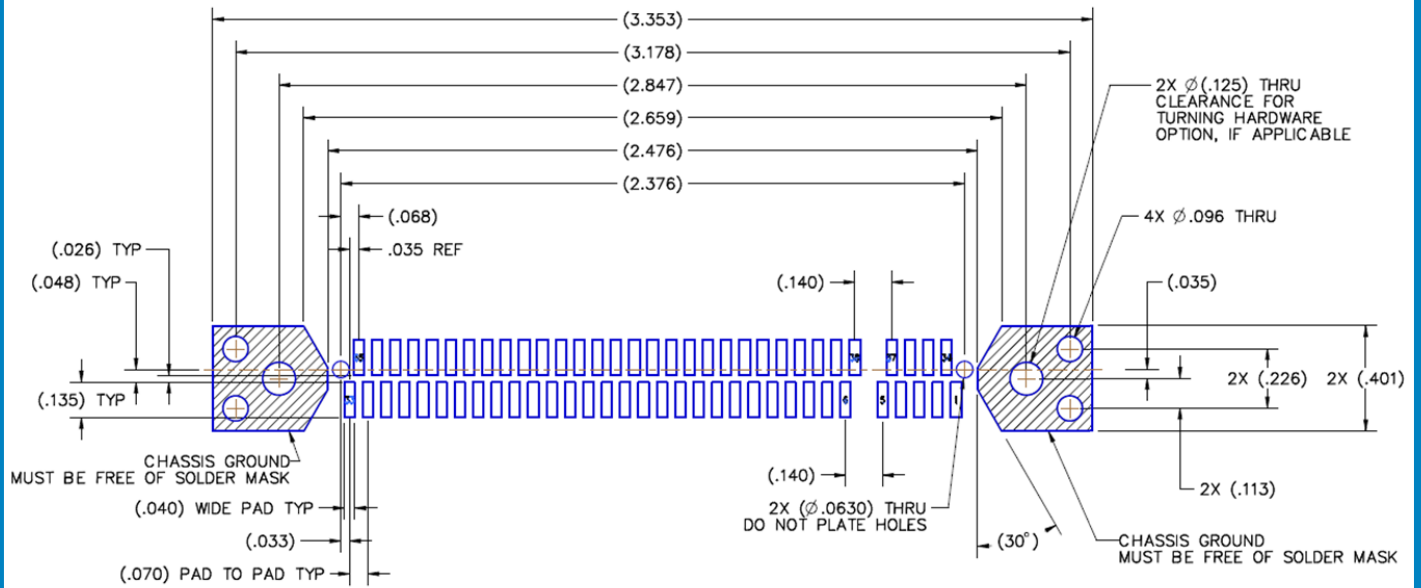
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (PLUG)

8X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

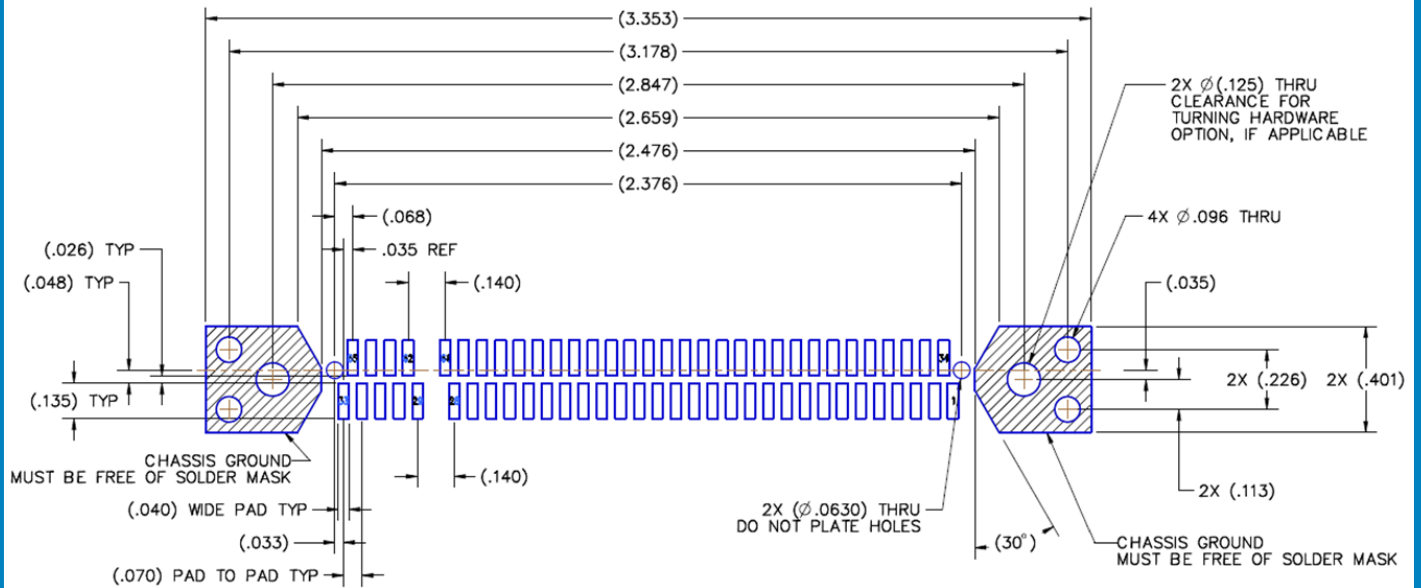
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (PLUG)

8X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

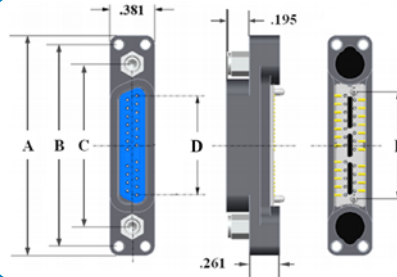
1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI – Vertical (Female)

MLSI vertical board surface mount connectors are used in applications where signal integrity is desired. The connector interface controls the polarization of the connector. Comes with a variety of hardware options.

GENERAL DIMENSIONS

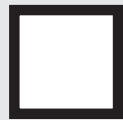


SIZE	A	B	C	D	E
1X	1.863	1.708	1.377	0.840	0.906
4X	2.493	2.338	2.007	1.470	1.536
8X	3.333	3.178	2.847	2.310	2.376

Sample Part Number Format: MLSI-04L-2000-478-2810



SERIES
 Vertical
 (Female)
 1.78 mm



**SIZE & INTERFACE
 POLARIZATION***

- 01L – 1X Left (23 pins, 4 DP +9SB)
- 01R – 1X Right (23 pins, 4 DP +9SB)
- 04L – 4X Left (41 pins, 10 DP +9SB)
- 04R – 4X Right (41 pins, 10 DP +9SB)
- 08L – 8X Left (65 pins, 18 DP +9SB)
- 08R – 8X Right (65 pins, 18 DP +9SB)



STYLE
 2000 – Female



**SOCKET TERMINATION
 (50 μ" Au Contact)**
 475 – Sn/Pb alloy ☒
 478 – SAC305



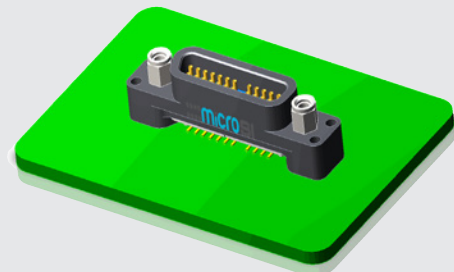
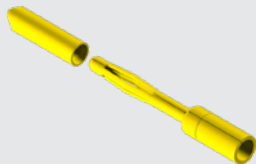
BODY PLATING
 2 – Electroless nickel
 6 – Gold



HARDWARE
 620 – Fixed jacknut
 810 – Turning jackscrews,
 captivated**
 NXX – Keying jacknuts***
 JXX – Keying jackscrews***

High-Reliability Contact

MIL-DTL-83513



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

NOTES

1. All microSI females have fluorosilicone interfacial seals installed.
- ☒ Option not RoHS-compliant.
- * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. Polarization matches the angled side. Sidebands are on the non-angled side.
- ** Captivated hardware is factory-installed and non-removable.
- *** Factory-installed and non-removable. Refer to "Keying Hardware Options" on page 61.

MATERIALS and FINISHES

Socket Contact:	Brass
Pin Contacts:	BeCu alloy strip
Contact Finish:	Gold plate, 50 μ" minimum
Shells:	Aluminum alloy 6061-T6
Shell Finishes:	Electroless nickel or gold
Molded Insulators:	Glass-filled liquid crystal polymer (LCP)
Embedment:	Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware:	Corrosion-resistant steel
Interfacial Seal Gaskets:	Fluorosilicone
EMI Gaskets:	Corrosion-resistant steel

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating:	3 amperes maximum
Operating Temperature:	-55° C to 125° C
Maximum Working Voltage:	200V, RMS, 60Hz
Insulation Resistance:	5,000 megohms minimum @ 500 VDC
Durability:	500 connector mating cycles
Contact Engaging Force:	6.0 ounces maximum/contact
Contact Separating Force:	0.5 ounces minimum/contact
Mating and Unmating Force:	10 ounces maximum/contact

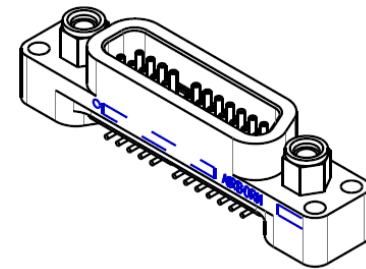
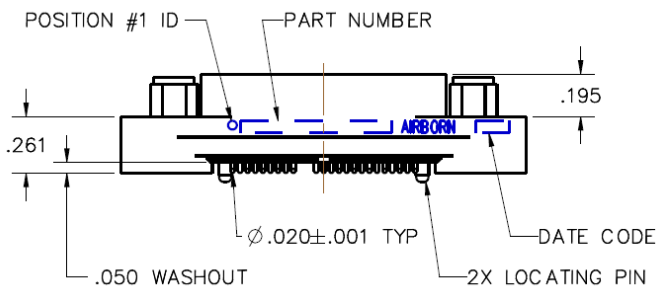
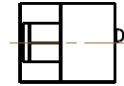
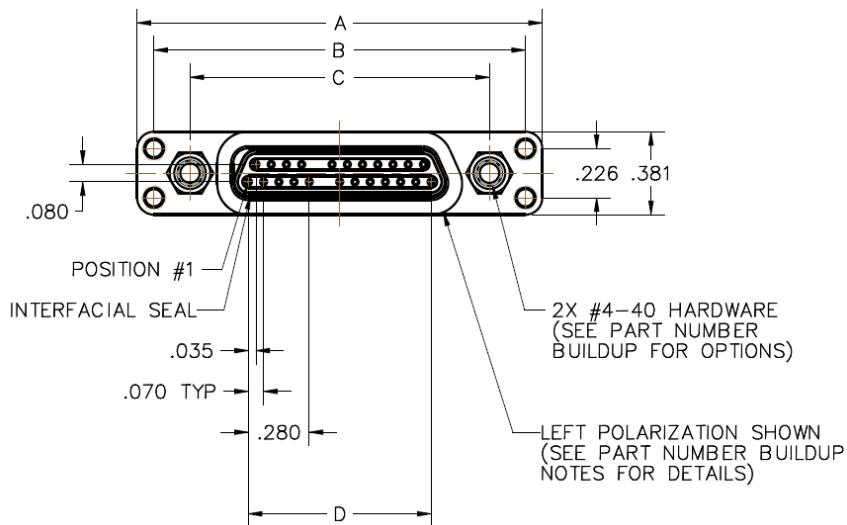
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

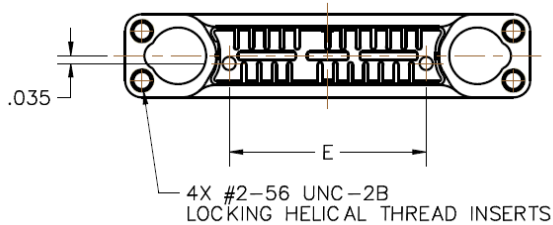
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MLSI DIMENSIONS (RECEPTACLE)



ISOMETRIC VIEW
 MLSI-01L-2000-475-2620
 FOR REFERENCE ONLY



SIZE	A	B	C	D	E
1x	1.863	1.708	1.377	.840	.906
4x	2.493	2.338	2.007	1.470	1.536
8x	3.333	3.178	2.847	2.310	2.376

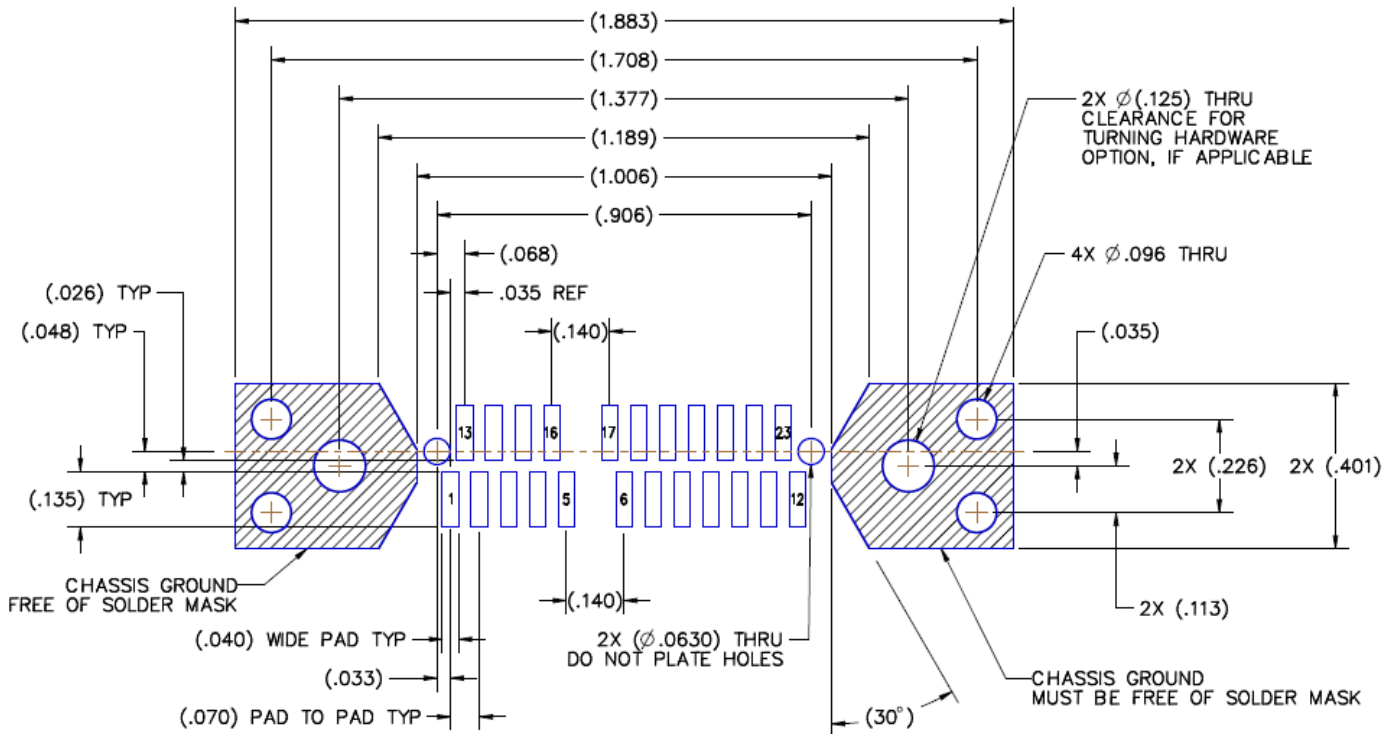
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

1X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

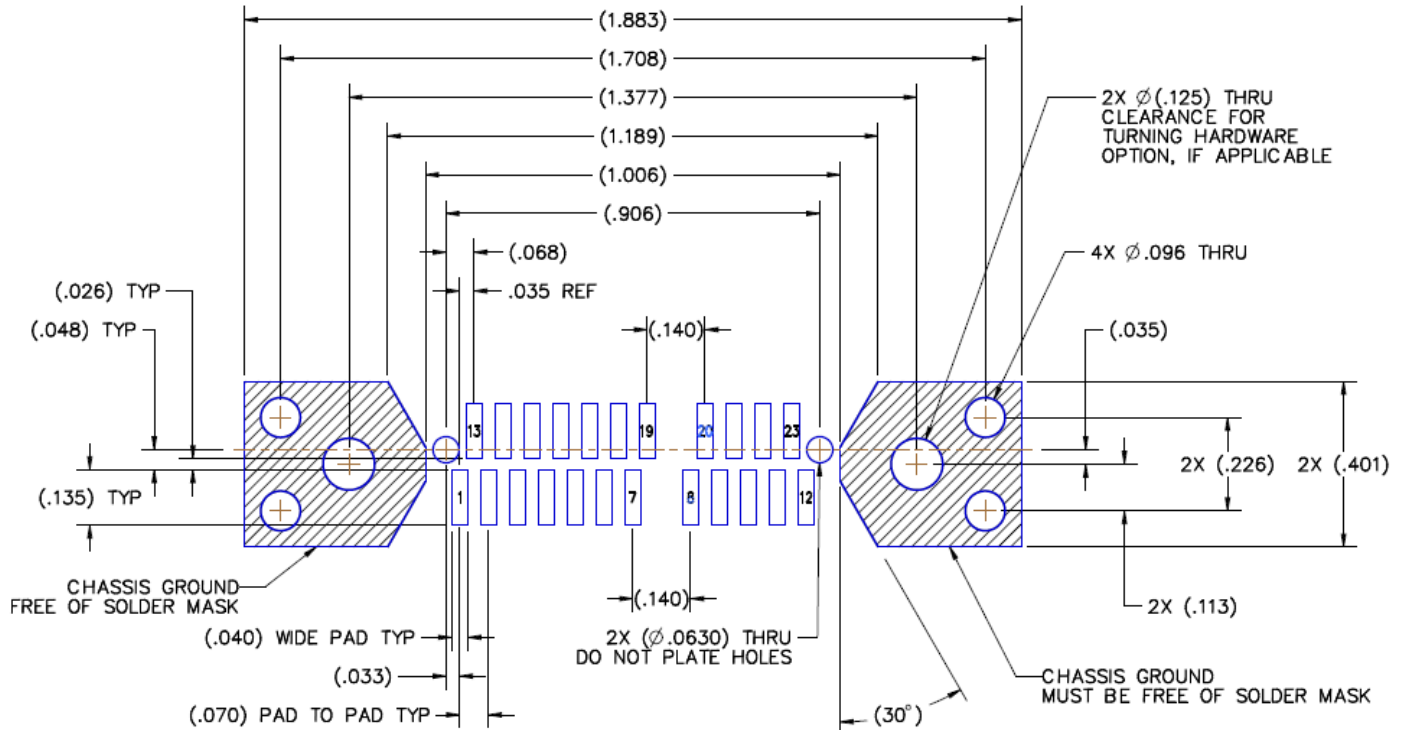
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

1X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

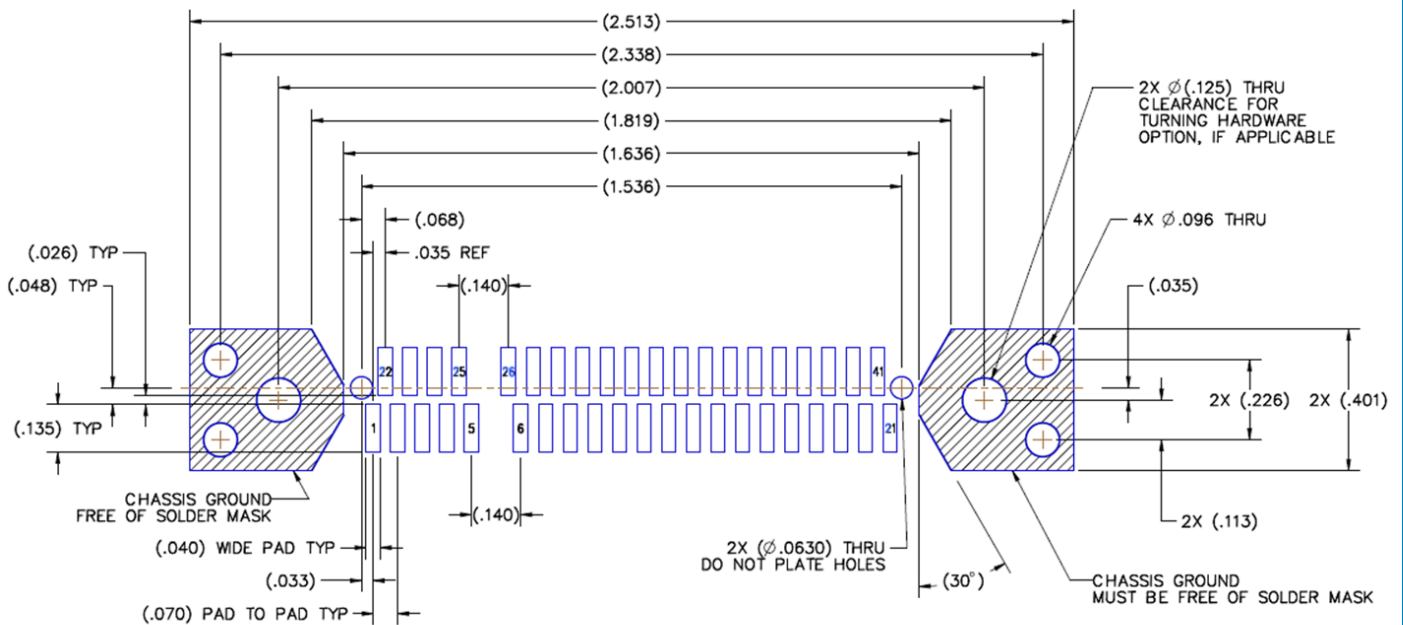
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

4X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

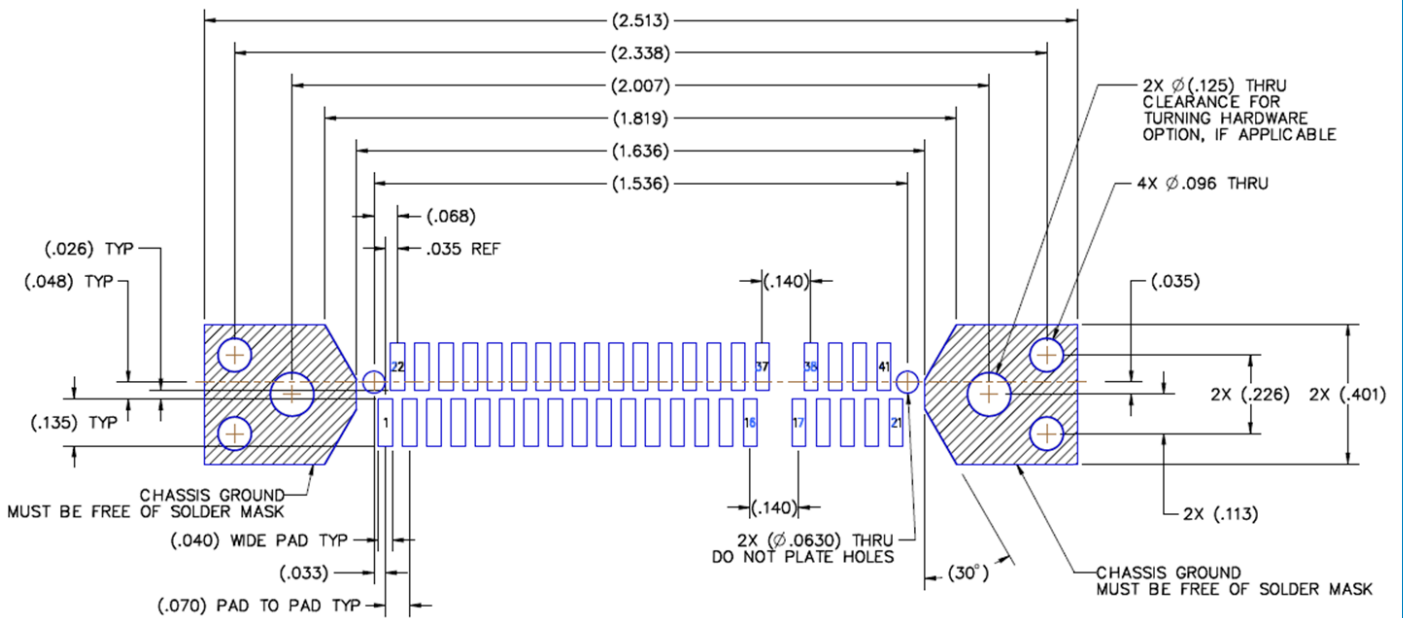
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

4X Sample with Right Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

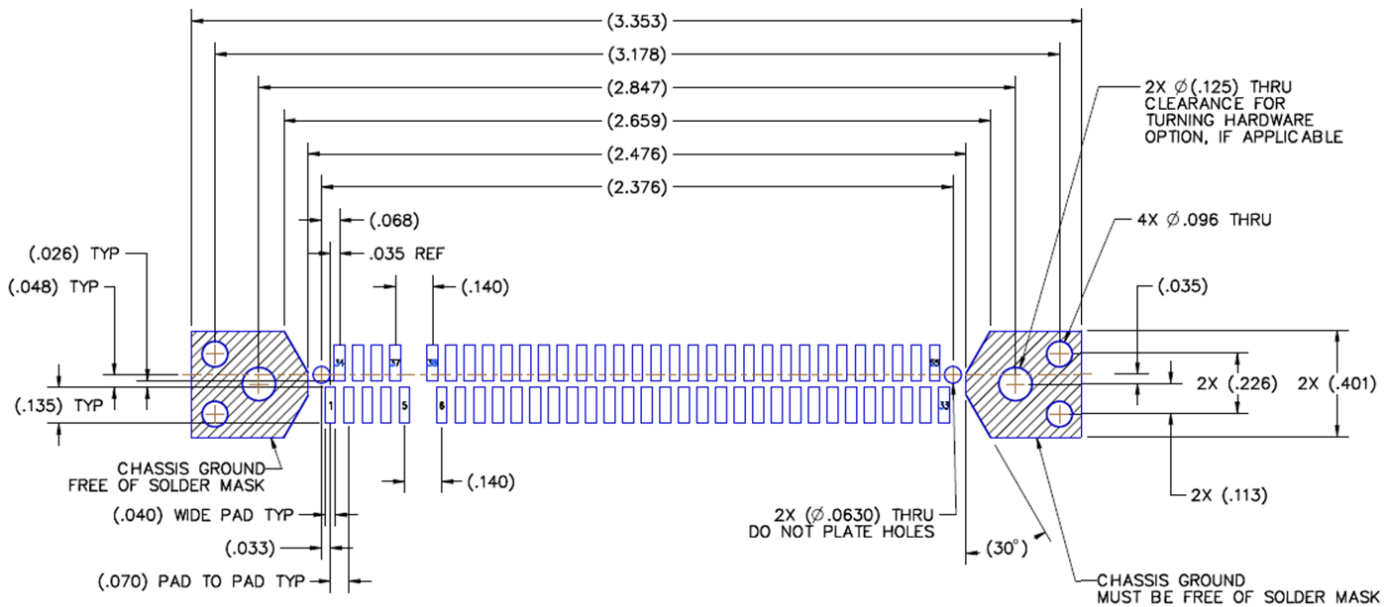
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

8X Sample with Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61

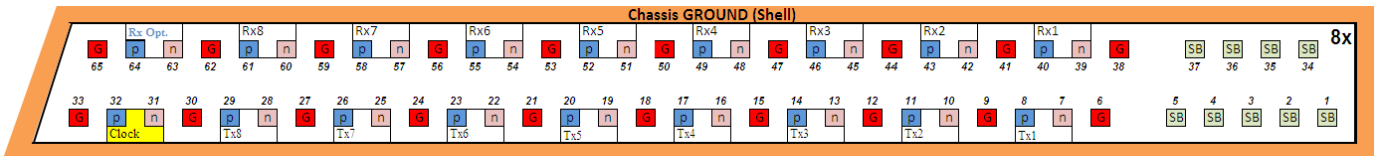
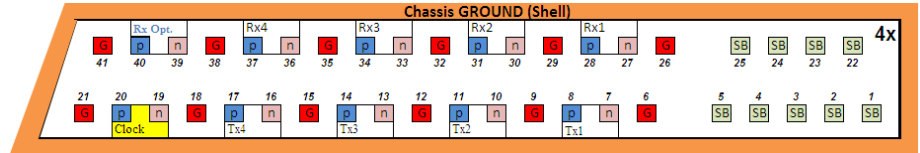
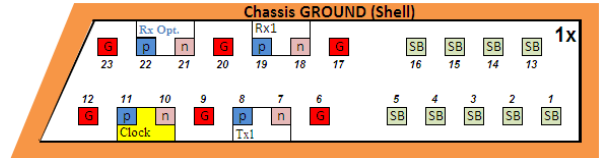


INTERFACE PINOUT, LEFT POLARIZATION

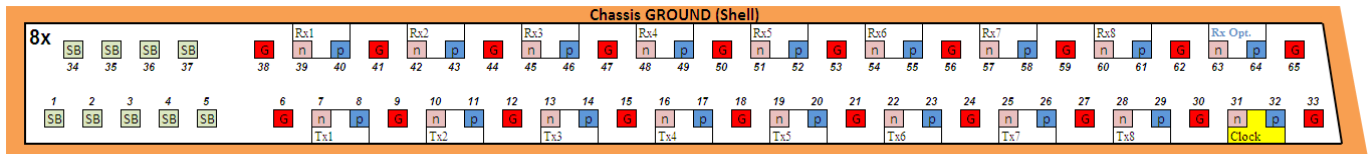
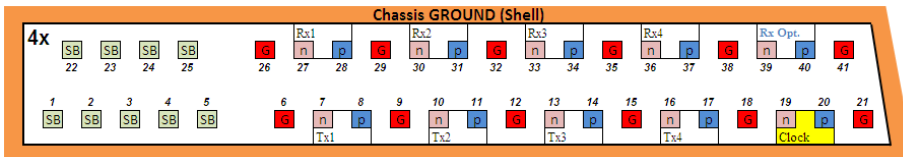
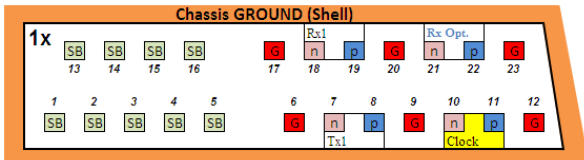
microSI

Plug

- G = Ground
- p = Positive
- n = Negative
- SB = Sideband



Receptacle



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

Polarization Mating:

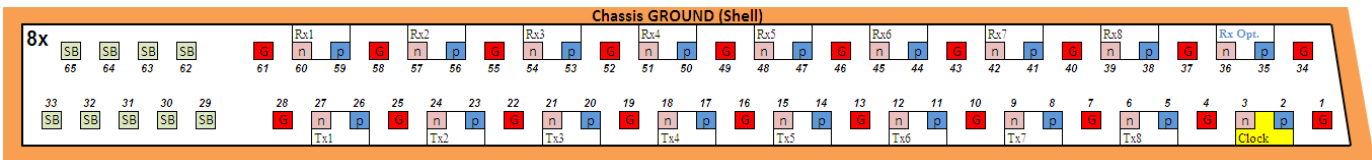
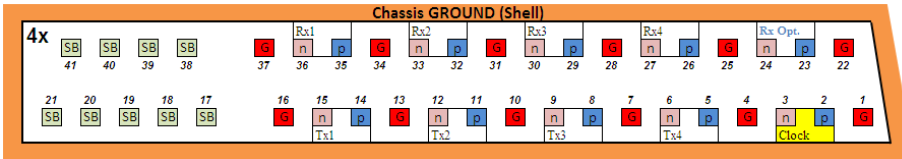
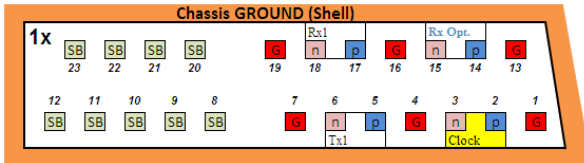
1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.



INTERFACE PINOUT, RIGHT POLARIZATION

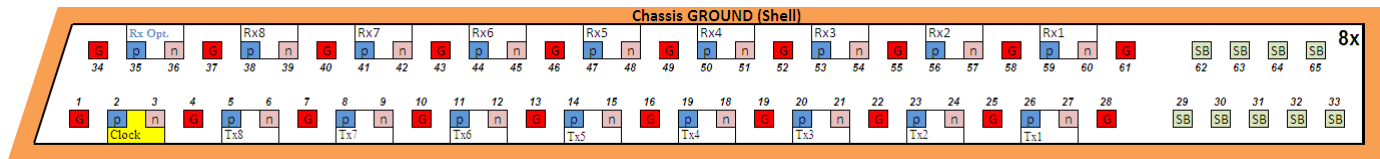
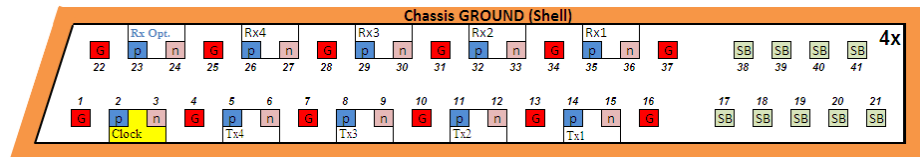
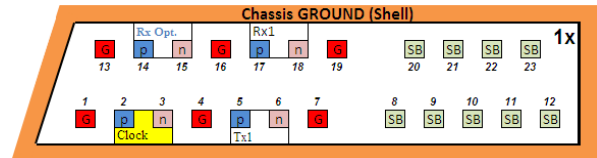
microSI

Plug



Receptacle

- G = Ground
- p = Positive
- n = Negative
- SB = Sideband



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

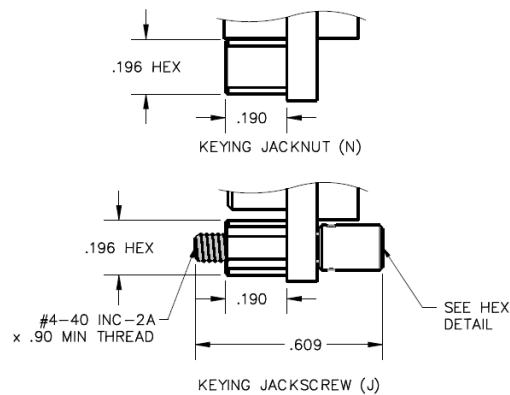
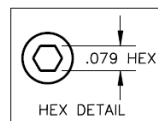
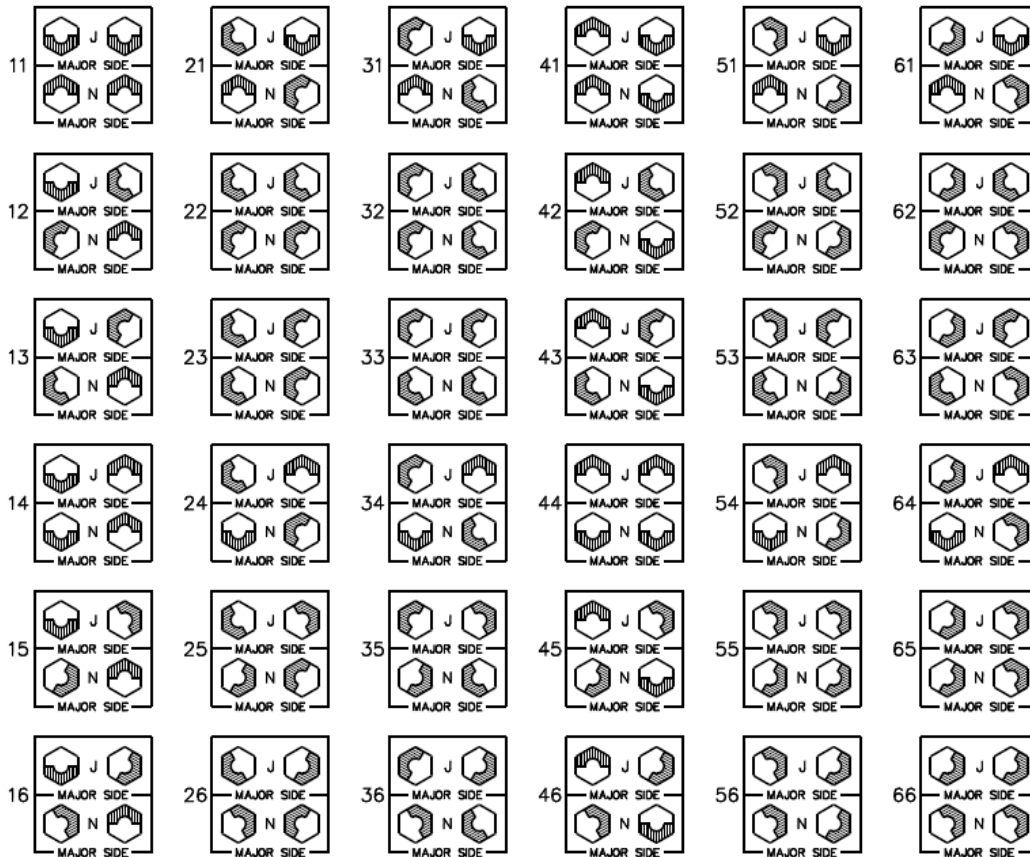
Polarization Mating:

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3. Left-polarization connectors will not mate with right-polarization connectors.



POLARIZED KEYING HARDWARE OPTIONS (PLUG)

microSI



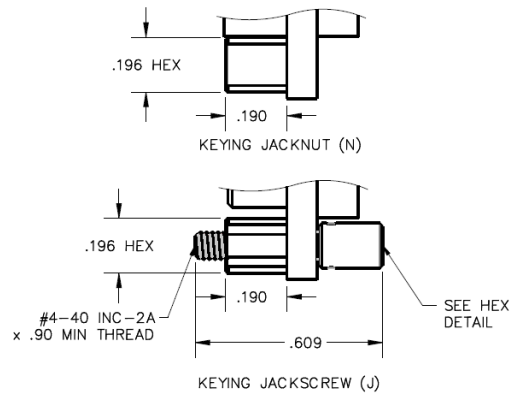
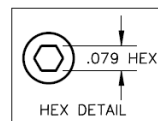
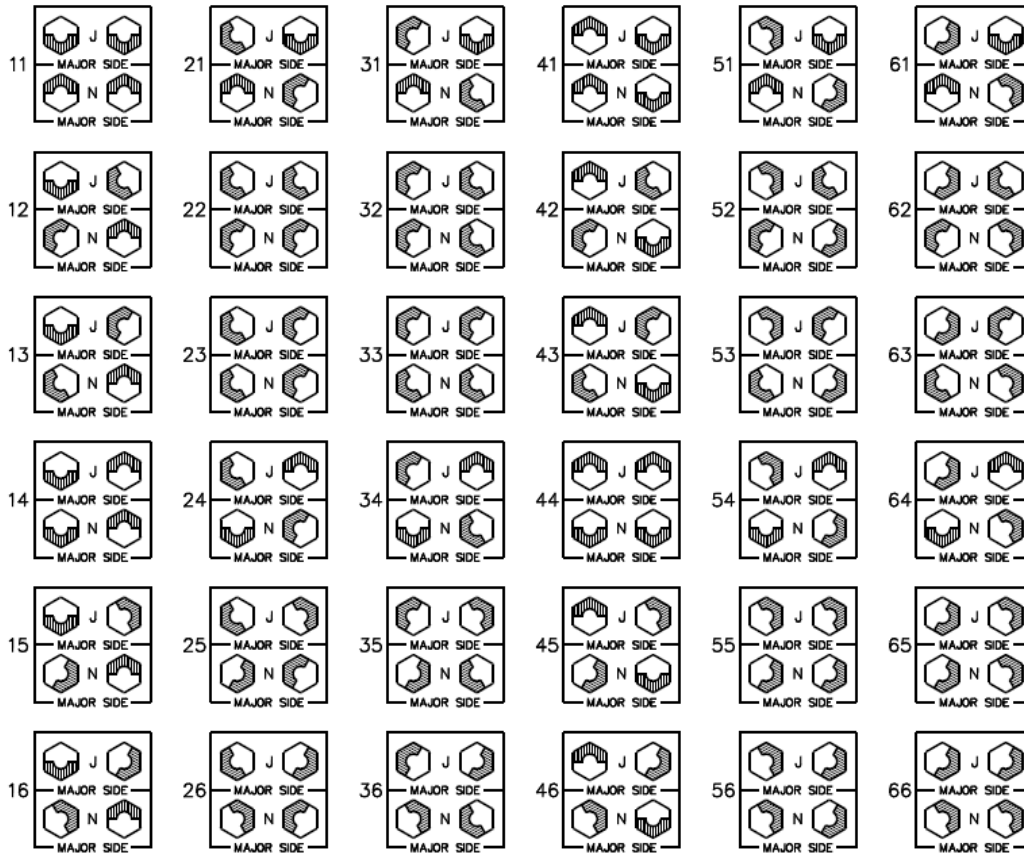
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

Select the appropriate two-digit number and include as the last two digits of the hardware code in the part number.
 Keying hardware is factory-installed and non-removable.



POLARIZED KEYING HARDWARE OPTIONS (RECEPTACLE)

microSI



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

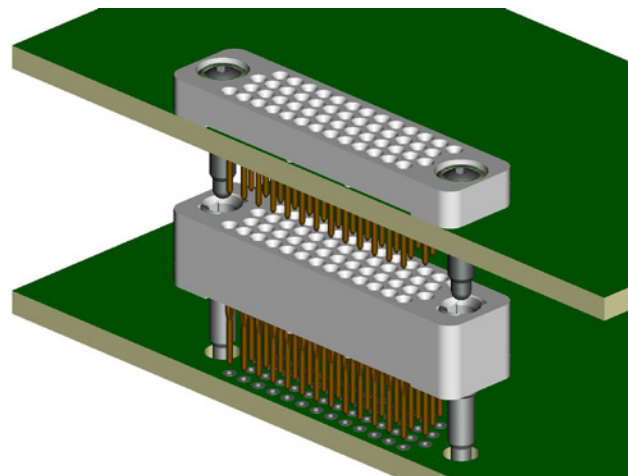
Select the appropriate two-digit number and include as the last two digits of the hardware code in the part number.
 Keying hardware is factory-installed and non-removable.



IRRC™

The AirBorn stackable compliant connector family is one of AirBorn's solutions for high-density, board-to-board stacking applications. This connector family is available in 0.075" contact spacing and 100 Ω and 85 Ω differential serial buses.

- Wide variety of standard pin/tail lengths accommodate any board-to-board spacing
- 0.075" contact spacing
- Reliable "eye of the needle"-compliant section design eliminates soldering
- BeCu contacts (special high-conductivity, high-temperature alloy)
- Very robust socket contact (low-stress design)
- Individually repairable contacts





RC422 - Full Profile Board-to-Board Stackable Connector

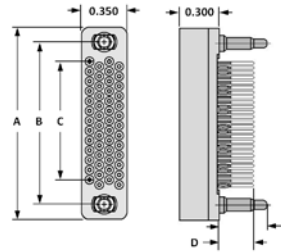
Contact spacing: 0.075" (1.91 mm)

A full bodied high-density press-fit connector. Uses a patented female/compliant/male stacking contact system. Used in board-to-board stacking applications.

DIMENSIONS

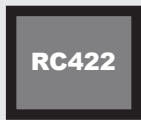
SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775
200	4.239	4.009	3.675
252	5.214	4.984	4.650
300	6.114	5.884	5.550

Tolerances: ± 0.010"



CONTACT SELECTION	CONTACT D	HARDWARE E
20	0.270	0.370
21	0.300	0.400
22	0.400	0.500
23	0.500	0.600
24	0.700	0.800
25	0.800	0.900
26	0.900	1.000
27	0.600	0.700
28	1.000	1.100

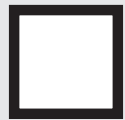
Sample Part Number Format: RC422-052-211-4000



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing

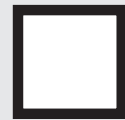


CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns
 200 – 4 Rows/50 Columns
 252 – 4 Rows/63 Columns
 300 – 4 Rows/75 Columns



PLATING
 1 – 50 μ" Au

1



TYPE
 00 – None
 FT – Female thread
 MT – Male thread
 (#39 hardware, only)

1



VARIATION
 Blank – None
 XXX – Consult factory

1

CONTACT

- 20 – Socket contact, press fit tail 0.270**
- 21 – Socket contact, press fit tail 0.300**
- 22 – Socket contact, press fit tail 0.400**
- 23 – Socket contact, press fit tail 0.500**
- 24 – Socket contact, press fit tail 0.700**
- 25 – Socket contact, press fit tail 0.800**
- 26 – Socket contact, press fit tail 0.900**
- 27 – Socket contact, press fit tail 0.600**
- 28 – Socket contact, press fit tail 1.000**
- 30 – Press fit tail 0.270***
- 31 – Press fit tail 0.300***
- 32 – Press fit tail 0.400***
- 33 – Press fit tail 0.500***
- 34 – Press fit tail 0.700***
- 35 – Press fit tail 0.800***
- 36 – Press fit tail 0.900***
- 37 – Press fit tail 0.600***
- 38 – Press fit tail 1.000***

HARDWARE

- 39 – 0.370" Long (use with #201 contact)
- 40 – 0.400" Long (use with #211 contact)
- 41 – 0.500" Long (use with #221 contact)
- 42 – 0.600" Long (use with #231 contact)
- 43 – 0.800" Long (use with #241 contact)
- 44 – 0.900" Long (use with #251 contact)
- 45 – 1.000" Long (use with #261 contact)
- 46 – 0.700" Long (use with #271 contact)
- 47 – 1.100" Long (use with #281 contact)



Press-Fit Tail Socket Contact

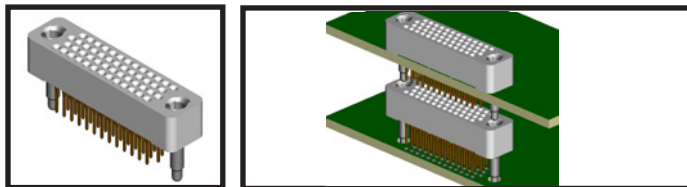
NOTES

- * Use with body style 422 only.
- ** Use with body style 442 or 422 only.

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.300" and, when used with the -20 or -30 (0.270") contact, the mounting is flush (board-bottom-mounted to connector top). This board-bottom to connector-top spacing can be modified based on the contact selected by approximately the difference in pin length (see Table 2 in top window).



1	Diff. Insertion Loss	5.0 GHz @ -3 dB
2	Diff. Return Loss	2.0 GHz @ -8 dB
3	NEXT	4.0 GHz @ -25 dB
4	FEXT	4.0 GHz @ -35 dB

MATERIALS and FINISHES

Contact: BeCu per ASTM B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A582, passivated per ASTM 967
 Guide Pin/Socket: BeCu per ASTM B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length-dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb (10.21 Kg) max. per contact
 Compliant Removal Force: 4.5 lb (2.04 Kg) min. per contact



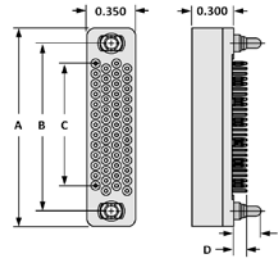
RC422 - Bottom-of-Stack Board Mount Connector

Contact spacing: 0.075" (1.91 mm)

A full bodied high-density press-fit connector. Uses a patented female/compliant/male stacking contact system. Used at the bottom of the stack in board-to-board stacking applications.

DIMENSIONS

SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775
200	4.239	4.009	3.675
252	5.214	4.984	4.650
300	6.114	5.884	5.550



CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195

Tolerances: ± 0.010"

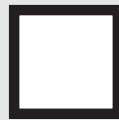
Sample Part Number Format: RC422-052-101-3000



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing



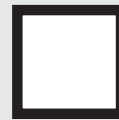
CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns
 200 – 4 Rows/50 Columns
 252 – 4 Rows/63 Columns
 300 – 4 Rows/75 Columns



CONTACT
 10 - 0.095" Long



PLATING
 1 – 50 μ" Au



HARDWARE
 30 - 0.195" Long
 (use with #10 contact)



TYPE
 00 – None
 FT – Female thread



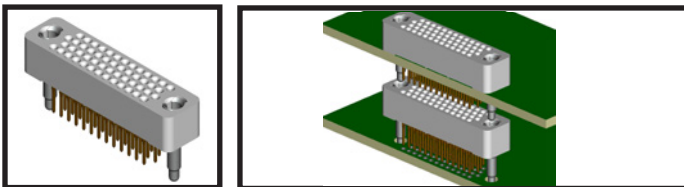
VARIATION
 Blank – None
 XXX – Consult factory



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.300" and, when used with the -20 or -30 (0.270") contact, the mounting is flush (board-bottom-mounted to connector top). This board-bottom to connector-top spacing can be modified based on the contact selected by approximately the difference in pin length (see Table 2 in top window).



SI DATA – Differential 100 Ohm

1	Diff. Insertion Loss	5.0 GHz @ -3 dB
2	Diff. Return Loss	2.0 GHz @ -8 dB
3	NEXT	4.0 GHz @ -25 dB
4	FEXT	4.0 GHz @ -35 dB

MATERIALS and FINISHES

Contact: BeCu per ASTM B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A582, passivated per ASTM 967
 Guide Pin/Socket: BeCu per ASTM B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length-dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb (10.21 Kg) max. per contact
 Compliant Removal Force: 4.5 lb (2.04 Kg) min. per contact



RC442 - Low Profile Board-to-Board Stackable Connector

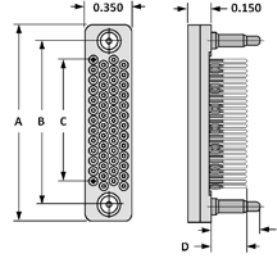
Contact spacing: 0.075" (1.91 mm)

A low profile bodied, high-density press-fit connector. Uses a patented female/compliant/male stacking contact system. Used in board-to-board stacking applications.

DIMENSIONS

SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775
200	4.239	4.009	3.675
252	5.214	4.984	4.650
300	6.114	5.884	5.550

Tolerances: ± 0.010"



CONTACT SELECTION	CONTACT D	HARDWARE E
30	0.270	0.370
31	0.300	0.400
32	0.400	0.500
33	0.500	0.600
34	0.700	0.800
35	0.800	0.900
36	0.900	1.000
37	0.600	0.700
38	1.000	1.100

Sample Part Number Format: RC442-052-311-4000



SERIES
 Stackable
 Compliant
 Low-Profile
 4 Rows
 0.075" Spacing



CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns
 200 – 4 Rows/50 Columns
 252 – 4 Rows/63 Columns
 300 – 4 Rows/75 Columns



CONTACT
 30 – Press fit tail 0.270**
 31 – Press fit tail 0.300**
 32 – Press fit tail 0.400**
 33 – Press fit tail 0.500**
 34 – Press fit tail 0.700**
 35 – Press fit tail 0.800**
 36 – Press fit tail 0.900**
 37 – Press fit tail 0.600**
 38 – Press fit tail 1.000**



PLATING
 1 – 50 μ" Au



HARDWARE
 39 – 0.370" Long (use with #30 contact)
 40 – 0.400" Long (use with #31 contact)
 41 – 0.500" Long (use with #32 contact)
 42 – 0.600" Long (use with #33 contact)
 43 – 0.800" Long (use with #34 contact)
 44 – 0.900" Long (use with #35 contact)
 45 – 1.000" Long (use with #36 contact)
 46 – 0.700" Long (use with #37 contact)
 47 – 1.100" Long (use with #38 contact)



TYPE
 00 – None



VARIATION
 Blank – None
 XXX – Consult factory

NOTES

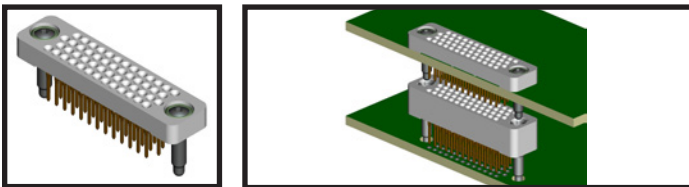
** Use with body style 442 or 422 only.



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.150" but the functional spacing (the bottom surface of the board, on which the connector is mounted, to the top of the connector below it) can be modified based on the contact/pin length selected (see Table 2 in top window).



MATERIALS and FINISHES

Contact: BeCu per ASTM B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A582, passivated per ASTM 967
 Guide Pin/Socket: BeCu per ASTM B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb (10.21 Kg) max. per contact
 Compliant Removal Force: 4.5 lb (2.04 Kg) min. per contact

SI DATA – Differential 100 Ohm

1	Diff. Insertion Loss	5.0 GHz @ -3 dB
2	Diff. Return Loss	2.0 GHz @ -8 dB
3	NEXT	4.0 GHz @ -25 dB
4	FEXT	4.0 GHz @ -35 dB



RC4B2 - Bottom-of-Stack Cable Mating Connector (Female)

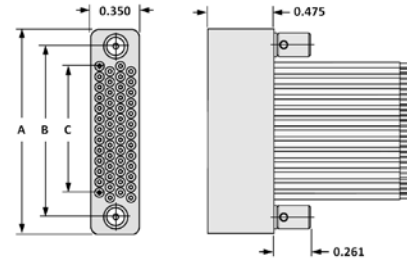
Contact spacing: 0.075" (1.91 mm)

A full profile bodied female cable connector for use at the bottom of an RC board stack application.

DIMENSIONS

SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775

Tolerances: ± 0.010"



Sample Part Number Format: RC4B2-052-281-62ED



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing
 Bottom-of-Stack
 Cable Female



CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns



CONTACT
 28 – Socket, crimp, 26-24 AWG
 29 – Socket, crimp, 30-28 AWG



PLATING
 1 – 50 μ" Au



TYPE
 00 – None
 XX – See Wire Codes



HARDWARE
 00 – None
 58 – Guide socket, non-polarized
 62 – Jacksocket, hex, turning



VARIATION
 Blank – None
 XXX – Consult factory

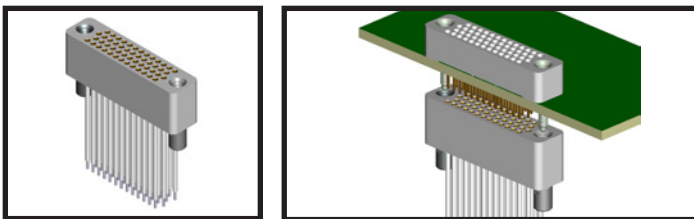
WIRE CODES

TYPE and COLOR			LENGTH	
Code	Size	Color	Code	Length (+1"/-0")
Mil-W-16878/4				
C	24 awg	Ten repeating	A	6"
D	24 awg	White	B	12"
E	26 awg	Ten repeating	C	18"
F	26 awg	White	D	24"
G	28 awg	Ten repeating	E	30"
H	28 awg	White	F	36"
J	30 awg	Ten repeating	G	42"
K	30 awg	White	H	48"
Mil-W-22759/33				
N	24 awg	Ten repeating	J	54"
P	24 awg	White	K	60"
R	26 awg	Ten repeating	L	66"
S	26 awg	White	M	72"
T	28 awg	Ten repeating	N	84"
U	28 awg	White	P	96"
V	30 awg	Ten repeating	R	108"
W	30 awg	White	S	120"

PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

Connector body height is 0.475" and is designed to mount flush to the board bottom of the mating connector.



MATERIALS and FINISHES

Contact: BeCu per ASTM B196 or B197 (BeCu alloy 172 or 173)
 Contact Finish: Gold per MIL-G-45204 over nickel per QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A484/A484M and ASTM A582/A582M, passivated per SAE AMS-2700

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0248" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin

NOTES

- The RC4B2 connector is designed to mate with an RC422 connector using contact option -21 (0.270" long) and -39MT hardware. This contact length and hardware combination assures proper connector mating when using boards having a thickness of 0.058"-0.125".
- When guide hardware is required on the RC4B2 connector, use hardware option -3900 on the mating connector.
- When jacksocket hardware is required on the RC4B2 connector, use hardware option -39MT on the mating connector.



RC4C2 - Top-of-Stack Cable Mating Connector (Male)

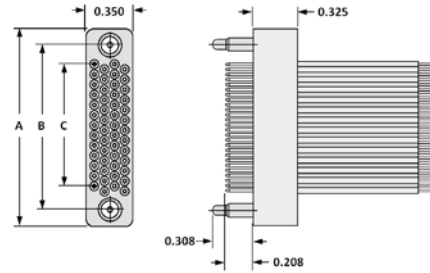
Contact spacing: 0.075" (1.91 mm)

A full profile bodied male pre-wired cable connector for use at the top of an RC board stack application.

DIMENSIONS

SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775

Tolerances: ± 0.010"



Sample Part Number Format: RC4C2-052-181-57ED



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing
 Top-of-Stack
 Cable Mate



CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns



CONTACT
 18 – Pin, crimp, 26-24 AWG
 19 – Pin, crimp, 30-28 AWG



PLATING
 1 – 50 μ" Au



HARDWARE
 00 – None
 57 – Guide pin, non-polarized
 61 – Jackscrew, hex, turning*



TYPE
 XX – See Wire Codes



VARIATION
 Blank – None
 XXX – Consult factory

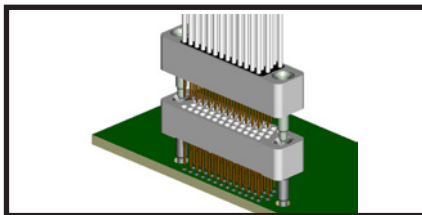
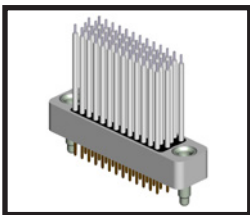
WIRE CODES

TYPE and COLOR			LENGTH	
Code	Size	Color	Code	Length (+1"/-0")
Mil-W-16878/4				
C	24 awg	Ten repeating	A	6"
D	24 awg	White	B	12"
E	26 awg	Ten repeating	C	18"
F	26 awg	White	D	24"
G	28 awg	Ten repeating	E	30"
H	28 awg	White	F	36"
J	30 awg	Ten repeating	G	42"
K	30 awg	White	H	48"
Mil-W-22759/33				
N	24 awg	Ten repeating	J	54"
P	24 awg	White	K	60"
R	26 awg	Ten repeating	L	66"
S	26 awg	White	M	72"
T	28 awg	Ten repeating	N	84"
U	28 awg	White	P	96"
V	30 awg	Ten repeating	R	108"
W	30 awg	White	S	120"

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

Connector body height is 0.325" and is designed to mount flush to the mating connector.



NOTES

* To use the -61 jackscrew hardware option, the fixed jacknut hardware (-XXFT) must be in place on the mating board connector.

MATERIALS and FINISHES

Contact: BeCu per ASTM B196 or B197 (BeCu alloy 172 or 173)
 Contact Finish: Gold per MIL-G-45204 over nickel per QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A484/A484M and ASTM A582/A582M, passivated per SAE AMS-2700

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0248" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin



RC4C2 - Top-of-Stack Flex Circuit Mating Connector (Male)

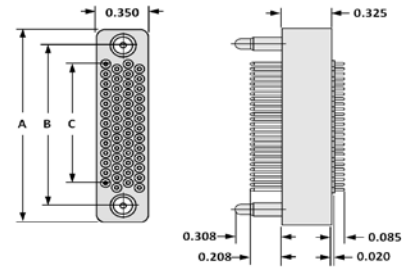
Contact spacing: 0.075" (1.91 mm)

A full profile bodied flex-circuit-ready male connector for use at the top of an RC board stack application.

DIMENSIONS

TABLE 1			
SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775

Tolerances: ± 0.010"



Sample Part Number Format: RC4C2-052-151-5700



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing
 Top-of-Stack
 Cable Mate



CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns



CONTACT
 15 – Pin, flex circuit



PLATING
 1 – 50 μ" Au



HARDWARE
 00 – None
 57 – Guide pin, non-polarized
 61 – Jackscrew, hex, turning*



TYPE
 00 – None



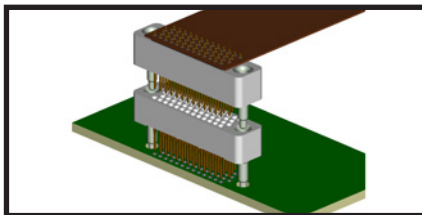
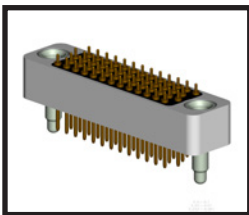
VARIATION
 Blank – None
 XXX – Consult factory



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

Connector body height is 0.325" and is designed to mount flush to the mating connector.



MATERIALS and FINISHES

Contact: BeCu per ASTM B196 or B197 (BeCu alloy 172 or 173)
 Contact Finish: Gold per MIL-G-45204 over nickel per QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A484/A484M and ASTM A582/A582M, passivated per SAE AMS-2700

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin

NOTES

* To use the -61 jackscrew hardware option, the fixed jacknut hardware (-XXFT) must be in place on the mating board connector.



RC4C2 - Top-of-Stack Solder Cup Cable Mating Connector (Male)

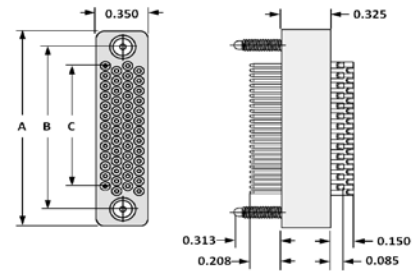
Contact spacing: 0.075" (1.91 mm)

A full profile bodied male wire-ready connector for use at the top of an RC board stack application.

DIMENSIONS

TABLE 1			
SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775

Tolerances: ± 0.010"



Sample Part Number Format: RC4C2-052-111-6100



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing
 Top-of-Stack
 Cable Mate



CONFIGURATION
 028 – 4 Rows/7 Columns
 052 – 4 Rows/13 Columns
 076 – 4 Rows/19 Columns
 100 – 4 Rows/25 Columns
 128 – 4 Rows/32 Columns
 152 – 4 Rows/38 Columns



CONTACT
 11 – Pin, solder cup



PLATING
 1 – 50 μ" Au



HARDWARE
 00 – None
 57 – Guide pin, non-polarized
 61 – Jackscrew, hex, turning*



TYPE
 00 – None



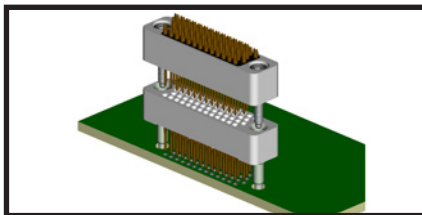
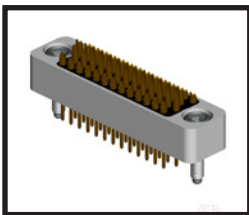
VARIATION
 Blank – None
 XXX – Consult factory



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

Connector body height is 0.325" and is designed to mount flush to the mating connector.



MATERIALS and FINISHES

Contact: BeCu per ASTM B196 or B197 (BeCu alloy 172 or 173)
 Contact Finish: Gold per MIL-G-45204 over nickel per QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A484/A484M and ASTM A582/A582M, passivated per SAE AMS-2700

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

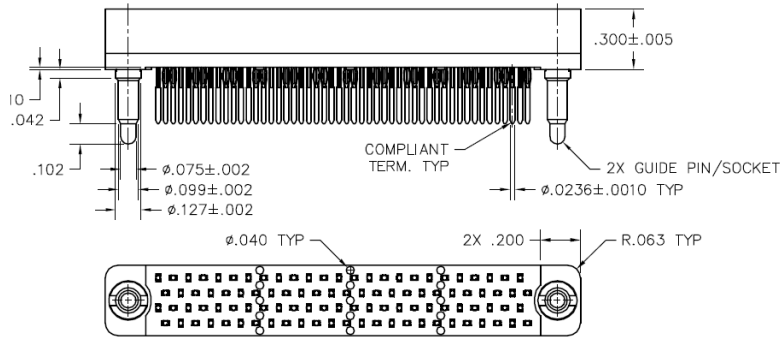
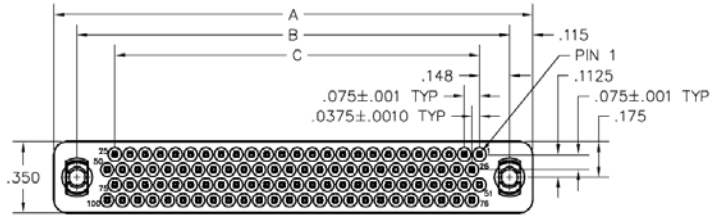
Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz (113 g) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin

NOTES

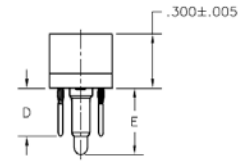
* To use the -61 jackscrew hardware option, the fixed jacknut hardware (-XXFT) must be in place on the mating board connector.



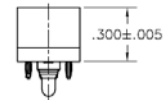
RC 4-ROW DIMENSIONS



BODY STYLE
422

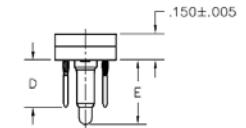


BODY STYLE
422



CONTACT/HARDWARE
OPTION 101
(TERMINATES CIRCUIT)

BODY STYLE
442



OPTIONAL INSULATOR FOR TOP CONNECTOR
WITH TERMINATION OPTIONS: 301, 311, 321,
331, 341, 351, 361, 371 AND 381
(w/CIRCUIT TEST POINT).

DIMENSIONS			
SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775
200	4.239	4.009	3.675
252	5.214	4.984	4.650
300	6.114	5.884	5.500

TABLE 1		
CONTACT TERMINATION	CONTACT D	HARDWARE E
201, 301	0.270	0.370
211, 311	0.300	0.400
221, 321	0.400	0.500
231, 331	0.500	0.600
241, 341	0.700	0.800
251, 351	0.800	0.900
261, 361	0.900	1.000
271, 371	0.600	0.700
281, 381	1.000	1.100
101	0.095	0.195

PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: Ø 0.033"

Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

Finished hold diameter: Ø 0.028" (Ø 0.028" ±0.002" required)

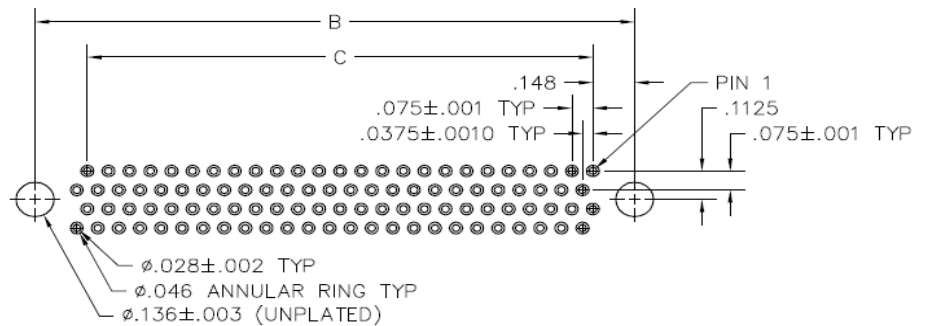


RC 4-ROW DRAWINGS

Board Footprint and Dimensions

SIZE	CONTACT ID	SIZE	CONTACT ID
28		152	
52		200	
76		252	
100		300	
128			

DIMENSIONS			
SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775
200	4.239	4.009	3.675
252	5.214	4.984	4.650
300	6.114	5.884	5.500



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

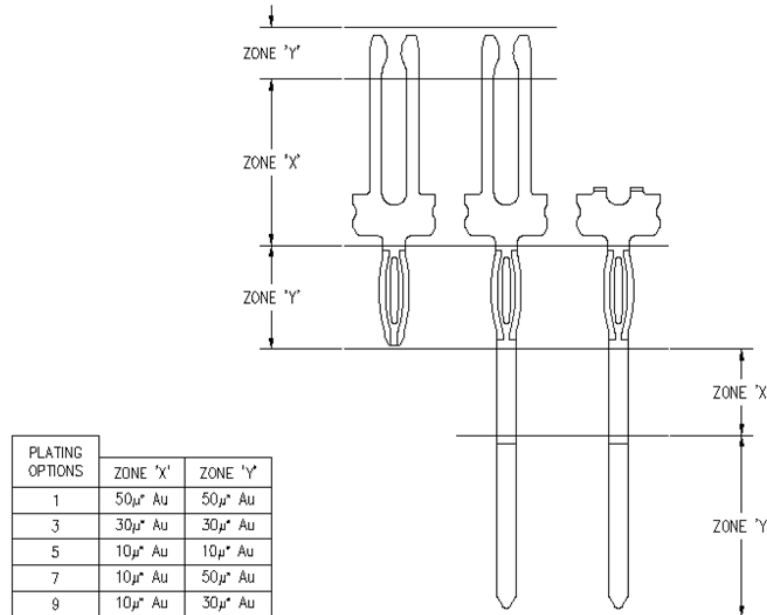
Board material: FR-4 (or equivalent) with 1.0 oz. copper
 Board thickness: 0.058" minimum
 Drilled hole: $\phi 0.033$ "

Copper plating thickness: 0.0020"
 Tin-lead plating thickness: 0.0005"
 Finished hold diameter: $\phi 0.028$ " ($\phi 0.028$ " ± 0.002 " required)



RC 4-ROW DIMENSIONS

Plating Options



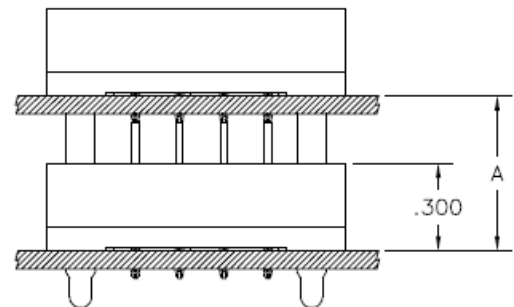
Determining the Required Termination Lead Length

To calculate the required termination lead length, use the example below. Measurements listed are in inches.

Dimension A = 0.720
 $0.720 - 0.300$ (insulator height) = 0.420
 $0.420 + 0.114$ (minimum pin engagement) = 0.534
 $0.420 + 0.214$ (maximum pin engagement) = 0.634

In this example, the termination option to choose is 0.600 lead length.

The contact termination option will be a length that falls between the calculated numbers resulting from using the minimum and maximum pin engagement.



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: \varnothing 0.033"

Copper plating thickness: 0.0020"

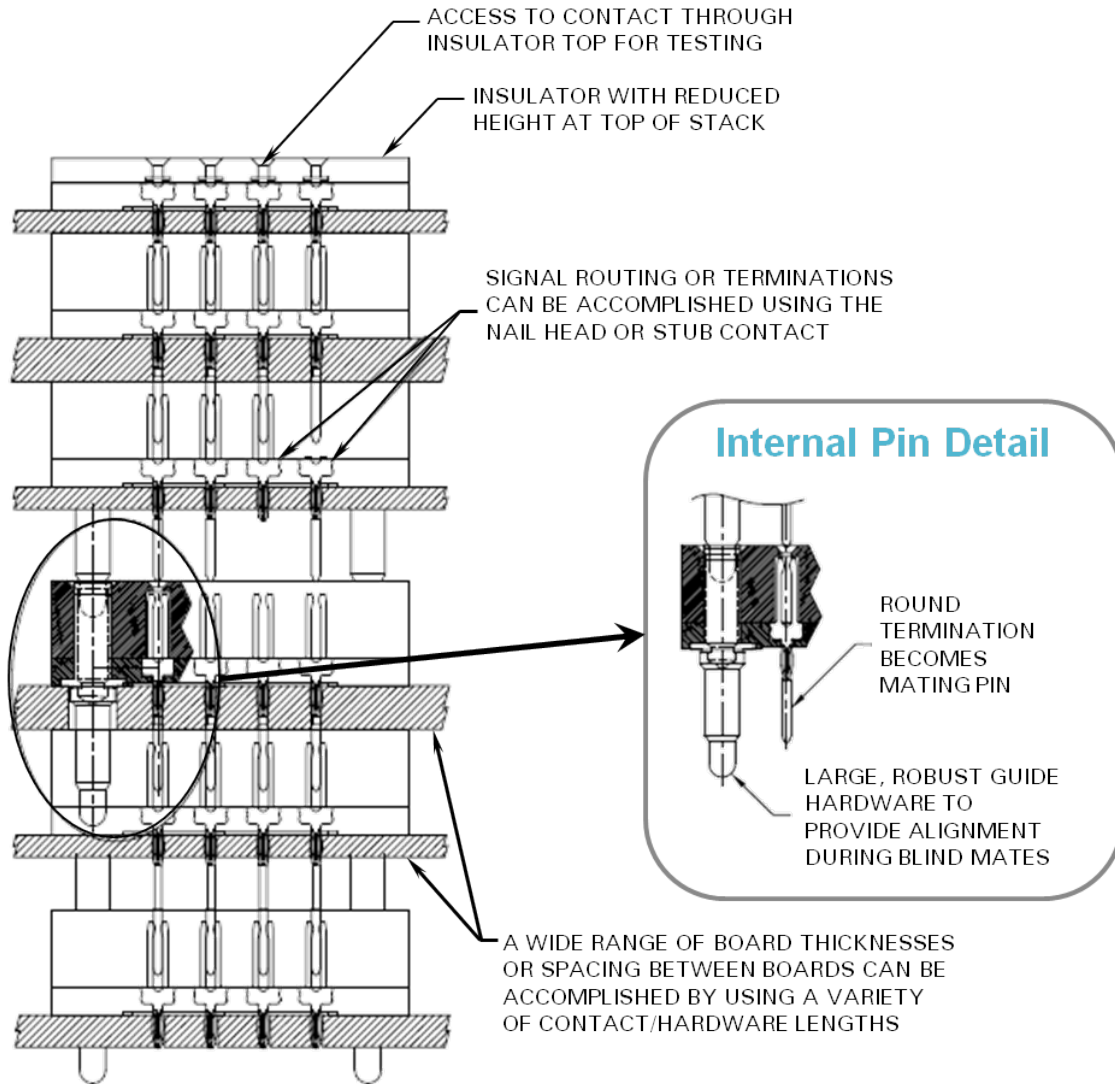
Tin-lead plating thickness: 0.0005"

Finished hold diameter: \varnothing 0.028" (\varnothing 0.028" \pm 0.002" required)



RC 4-ROW DRAWINGS

Stacking Detail



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: \varnothing 0.033"

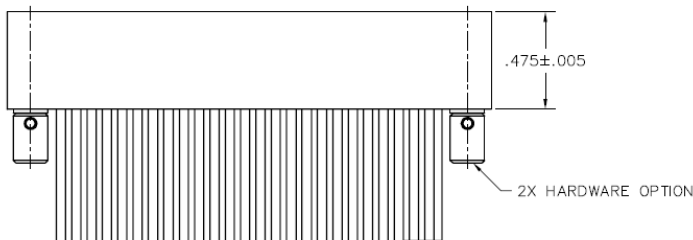
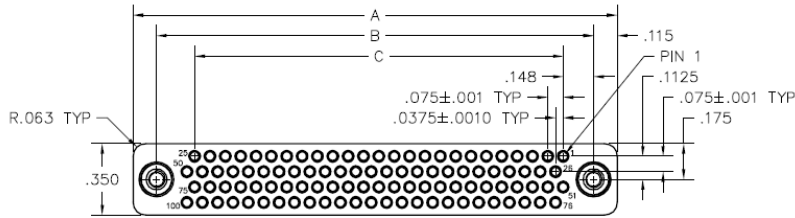
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

Finished hold diameter: \varnothing 0.028" (\varnothing 0.028" \pm 0.002" required)

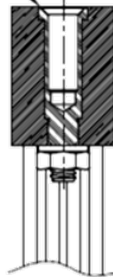


RC 4-ROW, BOTTOM-COMPLIANT DIMENSIONS



DIMENSIONS			
SIZE	A	B	C
28	1.014	0.784	0.450
52	1.464	1.234	0.900
76	1.914	1.684	1.350
100	2.364	2.134	1.800
128	2.889	2.659	2.325
152	3.339	3.109	2.775
200	4.239	4.009	3.675

GUIDE SOCKET



HARDWARE STYLE 58

#2-56 JACKSOCKET



HARDWARE STYLE 62

PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: Ø 0.033"

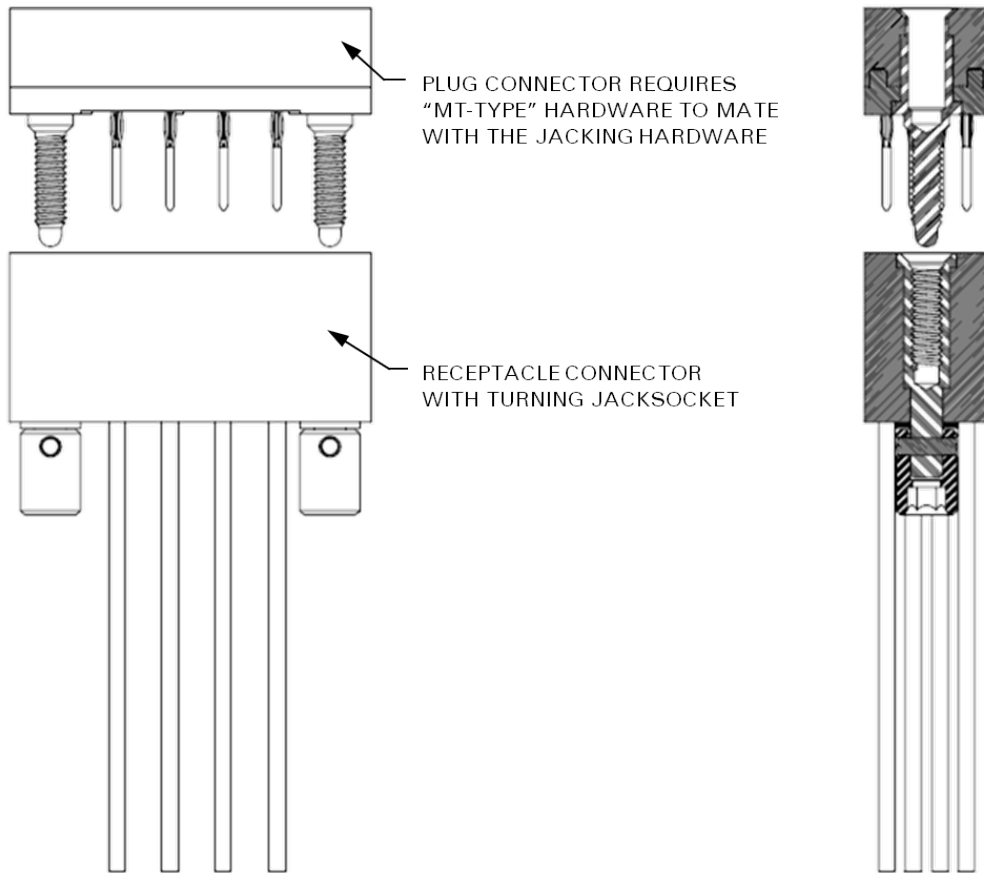
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

Finished hold diameter: Ø 0.028" (Ø 0.028" ±0.002" required)



RC 4-ROW, BOTTOM-COMPLIANT DRAWINGS



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: \varnothing 0.033"

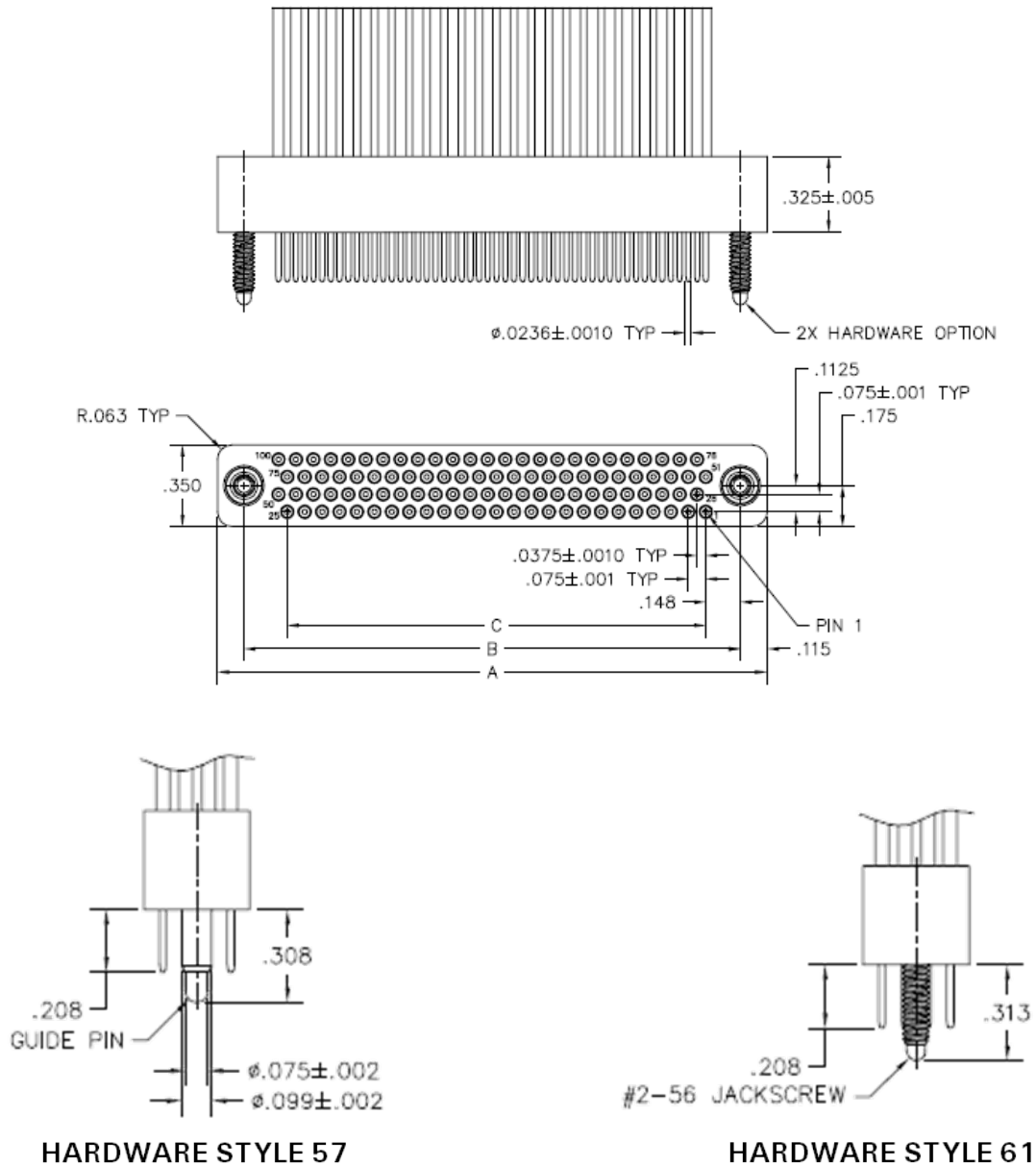
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

Finished hold diameter: \varnothing 0.028" (\varnothing 0.028" \pm 0.002" required)



RC 4-ROW, TOP-COMPLIANT DIMENSIONS



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: Ø 0.033"

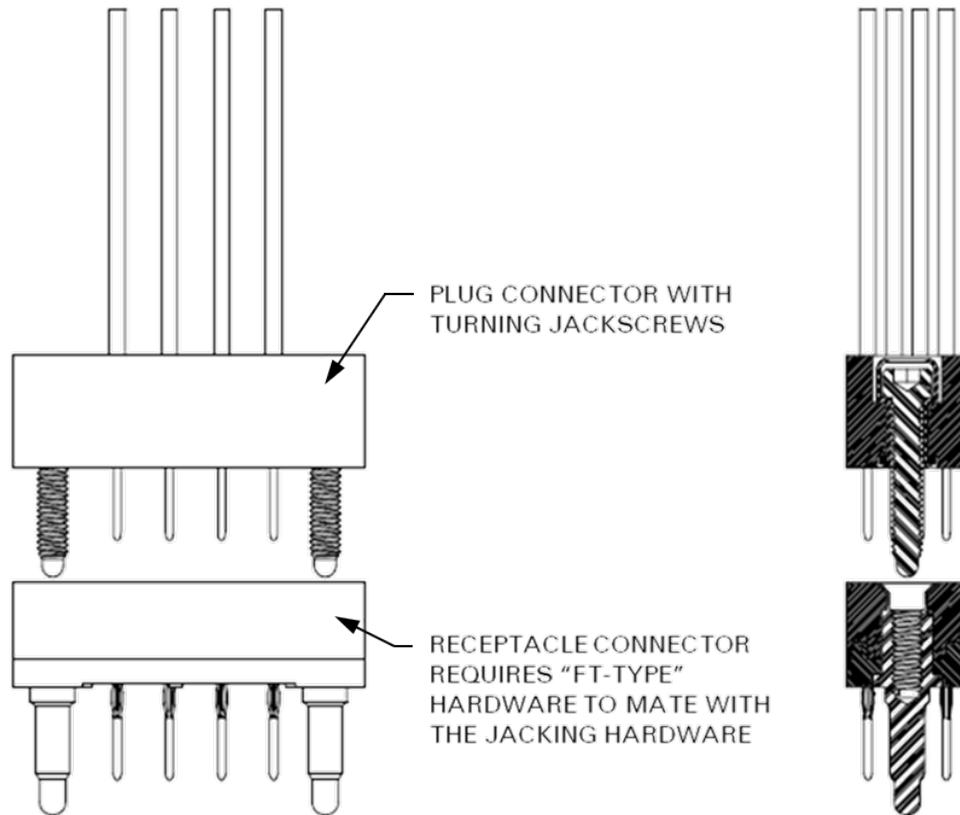
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

Finished hold diameter: Ø 0.028" (Ø 0.028" ±0.002" required)



RC 4-ROW, TOP-COMPLIANT DRAWINGS



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: \varnothing 0.033"

Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

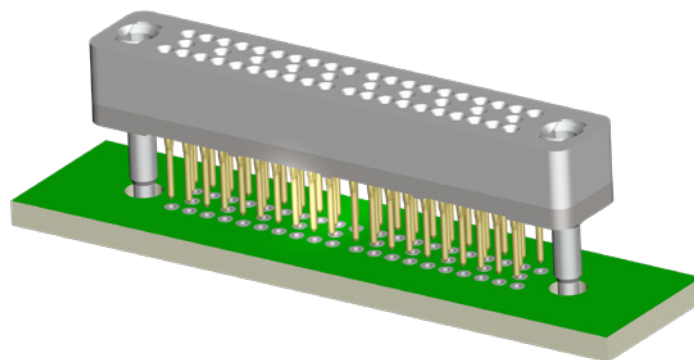
Finished hold diameter: \varnothing 0.028" (\varnothing 0.028" \pm 0.002" required)



RCII™

The AirBorn stackable compliant connector family is one of AirBorn's solutions for high-density, board-to-board stacking applications. This connector family is available in 0.075" contact spacing and 100 Ω and 85 Ω differential serial buses.

- Wide variety of standard pin/tail lengths accommodate any board-to-board spacing
- 0.075" contact spacing
- Reliable "eye of the needle"-compliant section design eliminates soldering
- BeCu contacts (special high-conductivity, high-temperature alloy)
- Very robust socket contact (low-stress design)
- Individually repairable contacts





RCII™

RC324 - 3-Row Bottom-of-Stack Board Mount Connector with SI

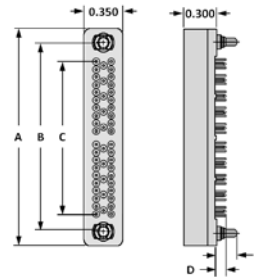
Contact spacing: 0.075" (1.91 mm)

A full bodied high-density press-fit connector with a 3-row aligned contact field for improved signal integrity. Use at the bottom of an RCII board stack application.

DIMENSIONS

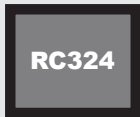
SIZE	A	B	C
25	1.235	1.005	0.675
50	2.010	1.780	1.450
75	2.785	2.555	2.225
100	3.560	3.330	3.000

Tolerances: ± 0.010"



CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195

Sample Part Number Format: RC324-050-101-3000



SERIES
 Stackable
 Compliant
 Full-Profile
 3 Rows
 0.075" Spacing



CONFIGURATION
 025 – 3 Rows/1 Bay
 050 – 3 Rows/2 Bays
 075 – 3 Rows/3 Bays
 100 – 3 Rows/4 Bays



CONTACT
 10 – 0.095" Long



PLATING
 1 – 50 μ" Au



HARDWARE
 30 – 0.195" Long
 (use with #10 contact)



TYPE
 00 – None



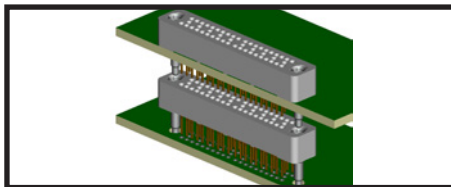
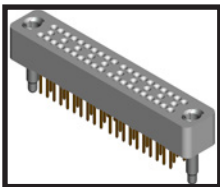
VARIATION
 Blank – None
 XXX – Consult factory



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.300" and, when used with the -20 or -30 (0.270") contact, the mounting is flush (board-bottom mounted to connector top). This board-bottom to connector top spacing can be modified based on the contact selected by approximately the difference in pin length. See Table 2.



SI DATA – Differential 100 Ohm

1	Diff. Insertion Loss	6.0 GHz @ -3 dB
2	Diff. Return Loss	4.6 GHz @ -20 dB
3	NEXT	4.0 GHz @ -50 dB
4	FEXT	4.0 GHz @ -48 dB

MATERIALS and FINISHES

Contact: BeCu per ASTM-B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM-A582, passivated per ASTM-A967
 Guide Pin/Socket: BeCu per ASTM-B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz. (113 g.) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz. (14 g.) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb. (10.21 Kg.) max. per contact
 Compliant Removal Force: 4.5 lb. (2.04 Kg.) min. per contact

NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.



RCII™

RC324 - 3-Row Mid/Top-of-Stack Connector with SI

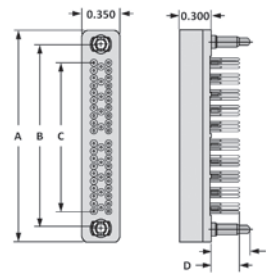
Contact spacing: 0.075" (1.91 mm)

A full bodied high-density press-fit connector with a 4-row aligned contact field for improved signal integrity. Use in RCII board-to-board stacking applications and/or at the top of the board stack.

DIMENSIONS

SIZE	A	B	C
25	1.235	1.005	0.675
50	2.010	1.780	1.450
75	2.785	2.555	2.225
100	3.560	3.330	3.000

Tolerances: ± 0.010"

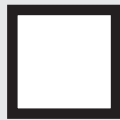


CONTACT SELECTION	CONTACT D	HARDWARE E
20	0.270	0.370
21	0.300	0.400
22	0.400	0.500
23	0.500	0.600
24	0.700	0.800
25	0.800	0.900
26	0.900	1.000
27	0.600	0.700
28	1.000	1.100

Sample Part Number Format: RC324-050-201-3900



SERIES
 Stackable
 Compliant
 Full-Profile
 3 Rows
 0.075" Spacing



CONFIGURATION
 025 - 3 Rows/1 Bay
 050 - 3 Rows/2 Bays
 075 - 3 Rows/3 Bays
 100 - 3 Rows/4 Bays



PLATING
 1 - 50 μ" Au



CONTACT
 20 - 0.270" Long
 21 - 0.300" Long
 22 - 0.400" Long
 23 - 0.500" Long
 24 - 0.700" Long
 25 - 0.800" Long
 26 - 0.900" Long
 27 - 0.600" Long
 28 - 1.000" Long



HARDWARE
 39 - 0.370" Long (use with #20 contact)
 40 - 0.400" Long (use with #21 contact)
 41 - 0.500" Long (use with #22 contact)
 42 - 0.600" Long (use with #23 contact)
 43 - 0.800" Long (use with #24 contact)
 44 - 0.900" Long (use with #25 contact)
 45 - 1.000" Long (use with #26 contact)
 46 - 0.700" Long (use with #27 contact)
 47 - 1.100" Long (use with #28 contact)



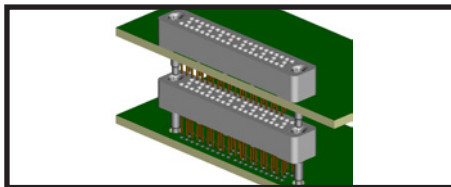
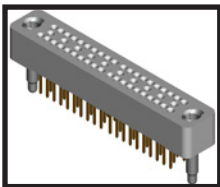
VARIATION
 Blank - None
 XXX - Consult factory



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.300" and, when used with the -20 or -30 (0.270") contact, the mounting is flush (board-bottom mounted to connector top). This board-bottom to connector top spacing can be modified based on the contact selected by approximately the difference in pin length. See Table 2.



SI DATA - Differential 100 Ohm

1	Diff. Insertion Loss	6.0 GHz @ -3 dB
2	Diff. Return Loss	4.6 GHz @ -20 dB
3	NEXT	4.0 GHz @ -50 dB
4	FEXT	4.0 GHz @ -48 dB

MATERIALS and FINISHES

Contact:BeCu per ASTM-B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM-A582, passivated per ASTM-A967
 Guide Pin/Socket: BeCu per ASTM-B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz. (113 g.) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz. (14 g.) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb. (10.21 Kg.) max. per contact
 Compliant Removal Force: 4.5 lb. (2.04 Kg.) min. per contact

NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.



RCII™

RC424 - 4-Row Bottom-of-Stack Board Mount Connector with SI

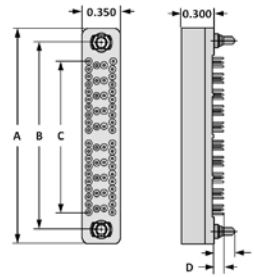
Contact spacing: 0.075" (1.91 mm)

A full bodied high-density press-fit connector with a 4-row aligned contact field for improved signal integrity. Use at the bottom of an RCII board stack application.

DIMENSIONS

SIZE	A	B	C
30	1.235	1.005	0.675
60	2.010	1.780	1.450
90	2.785	2.555	2.225
120	3.560	3.330	3.000

Tolerances: ± 0.010"

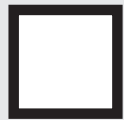


CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195

Sample Part Number Format: RC424-060-101-3000



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing



CONFIGURATION
 030 – 4 Rows/1 Bay
 060 – 4 Rows/2 Bays
 090 – 4 Rows/3 Bays
 120 – 4 Rows/4 Bays



CONTACT
 10 – 0.095" Long



PLATING
 1 – 50 μ" Au



HARDWARE
 30 – 0.195" Long (use with #10 contact)



TYPE
 00 – None



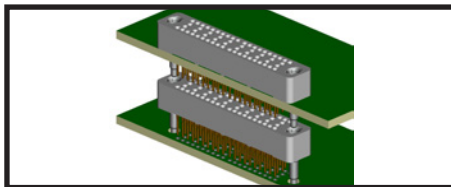
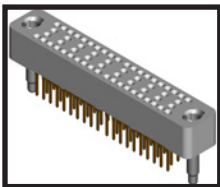
VARIATION
 Blank – None
 XXX – Consult factory



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.300" and, when used with the -20 or -30 (0.270") contact, the mounting is flush (board-bottom mounted to connector top). This board-bottom to connector top spacing can be modified based on the contact selected by approximately the difference in pin length. See Table 2.



MATERIALS and FINISHES

Contact: BeCu per ASTM-B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM-A582, passivated per ASTM-A967
 Guide Pin/Socket: BeCu per ASTM-B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz. (113 g.) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz. (14 g.) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb. (10.21 Kg.) max. per contact
 Compliant Removal Force: 4.5 lb. (2.04 Kg.) min. per contact

NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SI DATA

1	Diff. Insertion Loss	6.0 GHz @ -3 dB
2	Diff. Return Loss	4.6 GHz @ -20 dB
3	NEXT	4.0 GHz @ -50 dB
4	FEXT	4.0 GHz @ -48 dB



RCII™

RC424 - 4-Row Mid/Top-of-Stack Connector with SI

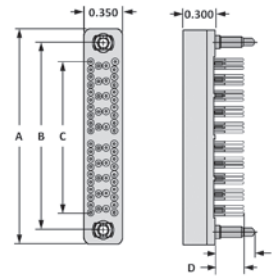
Contact spacing: 0.075" (1.91 mm)

A full bodied high-density press-fit connector with a 4-row aligned contact field for improved signal integrity. Use in RCII board-to-board stacking applications and/or at the top of the board stack.

DIMENSIONS

SIZE	A	B	C
30	1.235	1.005	0.675
60	2.010	1.780	1.450
90	2.785	2.555	2.225
120	3.560	3.330	3.000

Tolerances: ± 0.010"



CONTACT SELECTION	CONTACT D	HARDWARE E
20	0.270	0.370
21	0.300	0.400
22	0.400	0.500
23	0.500	0.600
24	0.700	0.800
25	0.800	0.900
26	0.900	1.000
27	0.600	0.700
28	1.000	1.100

Sample Part Number Format: RC424-060-201-3900



SERIES
 Stackable
 Compliant
 Full-Profile
 4 Rows
 0.075" Spacing



CONFIGURATION
 030 – 4 Rows/1 Bay
 060 – 4 Rows/2 Bays
 090 – 4 Rows/3 Bays
 120 – 4 Rows/4 Bays



PLATING
 1 – 50 μ" Au



TYPE
 00 – None



VARIATION
 Blank – None
 XXX – Consult factory

CONTACT
 20 – 0.270" Long
 21 – 0.300" Long
 22 – 0.400" Long
 23 – 0.500" Long
 24 – 0.700" Long
 25 – 0.800" Long
 26 – 0.900" Long
 27 – 0.600" Long
 28 – 1.000" Long

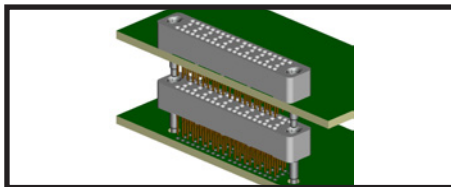
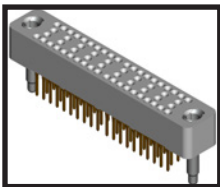
HARDWARE
 39 – 0.370" Long (use with #20 contact)
 40 – 0.400" Long (use with #21 contact)
 41 – 0.500" Long (use with #22 contact)
 42 – 0.600" Long (use with #23 contact)
 43 – 0.800" Long (use with #24 contact)
 44 – 0.900" Long (use with #25 contact)
 45 – 1.000" Long (use with #26 contact)
 46 – 0.700" Long (use with #27 contact)
 47 – 1.100" Long (use with #28 contact)



PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

The connector body height is 0.300" and, when used with the -20 or -30 (0.270") contact, the mounting is flush (board-bottom mounted to connector top). This board-bottom to connector top spacing can be modified based on the contact selected by approximately the difference in pin length. See Table 2.



MATERIALS and FINISHES

Contact:BeCu per ASTM-B768 (BeCu C17410 brush alloy 174)
 Contact Finish: Gold per MIL-G-45204 over nickel per IAW QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM-A582, passivated per ASTM-A967
 Guide Pin/Socket: BeCu per ASTM-B196/197, nickel-plated per QQ-N-290

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: 3 amperes
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 500 connector mating cycles
 Contact Resistance: 3 to 5 milliohms (contact length dependent)
 Contact Engagement Force: 4.0 oz. (113 g.) max. w/0.0246" dia. test pin
 Contact Separation Force: 0.5 oz. (14 g.) min. w/0.0226" dia. test pin
 Compliant Insertion Force: 22.5 lb. (10.21 Kg.) max. per contact
 Compliant Removal Force: 4.5 lb. (2.04 Kg.) min. per contact

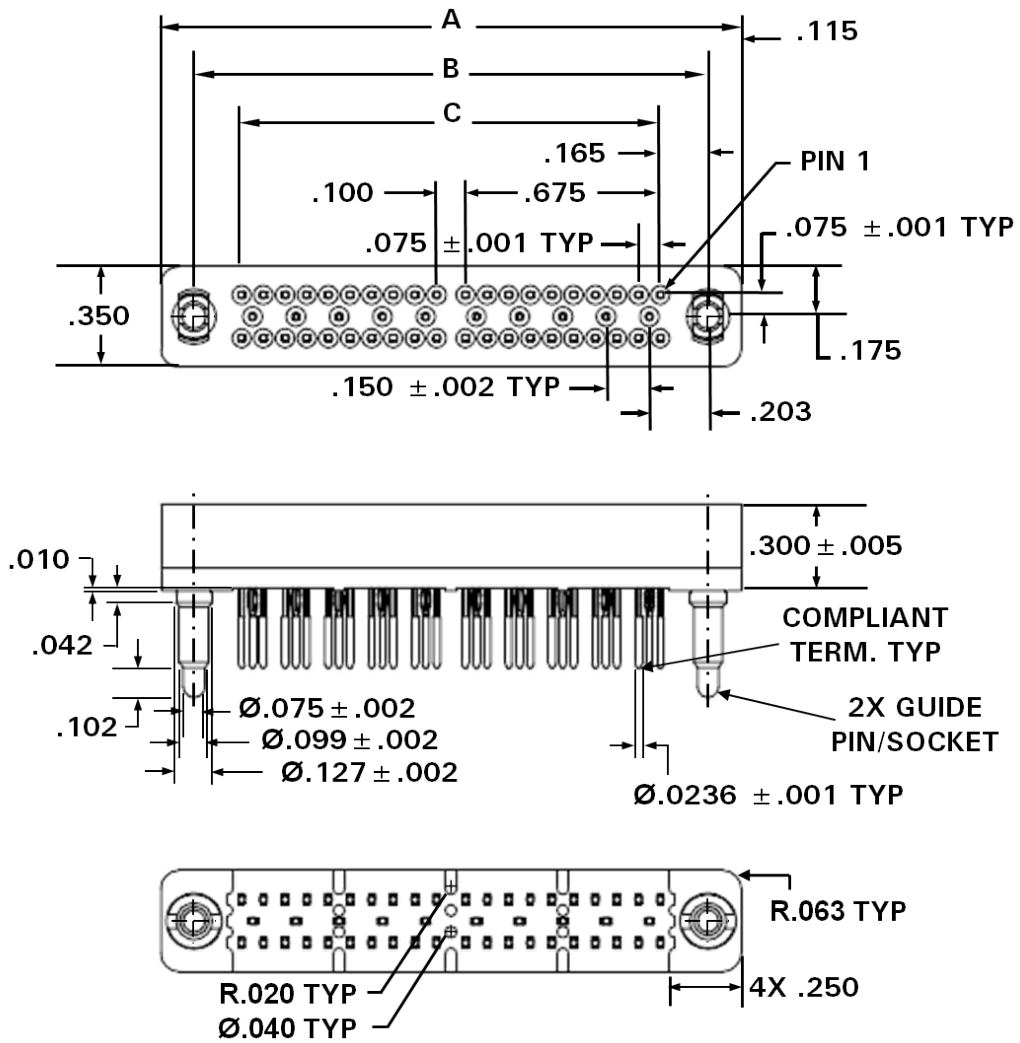
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SI DATA

1	Diff. Insertion Loss	6.0 GHz @ -3 dB
2	Diff. Return Loss	4.6 GHz @ -20 dB
3	NEXT	4.0 GHz @ -50 dB
4	FEXT	4.0 GHz @ -48 dB



RCII 3-ROW DIMENSIONS



DIMENSIONS			
SIZE/BANKS	A	B	C
25/1	1.235	1.005	0.675
50/2	2.010	1.780	1.450
75/3	2.785	2.555	2.225
100/4	3.560	3.330	3.000

PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: Ø 0.033"

Copper plating thickness: 0.0020"

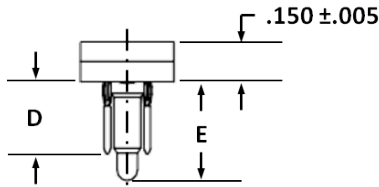
Tin-lead plating thickness: 0.0005"

Finished hold diameter: Ø 0.028" (Ø 0.028" ± 0.002" required)



RCII 3-ROW DIMENSIONS

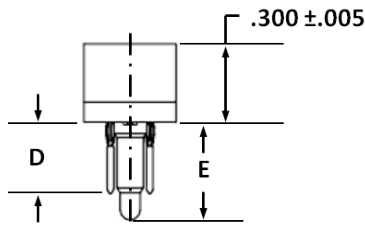
Hardware Options



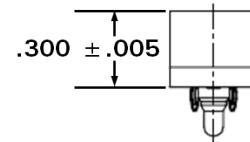
BODY STYLE 344

OPTIONAL INSULATOR FOR TOP CONNECTOR WITH TERMINATION
 OPTIONS 301, 311, 321, 331, 341, 351, 361, 371 AND 381 (w/CIRCUIT TEST POINT).

CONTACT TERMINATION	CONTACT D	HARDWARE E
201, 301	0.270	0.370
211, 311	0.300	0.400
221, 321	0.400	0.500
231, 331	0.500	0.600
241, 341	0.700	0.800
251, 351	0.800	0.900
261, 361	0.900	1.000
271, 371	0.600	0.700
281, 381	1.000	1.100
101	0.095	0.195



BODY STYLE 324



BODY STYLE 324

CONTACT/HARDWARE OPTION 101 (TERMINATES CIRCUIT)

PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: \varnothing 0.033"

Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

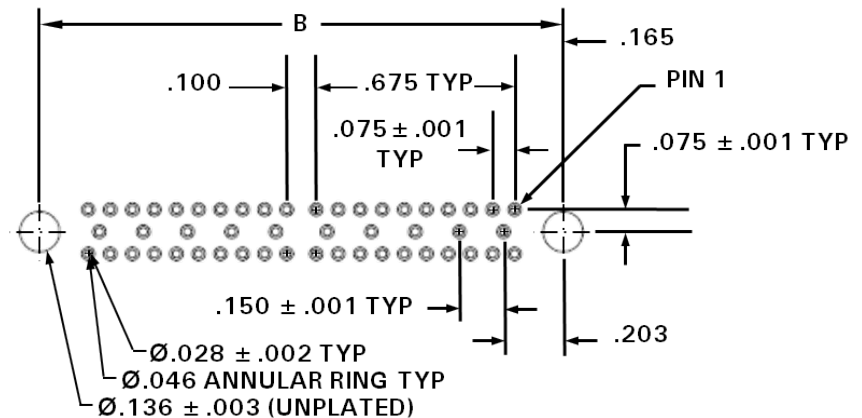
Finished hold diameter: \varnothing 0.028" (\varnothing 0.028" \pm 0.002" required)

RCII 3-ROW DRAWINGS

Board Footprint and Dimensions

SIZE	CONTACT ID
25	
50	
75	
100	

DIMENSIONS			
SIZE/BANKS	A	B	C
30/1	1.235	1.005	0.675
60/2	2.010	1.780	1.450
90/3	2.785	2.555	2.225
120/4	3.560	3.330	3.000



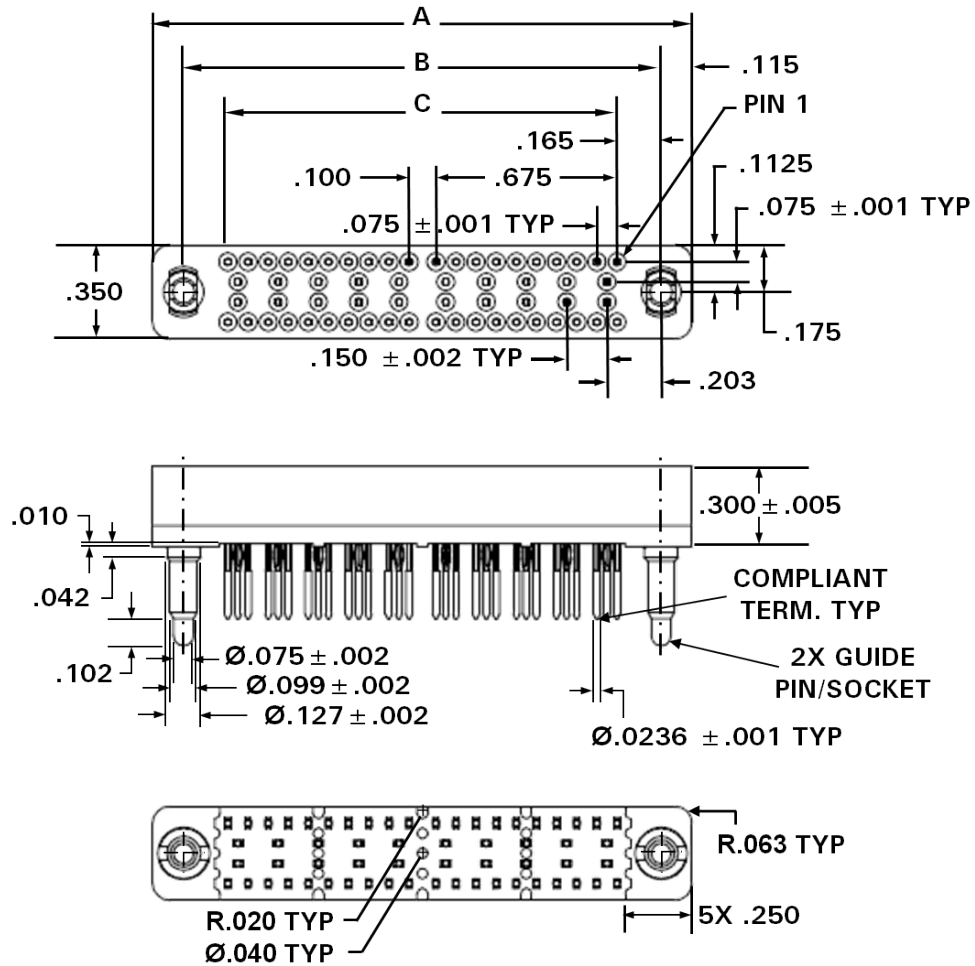
PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper
 Board thickness: 0.058" minimum
 Drilled hole: Ø 0.033"

Copper plating thickness: 0.0020"
 Tin-lead plating thickness: 0.0005"
 Finished hold diameter: Ø 0.028" (Ø 0.028" ±0.002" required)



RCII 4-ROW DIMENSIONS



DIMENSIONS			
SIZE/BANKS	A	B	C
30/1	1.235	1.005	0.675
60/2	2.010	1.780	1.450
90/3	2.785	2.555	2.225
120/4	3.560	3.330	3.000

PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: Ø 0.033"

Copper plating thickness: 0.0020"

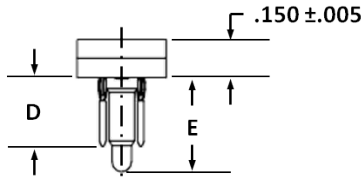
Tin-lead plating thickness: 0.0005"

Finished hold diameter: Ø 0.028" (Ø 0.028" ± 0.002" required)



RCII 4-ROW DIMENSIONS

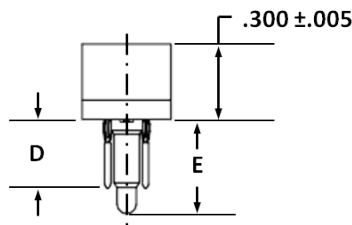
Hardware Options



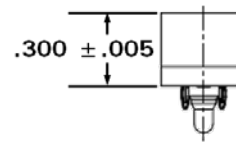
BODY STYLE 444

OPTIONAL INSULATOR FOR TOP
 CONNECTOR WITH TERMINATION
 OPTIONS 301, 311, 321, 331, 341,
 351, 361, 371 AND 381
 (w/CIRCUIT TEST POINT).

TABLE 1		
CONTACT TERMINATION	CONTACT D	HARDWARE E
201, 301	0.270	0.370
211, 311	0.300	0.400
221, 321	0.400	0.500
231, 331	0.500	0.600
241, 341	0.700	0.800
251, 351	0.800	0.900
261, 361	0.900	1.000
271, 371	0.600	0.700
281, 381	1.000	1.100
101	0.095	0.195



BODY STYLE 424



BODY STYLE 424

CONTACT/HARDWARE OPTION 101
 (TERMINATES CIRCUIT)

PWB-PLATED THRU-HOLE RECOMMENDATIONS:

Board material: FR-4 (or equivalent) with 1.0 oz. copper

Board thickness: 0.058" minimum

Drilled hole: \varnothing 0.033"

Copper plating thickness: 0.0020"

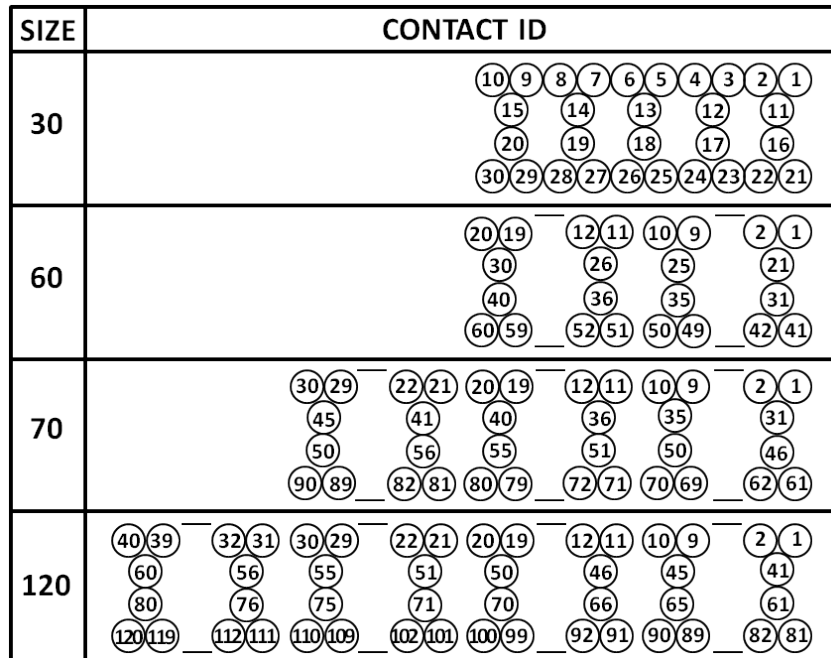
Tin-lead plating thickness: 0.0005"

Finished hold diameter: \varnothing 0.028" (\varnothing 0.028" \pm 0.002" required)

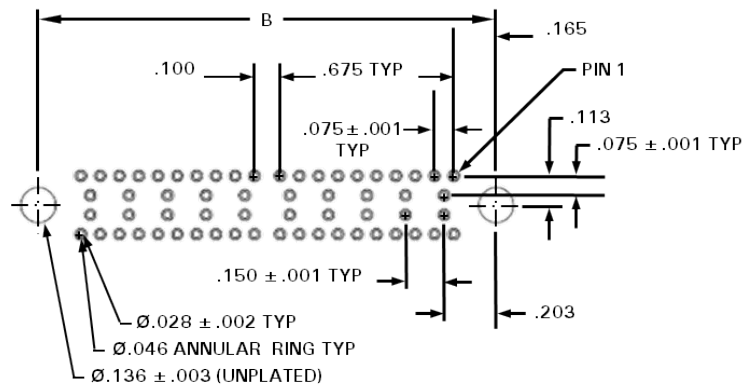


RCII 4-ROW DRAWINGS

Board Footprint and Dimensions



DIMENSIONS			
SIZE/BANKS	A	B	C
30/1	1.235	1.005	0.675
60/2	2.010	1.780	1.450
90/3	2.785	2.555	2.225
120/4	3.560	3.330	3.000



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

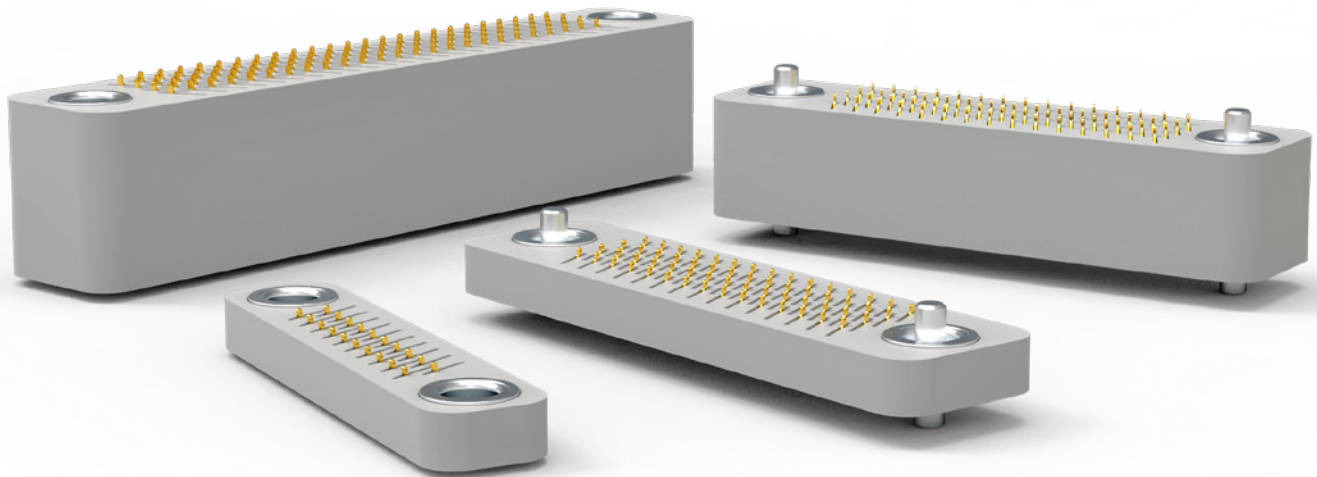
Board material: FR-4 (or equivalent) with 1.0 oz. copper
 Board thickness: 0.058" minimum
 Drilled hole: Ø 0.033"

Copper plating thickness: 0.0020"
 Tin-lead plating thickness: 0.0005"
 Finished hold diameter: Ø 0.028" (Ø 0.028" ±0.002" required)

Z Series

The Z Series family of high-density, board-to-board or flex circuit stacking applications is unique, offering users a reliable one-piece contact system. Its solder-less interconnect is compressed or “sandwiched” under pressure between parallel printed wiring boards or between a printed wiring board and other electronic components such as an IC or multichip module.

- 0.050” staggered grid array
- Up to 400 contacts per square inch
- BeCu contacts for reliable mating
- Standard heights from 0.100” to 0.350”
- Custom configurations available to meet your specific design needs.





Z Series

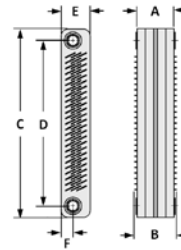
Vertical Compression (Z-axis), Open-Pin Field

Contact spacing: 0.050" (1.27 mm)

A high-density, open-field, vertically-compressed connector utilizing a patented z-axis contact system configured for between-board (board-to-board) compression applications.

DIMENSIONS

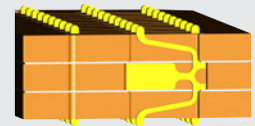
COLUMNS	C	D
10	0.952	0.742
15	1.202	0.992
20	1.452	1.242
25	1.702	1.492
ROWS	E	F
2	0.210	0.105
3	0.260	0.105
4	0.310	0.155
5	0.360	0.155
6	0.410	0.205
7	0.460	0.205



HARDWARE HEIGHT (A)	CONTACT HEIGHT (B)
0.100	0.120
0.150	0.170
0.200	0.230
0.250	0.280
0.300	0.330
0.350	0.380

Sample Part Number Format: RZ250-320-115-1000

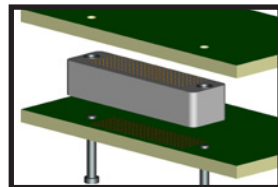
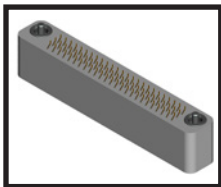
SERIES	HEIGHT	COLUMNS	PLATING	CONTACT	HARDWARE	TYPE	VARIATION
RZ	100 - 0.100" 150 - 0.150" 200 - 0.200" 250 - 0.250" 300 - 0.300" 350 - 0.350"	10 - 10 Columns 15 - 15 Columns 20 - 20 Columns 25 - 25 Columns	5 - 50 μ" Au 3 - 30 μ" Au	11 - Double compression	10 - Ø.090" Thru-hole 20 - Ø.050" Guide pin	00 - No polarization	Blank - None XXX - Consult factory
		ROWS 2 - 2 Rows 3 - 3 Rows 4 - 4 Rows 5 - 5 Rows 6 - 6 Rows 7 - 7 Rows					



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

Mated height is defined as the space between the hardware clamping surfaces (top hardware surface to bottom hardware surface.) See Table 1.



SI DATA – Differential 100 Ohm

1	Diff. Insertion Loss	3.0 GHz @ -3 dB
2	Diff. Return Loss	1.0 GHz @ -20 dB
3	NEXT	2.0 GHz @ -50 dB
4	FEXT	2.0 GHz @ -48 dB

MATERIALS and FINISHES

Contact: BeCu C17200 per ASTM B194 (brush alloy 190)
 Contact Finish: Gold per ASTM B488 over nickel per SAE AMS-QQ-N-290
 Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
 Hardware: Stainless steel per ASTM A582/582M, passivated per SAE AMS-2700

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

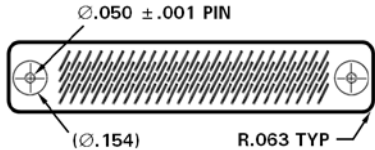
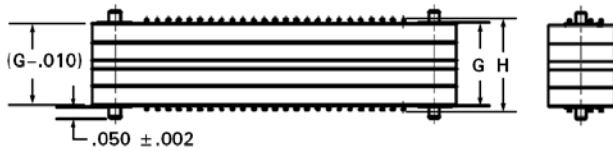
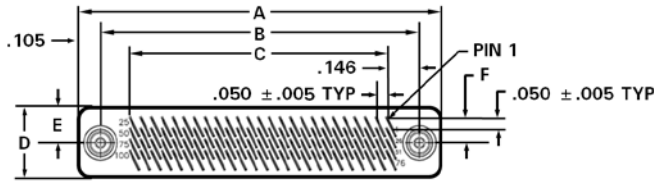
Contact Compression: 0.010 inches per side (nominal) for 0.100" and 0.150" connector heights; 0.015" per side (nominal) for 0.200", 0.250", 0.300" and 0.350" connector heights
 Compression Force: 25-40 grams per contact having a 0.010" deflection
 Contact Wipe: 35-50 grams per contact having a 0.015" deflection
 Contact Wipe: ≈0.007" for 0.100" and 0.150" connector heights
 ≈0.014" for 0.200", 0.250", 0.300" and 0.350" connector heights
 Current Rating: 0.5 amperes
 Contact Resistance: 0.025 ohms typical (contact height-dependent)
 Operating Temperature: -65° C to +125° C
 Insulation Resistance: 5,000 megaohms minimum @ 100 VDC
 Durability: 50 connector mating cycles
 Dielectric Withstanding: 250 VDC @ sea level, 100 VDC @ altitude

NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

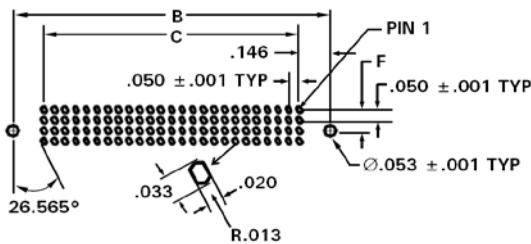


Z SERIES DIMENSIONS

Guide Pin Hardware Option



PWB Layout (Recommended)



DIMENSIONS								
SIZE	ROWS	COLS	A	B	C	D	E	F
20	2	10	0.952	0.742	0.450	0.210	0.105	0.050
30	2	15	1.202	0.992	0.700	0.210	0.105	0.050
40	2	20	1.452	1.242	0.950	0.210	0.105	0.050
50	2	25	1.702	1.492	1.200	0.210	0.105	0.050
30	3	10	0.952	0.742	0.450	0.260	0.105	0.050
45	3	15	1.202	0.992	0.700	0.260	0.105	0.050
60	3	20	1.452	1.242	0.950	0.260	0.105	0.050
75	3	25	1.702	1.492	1.200	0.260	0.105	0.050
40	4	10	0.952	0.742	0.450	0.310	0.155	0.100
60	4	15	1.202	0.992	0.700	0.310	0.155	0.100
80	4	20	1.452	1.242	0.950	0.310	0.155	0.100
100	4	25	1.702	1.492	1.200	0.310	0.155	0.100
50	5	10	0.952	0.742	0.450	0.360	0.155	0.100
75	5	15	1.202	0.992	0.700	0.360	0.155	0.100
100	5	20	1.452	1.242	0.950	0.360	0.155	0.100
125	5	25	1.702	1.492	1.200	0.360	0.155	0.100
60	6	10	0.952	0.742	0.450	0.410	0.205	0.150
90	6	15	1.202	0.992	0.700	0.410	0.205	0.150
120	6	20	1.452	1.242	0.950	0.410	0.205	0.150
150	6	25	1.702	1.492	1.200	0.410	0.205	0.150
70	7	10	0.952	0.742	0.450	0.460	0.205	0.150
105	7	15	1.202	0.992	0.700	0.460	0.205	0.150
140	7	20	1.452	1.242	0.950	0.460	0.205	0.150
175	7	25	1.702	1.492	1.200	0.460	0.205	0.150

DIMENSIONS	
HARDWARE "G"	CONTACT "H"
0.100+/-0.002	0.120+/-0.006
0.150+/-0.002	0.170+/-0.010
0.200+/-0.002	0.230+/-0.010
0.250+/-0.002	0.280+/-0.010
0.300+/-0.002	0.330+/-0.010
0.350+/-0.002	0.380+/-0.010

Note: All dimensions are in inches.

PWB-PLATED PAD RECOMMENDATIONS:

Board to be made in accordance with ANSI/EIA-616

Laminate material per MIL-P-13949, Type GF

Copper foil thickness: 1 oz per square foot

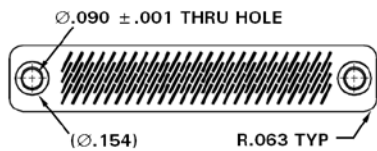
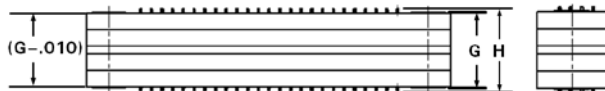
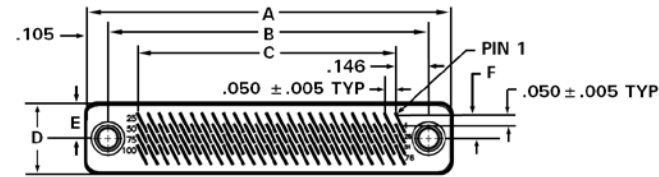
Plate all surface features with 50 μ", minimum, electrolytic hard gold over 50-150 μ" nickel.

(Optionally, plate all surface features with 50 μ", minimum, electrolytic hard gold over 5-10 μ" of electrolytic soft gold over 100 μ", minimum, nickel.)



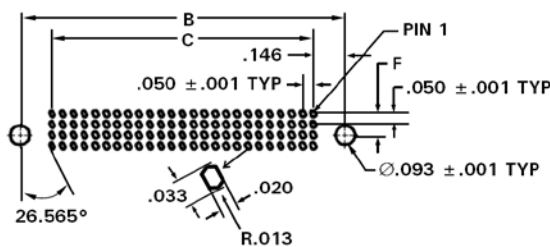
Z SERIES DIMENSIONS

Thru-Hole Hardware Option



DIMENSIONS								
SIZE	ROWS	COLS	A	B	C	D	E	F
20	2	10	0.952	0.742	0.450	0.210	0.105	0.050
30	2	15	1.202	0.992	0.700	0.210	0.105	0.050
40	2	20	1.452	1.242	0.950	0.210	0.105	0.050
50	2	25	1.702	1.492	1.200	0.210	0.105	0.050
30	3	10	0.952	0.742	0.450	0.260	0.105	0.050
45	3	15	1.202	0.992	0.700	0.260	0.105	0.050
60	3	20	1.452	1.242	0.950	0.260	0.105	0.050
75	3	25	1.702	1.492	1.200	0.260	0.105	0.050
40	4	10	0.952	0.742	0.450	0.310	0.155	0.100
60	4	15	1.202	0.992	0.700	0.310	0.155	0.100
80	4	20	1.452	1.242	0.950	0.310	0.155	0.100
100	4	25	1.702	1.492	1.200	0.310	0.155	0.100
50	5	10	0.952	0.742	0.450	0.360	0.155	0.100
75	5	15	1.202	0.992	0.700	0.360	0.155	0.100
100	5	20	1.452	1.242	0.950	0.360	0.155	0.100
125	5	25	1.702	1.492	1.200	0.360	0.155	0.100
60	6	10	0.952	0.742	0.450	0.410	0.205	0.150
90	6	15	1.202	0.992	0.700	0.410	0.205	0.150
120	6	20	1.452	1.242	0.950	0.410	0.205	0.150
150	6	25	1.702	1.492	1.200	0.410	0.205	0.150
70	7	10	0.952	0.742	0.450	0.460	0.205	0.150
105	7	15	1.202	0.992	0.700	0.460	0.205	0.150
140	7	20	1.452	1.242	0.950	0.460	0.205	0.150
175	7	25	1.702	1.492	1.200	0.460	0.205	0.150

PWB Layout (Recommended)



DIMENSIONS	
HARDWARE "G"	CONTACT "H"
0.100+/-0.002	0.120+/-0.006
0.150+/-0.002	0.170+/-0.010
0.200+/-0.002	0.230+/-0.010
0.250+/-0.002	0.280+/-0.010
0.300+/-0.002	0.330+/-0.010
0.350+/-0.002	0.380+/-0.010

Note: All dimensions are in inches.

PWB-PLATED PAD RECOMMENDATIONS:

Board to be made in accordance with ANSI/EIA-616

Laminate material per MIL-P-13949, Type GF

Copper foil thickness: 1 oz per square foot

Plate all surface features with 50 μ", minimum, electrolytic hard gold over 50-150 μ" nickel.

(Optionally, plate all surface features with 50 μ", minimum, electrolytic hard gold over 5-10 μ" of electrolytic soft gold over 100 μ", minimum, nickel.)



Z SERIES DRAWINGS

Board Footprint

CONTACT ID				
ROWS	COLUMNS			
	10	15	20	25
2				
3				
4				
5				
6				
7				

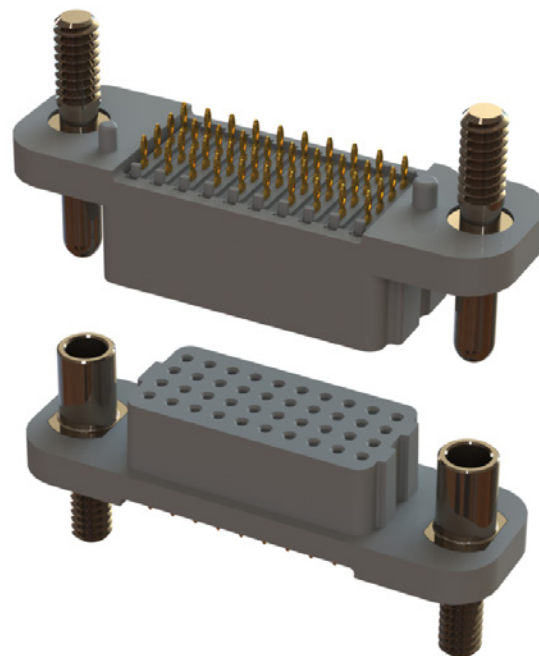
PWB-PLATED PAD RECOMMENDATIONS:

- Board to be made in accordance with ANSI/EIA-616
- Laminate material per MIL-P-13949, Type GF
- Copper foil thickness: 1 oz per square foot
- Plate all surface features with 50 μ ", minimum, electrolytic hard gold over 50-150 μ " nickel.
- (Optionally, plate all surface features with 50 μ ", minimum, electrolytic hard gold over 5-10 μ " of electrolytic soft gold over 100 μ ", minimum, nickel.)



verSI™

The AirBorn verSI (versatile connectors with high-speed signal integrity) open-pin field product line is designed to meet the requirements for high-speed/high-density/signal integrity 100 Ω and 85 Ω differential serial bus applications while still delivering the reliability customers have come to expect from AirBorn.





VSM – Vertical (Male)

Pitch: 1.27 mm

VSM signal-integrity connectors are used in vertical, PCB-mount applications where a male interface is required. Termination styles include press-fit, paste-in-hole, plated thru-hole, and surface-mount.

DIMENSIONS

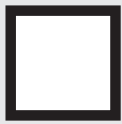
COLUMNS	A	B	C	ROWS	D
10	1.000	0.813	0.450	4	0.300
20	1.500	1.313	0.950	5	0.350
30	2.000	1.813	1.450	6	0.400
40	2.500	2.313	1.950	8	0.500
50	3.000	2.813	2.450	10	0.600

SPACING OPTION CODES	E		F		SPACING OPTIONS		
	inches	mm	inches	mm	E	F	
-080	0.235	5.95	0.290	7.36	8 mm	0.235	0.290
-100	0.314	7.79	0.369	9.37	10 mm	0.314	0.369
-120	0.392	9.95	0.447	11.35	12 mm	0.392	0.447
-160	0.550	13.96	0.605	15.36	16 mm	0.550	0.605
-200	0.707	17.94	0.762	19.34	20 mm	0.707	0.762
-250	0.904	22.94	0.959	24.34	25 mm	0.904	0.959

Sample Part Number Format: VSM-04-10-080-50-02-G



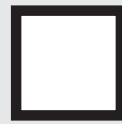
SERIES
 Vertical (Male)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



BOARD SPACING*
 080 – 8 mm
 100 – 10 mm
 120 – 12 mm
 160 – 16 mm
 200 – 20 mm
 250 – 25 mm



CONTACT PLATING
 50 – 50 μ" Au



TERMINATION
 00 – Press-fit
 01 – Paste-In-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"
 10¹ – SMT - SN63PB37 Solder Dipped
 11¹ – SMT - 42Sn/57.6Bi/0.4Ag lead free, solder dipped



OPTIONS
 Blank – No options[†]
 G – Guide pin¹
 G1 – Guide pin²
 J – Turning jackscrew¹
 J1 – Turning jackscrew²
 L – Locking screw¹
 L1 – Locking screw²
 N – Fixed jacknut¹
 N1 – Fixed jacknut²

NOTES

Connector potting is standard.

* Consult factory for additional board spacing options.

¹ Used for PC board thickness up to 0.125"

² Used for PC board thickness 0.125" up to 0.250"

[†] Surface Mount Termination only available on 4 Row vertical connectors.

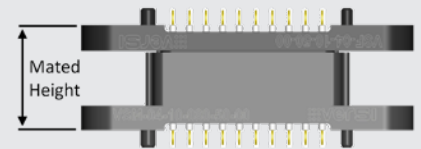
[‡] No hardware supplied with blank hardware option connectors.

AirBorn can manufacture other configurations to your exact specifications.

RoHS Compliant (except for termination option 10); certificate of conformance available upon request with each shipment

BOARD SPACING		MATED HEIGHT (in)
VALUE	CODE	NOMINAL
8 mm	080	0.315
10 mm	100	0.394
12 mm	120	0.473
16 mm	160	0.630
20 mm	200	0.788
25 mm	250	0.985

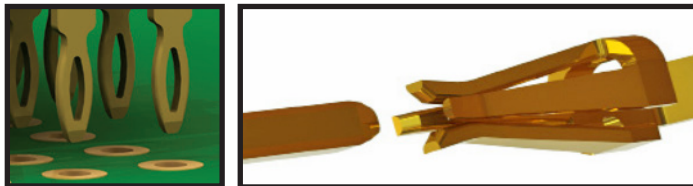
Max allowable separation between mating faces is 0.035 inches.



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FEATURES

verSI board-mount connectors feature low mating force/high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Pin Contacts: Phos bronze per ASTM B103 or BeCu per ASTM B768 (press-fit contact)
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μin min

Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138

Potting Compound: Frey Eng. Co. insulating compound CF3003-80

Hardware (except washers): Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320 passivated per SAE AMS-2700, Method 1, Type 2

Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)

Solder Paste: Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

PERFORMANCE

Contact Rating: 2 amperes maximum

Operating Temperature: -55° C to 125° C

Min. Contact Wipe: 1.27 mm (0.050")

Contact Normal Force: 35–40 grams

Max Recommended Voltage: 200 V, RMS, 60 Hz

Insulation Resistance: 5,000 megohms minimum @ 500 VDC

Durability: 2500 connector mating cycles

Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)

Shock: 50 g (EIA-364-27, condition E)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

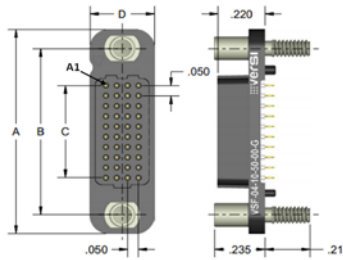


VSF – Vertical (Female)

Pitch: 1.27 mm

VSF signal-integrity connectors are used in vertical, PCB-mount applications where a female interface is required. Termination styles include press-fit, paste-in-hole, plated thru-hole, and surface-mount.

DIMENSIONS



VSF DIMENSIONS					
Columns	A	B	C	Rows	D
10	1.000	0.813	0.450	4	0.300
20	1.500	1.313	0.950	5	0.350
30	2.000	1.813	1.450	6	0.400
40	2.500	2.313	1.950	8	0.500
50	3.000	2.813	2.450	10	0.600

Sample Part Number Format: VSF-04-10-50-02



SERIES
 Vertical (Female)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ" Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"
 10* – SMT - SN63PB37
 Solder Dipped
 11* – SMT - 42Sn/57.6Bi/0.4Ag
 lead free, solder dipped



OPTIONS
 Blank – No hardware†
 G – Guide socket¹
 G1 – Guide socket²
 J – Turning jackscrew¹
 J1 – Turning jackscrew²
 L – Locking screw¹
 L1 – Locking screw²
 N – Fixed jacknut¹
 N1 – Fixed jacknut²

NOTES

Connector potting is standard.

¹ Used for PC board thickness up to 0.125"

² Used for PC board thickness 0.125" up to 0.250"

† Surface Mount Termination only available on 4 Row vertical connectors.

‡ No hardware supplied with blank hardware option connectors.

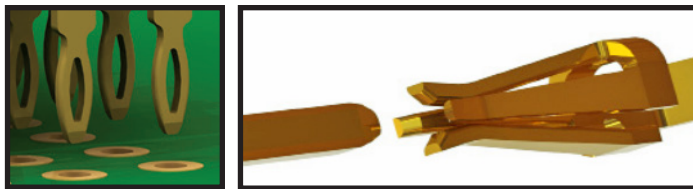
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FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Socket Contacts: BeCu per ASTM B194
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μN min
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Potting Compound: Frey Eng. Co. insulating compound CF3003-80
 Hardware (except washers): Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320 passivated per SAE AMS-2700, Method 1, Type 2
 Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
 Solder Paste: Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35–40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

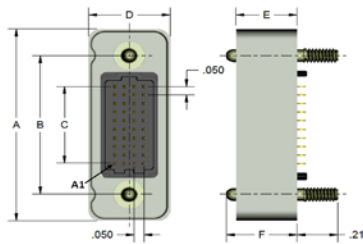


VRM – Vertical Rugged (Male)

Pitch: 1.27 mm

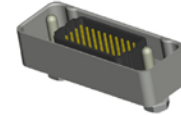
VRM signal-integrity connectors are ruggedized versions of the standard VSM male connectors. These connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance.

DIMENSIONS



VRM DIMENSIONS					
Columns	A	B	C	Rows	D
10	1.125	0.813	0.450	4	0.425
20	1.625	1.313	0.950	5	0.475
30	2.125	1.813	1.450	6	0.525
40	2.625	2.313	1.950	8	0.625
50	3.125	2.813	2.450	10	0.725

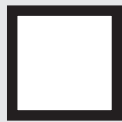
BOARD SPACING		
	E	F
8 mm	0.239	n/a
10 mm	0.319	0.374
12 mm	0.397	0.452
16 mm	0.555	0.610
20 mm	0.712	0.767
25 mm	0.909	0.964



Sample Part Number Format: VRM-04-10-100-50-02-G



SERIES
 Vertical Rugged (Male)
 1.27 mm



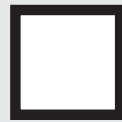
ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



BOARD SPACING*
 080 – 8 mm
 100 – 10 mm
 120 – 12 mm
 160 – 16 mm
 200 – 20 mm
 250 – 25 mm



CONTACT PLATING
 50 – 50 μ" Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"
 10[†] – SMT - SN63PB37 Solder Dipped
 11[†] – SMT - 42Sn/57.6Bi/0.4Ag lead free, solder dipped



OPTIONS
 Blank – No options[‡]
 G – Guide pin^{**1}
 G1 – Guide pin^{**2}
 J – Turning jackscrew^{**1}
 J1 – Turning jackscrew^{**2}
 L – Locking screw^{**1}
 L1 – Locking screw^{**2}
 N – Fixed jacknut^{**1}
 N1 – Fixed jacknut^{**2}
 E – No Hardware/EMI gasket[‡]
 GE – Guide pin/EMI gasket^{**1}
 G1E – Guide pin/EMI gasket^{**2}
 JE – Turning jackscrew/EMI gasket^{**1}
 J1E – Turning jackscrew/EMI gasket^{**2}
 LE – Locking screw/EMI gasket^{**1}
 L1E – Locking screw/EMI gasket^{**2}
 NE – Fixed jacknut/EMI gasket^{**1}
 N1E – Fixed jacknut/EMI gasket^{**2}

NOTES

Connector potting is standard.

* Consult factory for additional board spacing options.

** Not available with 8 mm board spacing

¹ Used for PC board thickness up to 0.125"

² Used for PC board thickness 0.125" up to 0.250"

[†] Surface Mount Termination only available on 4 Row vertical connectors.

[‡] No hardware supplied with blank hardware option connectors.

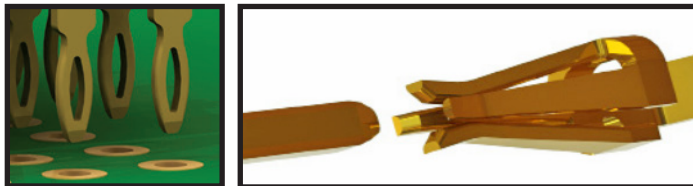
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FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Shell: Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
 Finish: Electroless nickel per SAE AMS 2404, Class 3; 500 μIN min
 Pin Contacts: Phos bronze per ASTM B103 or BeCu per ASTM B768 (press-fit contact)
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μIN min
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Potting Compound: Frey Eng. Co. insulating compound CF3003-80
 Hardware (except washers): Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2
 Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
 Solder Paste: Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35–40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

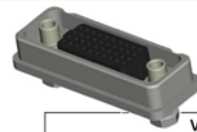
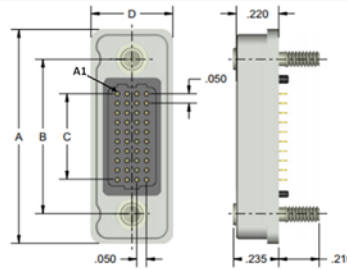


VRF – Vertical Rugged

Pitch: 1.27 mm

VRF signal-integrity connectors are ruggedized versions of the standard VSF female connectors. These connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance.

DIMENSIONS



VRF DIMENSIONS					
Columns	A	B	C	Rows	D
10	1.125	0.813	0.450	4	0.425
20	1.625	1.313	0.950	5	0.475
30	2.125	1.813	1.450	6	0.525
40	2.625	2.313	1.950	8	0.625
50	3.125	2.813	2.450	10	0.725

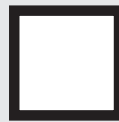
Sample Part Number Format: VRF-04-10-50-04-J



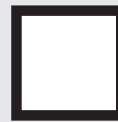
SERIES
 Vertical Rugged
 (Female)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"
 10† – SMT - SN63PB37
 Solder Dipped
 11† – SMT - 42Sn/57.6Bi/0.4Ag
 lead free, solder dipped



OPTIONS
 Blank – No hardware‡
 G – Guide socket†
 G1 – Guide socket‡
 J – Turning jackscrew¹
 J1 – Turning jackscrew²
 L – Locking screw¹
 L1 – Locking screw²
 N – Fixed jacknut‡
 N1 – Fixed jacknut²
 E – No hardware/EMI gasket‡
 GE – Guide socket/EMI gasket¹
 G1E – Guide socket/EMI gasket²
 JE – Turning jackscrew/EMI gasket¹
 J1E – Turning jackscrew/EMI gasket²
 LE – Locking screw/EMI gasket¹
 L1E – Locking screw/EMI gasket²
 NE – Fixed jacknut/EMI gasket¹
 N1E – Fixed jacknut/EMI gasket²

NOTES

Connector potting is standard.

¹ Used for PC board thickness up to 0.125"

² Used for PC board thickness 0.125" up to 0.250"

† Surface Mount Termination only available on 4 Row vertical connectors.

‡ No hardware supplied with blank hardware option connectors.

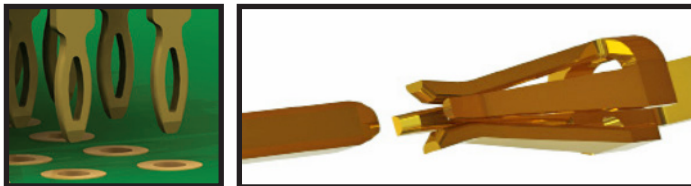
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FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Shell: Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
 Finish: Electroless nickel per SAE AMS-2404, Class 3; 500 μin min
 Socket Contact: BeCu per ASTM B194
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μin min
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Potting Compound: Frey Eng. Co. insulating compound CF3003-80
 Hardware (except washers): Stainless steel per ASTM A484/A484M, A582/A582M or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2
 Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
 EMI Gasket (GE, G1E, NE and N1E options only): Conductive Elastomer per MIL-DTL-83528 Type D
 Solder Paste: Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35-40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

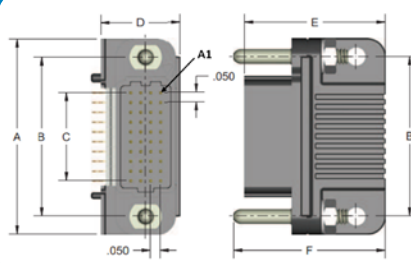


VSRAM – Right Angle (Male)

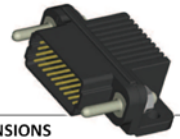
Pitch: 1.27 mm

VSRAM signal-integrity connectors are used in right angle, PCB-mount applications where a male interface is required. Termination styles include press-fit, paste-in-hole or plated thru-hole.

DIMENSIONS



VSRAM DIMENSIONS							
Columns	A	B	C	Rows	D	E	F
10	1.000	.813	.450	4	.400	.713	.768
20	1.500	1.313	.950	5	.450	.763	.818
30	2.000	1.813	1.450	6	.500	.813	.868
40	2.500	2.313	1.950	8	.600	.913	.968
50	3.000	2.813	2.450	10	.700	1.013	1.068



Sample Part Number Format: VSRAM-04-10-50-02-G



SERIES
 Right Angle (Male)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ" Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"



OPTIONS
 Blank – No options†
 G – Guide pin
 N – Fixed jacknut
 J – Turning jackscrew
 L – Locking screw

NOTES

Connector potting is standard.

† No hardware supplied with blank hardware option connectors.

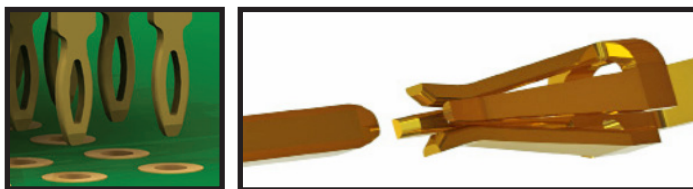
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FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Pin Contacts (Mating Face): Phos bronze per ASTM B103
 Pin Contacts (Termination): BeCu per ASTM B768 (press-fit contact) or brass alloy per ASTM B36 (PIH or PTH)
 Contact Finish (Mating Face): Localized gold finish per ASTM B488, Type II, Code C over nickel per ASTM B689 Type I, 50 μIN min
 Contact Finish (Termination): Localized gold finish per ASTM B488, Type II, Code C, 50 μIN min over nickel per ASTM B689 Type I, 50 μIN min (Press Fit) or Localized Gold per ASTM B488 Type I, Code A or C, 10-25 μIN over nickel per ASTM B689 Type I, 50 μIN min (PIH or PTH)
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Potting Compound: Frey Eng. Co. insulating compound CF3003-80
 Hardware (except washers): Stainless steel per ASTM A484/A484M, A582/A582M, or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2
 Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35-40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

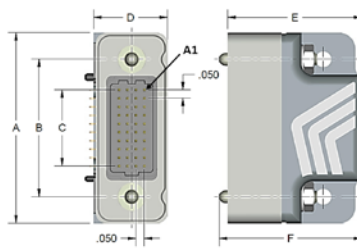


VRRAM – Rugged Right Angle (Male)

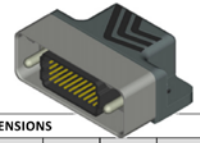
Pitch: 1.27 mm

VRRAM signal-integrity connectors are ruggedized versions of the standard VSRAM male connectors. These connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance.

DIMENSIONS



VRRAM DIMENSIONS							
Columns	A	B	C	Rows	D	E	F
10	1.125	0.813	0.450	4	0.438	0.798	0.847
20	1.625	1.313	0.950	5	0.488	0.848	0.897
30	2.125	1.813	1.450	6	0.538	0.898	0.947
40	2.625	2.313	1.950	8	0.638	0.998	1.047
50	3.125	2.813	2.450	10	0.738	1.098	1.147



Sample Part Number Format: VRRAM-04-10-50-02-N



SERIES
 Rugged Right Angle (Male)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ" Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"



OPTIONS
 Blank – Standard¹
 G – Guide pin¹
 N – Fixed jacknut¹
 J – Turning jackscrew²
 L – Locking screw²
 E – Standard/EMI gasket¹
 GE – Guide pin/EMI gasket¹
 NE – Fixed jacknut/EMI gasket¹
 JE – Turning jackscrew/EMI gasket²
 LE – Locking screw/EMI gasket²

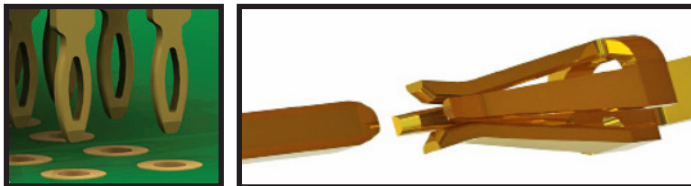
NOTES

- Shells & hardware supplied uninstalled.
 - Connectors come pre-assembled with shells & hardware.
- AirBorn can manufacture other configurations to your exact specifications.
 RoHS Compliant; certificate of conformance available upon request with each shipment

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Shell: Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
 Finish: Electroless nickel per SAE AMS-2404, Class 3, 500 μIN min
 Pin Contacts (Mating Face): Phos bronze per ASTM B103
 Pin Contacts (Termination): BeCu per ASTM B768 (press-fit contact) or brass alloy per ASTM B36 (PIH or PTH)
 Contact Finish (Mating Face): Localized gold finish per ASTM B488, Type II, Code C, over nickel per ASTM B689 Type I 50 μIN min
 Contact Finish (Termination Face): Localized gold finish per ASTM B488, Type II, Code C, 50 μIN min over nickel per ASTM B689 Type I, 50 μIN min (Press Fit) or Localized Gold per ASTM B488, Type 1, Code A or C, 10-25 μIN over nickel per ASTM B689 Type I, 50 μIN min (PIH or PTH)
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Potting Compound: Frey Eng. Co. insulating compound CF3003-80
 Hardware (except washers): Stainless steel per ASTM A484/A484M, A582/A582M, or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2
 Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700).

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35-40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

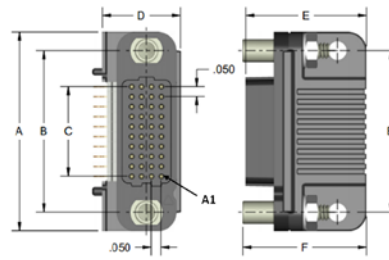


VSRAF – Right Angle (Female)

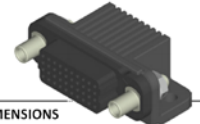
Pitch: 1.27 mm

VSRAF signal-integrity connectors are used in right angle, PCB-mount applications where a female interface is required. Termination styles include press-fit, paste-in-hole or plated thru-hole.

DIMENSIONS



VSRAF DIMENSIONS							
Columns	A	B	C	Rows	D	E	F
10	1.000	.813	.450	4	.400	.619	.634
20	1.500	1.313	.950	5	.450	.669	.684
30	2.000	1.813	1.450	6	.500	.719	.734
40	2.500	2.313	1.950	8	.550	.769	.784
50	3.000	2.813	2.450	10	.600	.819	.834



Sample Part Number Format: VSRAF-04-10-50-02-N



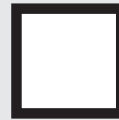
SERIES
 Right Angle
 (Female)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"



OPTIONS
 Blank – No options[‡]
 G – Guide socket
 N – Fixed jacknut
 J – Turning jackscrew
 L – Locking screw

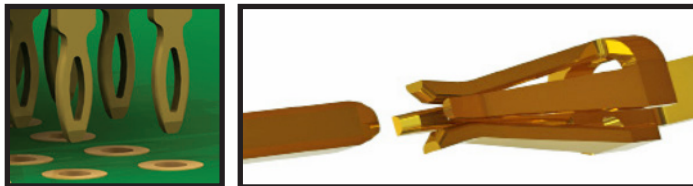
NOTES

- Connector potting is standard.
- [‡] No hardware supplied with blank hardware option connectors.
- AirBorn can manufacture other configurations to your exact specifications.
- RoHS Compliant; certificate of conformance available upon request with each shipment

PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

- Socket Contact (Mating Face): BeCu per ASTM B194
- Socket Contact (Termination): Brass alloy per ASTM B36 (PIH or PTH) or BeCu per ASTM B768 (press-fit contact)
- Contact Finish (Mating Face): Localized gold finish per ASTM B488, Type II, Code C over nickel per ASTM B689 Type I, 50 μN min
- Contact Finish (Termination): Localized gold finish per ASTM B488, Type II, Code C, 50 μN min over nickel per ASTM B689 Type I, 50 μN min (Press Fit) or localized gold per ASTM B488, Type I, Code A or C, 10-25 μN over nickel per ASTM B689 Type I, 50 μN min (PIH or PTH)
- Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Potting Compound: Frey Eng. Co. insulating compound CF3003-80
- Hardware (except washers): Stainless steel per ASTM A484/A484M, A582/A582M or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2
- Washers: Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700).

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

PERFORMANCE

- Contact Rating: 2 amperes maximum
- Operating Temperature: -55° C to 125° C
- Min. Contact Wipe: 1.27 mm (0.050")
- Contact Normal Force: 35-40 grams
- Max Recommended Voltage: 200 V, RMS, 60 Hz
- Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
- Durability: 2500 connector mating cycles
- Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
- Shock: 50 g (EIA-364-27, condition E)

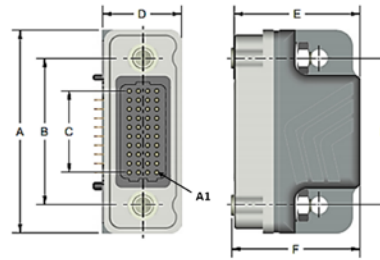


VRRAF – Rugged Right Angle (Female)

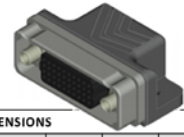
Pitch: 1.27 mm

VRRAM signal-integrity connectors are ruggedized versions of the standard VSRAF female connectors. These connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance.

DIMENSIONS



VRRAF DIMENSIONS							
Columns	A	B	C	Rows	D	E	F
10	1.125	0.813	0.450	4	0.438	0.698	0.714
20	1.625	1.313	0.950	5	0.488	0.748	0.764
30	2.125	1.813	1.450	6	0.538	0.798	0.814
40	2.625	2.313	1.950	8	0.638	0.898	0.914
50	3.125	2.813	2.450	10	0.738	0.998	1.014



Sample Part Number Format: VRRAF-04-10-50-00-G



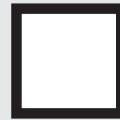
SERIES
 Rugged Right Angle (Female)
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ Au



TERMINATION
 00 – Press-fit
 01 – Paste-in-hole
 02 – PTH 0.078"
 03 – PTH 0.109"
 04 – PTH 0.140"
 05 – PTH 0.156"
 06 – PTH 0.172"



OPTIONS
 Blank – Standard¹
 G – Guide socket¹
 N – Fixed jacknut¹
 J – Turning jackscrew²
 L – Locking screw²
 E – Standard/EMI gasket¹
 GE – Guide socket/EMI gasket¹
 NE – Fixed jacknut/EMI gasket¹
 JE – Turning jackscrew/EMI gasket²
 LE – Locking screw/EMI gasket²

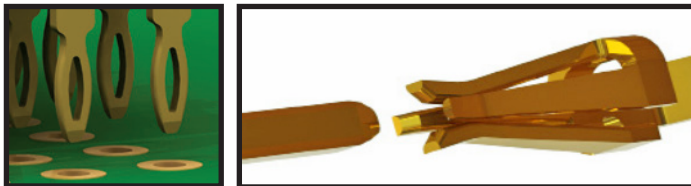
NOTES

- Shells & hardware supplied uninstalled.
 - Connectors come pre-assembled with shells & hardware.
- AirBorn can manufacture other configurations to your exact specifications.
 RoHS Compliant; certificate of conformance available upon request with each shipment

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FEATURES

verSI board-mount connectors feature low mating force / high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design. Guide hardware is optional.



MATERIALS and FINISHES

Shell: Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
 Finish: Electroless nickel per AMS-2404, Class 3; 500 μN min
 Socket Contact (Mating Face): BeCu per ASTM B194
 Socket Contact (Termination): Brass alloy per ASTM B36 (PIH or PTH) or BeCu per ASTM B768 (press-fit contact)
 Contact Finish (Mating Face): Localized gold finish per ASTM B488, Type II, Code C over nickel per ASTM B689, Type I, 50 μN min
 Contact Finish (Termination): Localized gold finish per ASTM B488, Type II, Code C, 50 μN min over nickel per ASTM B689, Type I, 50 μN min (Press Fit) or localized gold per ASTM B488, Type 1, Code A or C, 10-25 μN over nickel per ASTM B689 Type I, 50 μN min (PIH or PTH)
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Potting Compound: Frey Eng. Co insulating compound CF3003-80
 Hardware (except washers): Stainless steel per ASTM A484/A484M, A582/A582M or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2
 Washers: Stainless steel & passivated per NASM35333
 EMI Gasket (GE and NE options only): Conductive Elastomer per MIL-DTL-83528 Type D

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35-40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

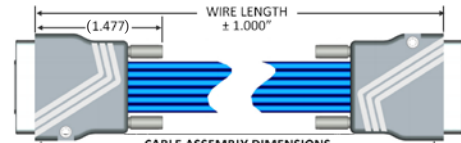
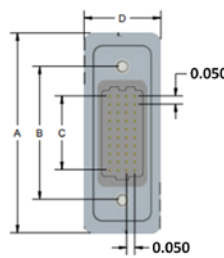


VRD – Differential Pair Twinax Cable Assembly

Pitch: 1.27 mm

VRD cable assemblies are designed for twinax applications. These cable assemblies come in standard lengths but custom lengths and configurations can also be requested. Ruggedized hoods are standard.

DIMENSIONS



Columns	A	B	C	Rows	D
10	1.222	0.813	0.450	4	0.470
20	1.722	1.313	0.950	5	0.520
30	2.222	1.813	1.450	6	0.570
40	2.722	2.313	1.950	8	0.670
50	3.222	2.813	2.450	10	0.770

Sample Part Number Format: VRD-04-10-50-01-03-060



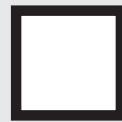
SERIES
 Differential Pair
 Twinax Cable
 Assembly
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



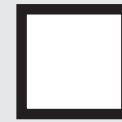
CONTACT PLATING
 50 – 50 μ" Au



CONNECTOR 1
 01G – Male with guide pins
 01N – Male with threaded nut #2-56
 01L – Male with locking screw #2-56
 01J – Male with jackscrew #2-56
 03G – Female with guide sockets
 03N – Female with threaded nut #2-56
 03L – Female with locking screw #2-56
 03J – Female with jackscrew #2-56



CONNECTOR 2
 000 – Flying Leads
 01G – Male with guide pins
 01N – Male with threaded nut #2-56
 01L – Male with locking screw #2-56
 01J – Male with jackscrew #2-56
 03G – Female with guide sockets
 03N – Female with threaded nut #2-56
 03L – Female with locking screw #2-56
 03J – Female with jackscrew #2-56



LENGTH*
 030 – 0.30 M
 040 – 0.40 M
 050 – 0.50 M
 060 – 0.60 M
 070 – 0.70 M
 080 – 0.80 M
 090 – 0.90 M
 100 – 1.00 M
 150 – 1.50 M
 200 – 2.00 M
 300 – 3.00 M

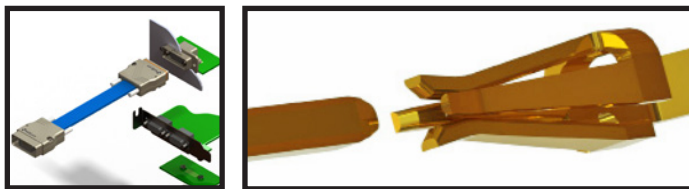
NOTES

* Other cable lengths and configurations available.
 AirBorn can manufacture other configurations to your exact specifications.

PLEASE CONSULT THE AIRBORNE WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

FEATURES

Versi connectors feature low mating force/high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



MATERIALS and FINISHES

Shell: Aluminum alloy 6061-T6 per QQ-A-250/11 or 6061-T6511 per QQ-A-200/8
 Finish: Electroless nickel per SAE AMS-C-26074, Grade B, Class 3
 Socket Contact: BeCu per ASTM B194
 Pin Contacts: Phos bronze per ASTM B103
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I
 Wire: 30 AWG*; 19/42 silver-plated copper
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Hardware: Stainless steel per ASTM A582/A582M or ASTM A320; passivated per SAE AMS-2700
 Embedment: Frey Eng. Co. insulating compound CF3003-80 and L-I-49 or equiv.

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35–40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)

SI DATA – Simulated (Connectors Only)

1	Diff. Insertion Loss	-0.25 dB @ 5 GHz	-3dB @ 16 GHz
2	Diff. Return Loss	-20 dB @ 5 GHz	-6 dB @ 14 GHz
3	Diff. Impedance	100 ohm ±10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

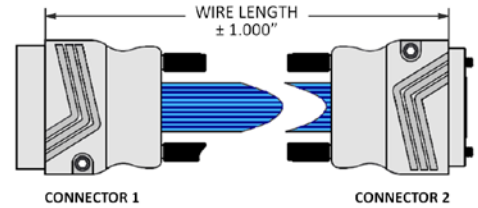
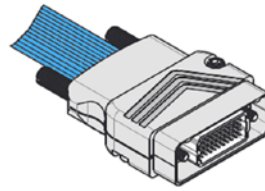


VRW – Discrete Wire Cable Assembly with Internal Solder Connection

Pitch: 1.27 mm

VRW cable assemblies come in standard wire and lengths but custom wire and length options are available. Ruggedized shells are standard.

DIMENSIONS



See next page for detailed drawings

Sample Part Number Format: VRW-04-10-50-03J-01J-A030



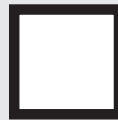
SERIES
 Discrete Wire Cable Assembly
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ" Au



CONNECTOR 1
 01G – Male with guide pins
 01N – Male with threaded nut #2-56
 01L – Male with locking screw #2-56
 01J – Male with jackscrew #2-56
 03G – Female with guide sockets
 03N – Female with threaded nut #2-56
 03L – Female with locking screw #2-56
 03J – Female with jackscrew #2-56



CONNECTOR 2
 000 – Flying Leads
 01G – Male with guide pins
 01N – Male with threaded nut #2-56
 01L – Male with locking screw #2-56
 01J – Male with jackscrew #2-56
 03G – Female with guide sockets
 03N – Female with threaded nut #2-56
 03L – Female with locking screw #2-56
 03J – Female with jackscrew #2-56



WIRE CODE
 XXXX
 (Four characters are required -- see blue columns in the chart below.)

NOTES

All VRW part numbers are non-RoHS-compliant.

Wire colors per M83513 are ten (10) solid colors, repeating.

Per M83513, corrosion has been experienced on connectors that are pre-wired with 22759/33 and stored in sealed environments. Caution should be exercised when using this wire.

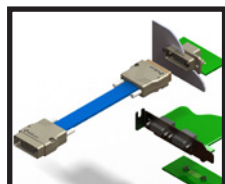
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

FEATURES

Versi connectors feature low mating force/high-reliability contact system with four points of contact. The open pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.

MATERIALS and FINISHES

Shell: Aluminum alloy 6061-T6 per QQ-A-250/11 or 6061-T6511 per QQ-A-200/8
 Finish: Electroless nickel per SAE AMS-2404, Class 3; 500 μ", min.
 Socket Contact: BeCu per ASTM B194
 Pin Contacts: Phos bronze per ASTM B103
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Embedment: Frey Eng. Co. insulating compound CF3003-80 and L-II-49 or equiv.
 Hardware: Stainless steel per ASTM A582/A582M or ASTM A320; passivated per SAE AMS-2700



WIRE CODES

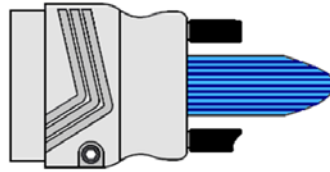
COLOR (per 83513) and GAGE	LENGTH		
	A	M	FT
NEMA HP3 EXBEB (24 AWG) – Multicolored	A		
White	B	010	0.10 0.328
NEMA HP3 EXBDB (26 AWG) – Multicolored	C	020	0.20 0.656
White	D	030	0.30 0.984
NEMA HP3 EXBCB (28 AWG) – Multicolored	E	040	0.40 1.312
White	F	050	0.50 1.640
NEMA HP3 EXBBB (30 AWG) – Multicolored	G	060	0.60 1.969
White	H	070	0.70 2.297
SAE AS22759/33-24 (AWG) – Multicolored	J	080	0.80 2.625
White	K	090	0.90 2.953
SAE AS22759/33-26 (AWG) – Multicolored	L	100	1.00 3.281
White	M	150	1.50 4.921
SAE AS22759/33-28 (AWG) – Multicolored	N	200	2.00 6.562
White	P	300	3.00 9.843
SAE AS22759/33-30 (AWG) – Multicolored	R		
White	S		

* AirBorn can manufacture special configurations to your exact specifications. *

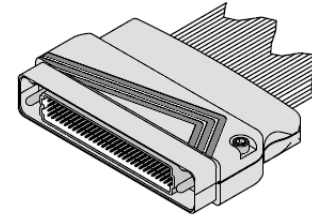


VRW DIMENSIONS

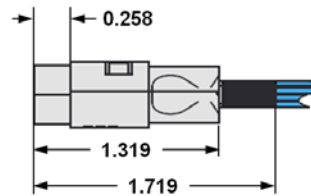
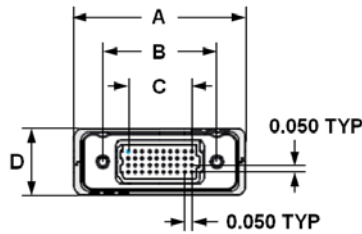
Male (Connector 1)



(Dimensional drawings shown with turning hardware)



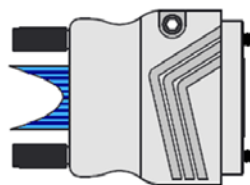
(Connector with guide pin hardware)



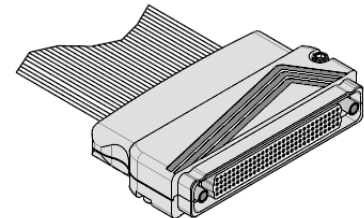
Columns	A	B	C	Rows	D
10	1.222	0.813	0.450	4	0.470
20	1.722	1.313	0.950	5	0.520
30	2.222	1.813	1.450	6	0.570
40	2.722	2.313	1.950	8	0.670
50	3.222	2.813	2.450	10	0.770

Tolerances (unless otherwise specified): ± 0.010 "

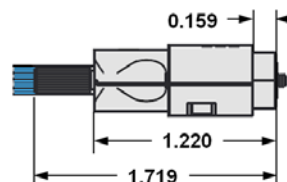
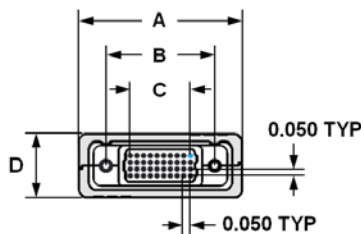
Female (Connector 2)



(Dimensional drawings shown with turning hardware)



(Connector with guide socket hardware)



PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



VRW PINOUTS

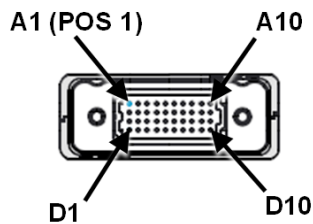
1-TO-1 WIRE CHART FOR JUMPER ASSEMBLIES

(Table illustrates connections for a 4-row, 10-column connector)

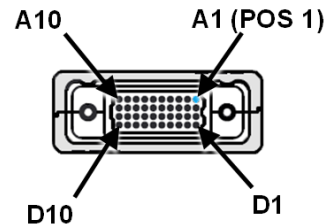
Connector 1	Connector 2	Connector 1	Connector 2	Connector 1	Connector 2	Connector 1	Connector 2
A1 — BLK — A1	B1 — BLK — B1	C1 — BLK — C1	D1 — BLK — D1	A2 — BRN — A2	B2 — BRN — B2	C2 — BRN — C2	D2 — BRN — D2
A3 — RED — A3	B3 — RED — B3	C3 — RED — C3	D3 — RED — D3	A4 — ORN — A4	B4 — ORN — B4	C4 — ORN — C4	D4 — ORN — D4
A5 — YEL — A5	B5 — YEL — B5	C5 — YEL — C5	D5 — YEL — D5	A6 — GRN — A6	B6 — GRN — B6	C6 — GRN — C6	D6 — GRN — D6
A7 — BLU — A7	B7 — BLU — B7	C7 — BLU — C7	D7 — BLU — D7	A8 — VIO — A8	B8 — VIO — B8	C8 — VIO — C8	D8 — VIO — D8
A9 — GRY — A9	B9 — GRY — B9	C9 — GRY — C9	D9 — GRY — D9	A10 — WHT — A10	B10 — WHT — B10	C10 — WHT — C10	D10 — WHT — D10

Wire colors per M83513 are ten (10) solid colors, repeating when there are more than 10 columns.

MALE



FEMALE



Sample part number:
 VRW-04-10-30-01G-03G-A030

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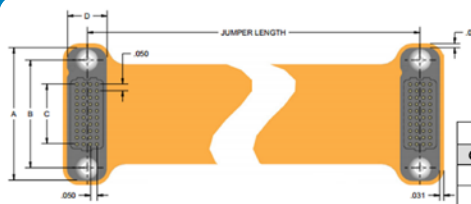


VSX – Flexible Circuit Jumper Assembly

Pitch: 1.27 mm

VSX flexible circuit jumpers come in standard lengths and wiring configurations, but custom specifications can be requested.

DIMENSIONS



FLEX JUMPER DIMENSIONS					
Columns	A	B	C	Rows	D
10	1.000	0.813	0.450	4	0.300
20	1.500	1.313	0.950	5	0.350
30	2.000	1.813	1.450	6	0.400
40	2.500	2.313	1.950	8	0.500
50	3.000	2.813	2.450	10	0.700

Sample Part Number Format: VSX-04-10-50-01G-03A-030



SERIES
 Flexible Circuit Jumper
 1.27 mm



ROWS
 04 – 4 Rows
 05 – 5 Rows
 06 – 6 Rows
 08 – 8 Rows
 10 – 10 Rows



COLUMNS
 10 – 10 Columns
 20 – 20 Columns
 30 – 30 Columns
 40 – 40 Columns
 50 – 50 Columns



CONTACT PLATING
 50 – 50 μ" Au



CONNECTOR 1
 01A – Male; no hardware
 03A – Female
 01G – Male; guide pin
 03G – Female; guide socket



CONNECTOR 2
 01A – Male; no hardware
 03A – Female
 01G – Male; guide pin
 03G – Female; guide socket



LENGTH*
 015 – 0.15 M
 030 – 0.30 M
 045 – 0.45 M

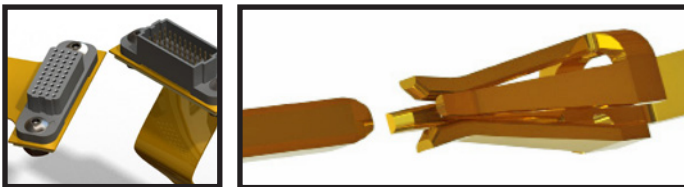
NOTES

* Other cable lengths and configurations available.
 AirBorn can manufacture other configurations to your exact specifications.

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

FEATURES

verSI connectors feature low mating force/high-reliability contact system with four points of contact. The open-pin field design allows for flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



MATERIALS and FINISHES

Socket Contact: BeCu per ASTM B194
 Pin Contacts: Phos bronze per ASTM B103 or per BeCu ASTM B768 (press-fit contact)
 Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I
 Molded Insulators: Glass-filled liquid crystal polymer (LCP) per ASTM D5138
 Hardware: Stainless steel per ASTM A582/A582M or ASTM A320; passivated per ASTM A967, SAE AMS-QQ-P-35

SI DATA – Simulated (Connectors Only)

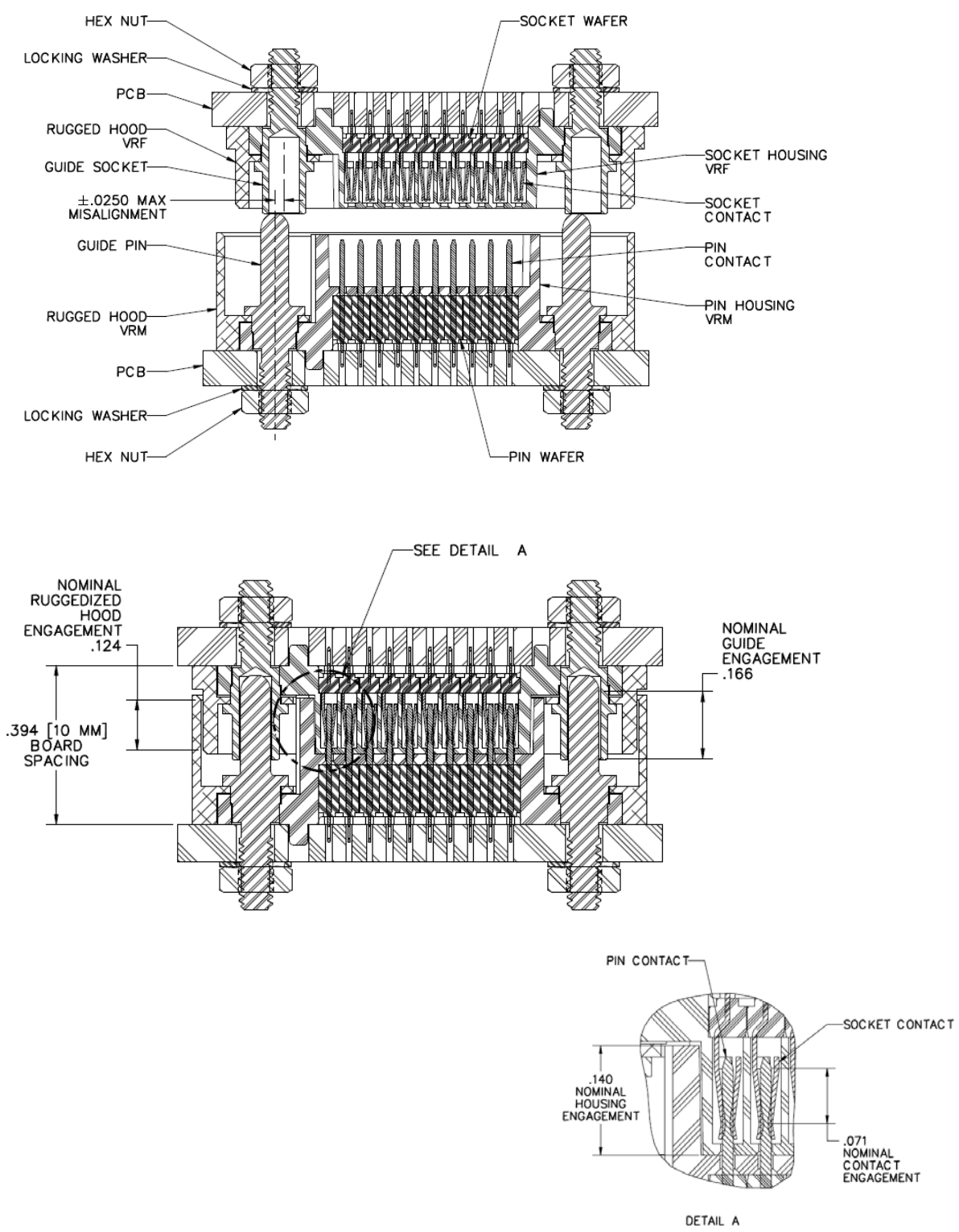
1	Diff. Insertion Loss	22 GHz @ -2 db	
2	Diff. Return Loss	7.5 GHz @ -20 db	17.5 GHz @ -10 db
3	Diff. Impedance	100 ohm ±10%	
4	Diff. Skew	< 2 psec	

PERFORMANCE

Contact Rating: 2 amperes maximum
 Operating Temperature: -55° C to 125° C
 Min. Contact Wipe: 1.27 mm (0.050")
 Contact Normal Force: 35–40 grams
 Max Recommended Voltage: 200 V, RMS, 60 Hz
 Insulation Resistance: 5,000 megaohms minimum @ 500 VDC
 Durability: 2500 connector mating cycles
 Sinusoidal Vibration: 20 g (EIA-364-28, condition IV)
 Shock: 50 g (EIA-364-27, condition E)



verSI VERTICAL MISALIGNMENT AND ENGAGEMENT DIAGRAM



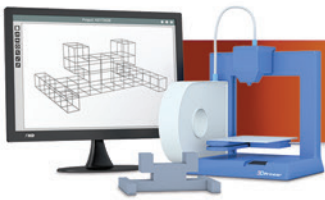
In-House Engineering Services



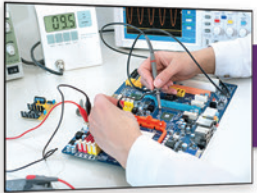
Concept
Development



Detailed Design
& Engineering



Quick-Turn Prototyping



Lab Testing,
Qualification & Quality



Manufacturing
Low- to High-Volumes



Global Packaging & Distribution

Engineering Expertise

AirBorn's engineering group specializes in new product design & development for OEMs across the globe. Our team of 50+ degreed engineers are the most innovative and committed working in the electronics manufacturing industry today.

Customers can leverage our design & manufacturing expertise throughout the entire product development process. From conceptual design, prototyping, pilot-runs through to mass production, our team will work to get your project completed fast, elegantly and ahead of the competition.

Our global sales presence coupled with our choice of strategic global distribution partners means greater responsiveness when procuring AirBorn's products, no matter where you do business.



The AirBorn Advantage

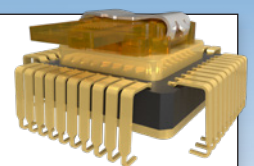
Model-To-Market Solutions



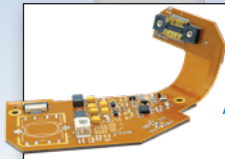
Rugged Power Systems



Photonics/Optoelectronics



Flexible Circuit Assemblies



Cable Assemblies



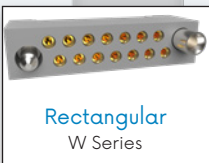
FUZE Assemblies



Active Optical Assemblies



Rectangular W Series



Rectangular R Series



Micro D M Series



Nano D N Series



Rectangular 25Gbps verSI



Z Axis Interposer Z Series



Hybrid-Keyed Micro D microQUAD



High-Speed Micro D microSI



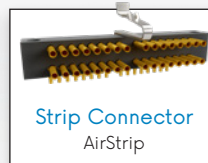
Stackable RC & RCII Series



Circular Series 360



Strip Connector AirStrip



Macro D RockJet



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