



High-Reliability Interconnect Solutions

**Signal Integrity
Interconnects**



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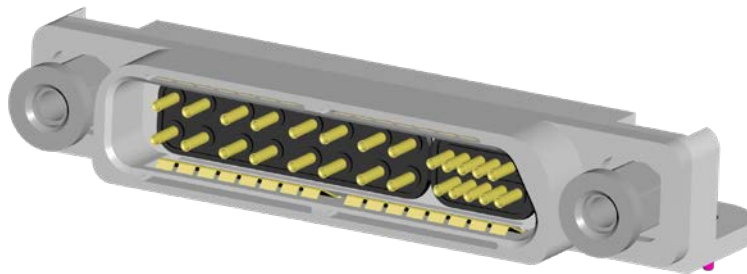
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::microQUAD™

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.



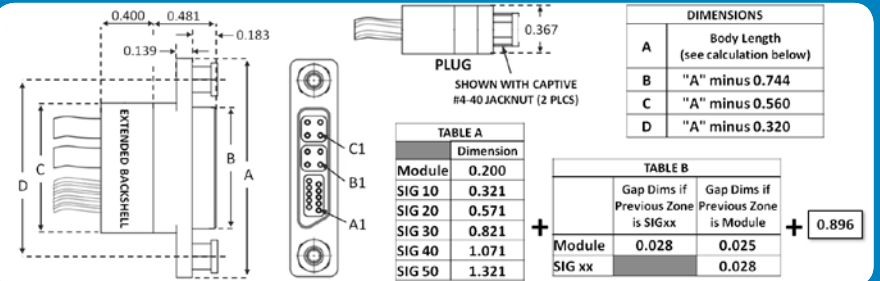


microQUAD™

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



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

MMHS							
SERIES Cable I/O (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 1 – Plug	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 jackscrews, captivated** NXX – Keying jacknuts*** JXX – Keying jackscrews***	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

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
EMI Gaskets: Corrosion-resistant steel

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

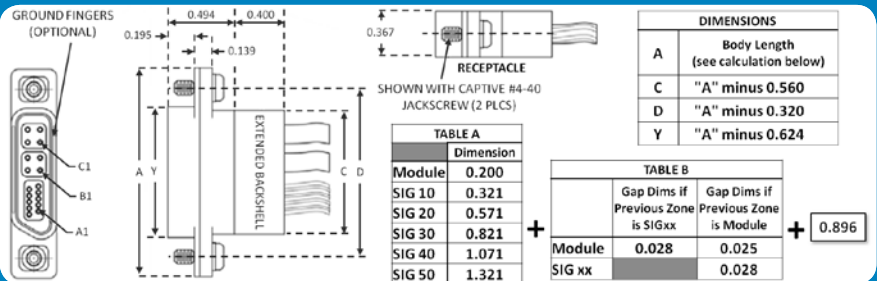


microQUAD™

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



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)

WIRE TYPE & GAUGE, QUADRIX
X - See Quadrix Wire Codes on page 13

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

HARDWARE

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

BODY STYLE

- 2 – Receptacle
- 4 – Receptacle with ground fingers (preferred)

WIRE TYPE & GAUGE, SIGNALS

- 0 – No signal contacts
- X – See Wire Codes on page 14

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

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.

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
EMI Gaskets: Corrosion-resistant steel

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

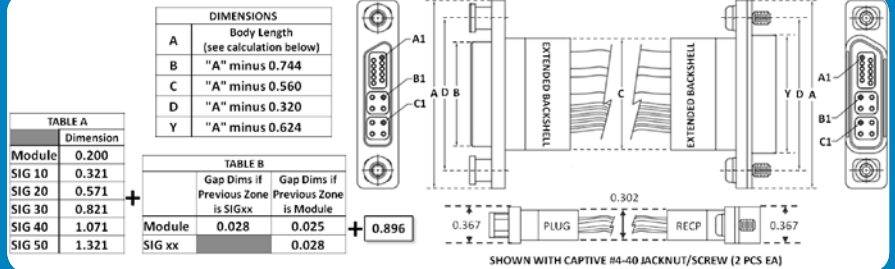


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MJHS – Jumper Cable

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



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

SERIES	HIGH-SPEED MODULES	WIRE TYPE & GAUGE, QUADRX	WIRE LENGTH	BODY STYLE	WIRE TYPE & GAUGE, SIGNALS	BODY PLATING (LCP INSULATORS)	HARDWARE
MJHS	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)	X – See Quadrx Wire Codes on page 13	XXX – Wire length in inches (minimum 3") Example: 018 = 18"	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)	0 – No signal contacts X – See Wire Codes on page 14	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 ☒	000 – No hardware 610 – Fixed jacknuts, captivated** (both) 810 – Turning jacknuts, captivated** (both) 860 – Fixed jacknuts, captivated (female) & turning jacknuts (male) 870 – Fixed jacknuts, captivated (male) & turning jacknuts (female) NXX – Keying jacknuts (both)*** JXX – Keying jacknuts (both)*** AXX – Keying jacknuts (female) & keying jacknuts (male)*** BXX – Keying jacknuts (male) & keying jacknuts (female)***

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

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NOTES

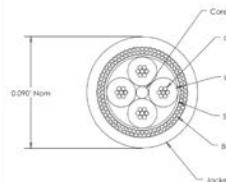
1. All high-speed receptacles have fluoropolymer interfacial seals.

☒ 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
EMI Gaskets: Corrosion-resistant steel

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

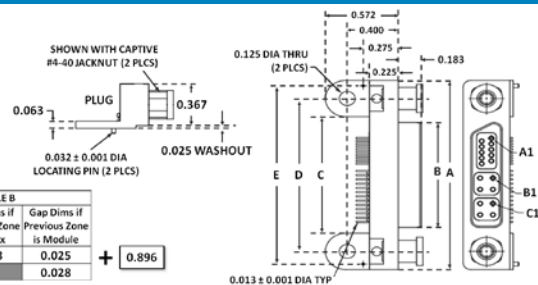
DIMENSIONS	
A	Body Length (see calculation below)
B	"A" minus 0.744
C	"A" minus 0.640
D	"A" minus 0.320
E	"A" minus 0.096

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		
	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: MKHS-06L3-100-175-3J45



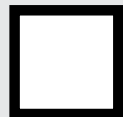
SERIES
Right Angle
Surface Mount
(Male)



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)

SIGNAL CONTACTS

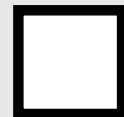
L0 – Left-side key – No signal contacts
L1 – Left-side key – 10 signal contacts
L2 – Left-side key – 20 signal contacts
L3 – Left-side key – 30 signal contacts
L4 – Left-side key – 40 signal contacts
L5 – Left-side key – 50 signal contacts
R0 – Right-side key – No signal contacts
R1 – Right-side key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



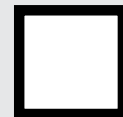
BODY STYLE
100 – Plug



CONTACT TERMINATION
17 – Pin, horizontal surface-mount (SMT)

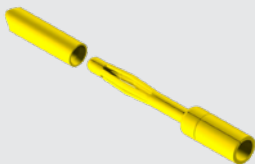


TERMINATION PLATING
5 – 50 μ" Gold contact, Sn/Pb alloy termination ☒
7 – 50 μ" Gold contact, SAC305-plated termination

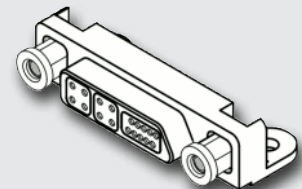


HARDWARE
000 – No hardware
620 – Two fixed jacknuts, captivated**
810 – Turning jackscrews, captivated**
NXX – Keying jacknuts***
JXX – Keying jackscrews***

High-Reliability Contact
MIL-DTL-83513



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



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
EMI Gaskets: Corrosion-resistant steel

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



MKHS – Right Angle Surface Board-Mount (Female)

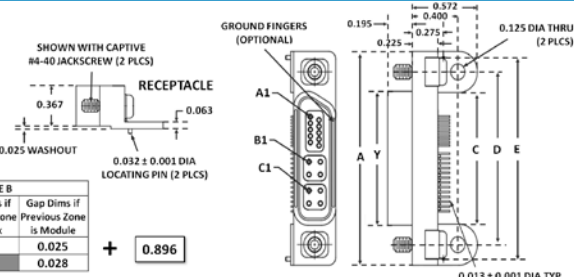
MKHS are rugged metal connectors used in applications where a right angle orientation and a surface board-mount termination style are desired.

DIMENSIONS

DIMENSIONS	
A	Body Length (see calculation below)
C	"A" minus 0.640
D	"A" minus 0.320
E	"A" minus 0.096
Y	"A" minus 0.624

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

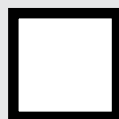


Sample Part Number Format: MKHS-04R1-400-275-2620



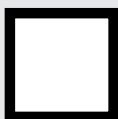
SERIES

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

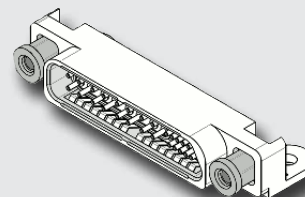
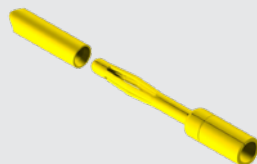
L0 – Left-side key – No signal contacts
L1 – Left-side key – 10 signal contacts
L2 – Left-side key – 20 signal contacts
L3 – Left-side key – 30 signal contacts
L4 – Left-side key – 40 signal contacts
L5 – Left-side key – 50 signal contacts
R0 – Right-side key – No signal contacts
R1 – Right-side key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

- 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
EMI Gaskets:	Corrosion-resistant steel

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



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

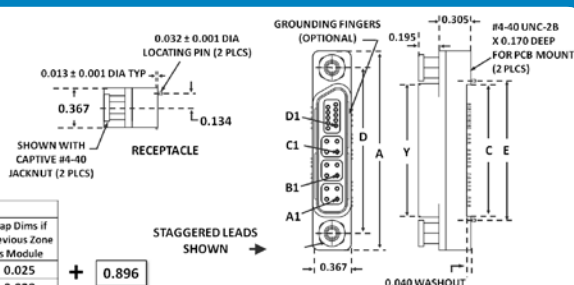
MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have captivated fixed hardware.

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

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

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



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)

BODY STYLE

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

TERMINATION PLATING

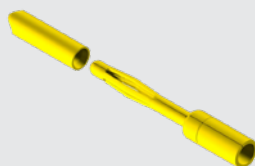
5 – 50 μ " Gold contact, Sn/Pb alloy termination ☒
7 – 50 μ " Gold contact, SAC305-plated termination

HARDWARE

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

High-Reliability

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

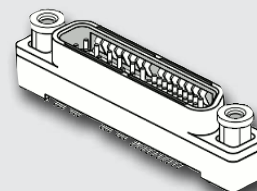
R0 – Right-side key – No signal contacts
R1 – Right-side key – 10 signal contacts
R2 – Right-side key – 20 signal contacts
R3 – Right-side key – 30 signal contacts
R4 – Right-side key – 40 signal contacts
R5 – Right-side key – 50 signal contacts

CONTACT TERMINATION

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



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.

MATERIALS and FINISHES

Socket Contact:	Brass
Pin Contacts:	BeCu alloy strip
Contact Finish:	Gold plate, 50 μm 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
EMI Gaskets:	Corrosion-resistant steel

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 (Male)

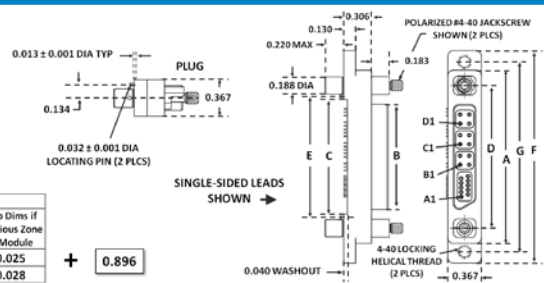
MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have captivated turning hardware.

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
F	"A" PLUS 0.430
G	"F" minus 0.250

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

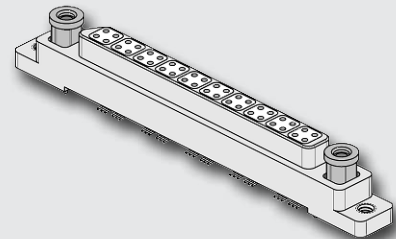
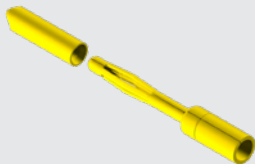
TABLE B		
	Gap Dims if Previous Zone is SIGxx	Gap Dims if Previous Zone is Module
Module	0.028	0.025
SIG xx		0.028



Sample Part Number Format: MLHS-05R2-300-775-2810

MLHS							
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 300 – Plug	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 37 – Pin: vertical SMT, staggered leads 57 – Pin: vertical SMT, staggered leads; Signals: high-speed, single-sided leads 77 – Pin: vertical SMT, single-sided leads; Signals: high-speed, staggered leads A7 – Pin: 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.
- * 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
EMI Gaskets: Corrosion-resistant steel

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



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

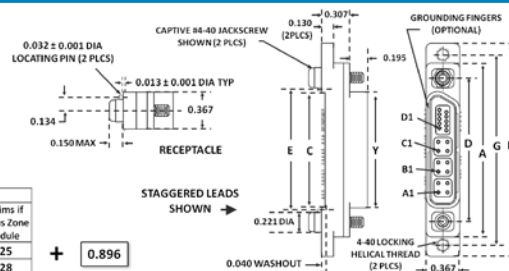
MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have turning hardware.

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

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

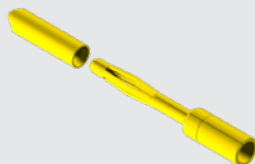
5 – 50 μ " Gold contact, Sn/Pb alloy termination ☒
7 – 50 μ " Gold contact, SAC305-plated termination

HARDWARE

000 – No hardware
810 – Two Turning
jackscrews,
captivated**
JXX – Keying jack-
screws***

High-Reliability

MIL-DTL-83513



SIGNAL CONTACTS

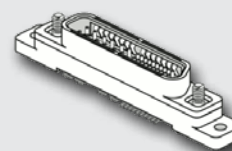
L0 – Left-side key – No signal contacts
L1 – Left-side key – 10 signal contacts
L2 – Left-side key – 20 signal contacts
L3 – Left-side key – 30 signal contacts
L4 – Left-side key – 40 signal contacts
L5 – Left-side key – 50 signal contacts
R0 – Right-side key – No signal contacts
R1 – Right-side key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

CONTACT TERMINATION

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



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.

MATERIALS and FINISHES

Socket Contact:	.....	Brass
Pin Contacts:	.....	BeCu alloy strip
Contact Finish:	.....	Gold plate, 50 μ m 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
EMI Gaskets:	.....	Corrosion-resistant steel

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

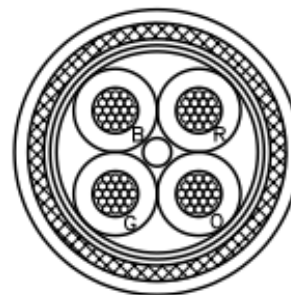
microQUAD

QUADRAX CABLE CONSTRUCTION

Conductors:	Silver-plated copper alloy
Insulation:	FEP
Cable:	Planetary twist with filler in core
Binder:	PTFE tape
Inner Shield:	Aluminized mylar facing out
Outer Shield:	Braided silver-plated copper (95% min. coverage)
Marker Tape:	Polyimide tape
Jacket:	Translucent FEP
Differential Pairs:	Pair 1 - blue (position M1), orange (position M3) Pair 2 - green (position M2), red (position M4)
Temperature:	-55°C to +125°C
Differential Impedance:	100 Ω $\pm$ 10 Ω ; 110 Ω $\pm$ 6 Ω
Delay Skew within Pair:	4.0 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* ☐	Ten repeating colors per M83513
K	SAE AS22759/33-24* ☐	White
L	SAE AS22759/33-26* ☐	Ten repeating colors per M83513
M	SAE AS22759/33-26* ☐	White
N	SAE AS22759/33-28* ☐	Ten repeating colors per M83513
P	SAE AS22759/33-28* ☐	White
Q	SAE AS22759/33-30* ☐	Ten repeating colors per M83513
R	SAE AS22759/33-30* ☐	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

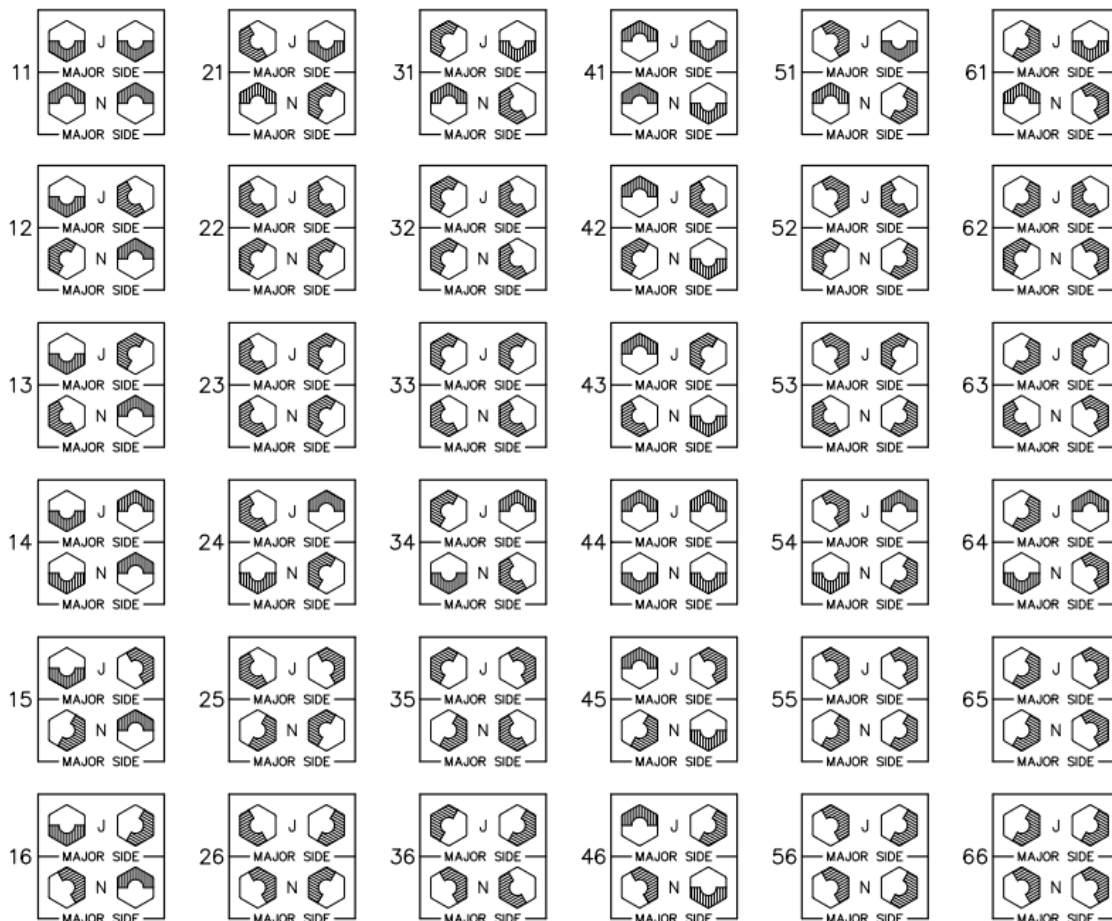
* Corrosion has been experienced on connectors that are pre-wired with M22759/33 and stored in sealed environments. Exercise caution in packaging and storing when using this wire.

☐ Option is not RoHS-compliant



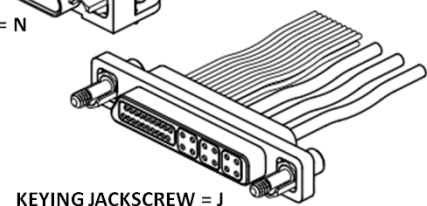
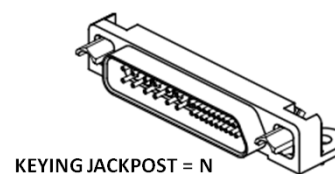
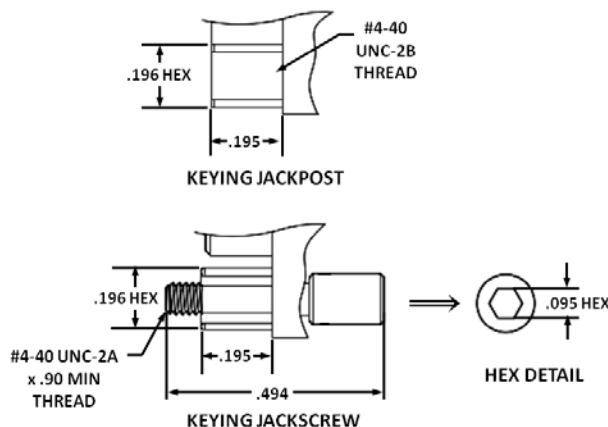
HARDWARE KEYING OPTIONS

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.)

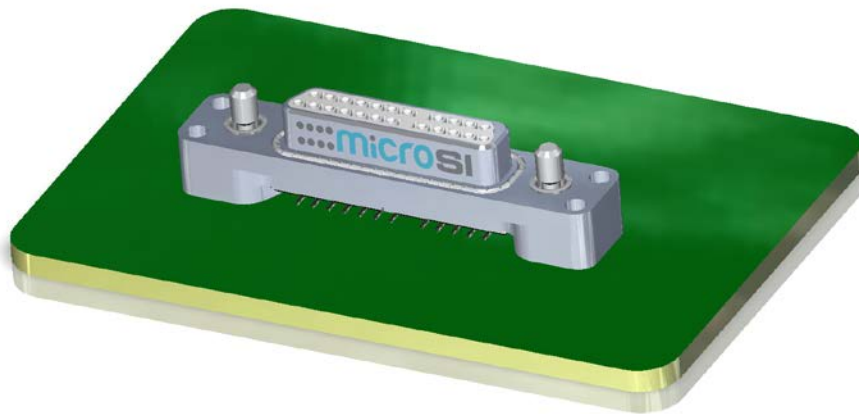
Example: MMHS-03L2-12D-197-2J11
MKHS-03R2-200-275-2N11



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.

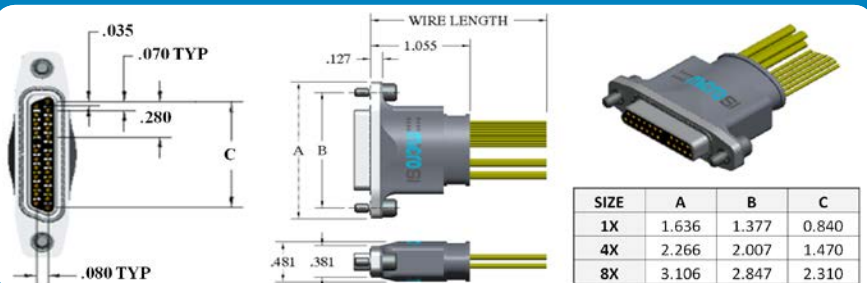




MMSI – Cable I/O (Male)

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		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***
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)		SIDE BAND 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		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

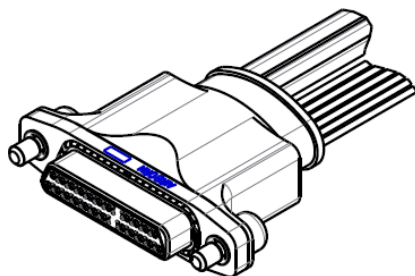
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

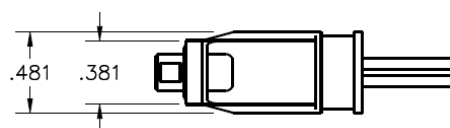
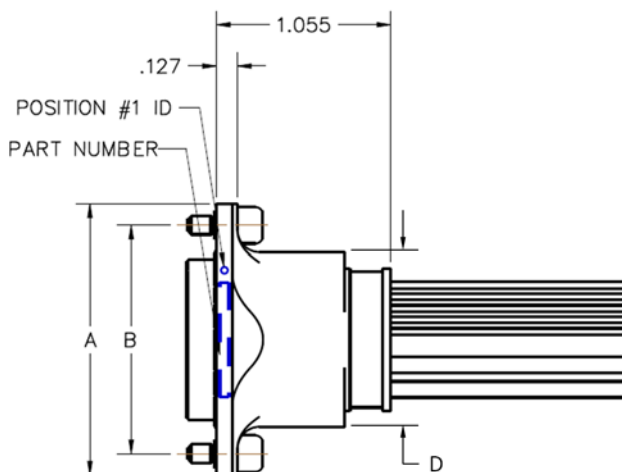
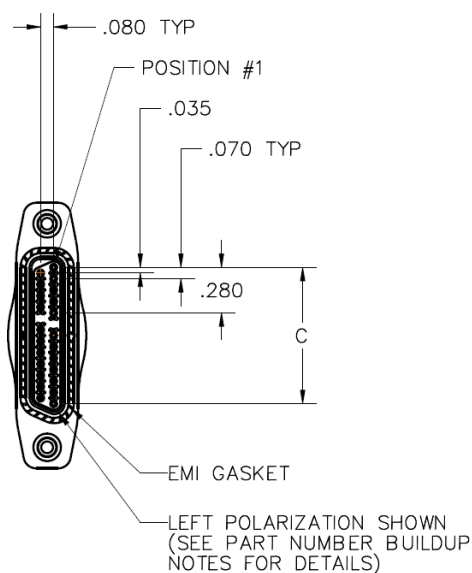
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MMSI DIMENSIONS (PLUG)



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



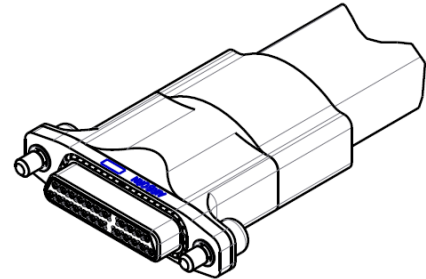
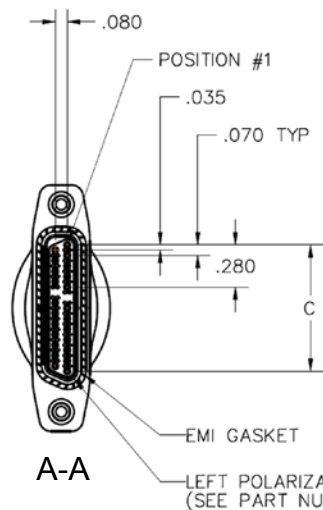
SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523

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

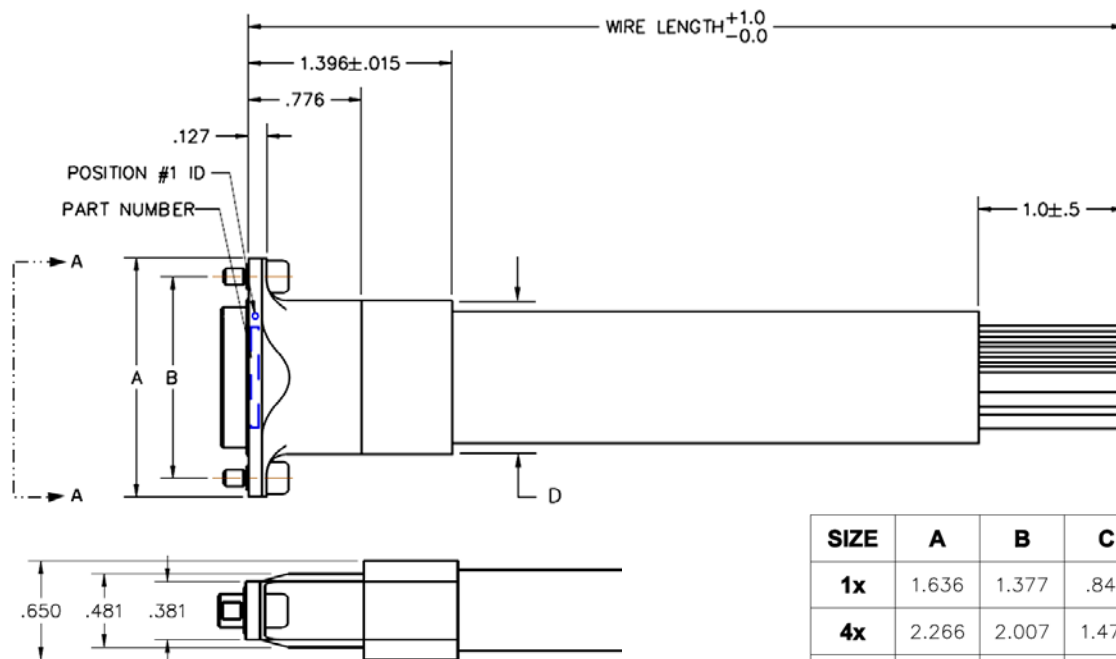
1. See next page for cable with braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



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.

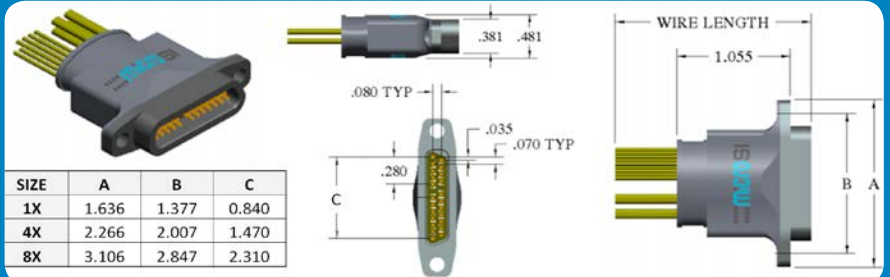
1. See previous page for cable without braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



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

MMSI								
SERIES Cable I/O (Female) 1.78 mm		STYLE 21 – Female, Twinax 100Q 24 AWG 24 – Female, Twinax 100Q 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***
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)		SIDE BAND 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		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.
- 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

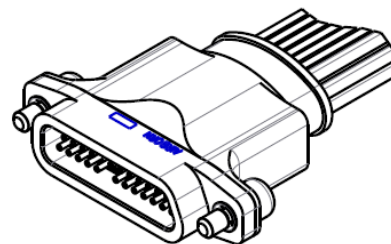
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

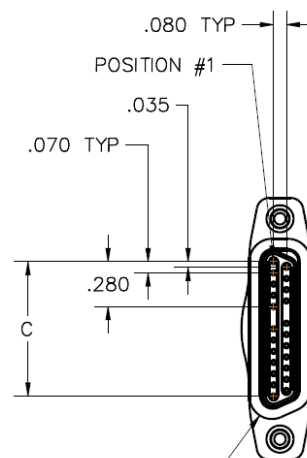
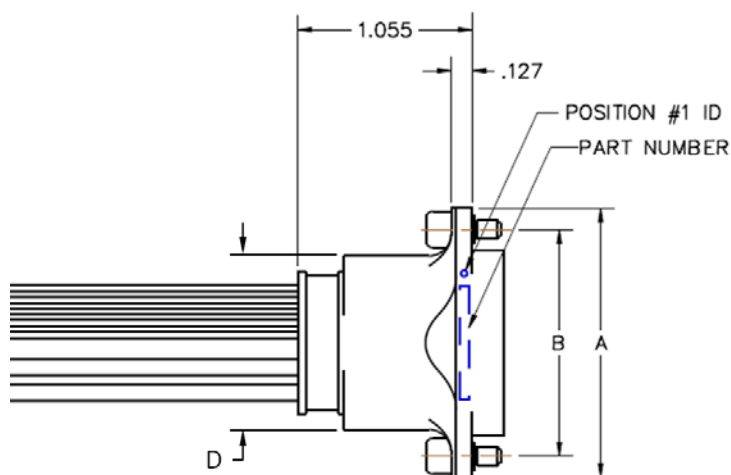
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



MMSI DIMENSIONS (RECEPTACLE)



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



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

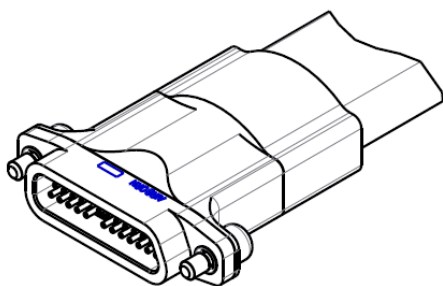
SIZE	A	B	C	D
1x	1.636	1.377	.840	1.053
4x	2.266	2.007	1.470	1.683
8x	3.106	2.847	2.310	2.523

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

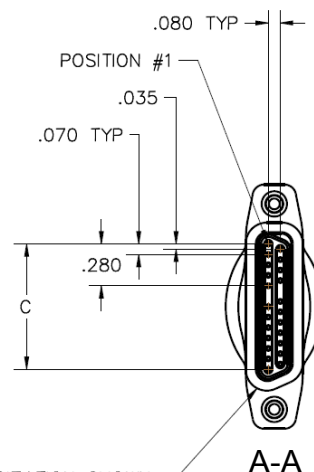
1. See next page for cable with braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



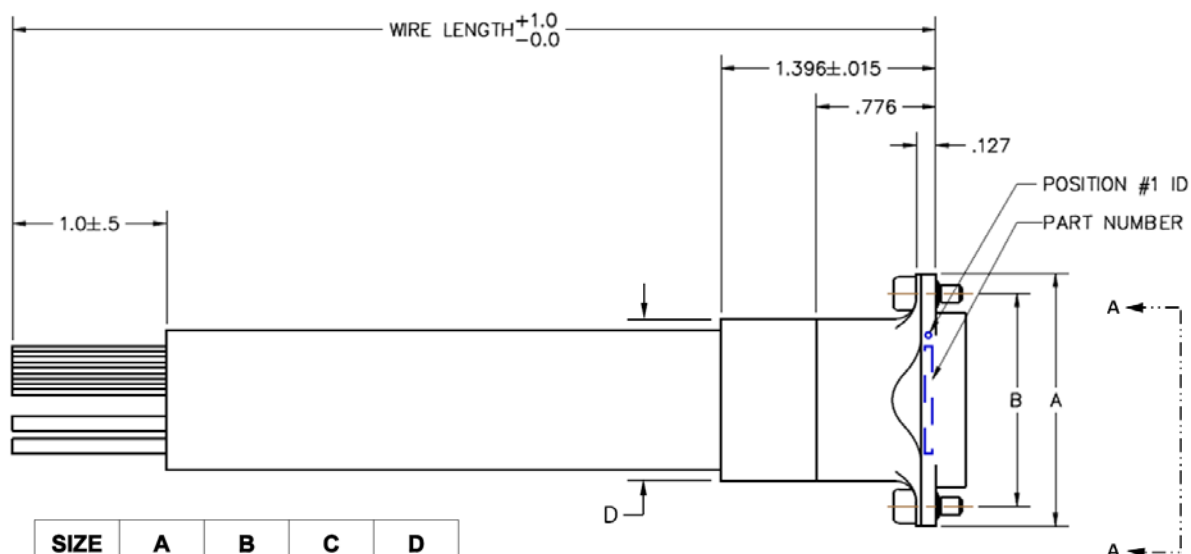
MMSI DIMENSIONS with HALAR® SLEEVE (RECEPTACLE)



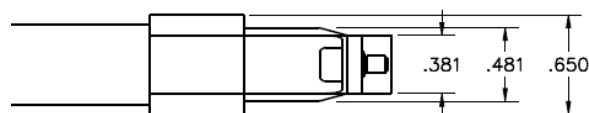
ISOMETRIC VIEW OF RCPT END
MMSI-01L-24B3-006-2810
FOR REFERENCE ONLY



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.

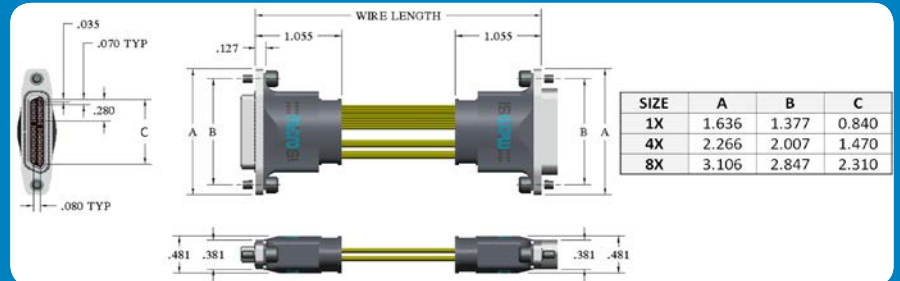
1. See previous page for cable without braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



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



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 100Q 24 AWG
14 – Male-to-Male, Twinax 100Q 30 AWG
21 – Male-to-Female, Twinax 100Q 24 AWG
24 – Male-to-Female, Twinax 100Q 30 AWG
31 – Female-to-Female, Twinax 100Q 24 AWG
34 – Female-to-Female 100Q 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

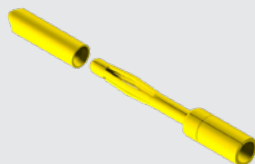
HARDWARE

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 jacknuts***
JXX – Keying jackscrews***
AXX – Keying jacknuts & keying jackscrews*** (for styles 21 & 24, jacknuts on female)
BXX – Keying jacknuts on male & keying jackscrews on female*** (styles 21 & 24, only)

BODY PLATING, INTERNAL SOLDER

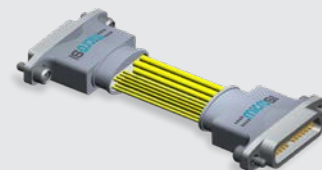
1 – Electroless nickel, SAC305
2 – Electroless nickel, Sn/Pb ☒
5 – Gold, SAC305
6 – Gold, Sn/Pb ☒

High-Reliability Contact
MIL-DTL-83513



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



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

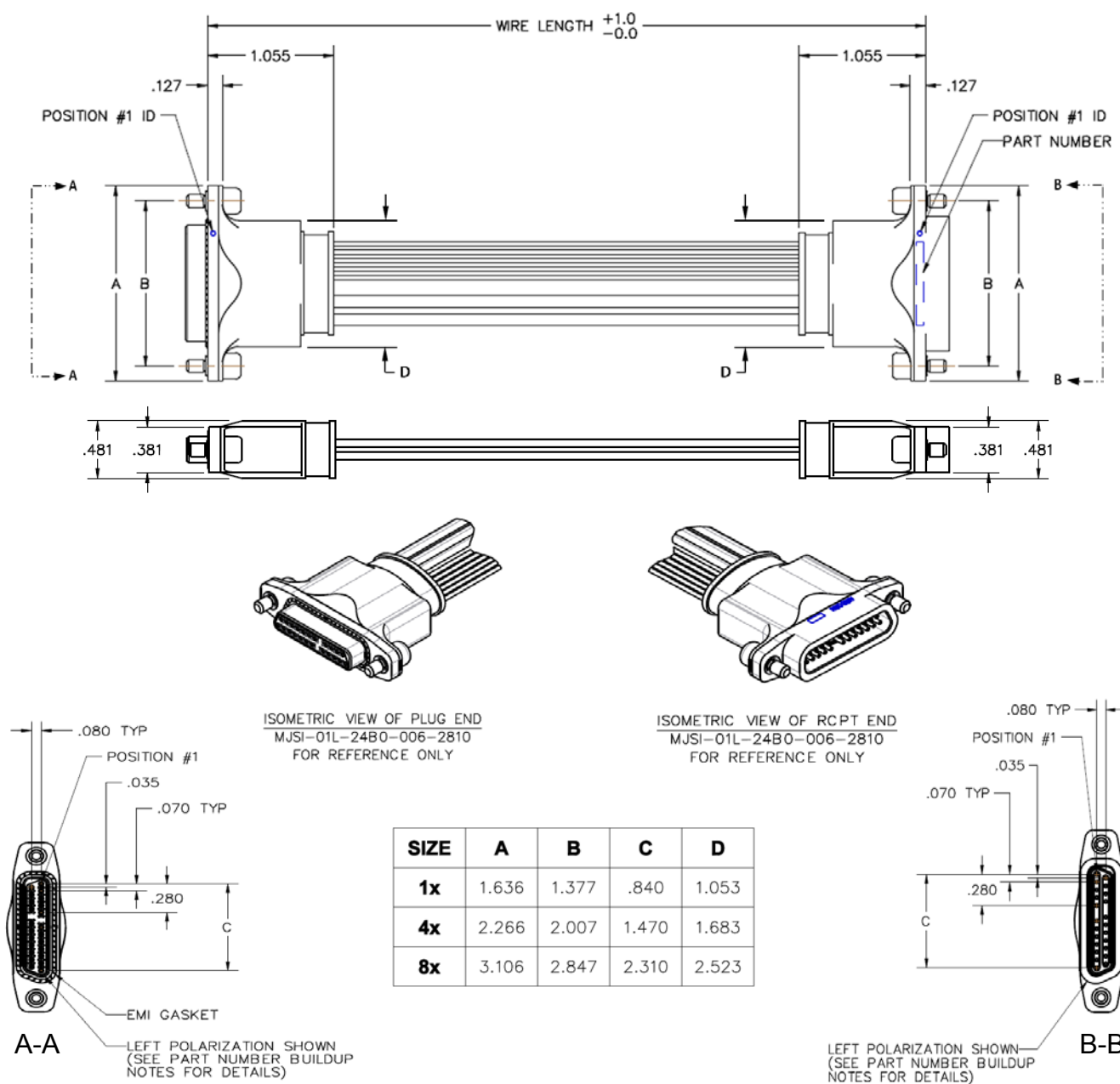
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

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

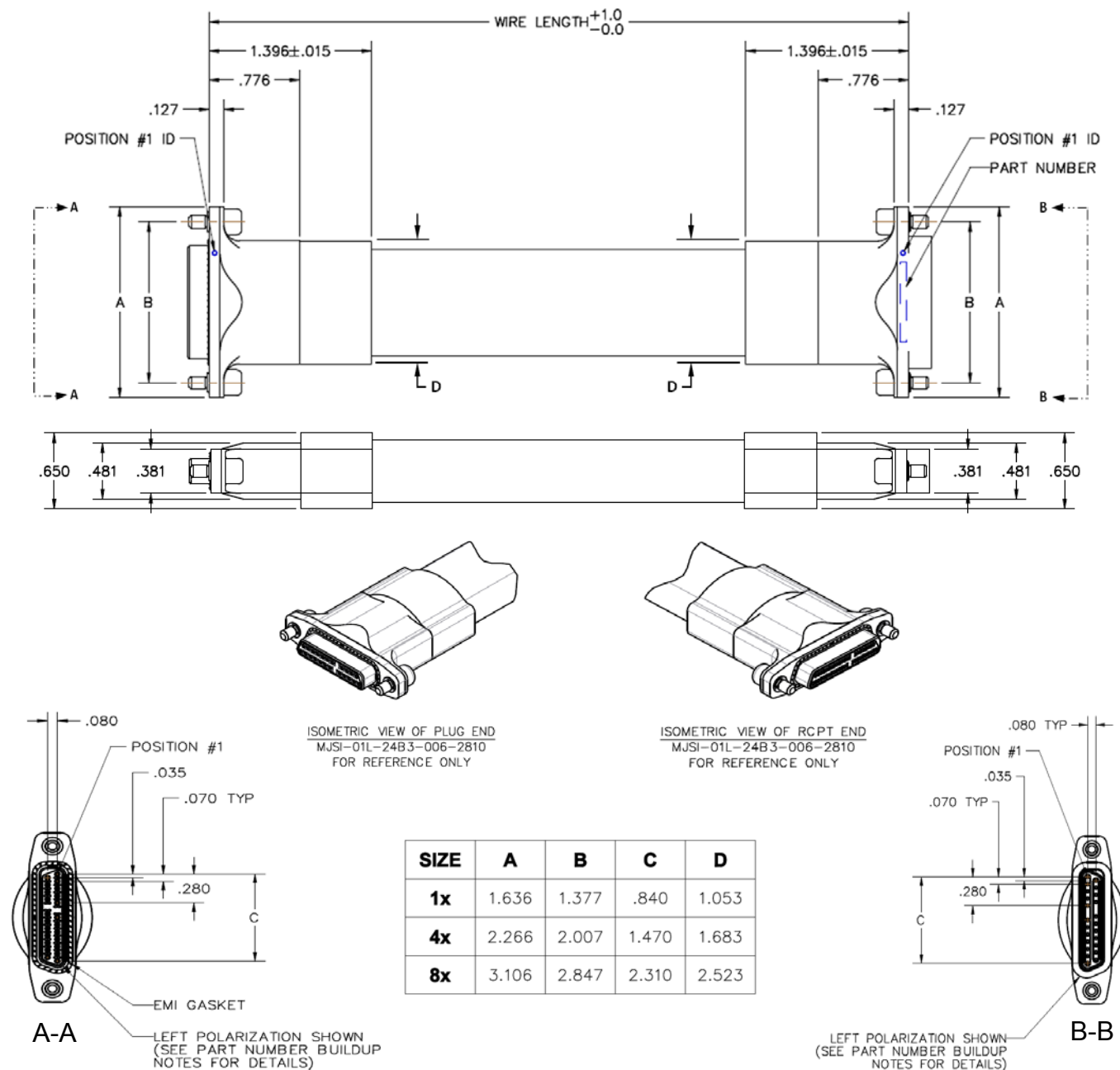


PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



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

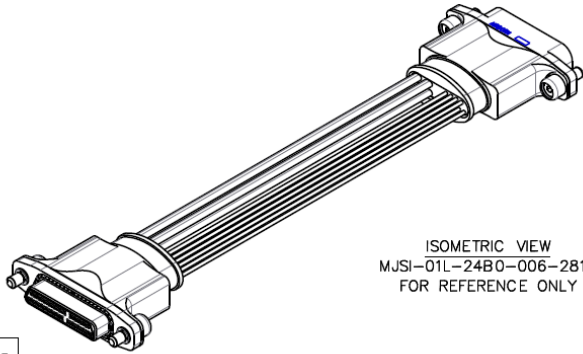
1. See previous page for cable without braid or Halar®
2. Plug to receptacle jumper shown. See Part Number Buildup for available options.
3. See "Polarized Interface Pinouts" on page 59
4. See "Keying Hardware Options" on page 61



MJSI MATING FACE ORIENTATION

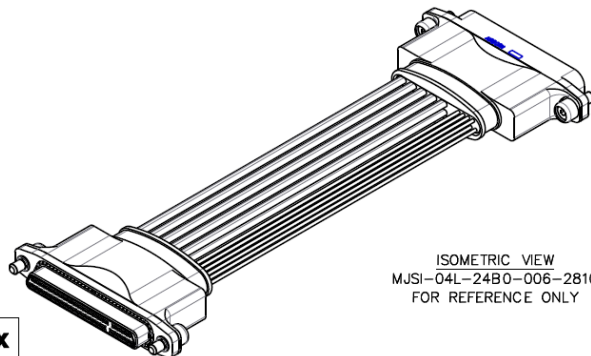


1x



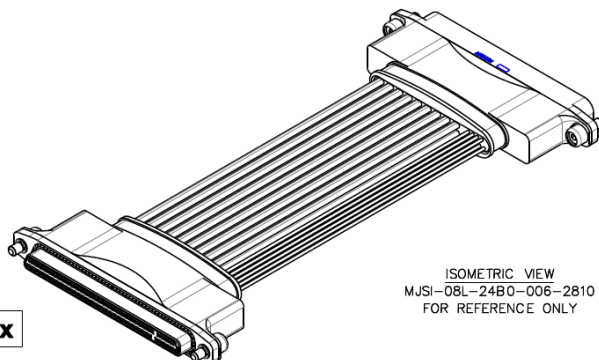
ISOMETRIC VIEW
MJSI-01L-24B0-006-2810
FOR REFERENCE ONLY

4x



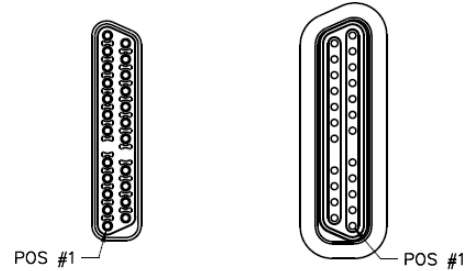
ISOMETRIC VIEW
MJSI-04L-24B0-006-2810
FOR REFERENCE ONLY

8x

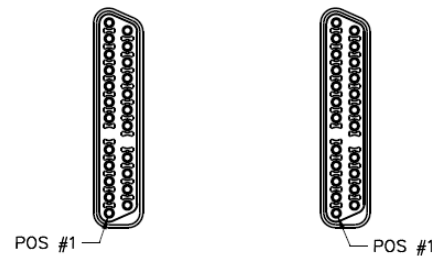


ISOMETRIC VIEW
MJSI-08L-24B0-006-2810
FOR REFERENCE ONLY

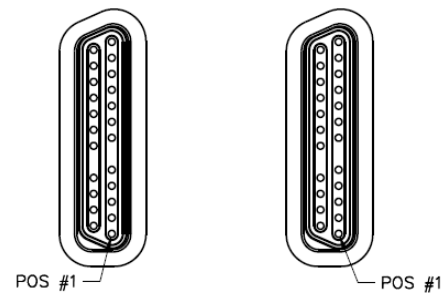
MATING FACE ORIENTATION



PLUG TO RECEPTACLE



PLUG TO PLUG



RECEPTACLE TO RECEPTACLE

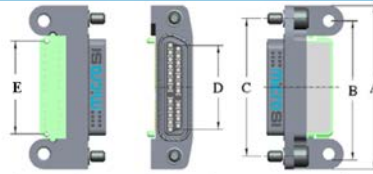
LEFT POLARIZATION SHOWN
(SEE PART NUMBER BUILDUP NOTES FOR DETAILS)



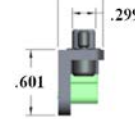
MKSI – Right Angle (Male)

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



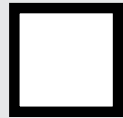
SIZE	A	B	C	D	E
1X	1.636	1.330	1.377	0.840	0.930
4X	2.266	1.960	2.007	1.470	1.560
8X	3.106	2.800	2.847	2.310	2.400



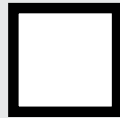
Sample Part Number Format: MKSI-01R-1000-175-2810



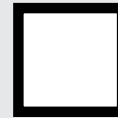
SERIES
Right Angle (Male)
1.78 mm



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)



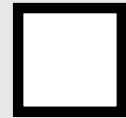
STYLE
1000 – Male



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



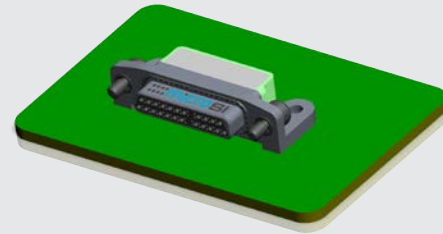
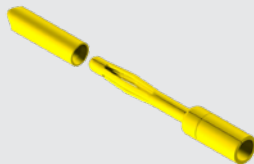
BODY PLATING
2 – Electroless nickel
6 – Gold



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

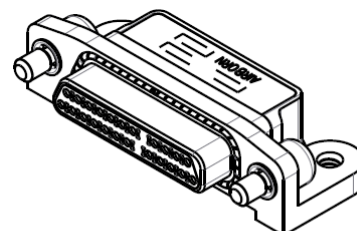
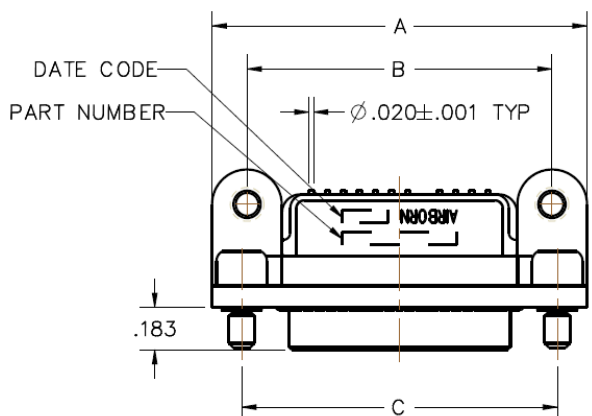
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

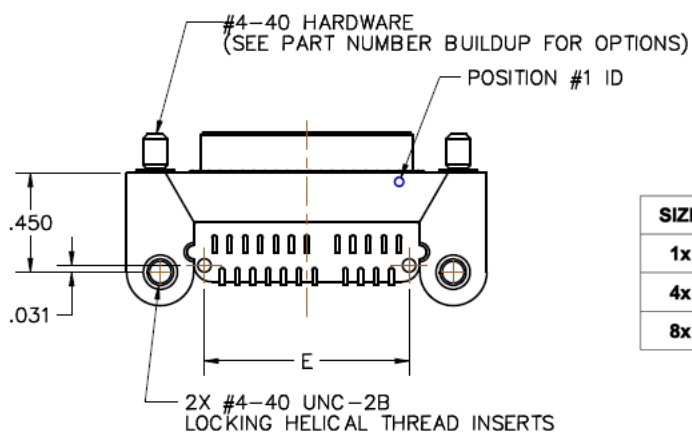
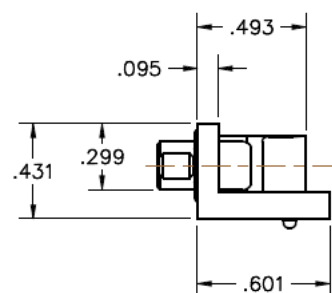
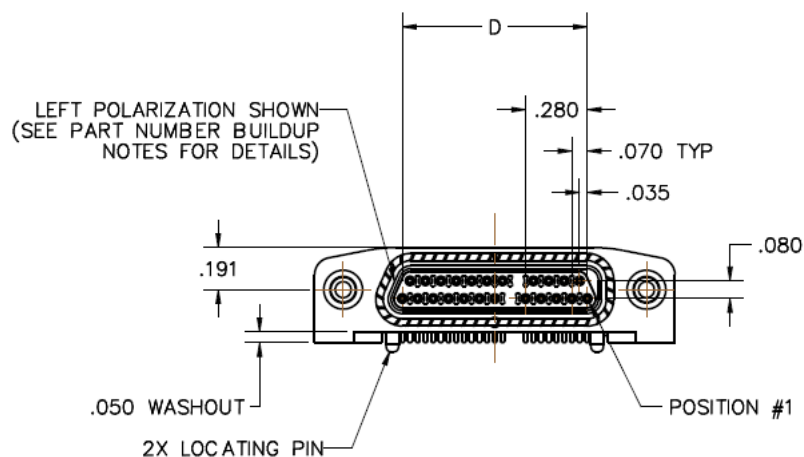
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



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

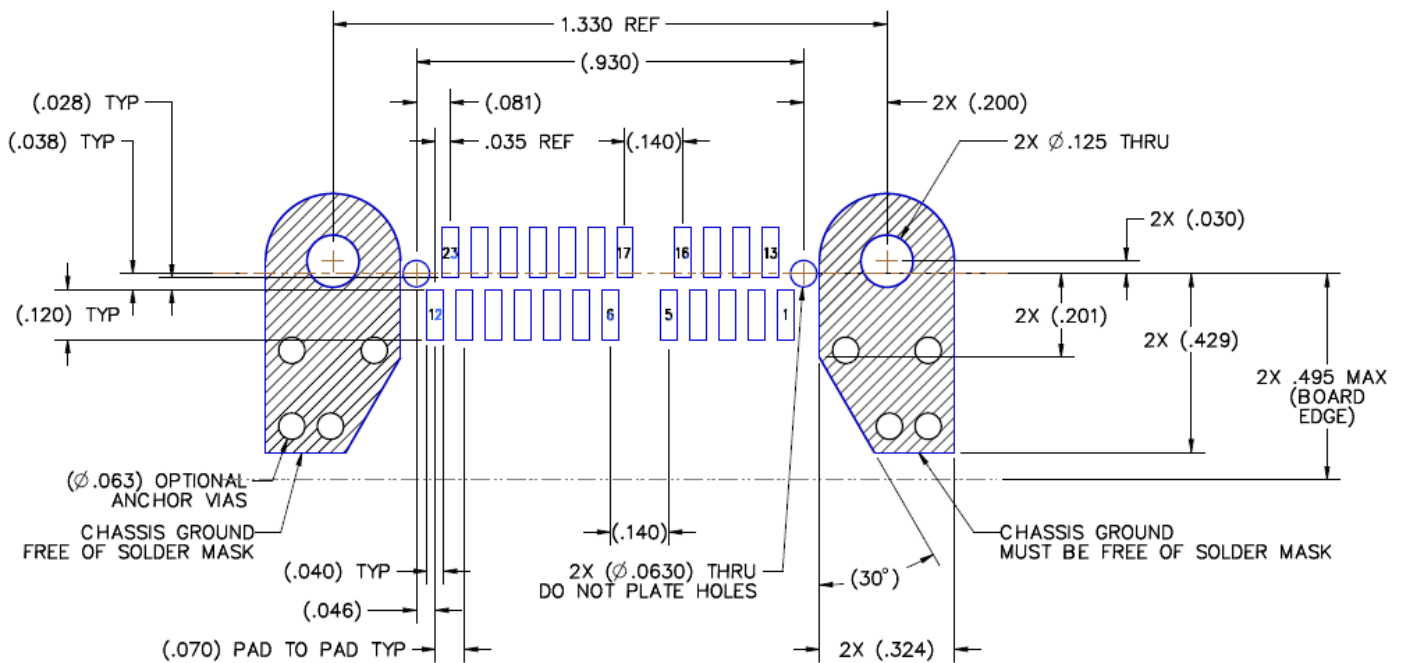
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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

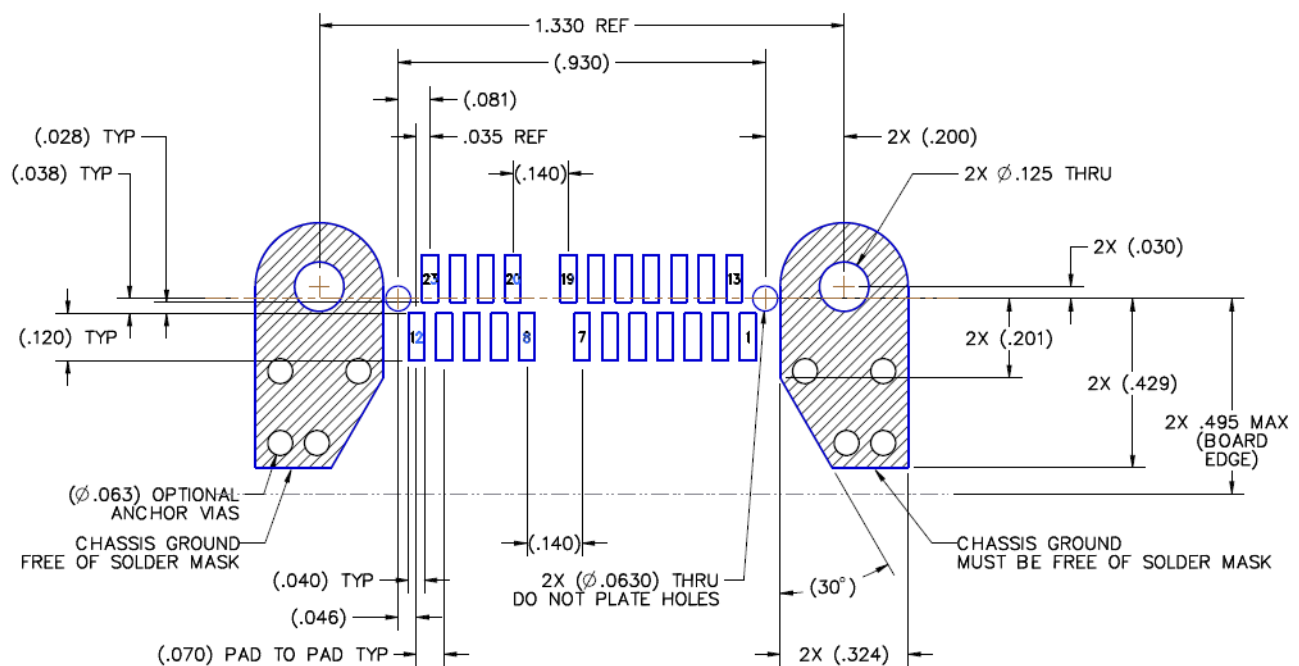
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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

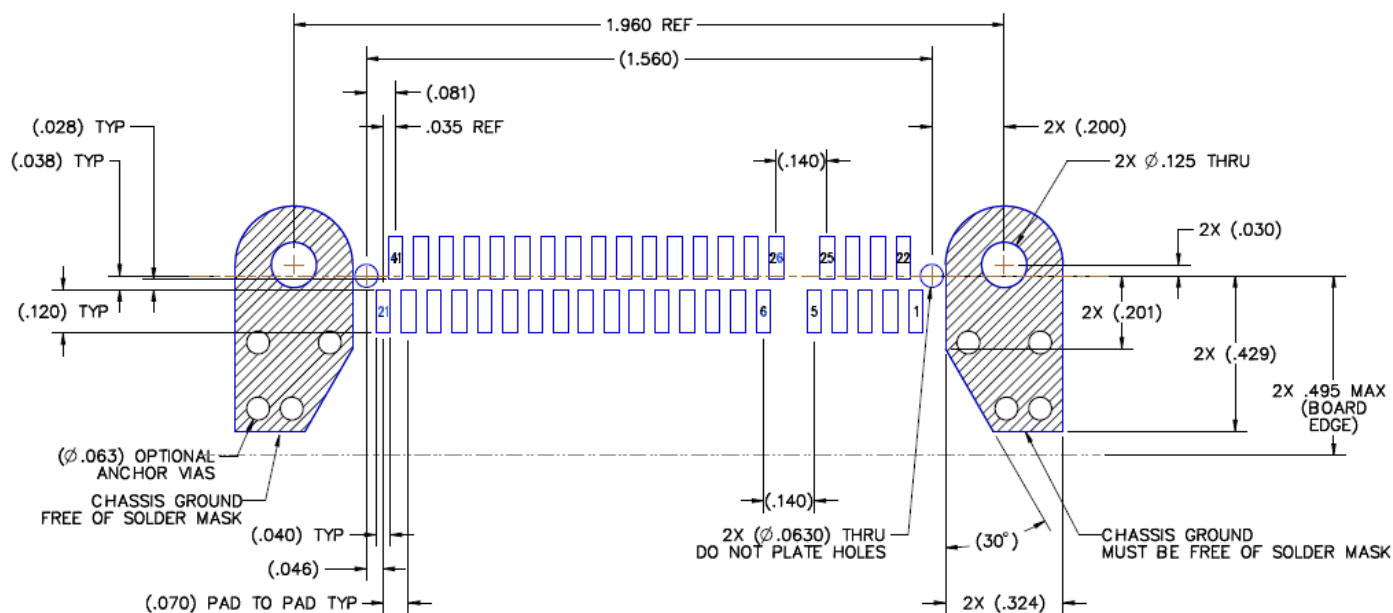
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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

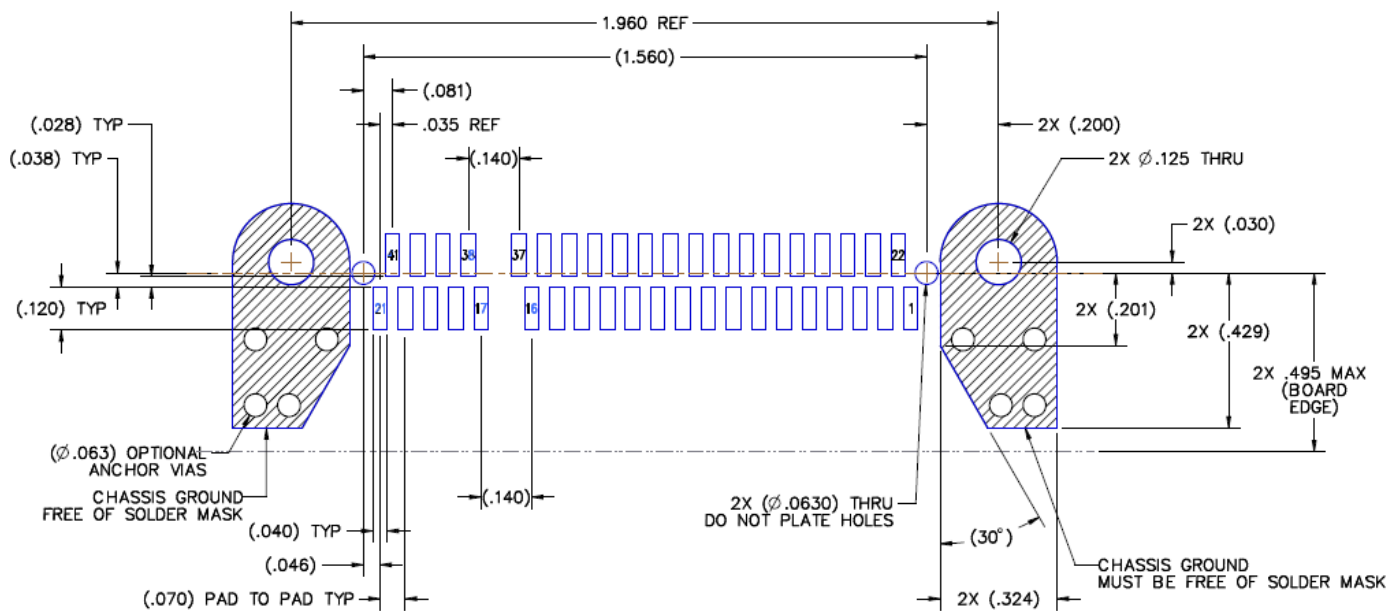
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



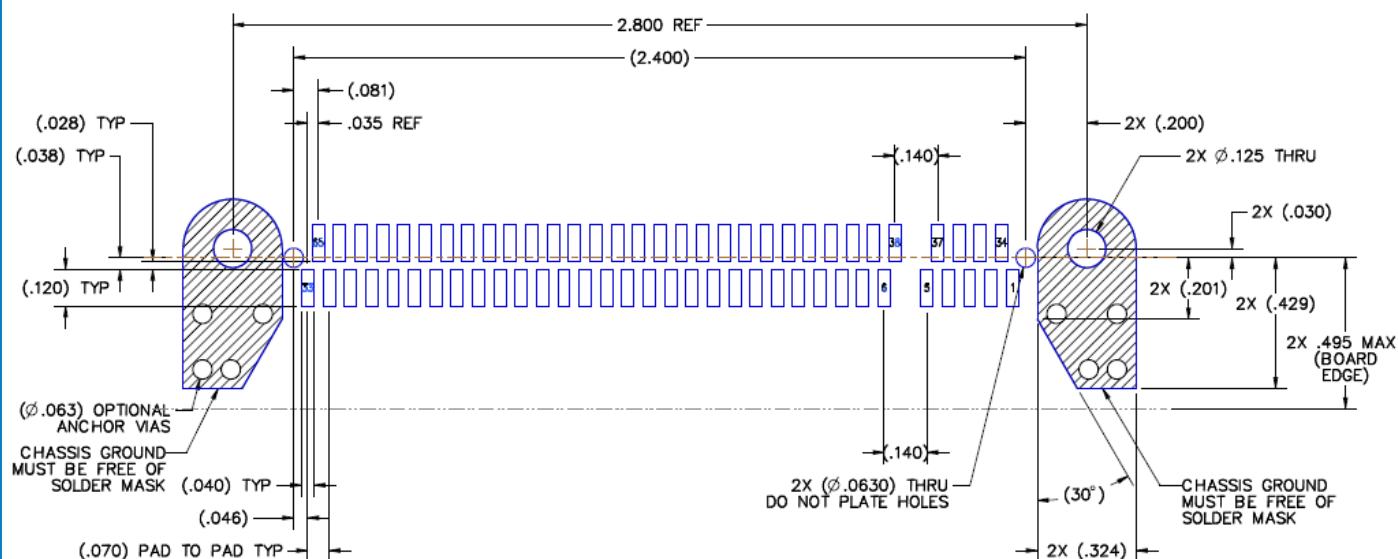
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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

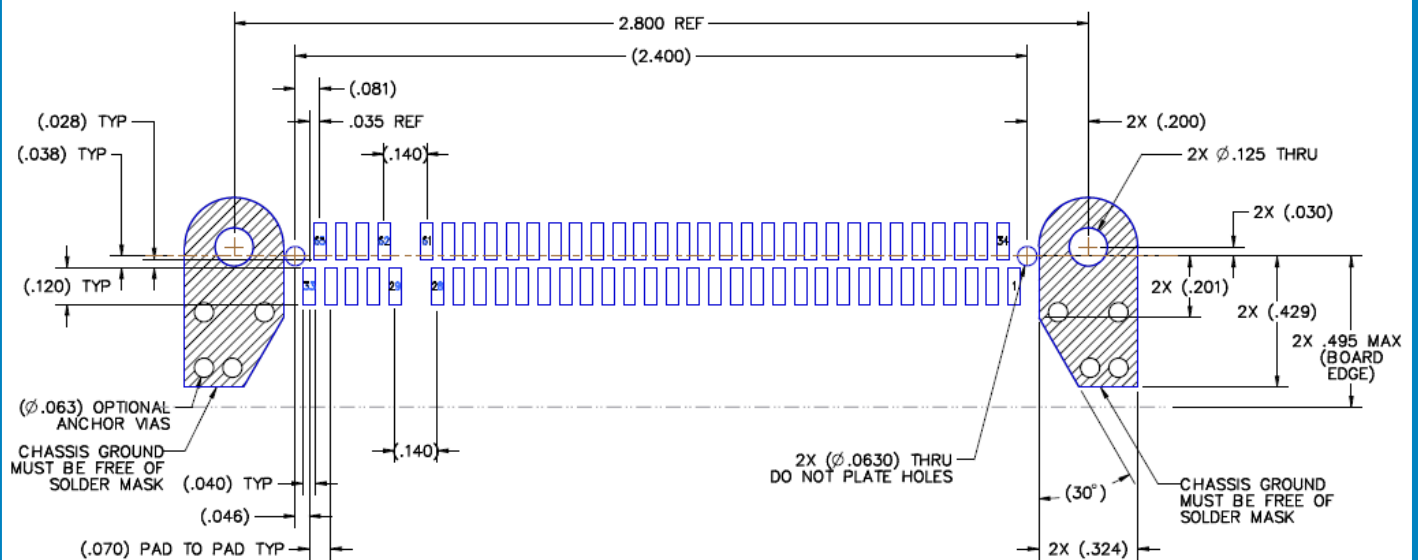
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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.

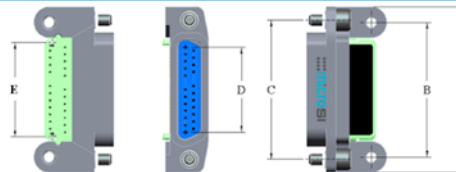
1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See “Polarized Interface Pinouts” on page 59
5. See “Keying Hardware Options” on page 61



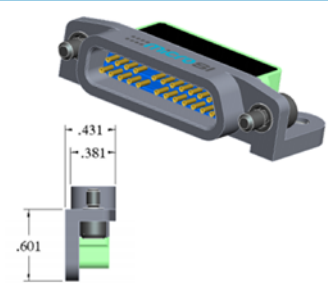
MKSI – Right Angle (Female)

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



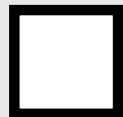
SIZE	A	B	C	D	E
1X	1.636	1.330	1.377	0.840	0.930
4X	2.266	1.960	2.007	1.470	1.560
8X	3.106	2.800	2.847	2.310	2.400



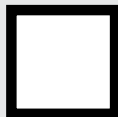
Sample Part Number Format: MKSI-01L-2000-275-2620



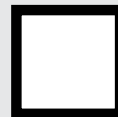
SERIES
Right Angle
(Female)
1.78 mm



**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)



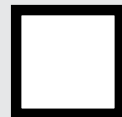
STYLE
2000 – Female



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

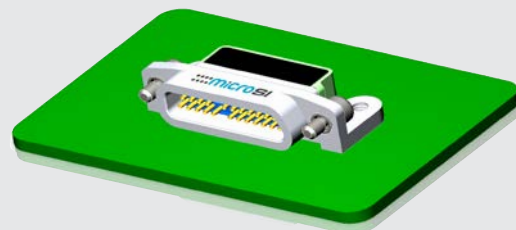
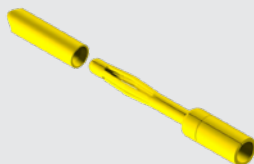


BODY PLATING
2 – Electroless nickel
6 – Gold



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

- 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

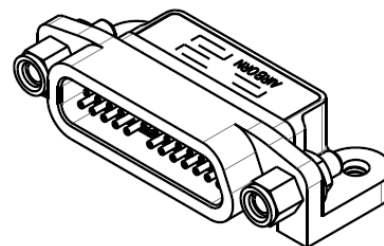
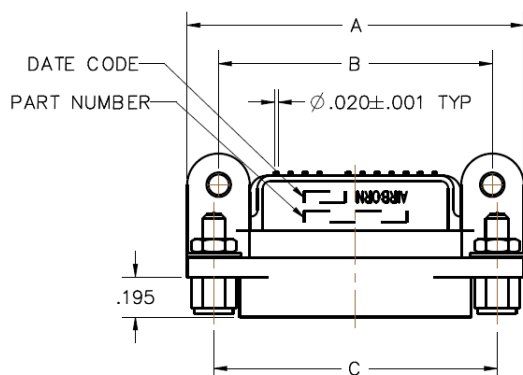
NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

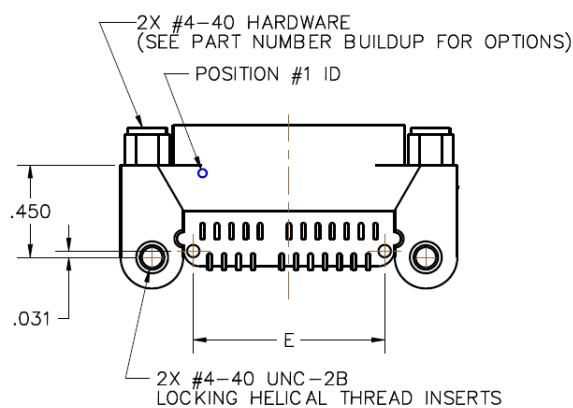
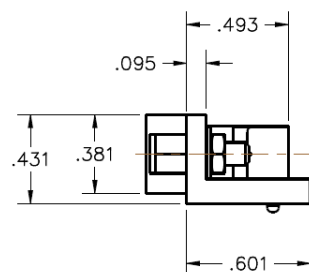
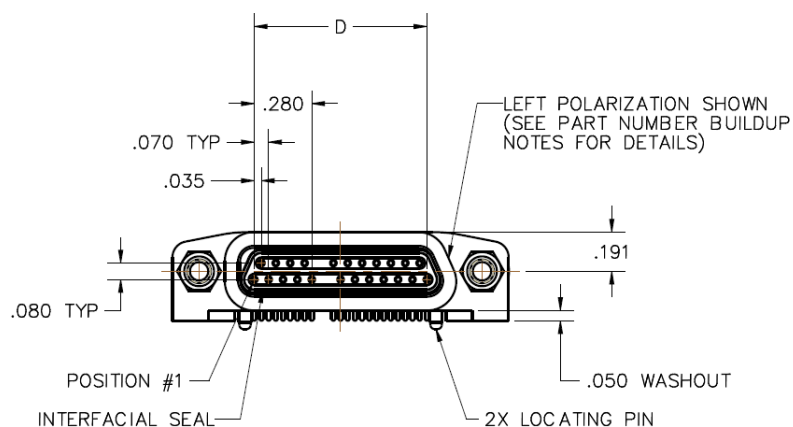
1	Diff. Impedance, filtered to 79 ps (20-80%)	100 ohm
2	Diff. Insertion Loss	10 GHz @ -3 dB
3	Diff. Return Loss	7.5 GHz @ -10 dB
4	Intra-Pair	< 2 ps



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

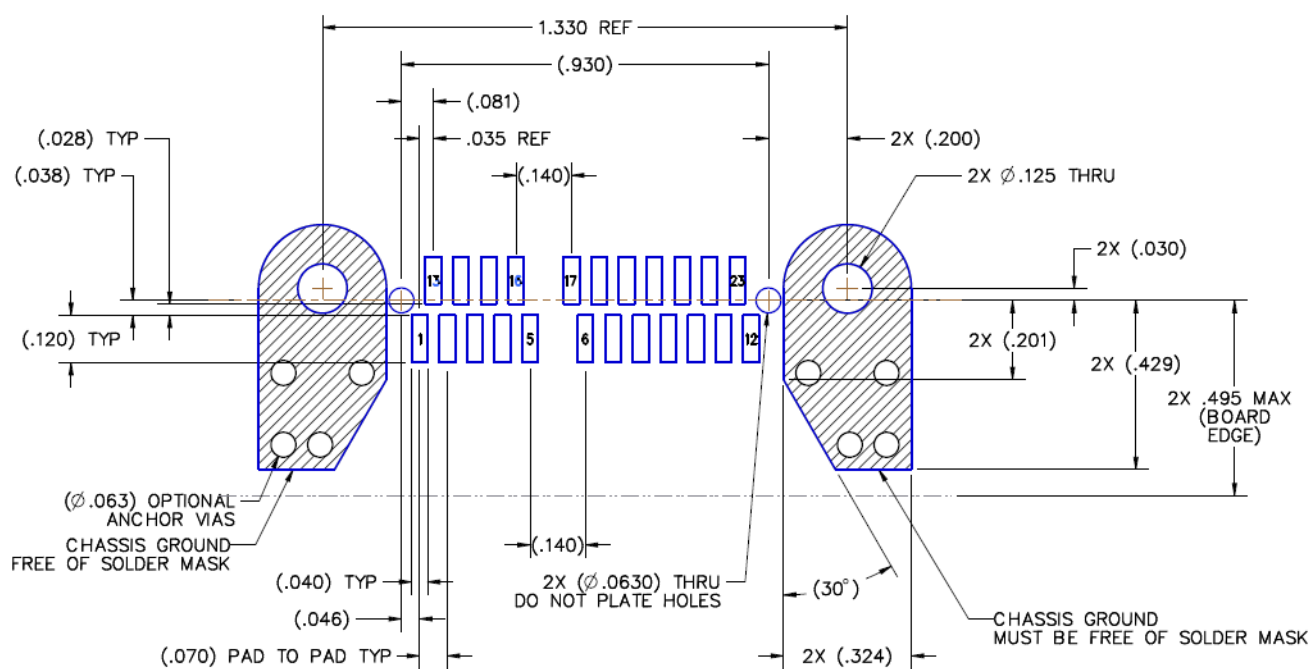
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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 Left Polarization



NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

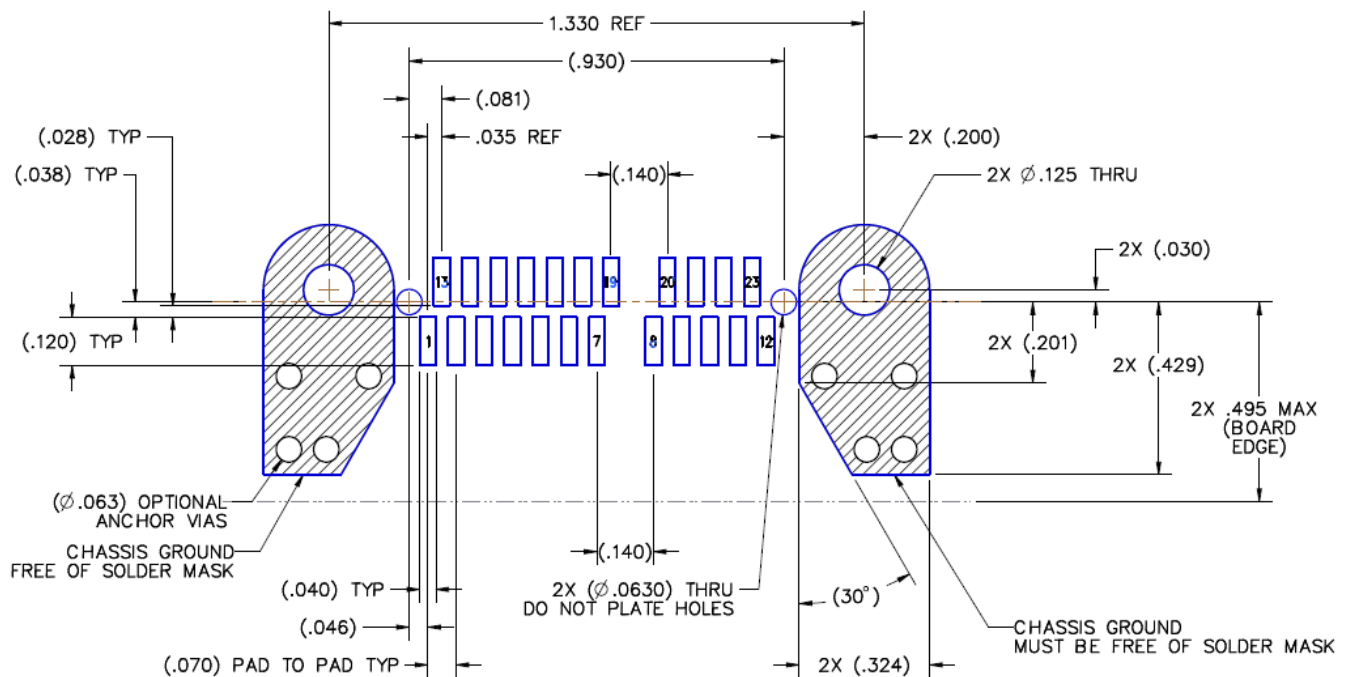
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



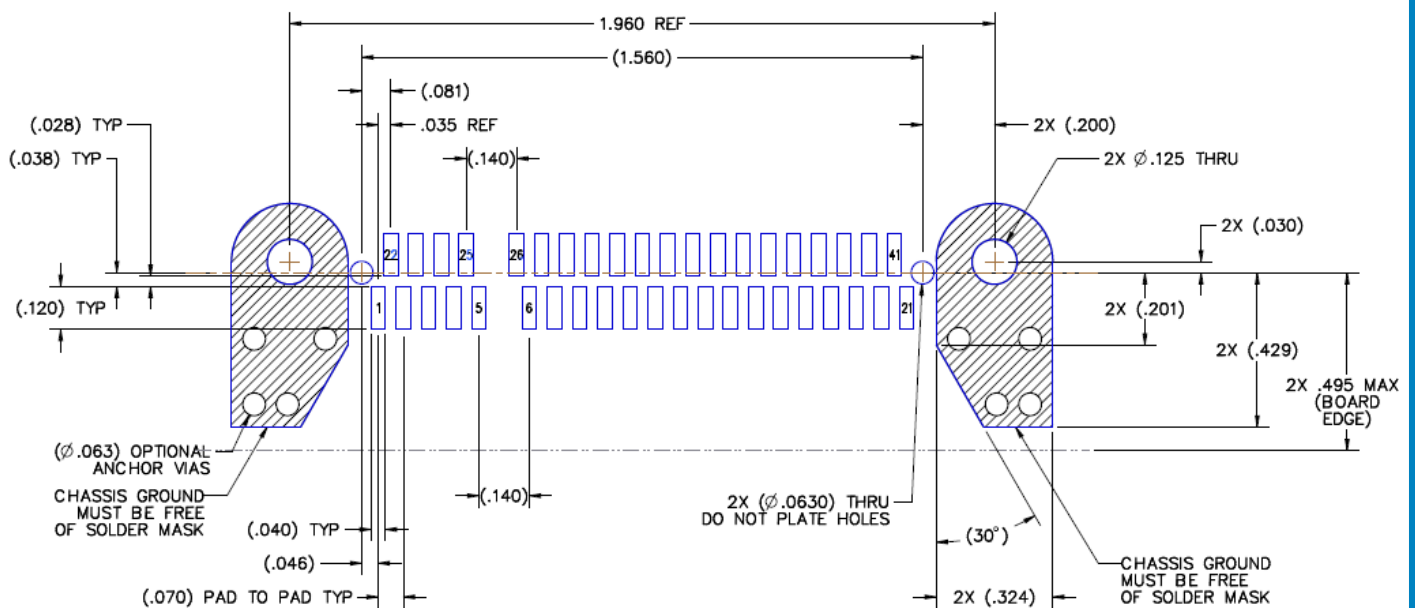
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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



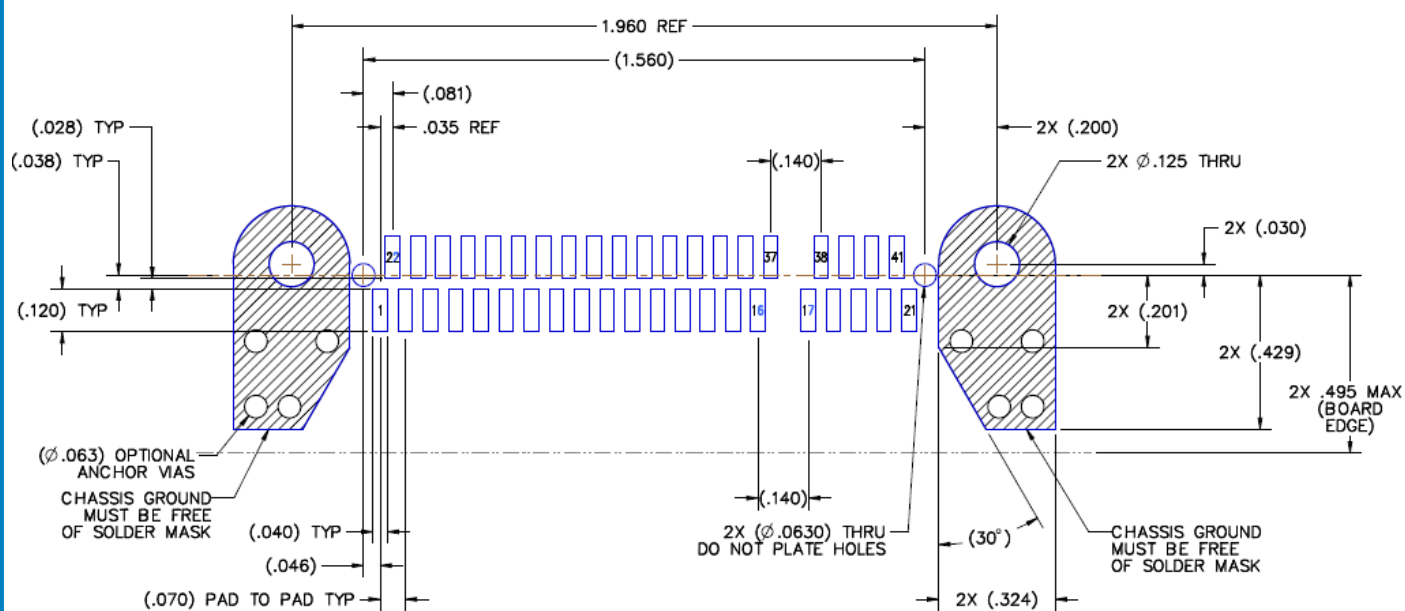
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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



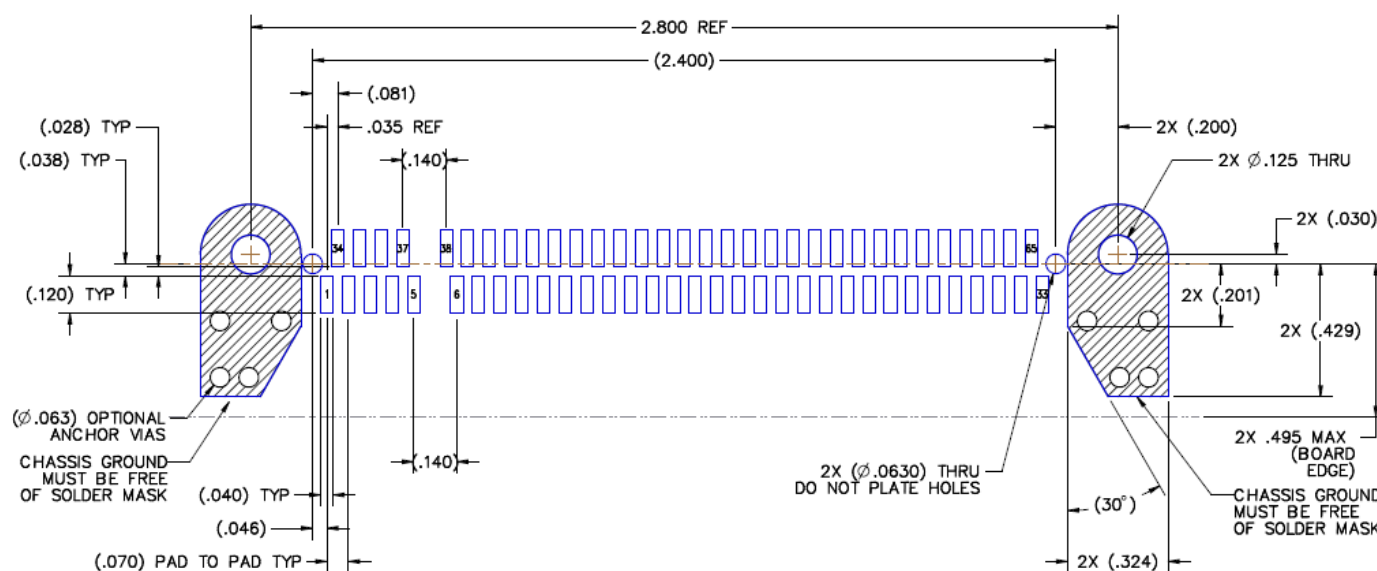
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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

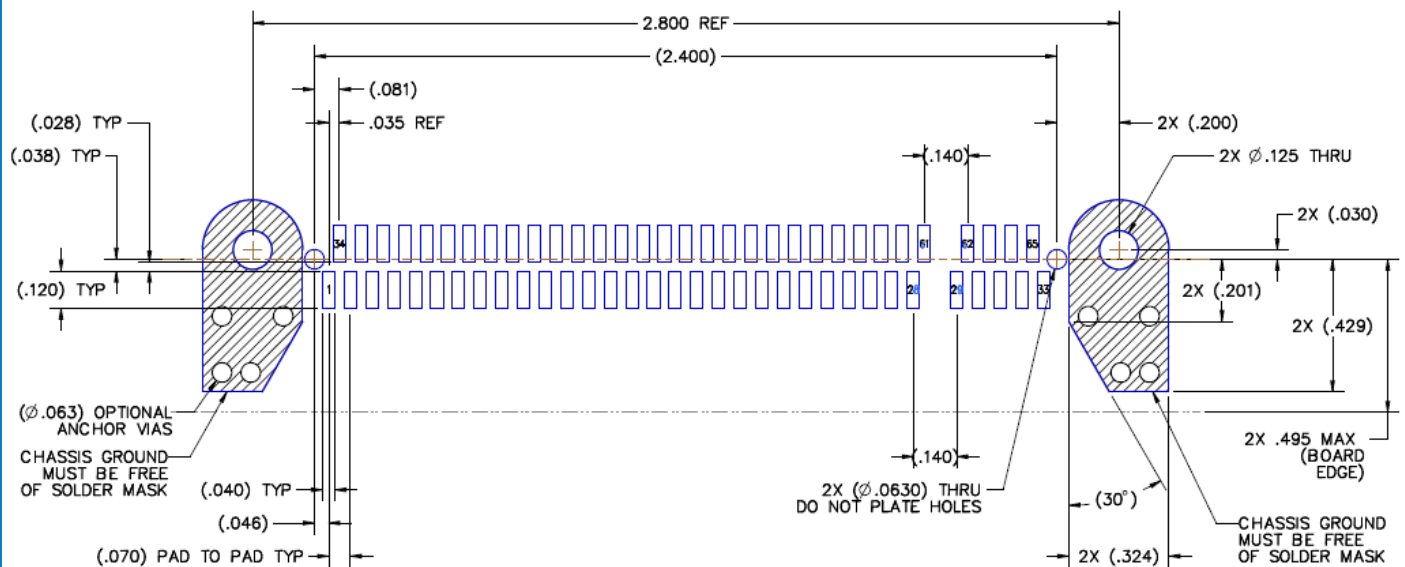
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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

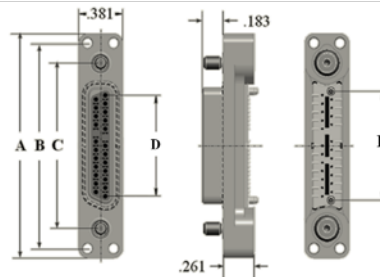


microSI™

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

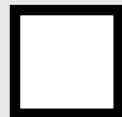


SIZE	A	B	C	D	E
1X	1.863	1.708	1.377	0.840	0.906
4X	2.493	2.338	2.007	1.470	1.536
8X	3.333	3.178	2.847	2.310	2.376

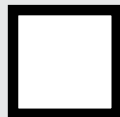
Sample Part Number Format: MLSI-08L-1000-378-2810



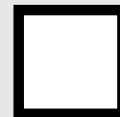
SERIES
Vertical (Male)
1.78 mm



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)



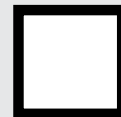
STYLE
1000 – Male



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



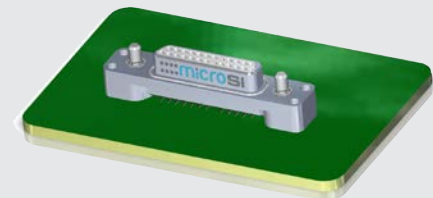
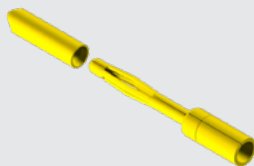
BODY PLATING
2 – Electroless nickel
6 – Gold



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

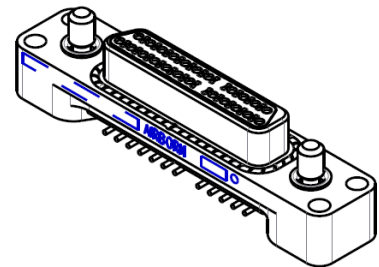
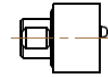
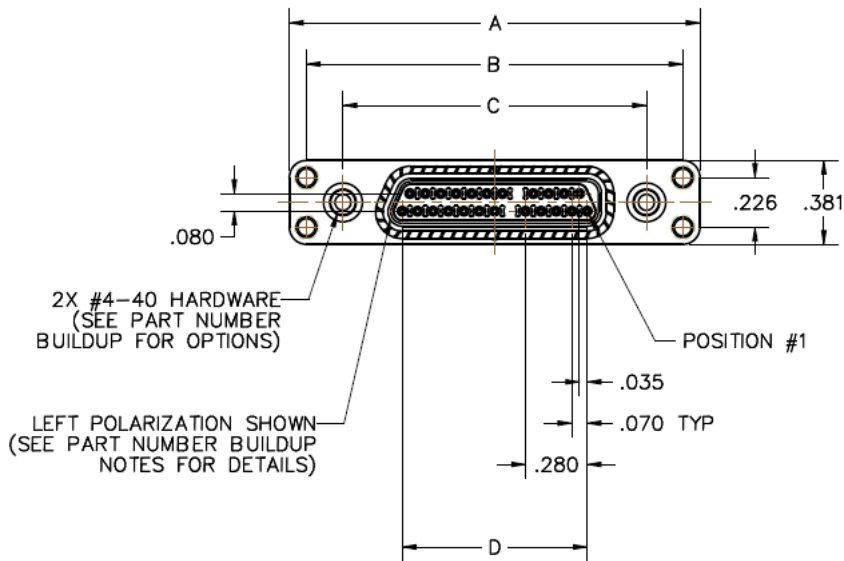
Contact Rating: 3 amperes maximum
Operating Temperature:-55° C to 125° C
Maximum Working Voltage: 200V, RMS, 60Hz
Insulation Resistance: 5,000 megohms minimum @ 500 VDC
Durability: 500 connector mating cycles
Contact Engaging Force: 6.0 ounces maximum/contact
Contact Separating Force: 0.5 ounces minimum/contact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

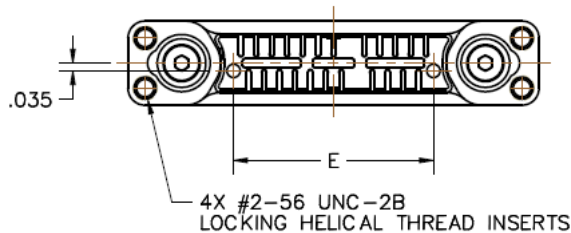
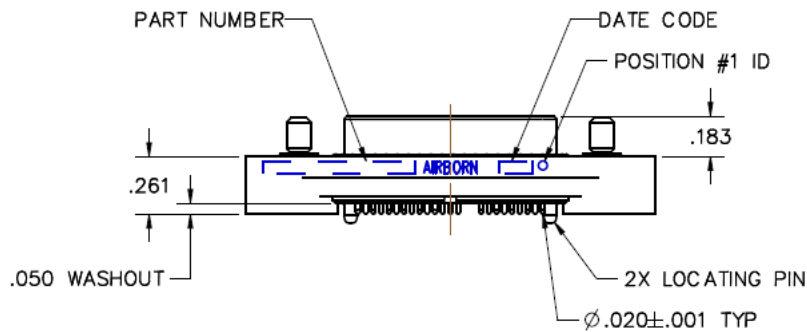
SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

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

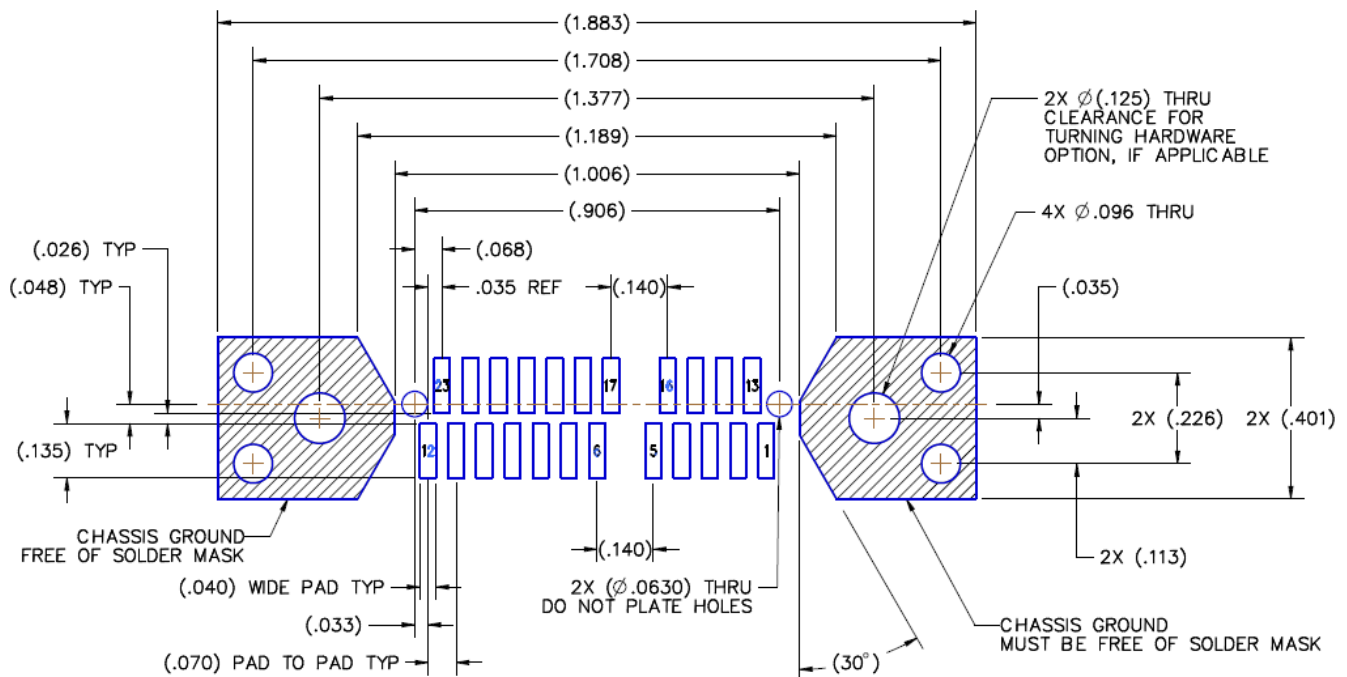
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



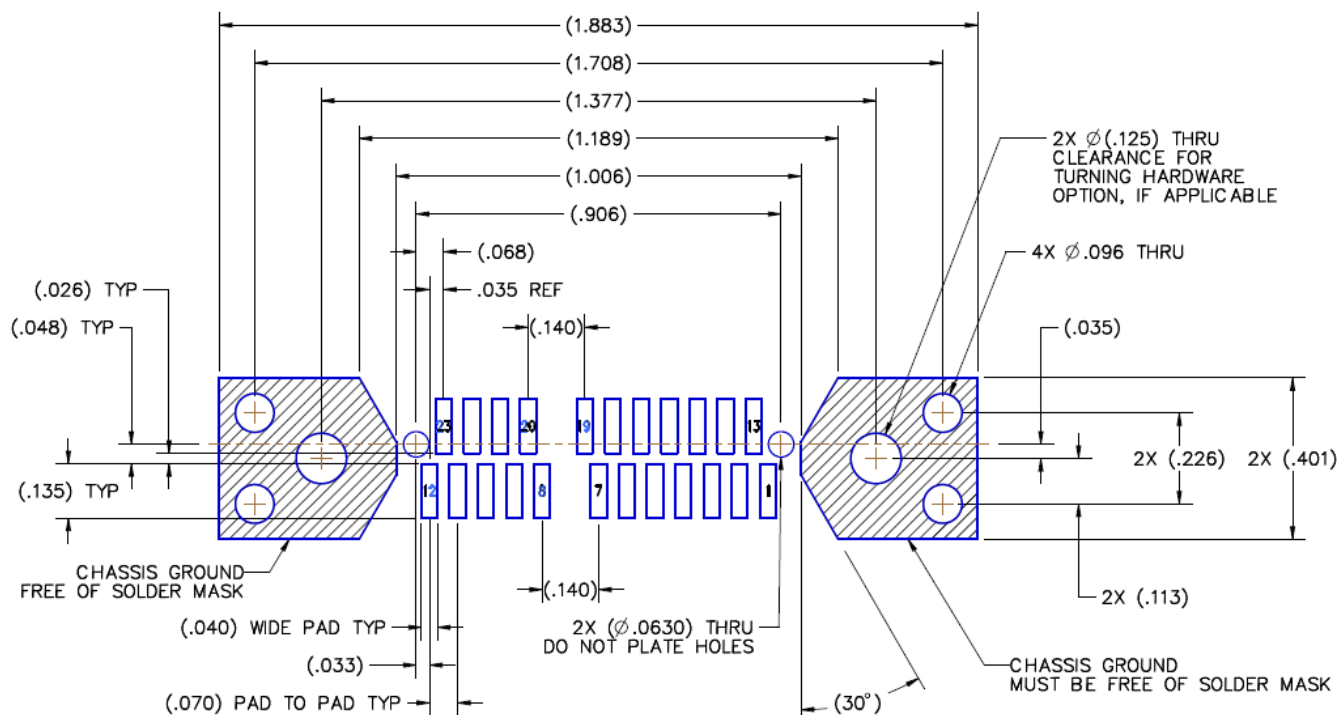
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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

MLSI RECOMMENDED PC BOARD LAYOUT (PLUG)

1X Sample with Right Polarization



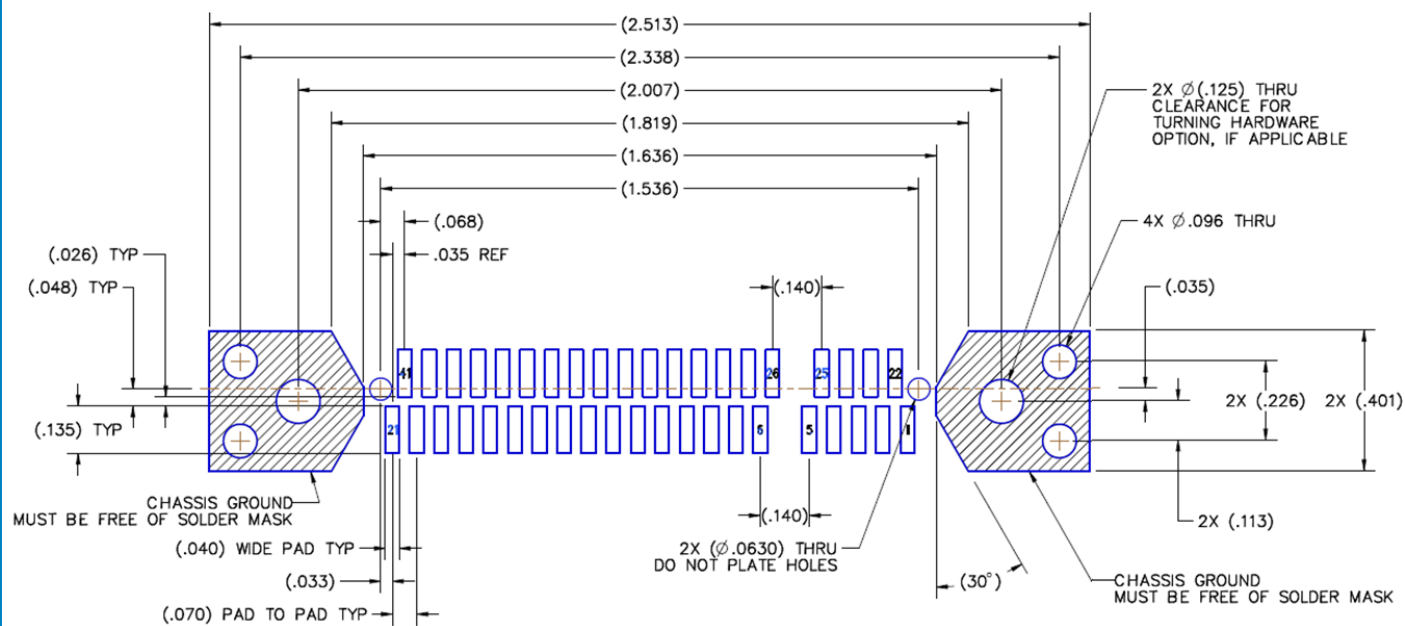
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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



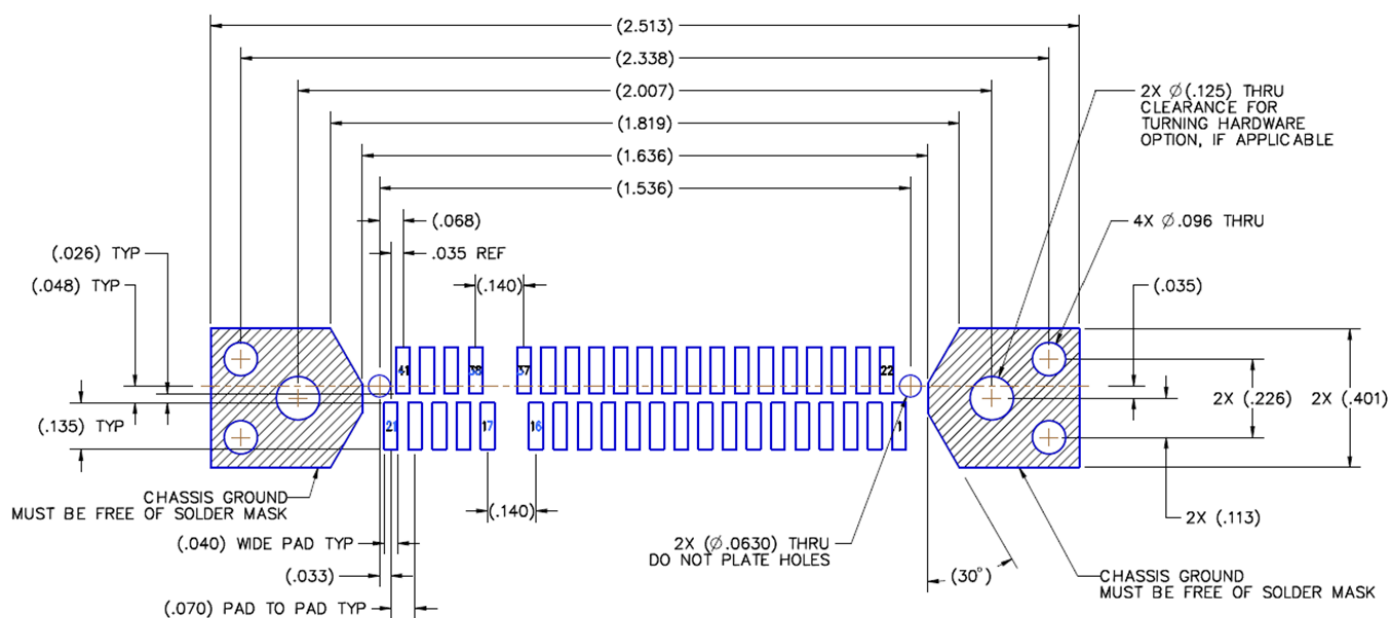
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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

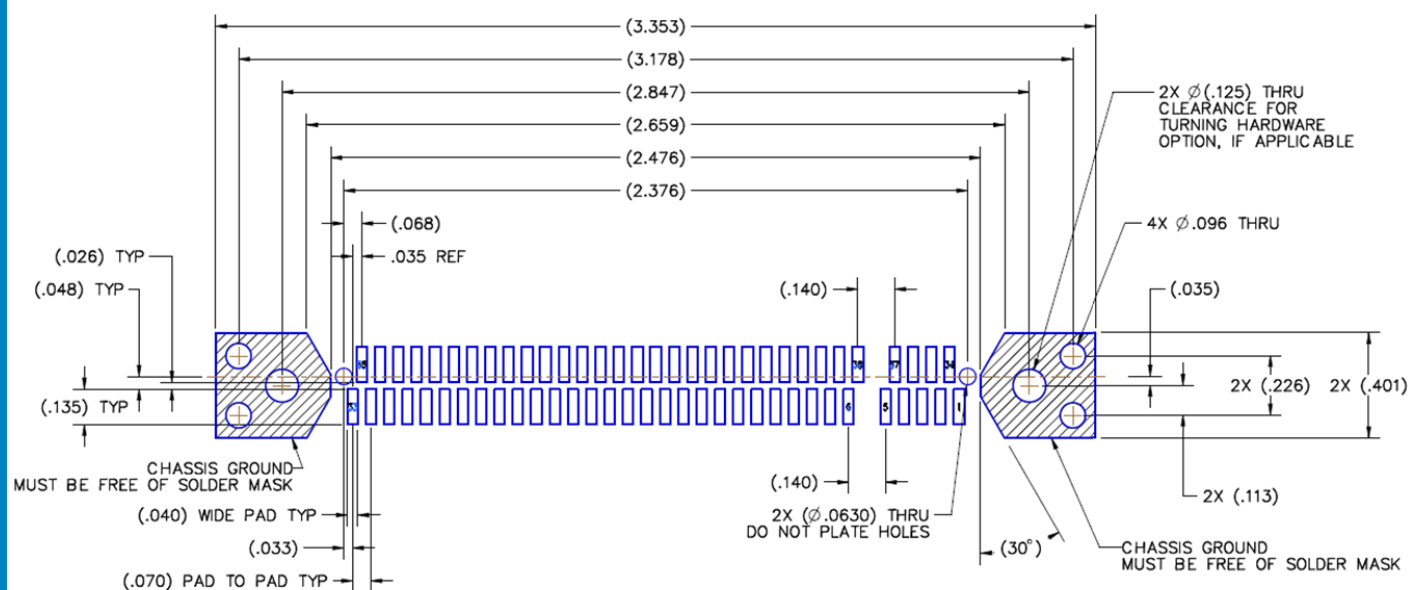
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



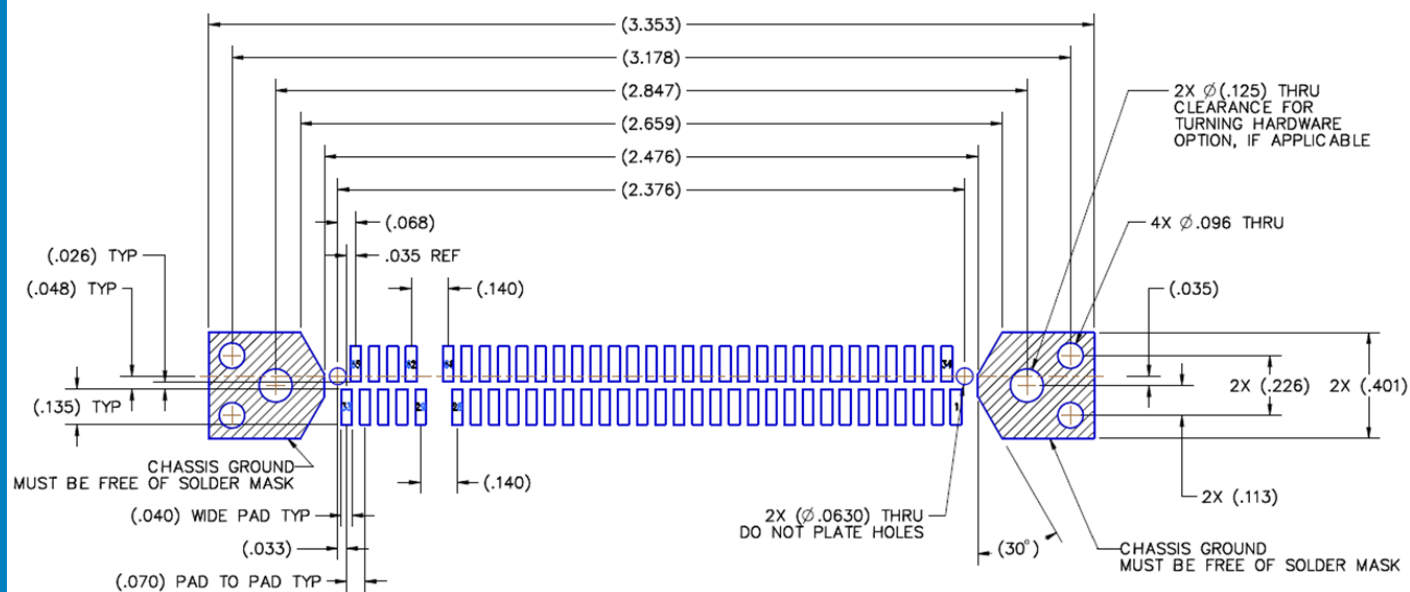
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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.

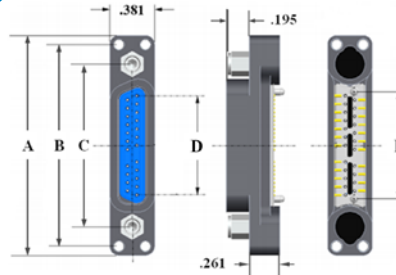
1. A LEFT plug mates with a LEFT receptacle.
2. A RIGHT plug mates with a RIGHT receptacle.
3. Left-polarization connectors will not mate with right-polarization connectors.
4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



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

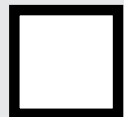


SIZE	A	B	C	D	E
1X	1.863	1.708	1.377	0.840	0.906
4X	2.493	2.338	2.007	1.470	1.536
8X	3.333	3.178	2.847	2.310	2.376

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

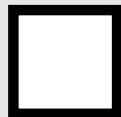


SERIES
Vertical
(Female)
1.78 mm

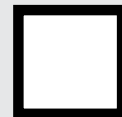


SIZE & INTERFACE POLARIZATION*

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)



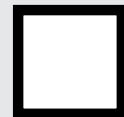
STYLE
2000 – Female



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



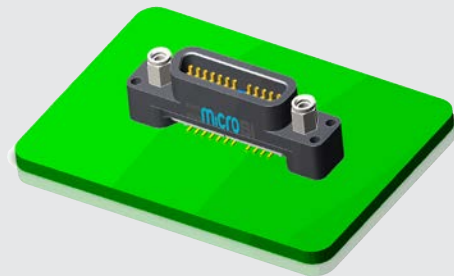
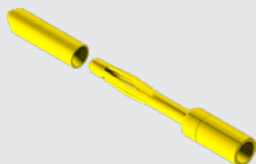
BODY PLATING
2 – Electroless nickel
6 – Gold



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

- 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

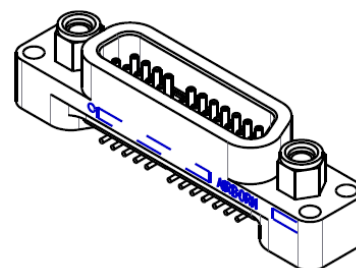
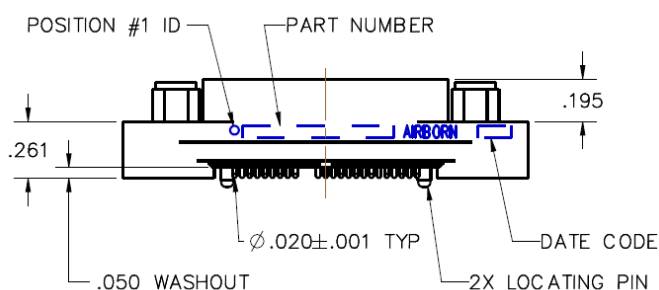
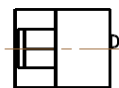
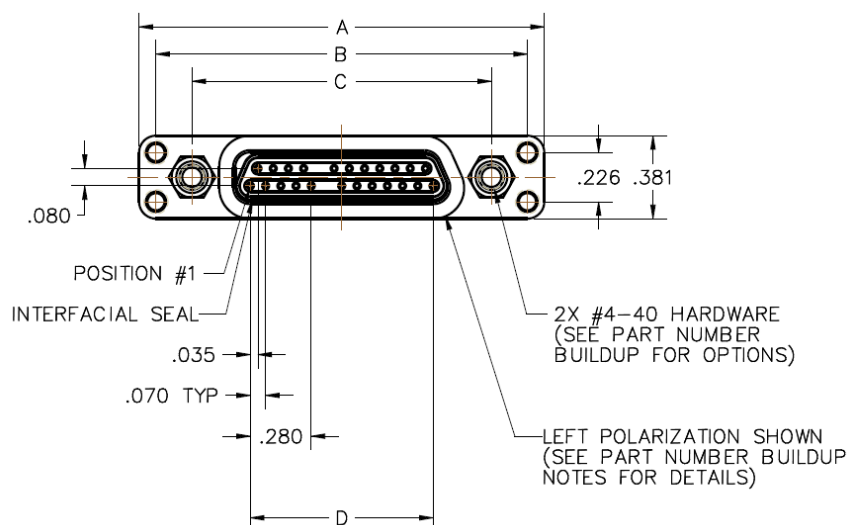
Contact Rating: 3 amperes maximum
Operating Temperature:-55° C to 125° C
Maximum Working Voltage: 200V, RMS, 60Hz
Insulation Resistance: 5,000 megohms minimum @ 500 VDC
Durability: 500 connector mating cycles
Contact Engaging Force: 6.0 ounces maximum/contact
Contact Separating Force: 0.5 ounces minimum/contact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

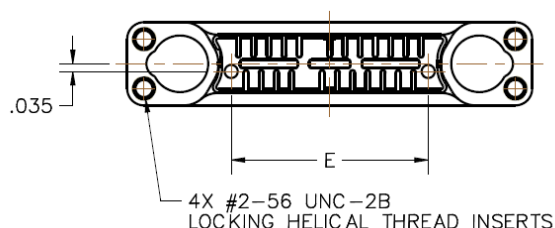
SIGNAL INTEGRITY PERFORMANCE (Connectors Only)

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



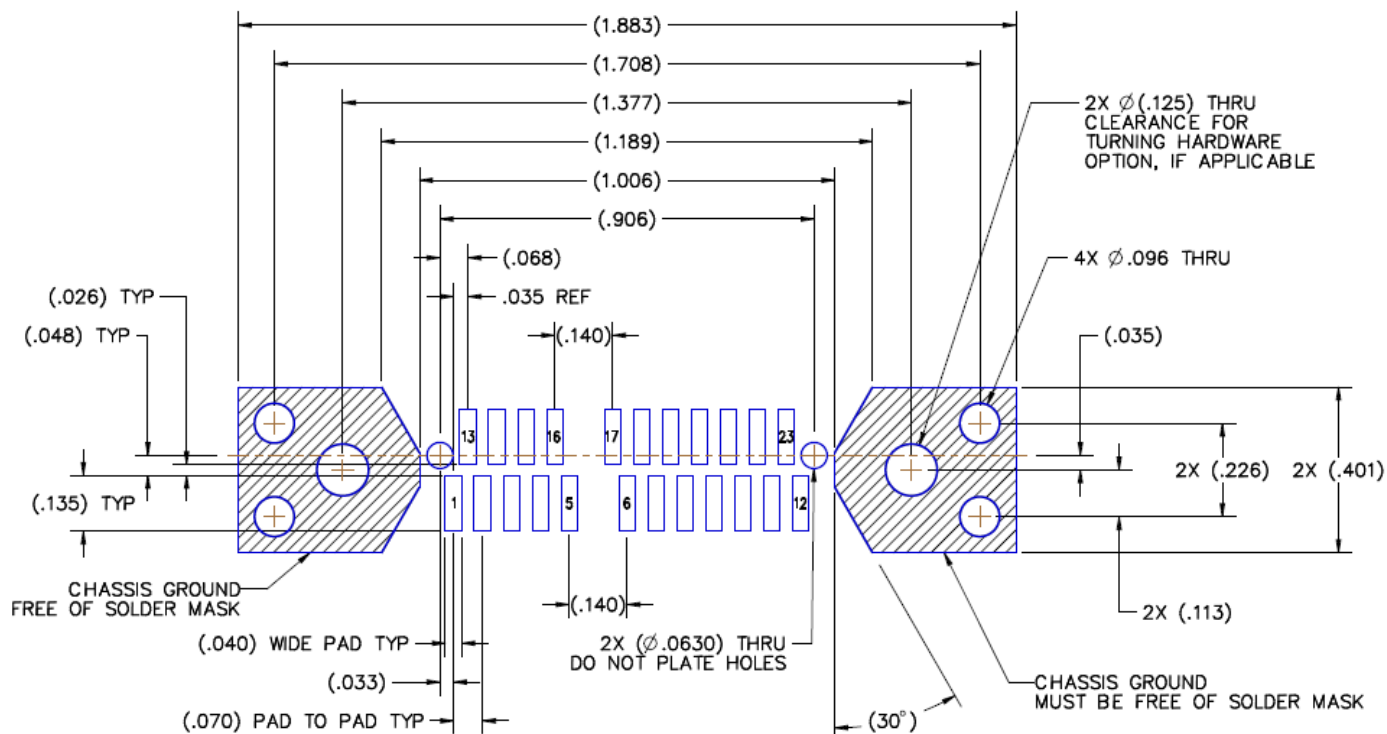
SIZE	A	B	C	D	E
1x	1.863	1.708	1.377	.840	.906
4x	2.493	2.338	2.007	1.470	1.536
8x	3.333	3.178	2.847	2.310	2.376

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

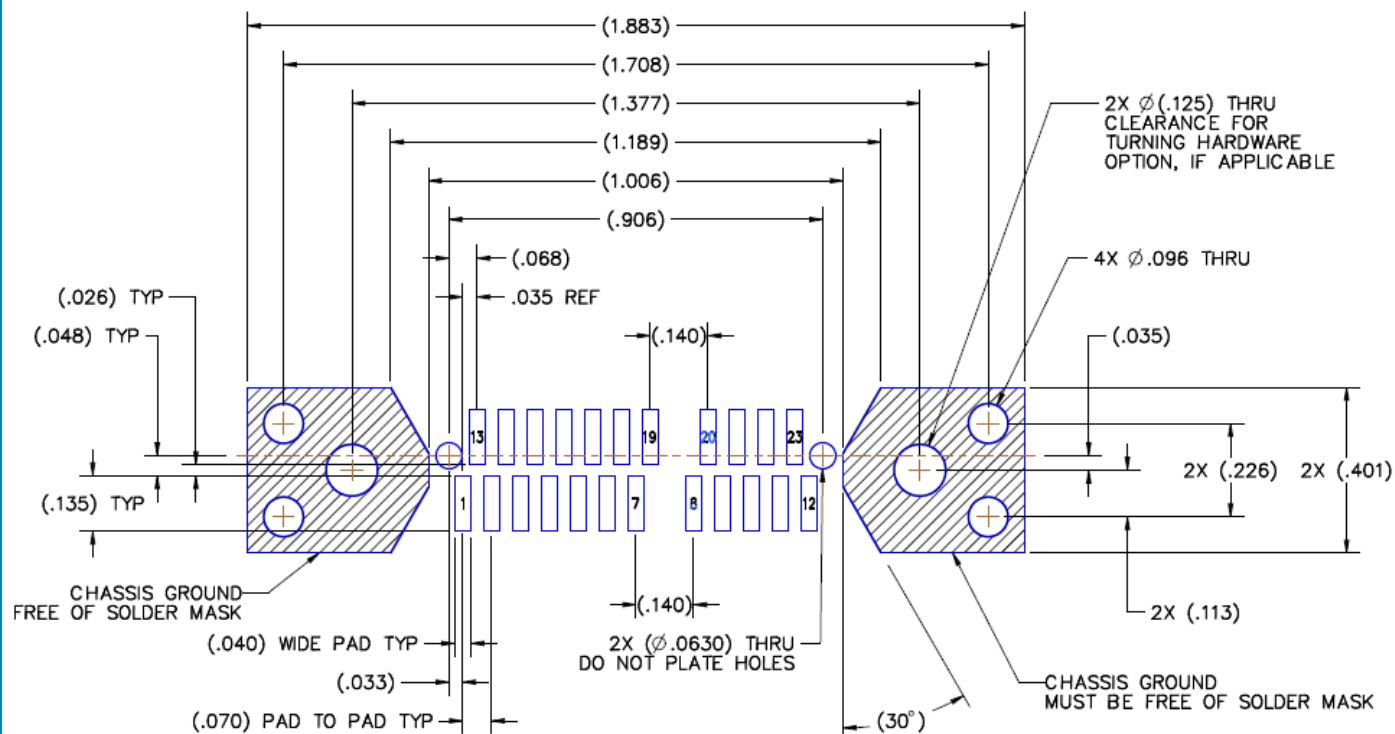
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4. See "Polarized Interface Pinouts" on page 59
5. See "Keying Hardware Options" on page 61



MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

1X Sample with Right Polarization



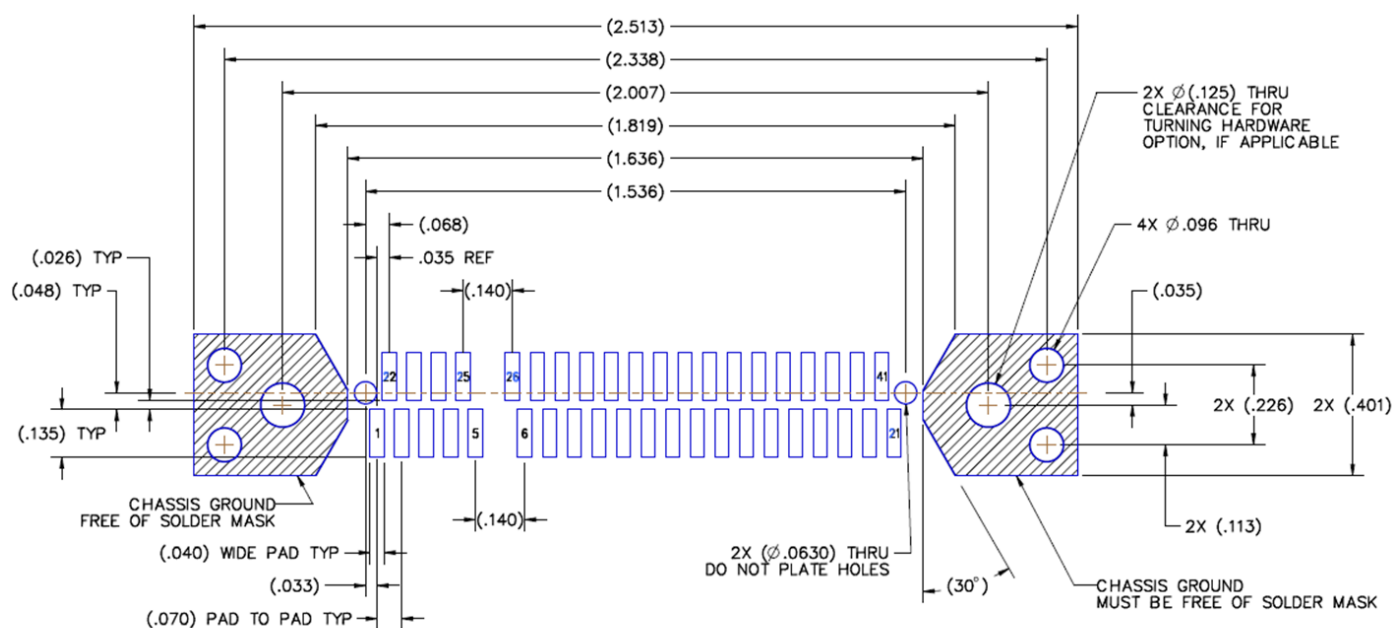
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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.
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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

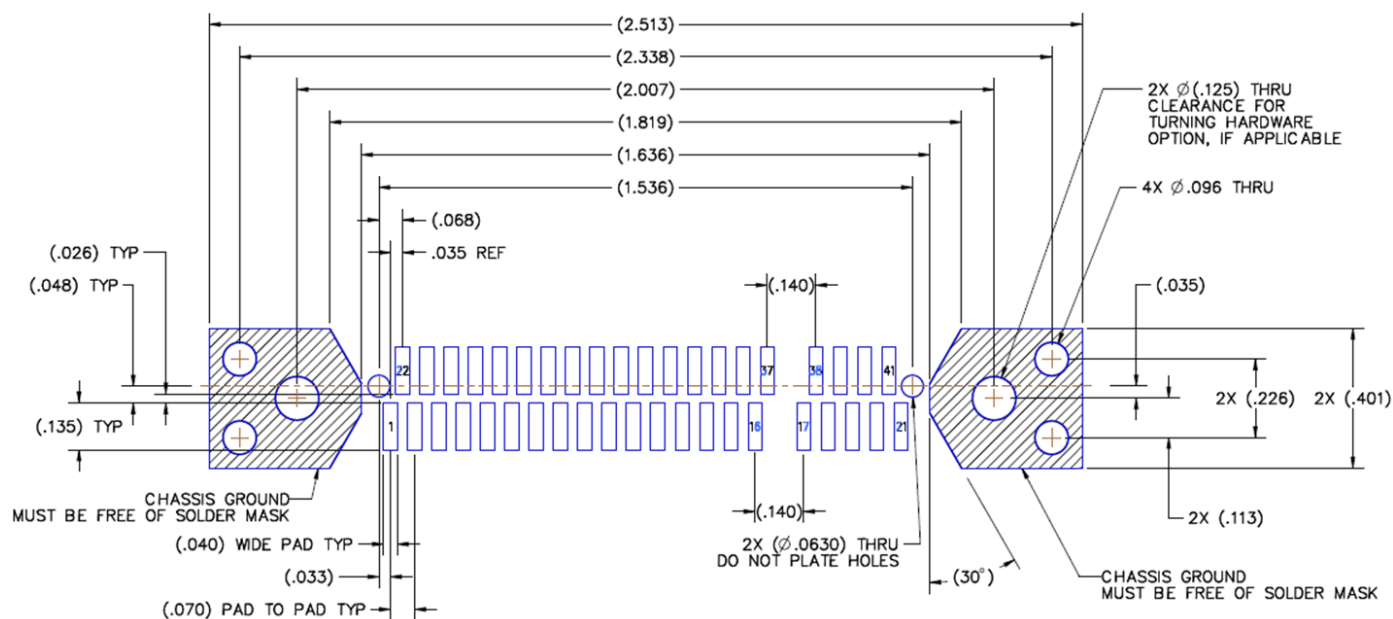
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



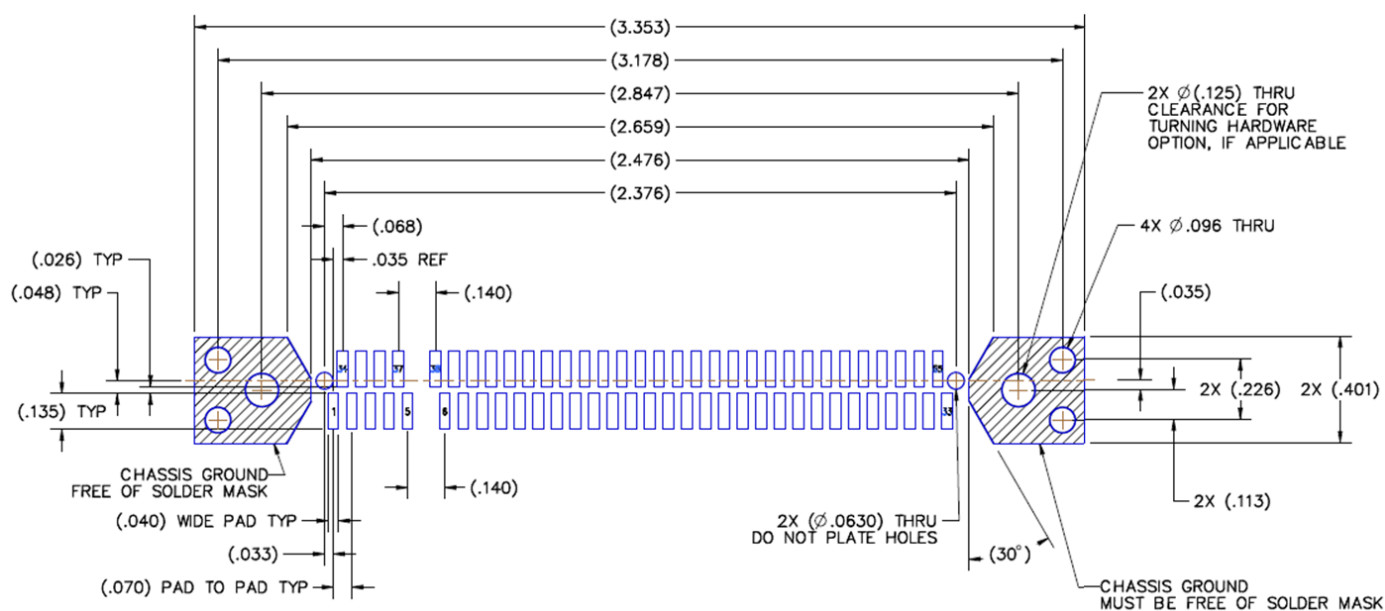
NOTE: ALL PADS MUST BE FREE OF SOLDER MASK

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

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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



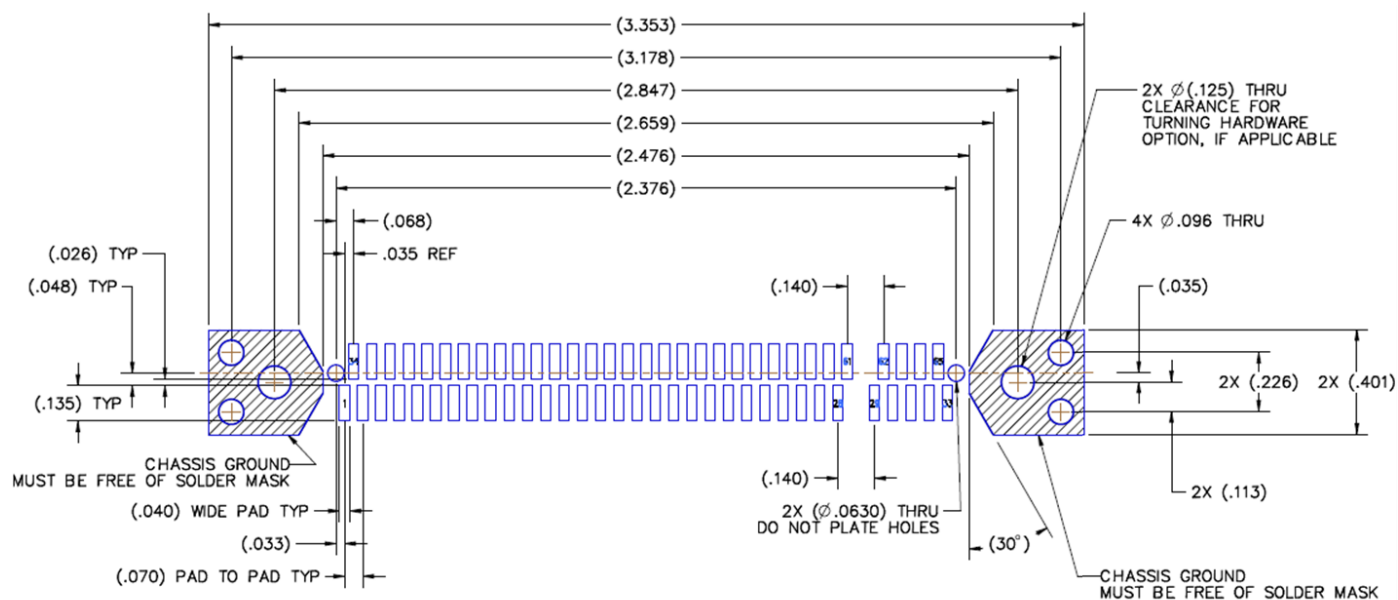
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MLSI RECOMMENDED PC BOARD LAYOUT (RECEPTACLE)

8X Sample with Right Polarization



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

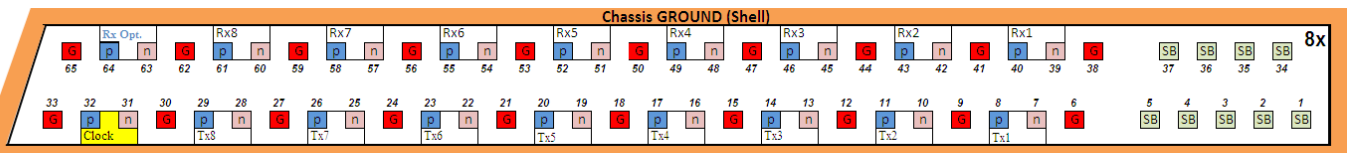
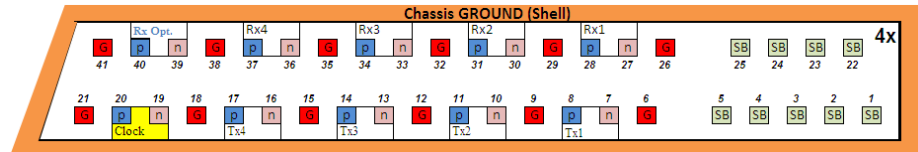
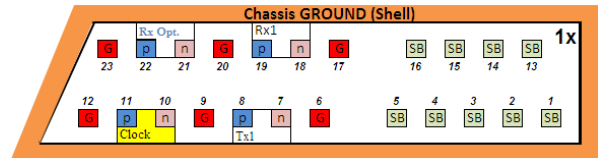
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INTERFACE PINOUT, LEFT POLARIZATION

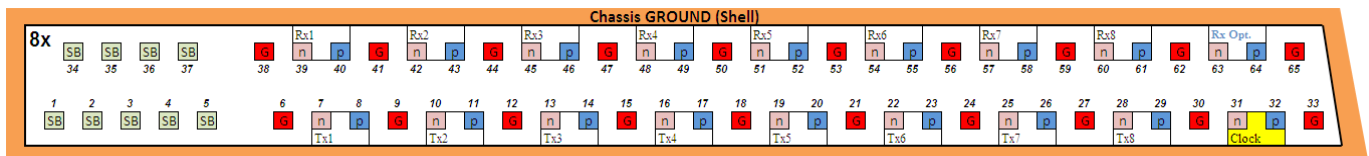
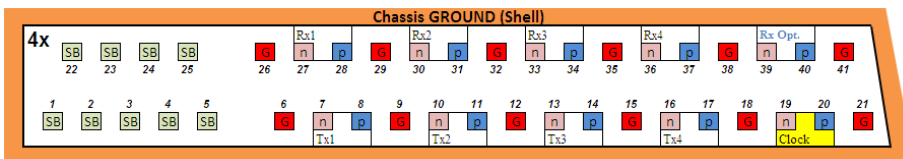
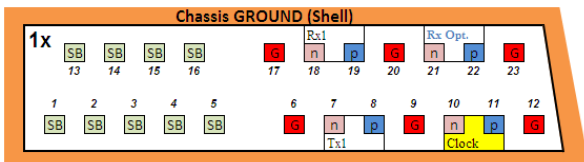
microSI

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.

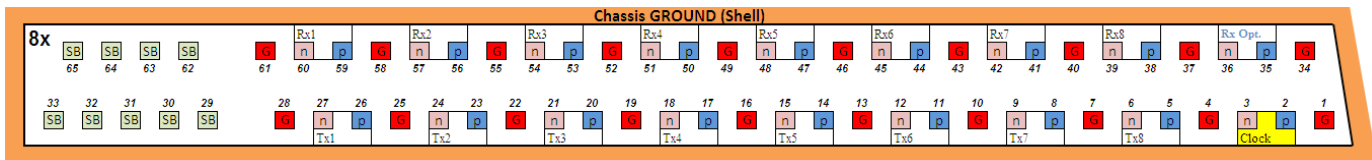
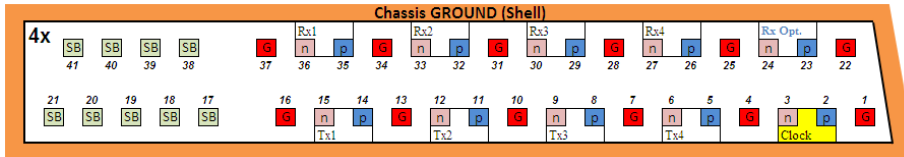
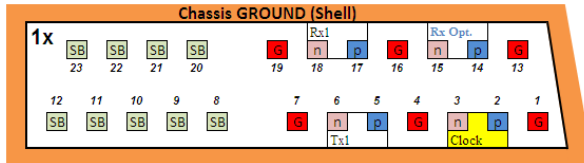
Polarization Mating:

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.

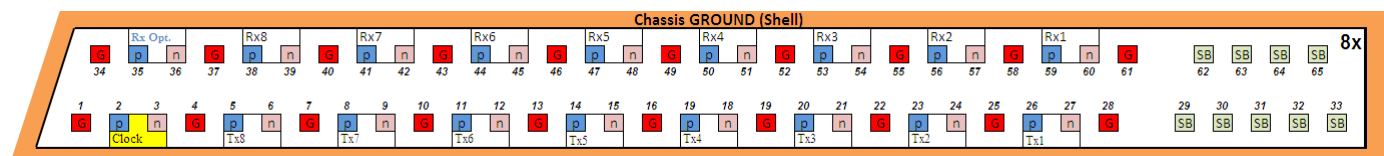
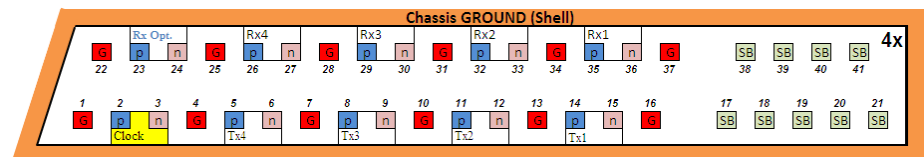
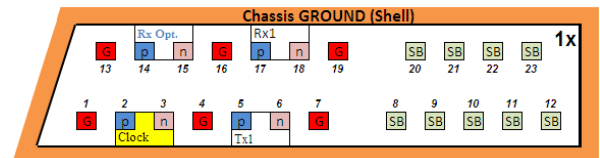
INTERFACE PINOUT, RIGHT POLARIZATION

microSI

Plug



Receptacle



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

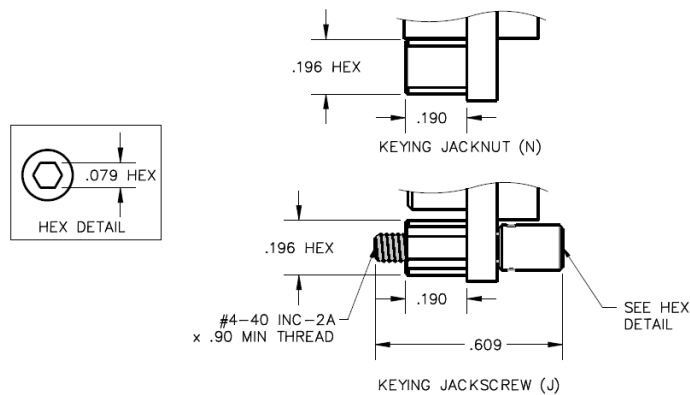
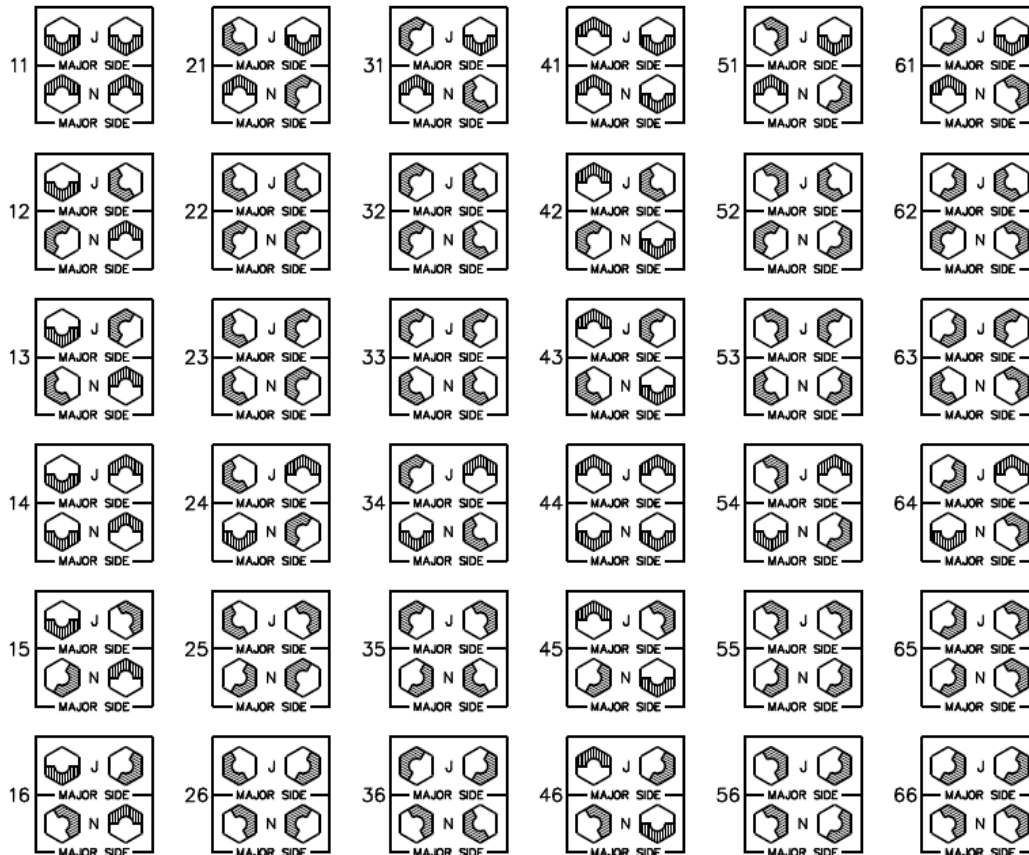
Polarization Mating:

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POLARIZED KEYING HARDWARE OPTIONS (PLUG)

microSI

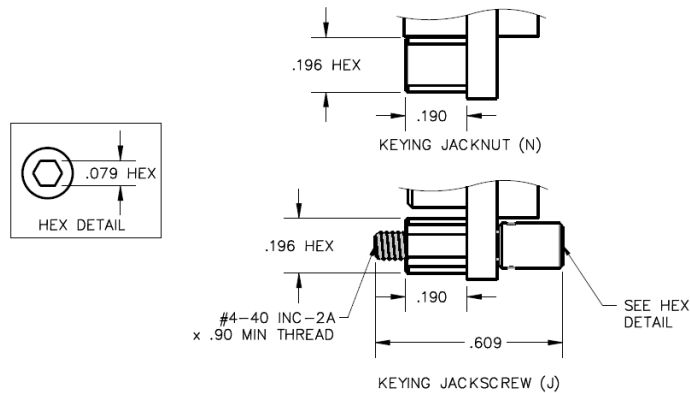
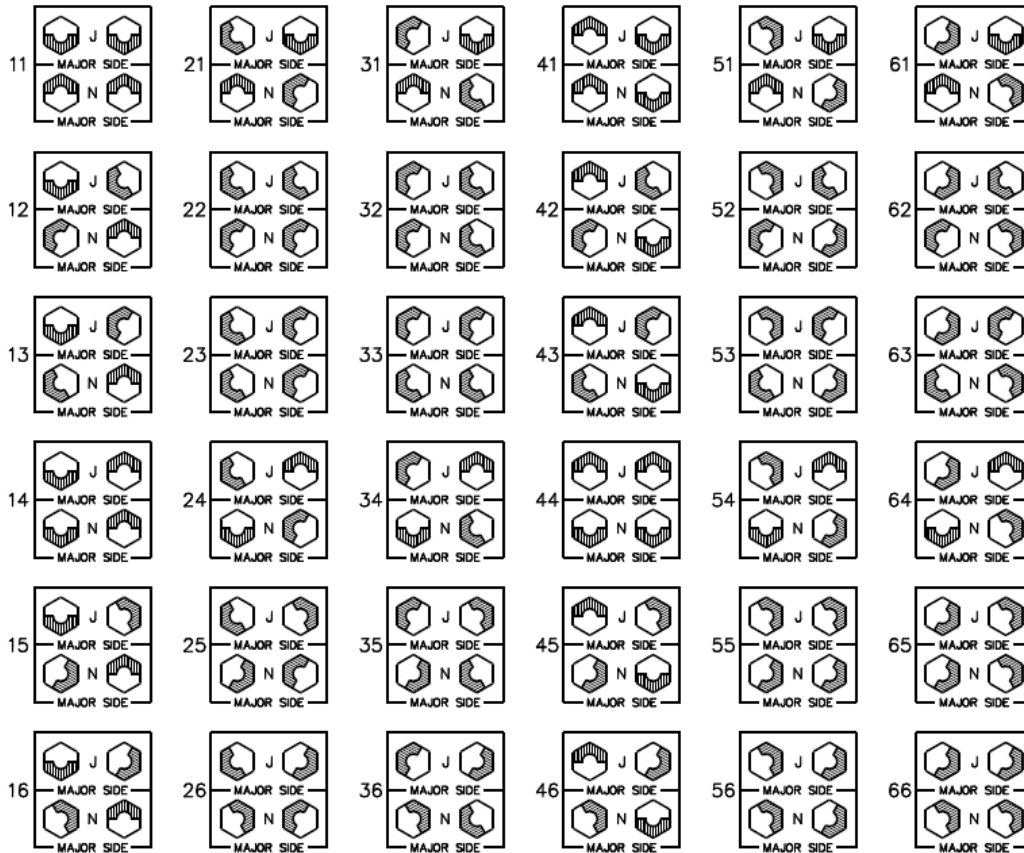


PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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



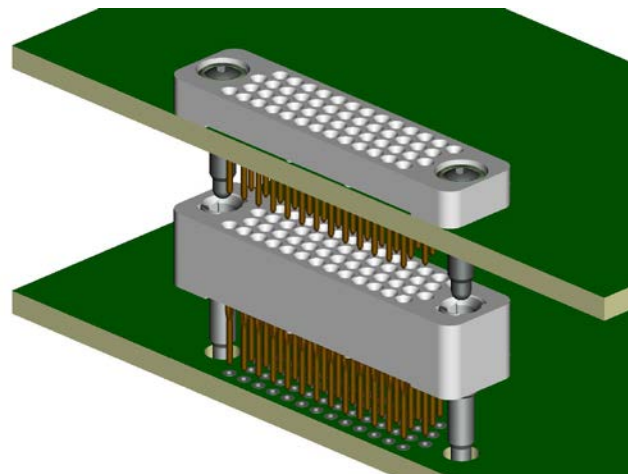
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Select the appropriate two-digit number and include as the last two digits of the hardware code in the part number.
 Keying hardware is factory-installed and non-removable.

IRC™

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

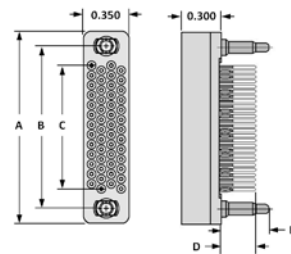
Contact spacing: 0.075" (1.91 mm)

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"

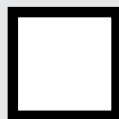


CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195
20	0.270	0.370
21	0.300	0.400
22	0.400	0.500
23	0.500	0.600
24	0.700	0.800
25	0.800	0.900
26	0.900	1.000
27	0.600	0.700
28	1.000	1.100

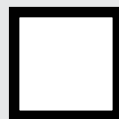
Sample Part Number Format: RC422-052-211-4000



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



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



VARIATION
Blank – None
XXX – Consult factory



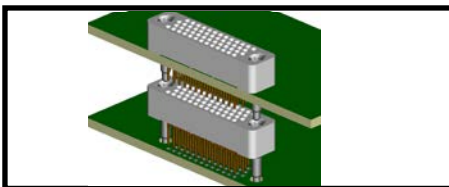
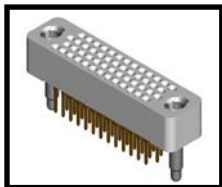
CONTACT
10 – 0.095" Long
20 – 0.270" Long
21 – 0.300" Long
22 – 0.400" Long
23 – 0.500" Long
24 – 0.700" Long
25 – 0.800" Long
26 – 0.900" Long
27 – 0.600" Long
28 – 1.000" Long
30 – 0.270" Long
31 – 0.300" Long
32 – 0.400" Long
33 – 0.500" Long
34 – 0.700" Long
35 – 0.800" Long
36 – 0.900" Long
37 – 0.600" Long
38 – 1.000" Long

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



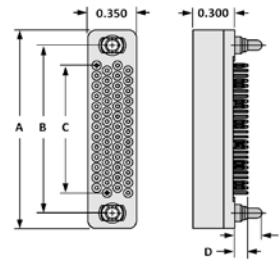
RC422 - Bottom-of-Stack Board Mount Connector

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

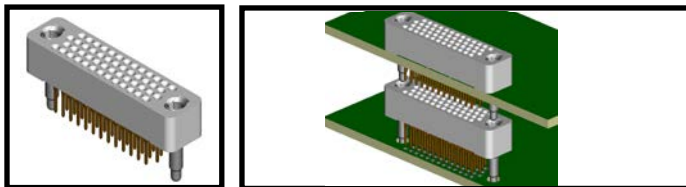
RC422			1			
SERIES Stackable Compliant Full-Profile 4 Rows 0.075" Spacing	CONFIGURATION 028 – 4 Rows/7 Columns 052 – 4 Rows/13 Columns 076 – 4 Rows/19 Columns 100 – 4 Rows/25 Columns 128 – 4 Rows/32 Columns 152 – 4 Rows/38 Columns 200 – 4 Rows/50 Columns 252 – 4 Rows/63 Columns 300 – 4 Rows/75 Columns	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

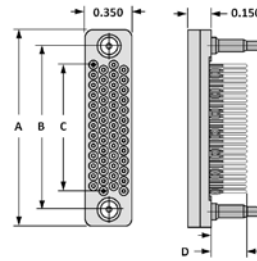
Contact spacing: 0.075" (1.91 mm)

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

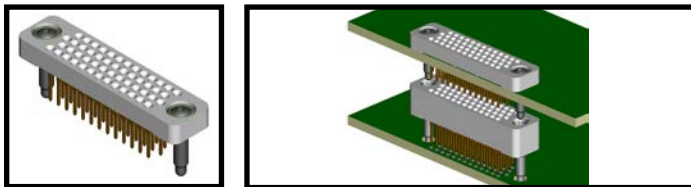
Sample Part Number Format: RC442-052-311-4000

RC442			1			
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 – 0.270" Long 31 – 0.300" Long 32 – 0.400" Long 33 – 0.500" Long 34 – 0.700" Long 35 – 0.800" Long 36 – 0.900" Long 37 – 0.600" Long 38 – 1.000" Long	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

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).



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



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

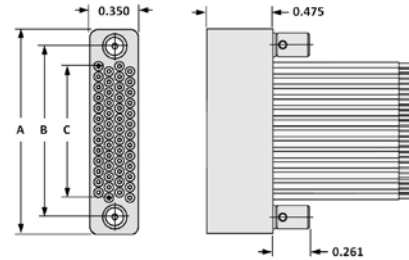
Contact spacing: 0.075" (1.91 mm)

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

DIMENSIONS

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

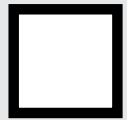
Tolerances: ± 0.010 "



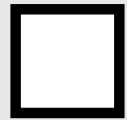
Sample Part Number Format: RC4B2-052-281-62ED



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



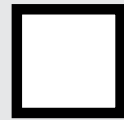
CONFIGURATION
028 – 4 Rows/7 Columns
052 – 4 Rows/13 Columns
076 – 4 Rows/19 Columns
100 – 4 Rows/25 Columns
128 – 4 Rows/32 Columns
152 – 4 Rows/38 Columns



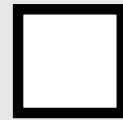
CONTACT
28 – Socket, crimp, 26-24 AWG
29 – Socket, crimp, 30-28 AWG



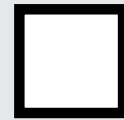
PLATING
1 – 50 μ " Au



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

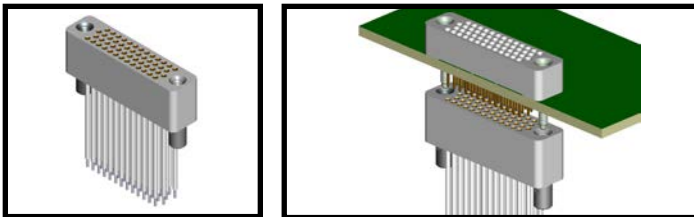
WIRE CODES

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 AIRBORN 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.



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.

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



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

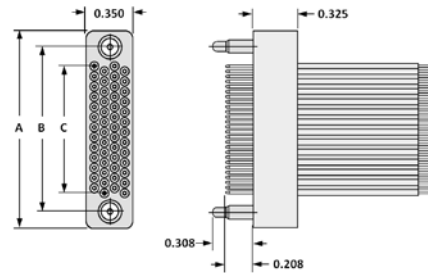
Contact spacing: 0.075" (1.91 mm)

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

DIMENSIONS

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

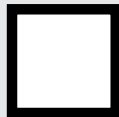
Tolerances: ± 0.010"



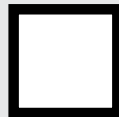
Sample Part Number Format: RC4C2-052-181-57ED



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



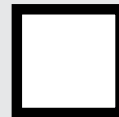
CONFIGURATION
028 – 4 Rows/7 Columns
052 – 4 Rows/13 Columns
076 – 4 Rows/19 Columns
100 – 4 Rows/25 Columns
128 – 4 Rows/32 Columns
152 – 4 Rows/38 Columns



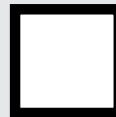
CONTACT
18 – Pin, crimp, 26-24 AWG
19 – Pin, crimp, 30-28 AWG



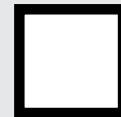
PLATING
1 – 50 μ" Au



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



TYPE
XX – See Wire Codes



VARIATION
Blank – None
XXX – Consult factory

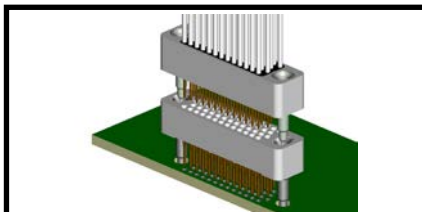
WIRE CODES

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/0.0246" 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)

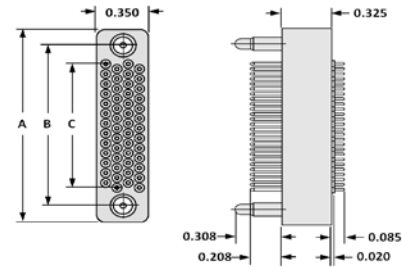
Contact spacing: 0.075" (1.91 mm)

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 "

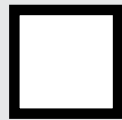


Sample Part Number Format: RC4C2-052-151-5700



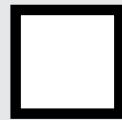
SERIES

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



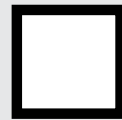
CONTACT

15 – Pin, flex circuit



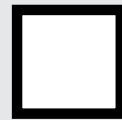
PLATING

1 – 50 μ " Au



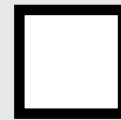
HARDWARE

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



TYPE

00 – None



VARIATION

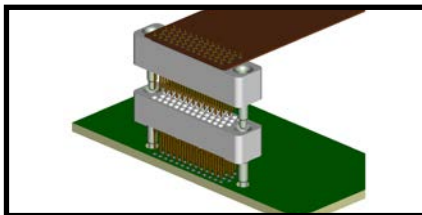
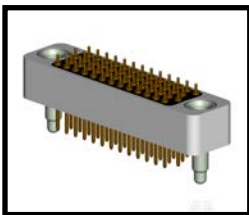
Blank – None
XXX – Consult factory



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.



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/0.0246" dia. test pin
Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin



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

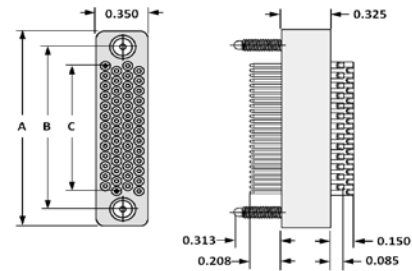
Contact spacing: 0.075" (1.91 mm)

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: $\pm 0.010"$

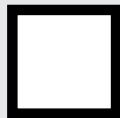


Sample Part Number Format: RC4C2-052-111-6100



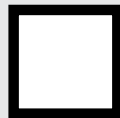
SERIES

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



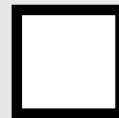
CONTACT

11 – Pin, solder cup



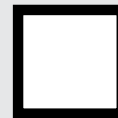
PLATING

1 – 50 μ " Au



HARDWARE

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



TYPE

00 – None



VARIATION

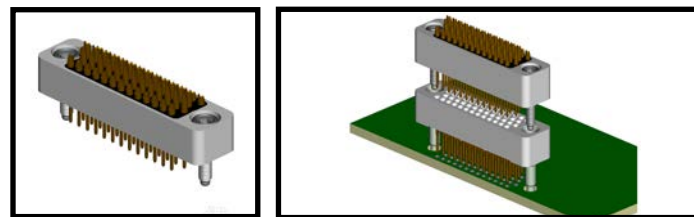
Blank – None
XXX – Consult factory



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.



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

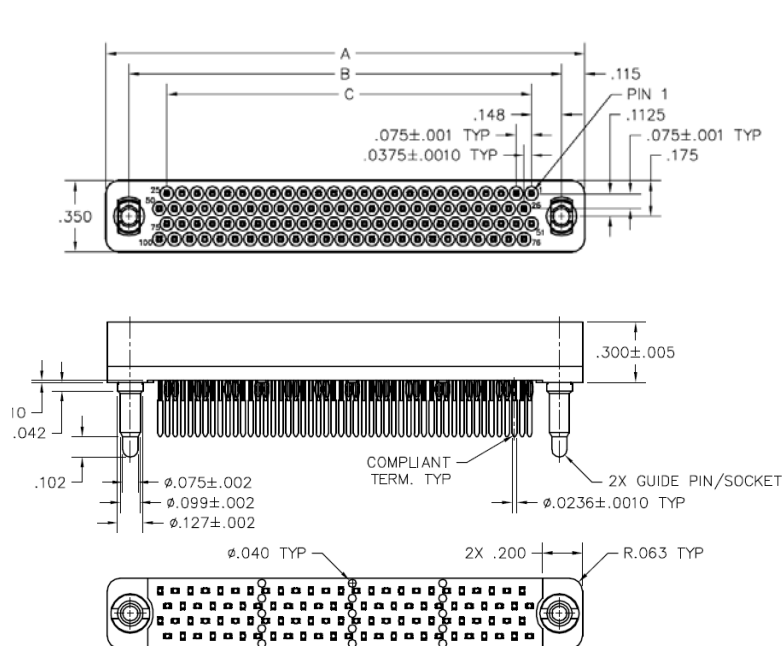
Contact: BeCu per ASTM B196 or B197 (BeCu alloy 172 or 173)
Contact Finish: Gold per MIL-G-45204 over nickel per QQ-N-290
Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
Hardware: Stainless steel per ASTM A484/A484M and ASTM A582/A582M, passivated per SAE AMS-2700

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

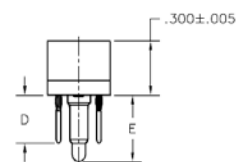
PERFORMANCE

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/0.0246" dia. test pin
Contact Separation Force: 0.5 oz (14 g) min. w/0.0226" dia. test pin

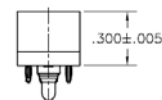
RC 4-ROW DIMENSIONS



BODY STYLE
422

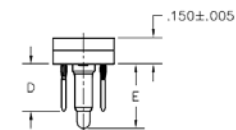


BODY STYLE
422



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)

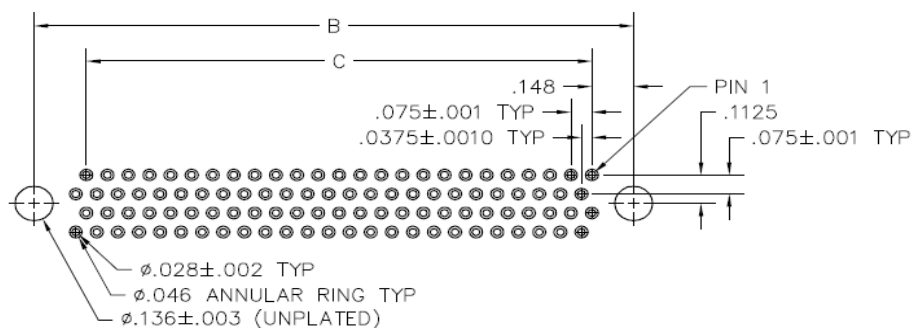


RC 4-ROW DRAWINGS

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: Ø 0.033"

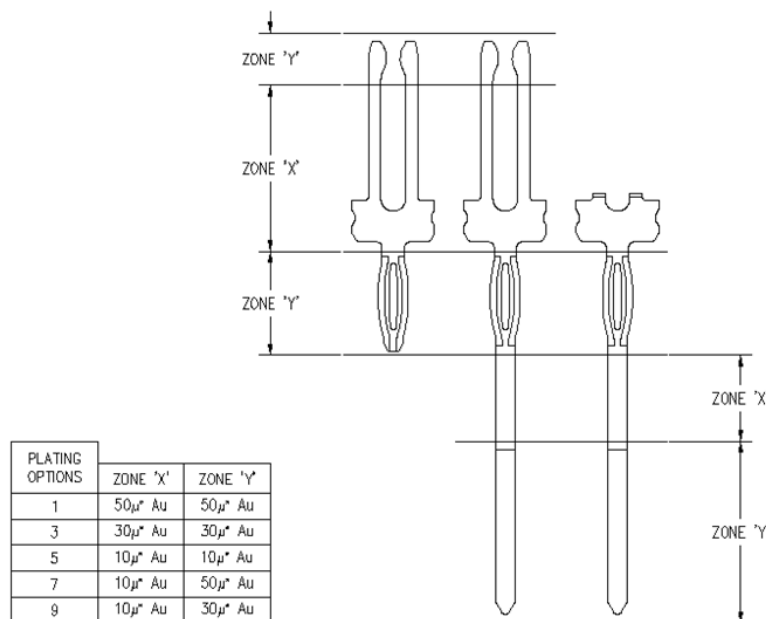
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

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

RC 4-ROW 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

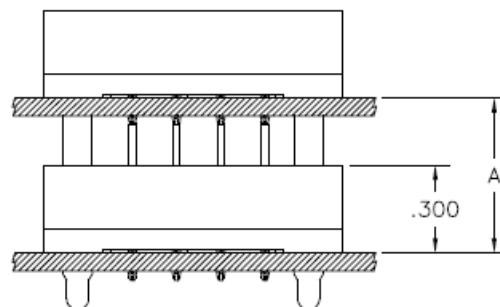
$0.720 - 0.300$ (insulator height) = 0.420

$0.420 + 0.114$ (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: Ø 0.033"

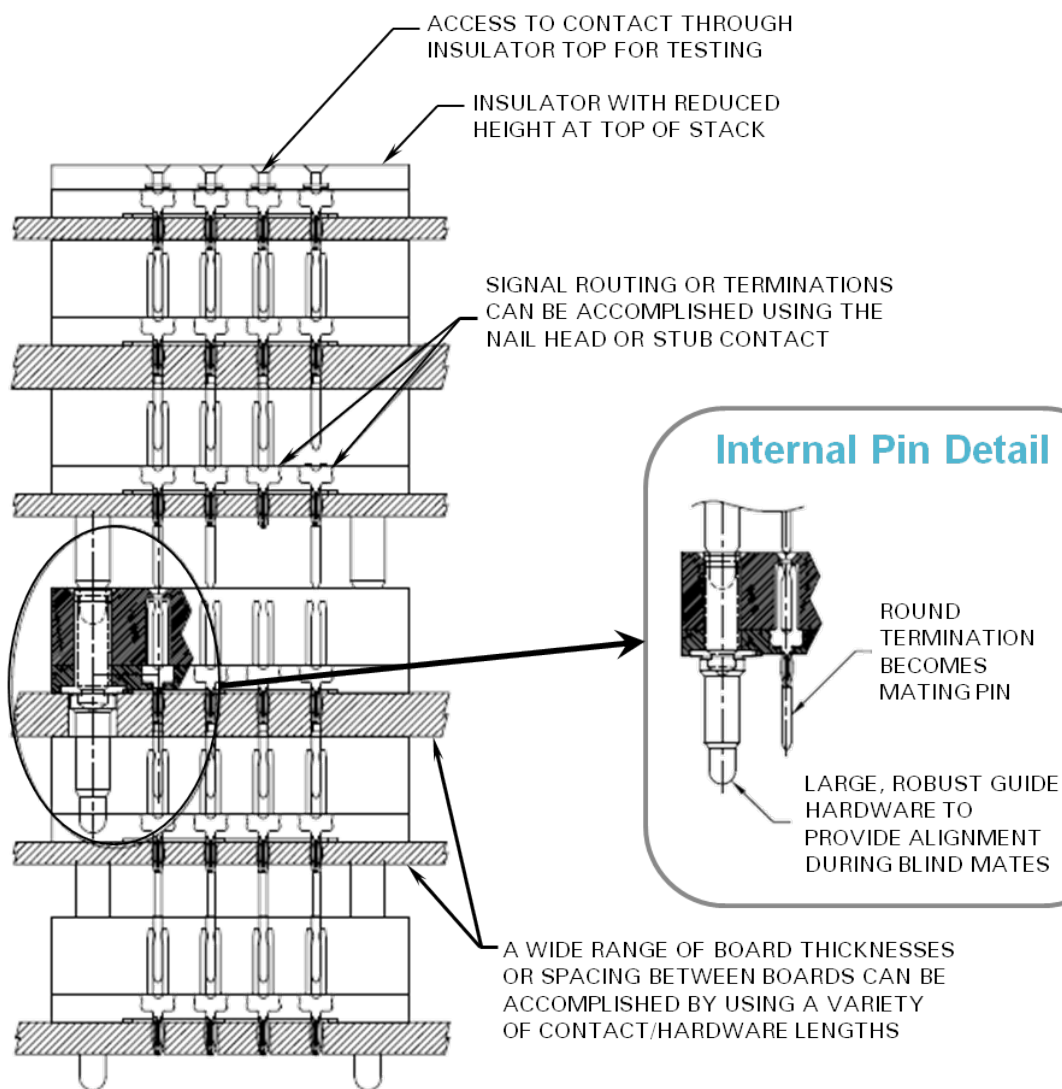
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

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

RC 4-ROW DRAWINGS

Stacking Detail



PWB-PLATED THRU-HOLE RECOMMENDATIONS:

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

Board thickness: 0.058" minimum

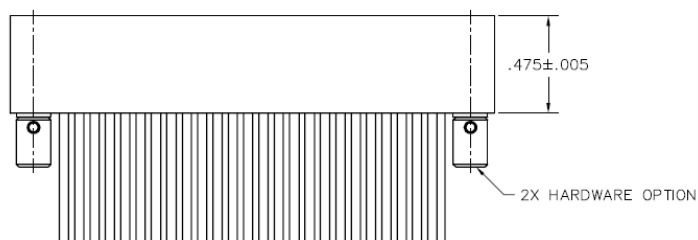
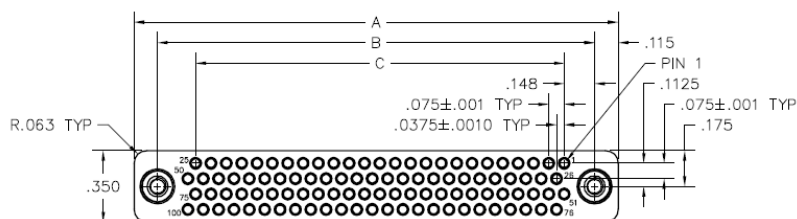
Drilled hole: $\varnothing$ 0.033"

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"

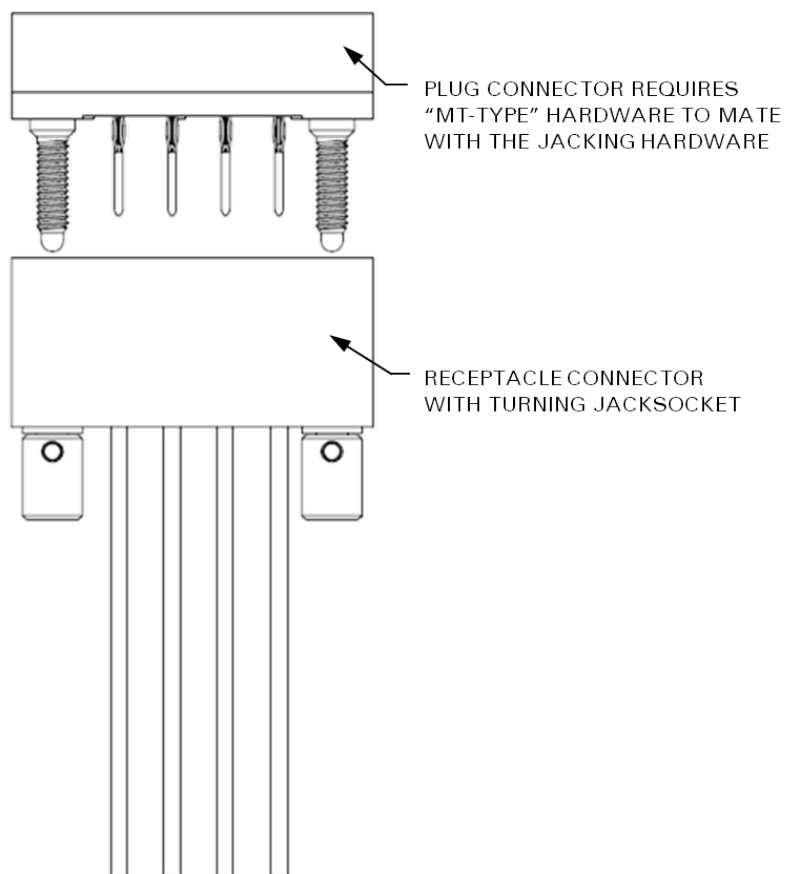
Copper plating thickness: 0.0020"

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"

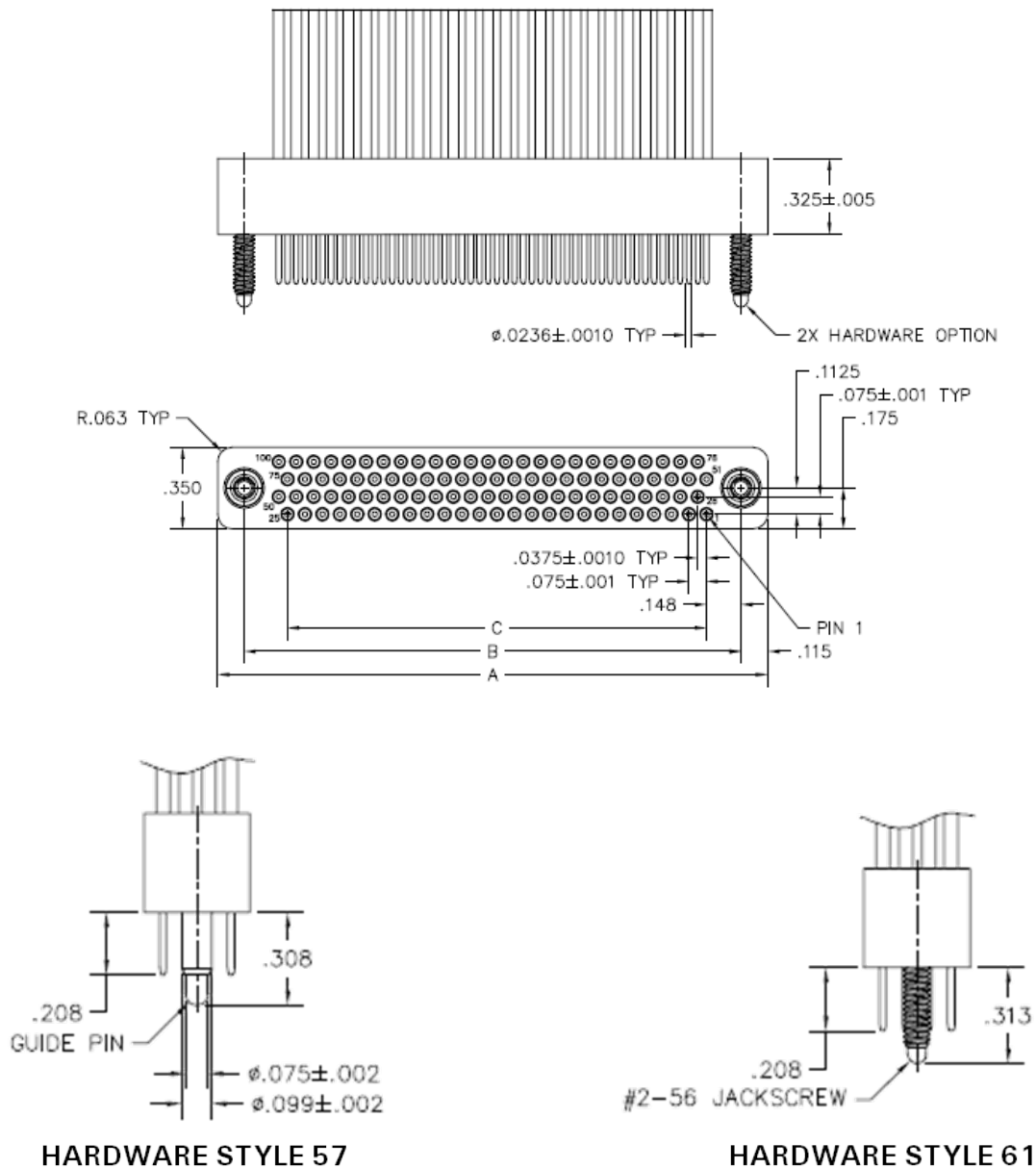
Copper plating thickness: 0.0020"

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

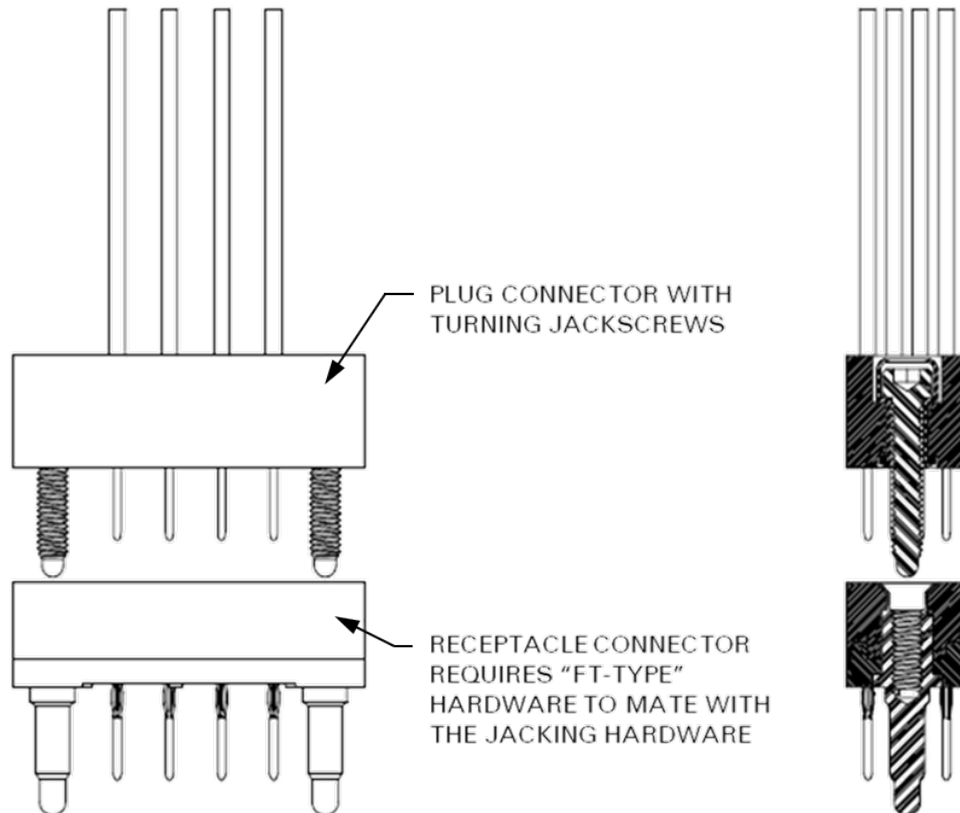
Drilled hole: Ø 0.033"

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"

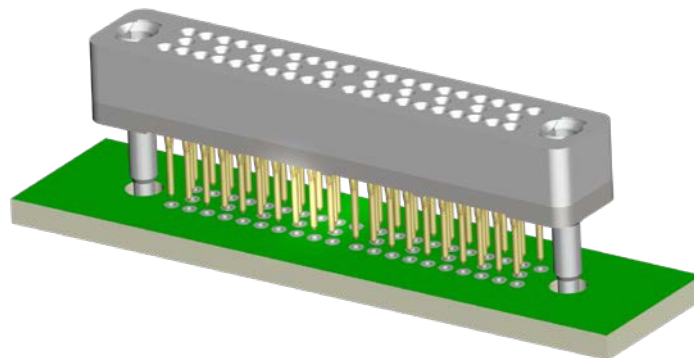
Tin-lead plating thickness: 0.0005"

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





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

TABLE 1			
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: $\pm 0.010"$

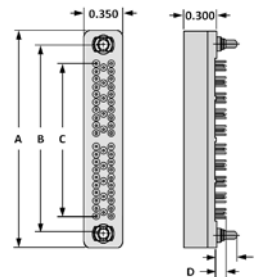
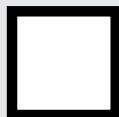


TABLE 2		
CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195

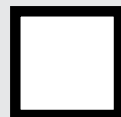
Sample Part Number Format: RC324-050-101-3000



SERIES
Stackable
Compliant
Full-Profile
3 Rows
0.075" Spacing



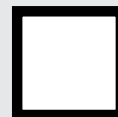
CONFIGURATION
025 – 3 Rows/1 Bay
050 – 3 Rows/2 Bays
075 – 3 Rows/3 Bays
100 – 3 Rows/4 Bays



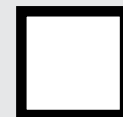
CONTACT
10 – 0.095" Long



PLATING
1 – 50 μ " Au



TYPE
00 – None



VARIATION
Blank – None
XXX – Consult factory

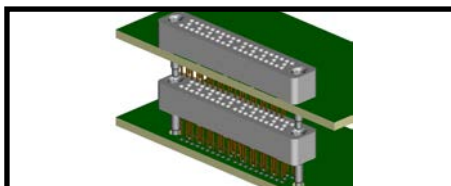
HARDWARE
30 – 0.195" Long
(use with #10 contact)



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

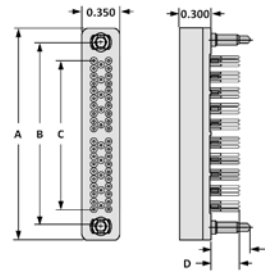
Contact spacing: 0.075" (1.91 mm)

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"

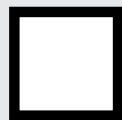


CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195

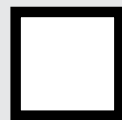
Sample Part Number Format: RC324-050-201-3900



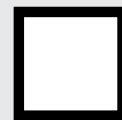
SERIES
Stackable
Compliant
Full-Profile
3 Rows
0.075" Spacing



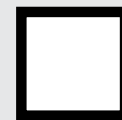
CONFIGURATION
025 – 3 Rows/1 Bay
050 – 3 Rows/2 Bays
075 – 3 Rows/3 Bays
100 – 3 Rows/4 Bays



PLATING
1 – 50 μ" Au



TYPE
00 – None



VARIATION
Blank – None
XXX – Consult factory

CONTACT
10 – 0.095" Long
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

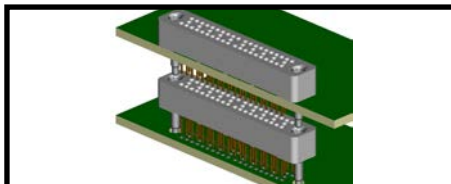
HARDWARE
30 – 0.195" Long (use with #10 contact)
39 – 0.370" Long (use with #20 contact)
40 – 0.400" Long (use with #21 contact)
41 – 0.500" Long (use with #22 contact)
42 – 0.600" Long (use with #23 contact)
43 – 0.800" Long (use with #24 contact)
44 – 0.900" Long (use with #25 contact)
45 – 1.000" Long (use with #26 contact)
46 – 0.700" Long (use with #27 contact)
47 – 1.100" Long (use with #28 contact)



PLEASE CONSULT THE 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

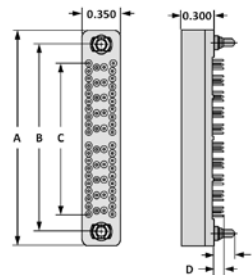
Contact spacing: 0.075" (1.91 mm)

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"

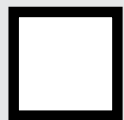


CONTACT SELECTION	CONTACT D	HARDWARE E
10	0.095	0.195

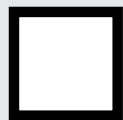
Sample Part Number Format: RC424-060-101-3000



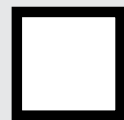
SERIES
Stackable
Compliant
Full-Profile
4 Rows
0.075" Spacing



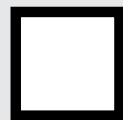
CONFIGURATION
030 – 4 Rows/1 Bay
060 – 4 Rows/2 Bays
090 – 4 Rows/3 Bays
120 – 4 Rows/4 Bays



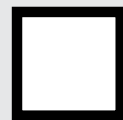
PLATING
1 – 50 μ" Au



CONTACT
10 – 0.095" Long



TYPE
00 – None



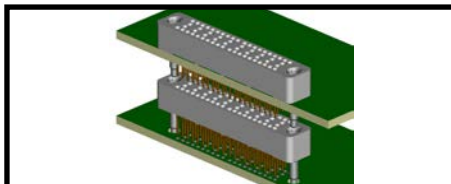
VARIATION
Blank – None
XXX – Consult factory



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

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 Mid/Top-of-Stack Connector with SI

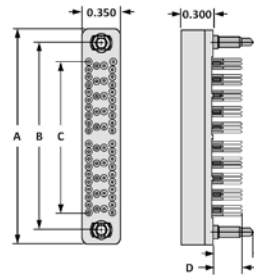
Contact spacing: 0.075" (1.91 mm)

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
10	0.095	0.195
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

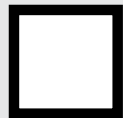
Sample Part Number Format: RC424-060-201-3900



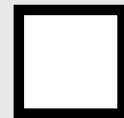
SERIES
Stackable
Compliant
Full-Profile
4 Rows
0.075" Spacing



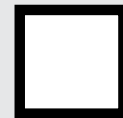
CONFIGURATION
030 – 4 Rows/1 Bay
060 – 4 Rows/2 Bays
090 – 4 Rows/3 Bays
120 – 4 Rows/4 Bays



PLATING
1 – 50 μ" Au



TYPE
00 – None



VARIATION
Blank – None
XXX – Consult factory

CONTACT
10 – 0.095" Long
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

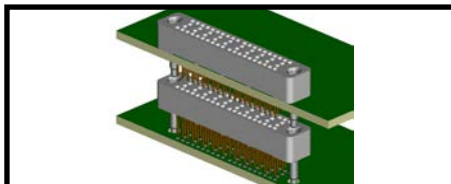
HARDWARE
30 – 0.195" Long (use with #10 contact)
39 – 0.370" Long (use with #20 contact)
40 – 0.400" Long (use with #21 contact)
41 – 0.500" Long (use with #22 contact)
42 – 0.600" Long (use with #23 contact)
43 – 0.800" Long (use with #24 contact)
44 – 0.900" Long (use with #25 contact)
45 – 1.000" Long (use with #26 contact)
46 – 0.700" Long (use with #27 contact)
47 – 1.100" Long (use with #28 contact)



PLEASE CONSULT THE 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

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.

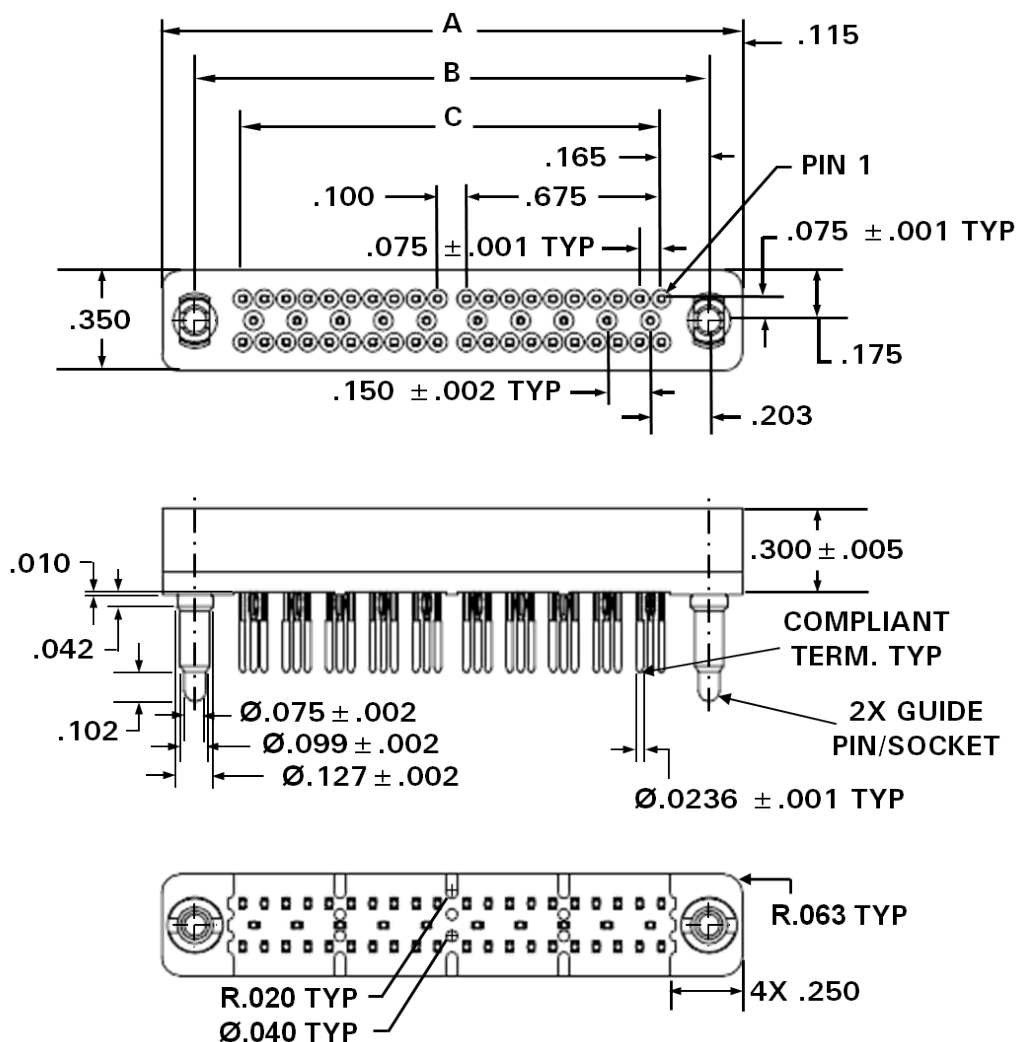
PERFORMANCE

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 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"

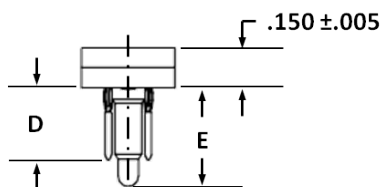
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

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

RCII 3-ROW DIMENSIONS

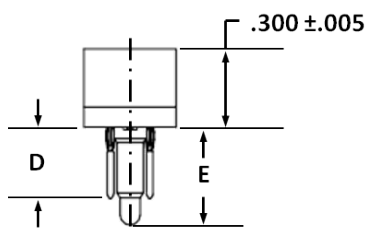
Hardware Options



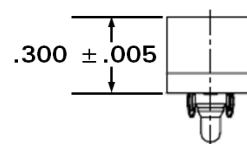
BODY STYLE 344

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

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 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: 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)

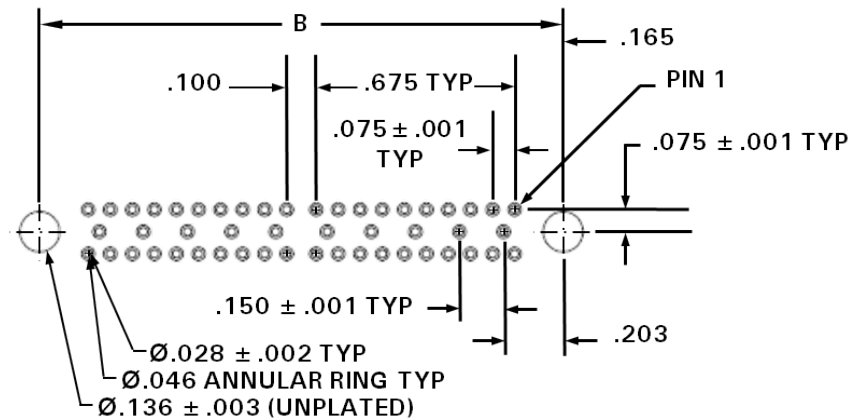


RCII 3-ROW DRAWINGS

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"

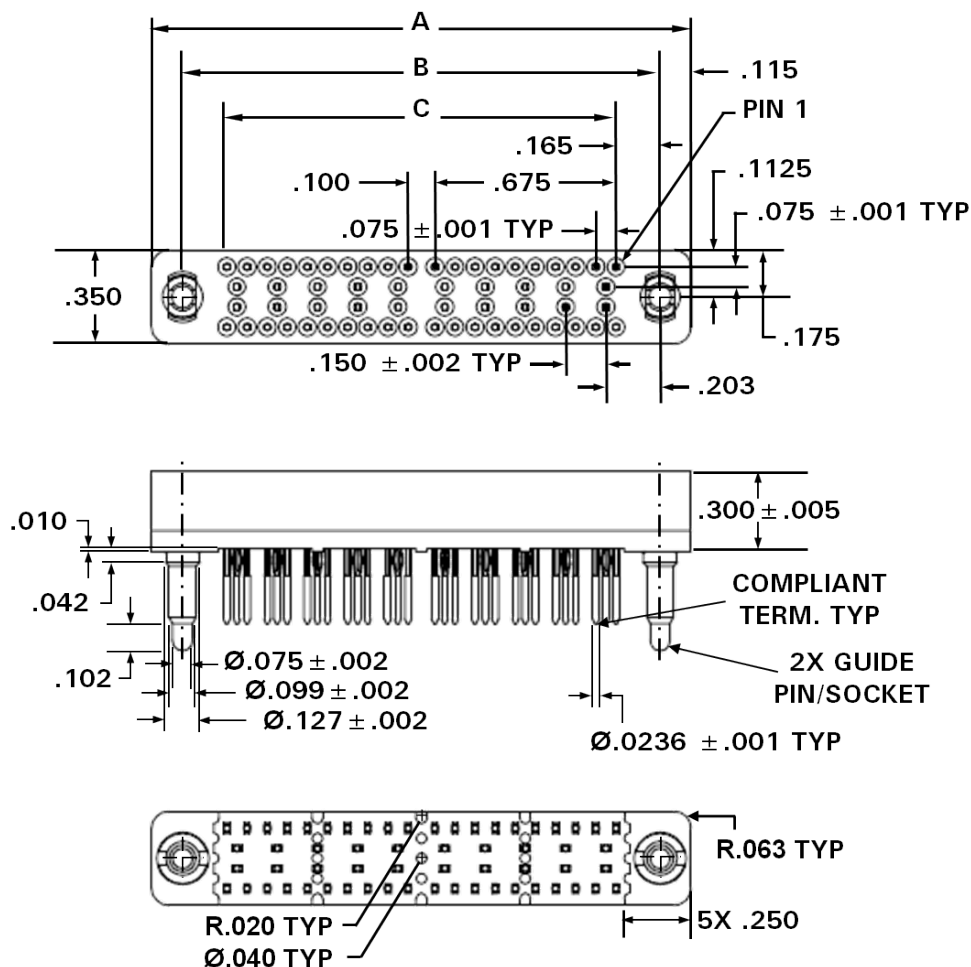
Copper plating thickness: 0.0020"

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"

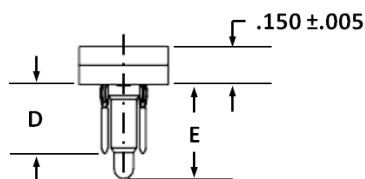
Copper plating thickness: 0.0020"

Tin-lead plating thickness: 0.0005"

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

RCII 4-ROW DIMENSIONS

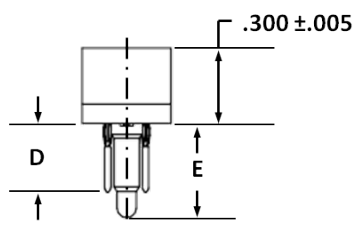
Hardware Options



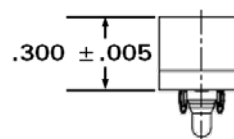
BODY STYLE 444

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: 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)

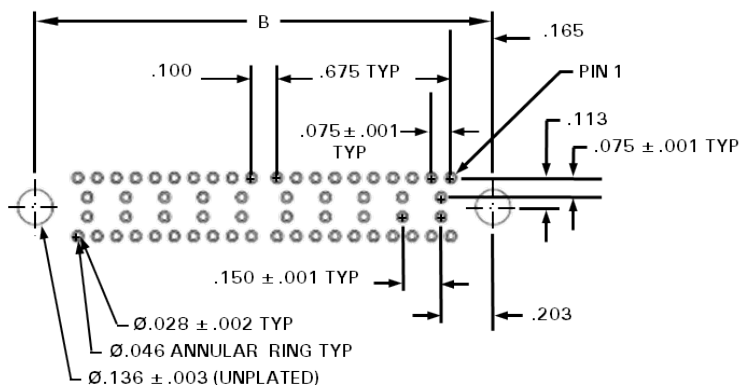


RCII 4-ROW DRAWINGS

Board Footprint and Dimensions

SIZE	CONTACT ID
30	
60	
70	
120	

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: $\phi 0.033$ "

Copper plating thickness: 0.0020"

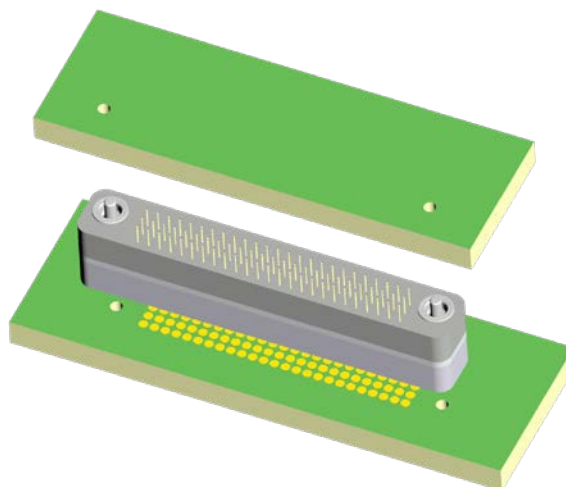
Tin-lead plating thickness: 0.0005"

Finished hold diameter: $\phi 0.028$ " ($\phi 0.028$ " ± 0.002 " required)



The RZ 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.





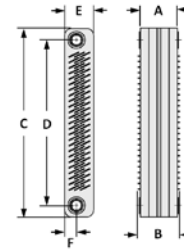
Vertical Compression (Z-axis), Open-Pin Field

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

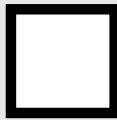


HARDWARE HEIGHT (A)	CONTACT HEIGHT (B)
0.100	0.120
0.150	0.170
0.200	0.230
0.250	0.280
0.300	0.330
0.350	0.380

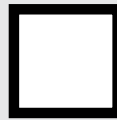
Sample Part Number Format: RZ250-320-115-1000



SERIES
Vertical
(Z-Axis)
Compression
Multi-Rows
0.050" Spacing
Open-Field



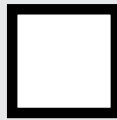
HEIGHT
100 – 0.100"
150 – 0.150"
200 – 0.200"
250 – 0.250"
300 – 0.300"
350 – 0.350"



ROWS
2 – 2 Rows
3 – 3 Rows
4 – 4 Rows
5 – 5 Rows
6 – 6 Rows
7 – 7 Rows



COLUMNS
10 – 10 Columns
15 – 15 Columns
20 – 20 Columns
25 – 25 Columns



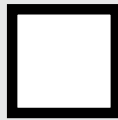
CONTACT
11 – Double
compression



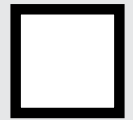
PLATING
5 – 50 μ" Au
3 – 30 μ" Au



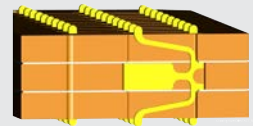
HARDWARE
10 – Ø.090" Thru-hole
20 – Ø.050" Guide pin



TYPE
00 – No polarization



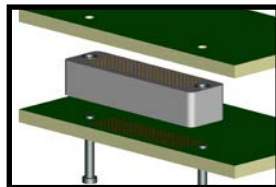
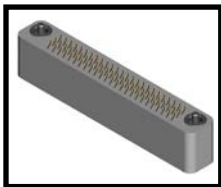
VARIATION
Blank – None
XXX – Consult
factory



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

MATED HEIGHT

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.

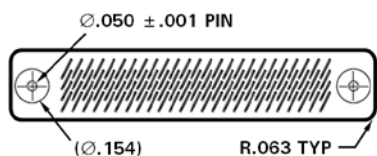
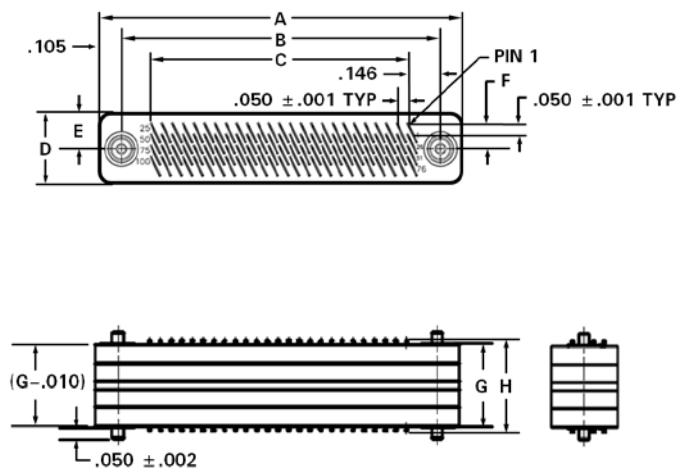
PERFORMANCE

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
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.

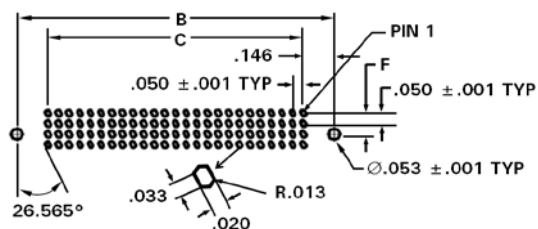
RZ DIMENSIONS

Guide Pin 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



DIMENSIONS	
HARDWARE 'G'	CONTACT 'H'
0.100	0.120
0.150	0.170
0.200	0.230
0.250	0.280
0.300	0.330
0.350	0.380

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

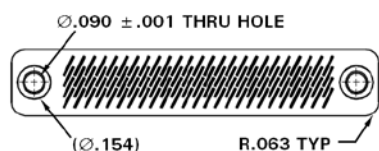
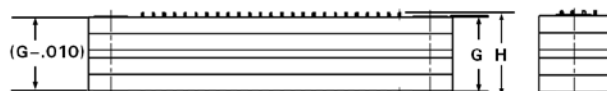
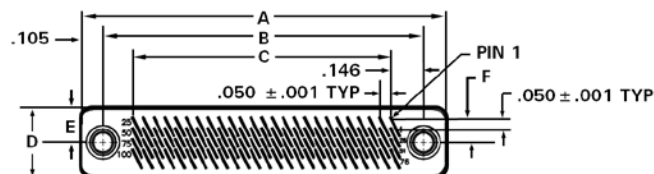
Copper foil thickness: 1 oz per square foot

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.)

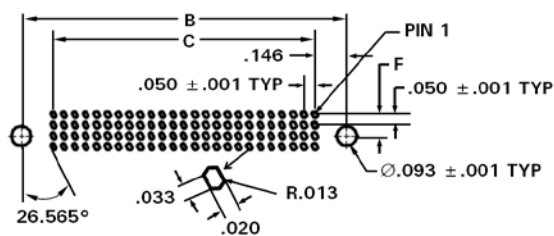
RZ DIMENSIONS

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



DIMENSIONS	
HARDWARE 'G'	CONTACT 'H'
0.100	0.120
0.150	0.170
0.200	0.230
0.250	0.280
0.300	0.330
0.350	0.380

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

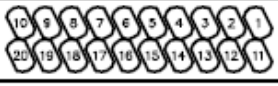
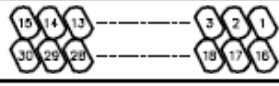
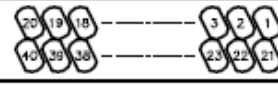
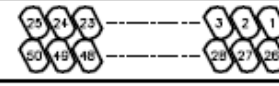
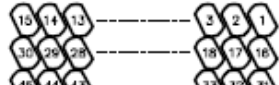
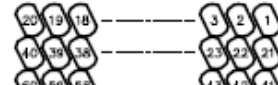
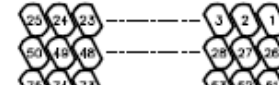
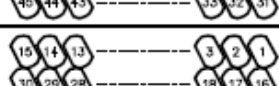
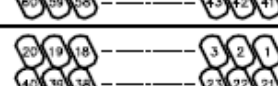
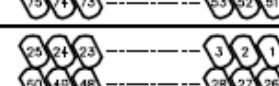
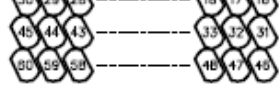
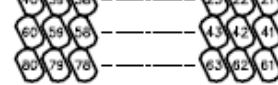
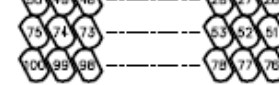
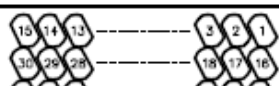
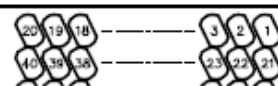
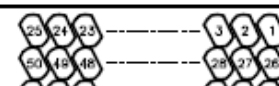
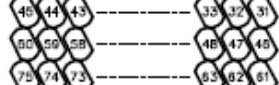
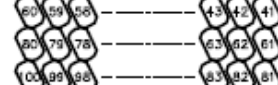
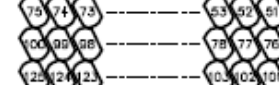
Plate all surface features with 50 μ ", minimum, electrolytic hard gold over 50-150 μ " nickel.

(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.)



RZ DRAWINGS

Board Footprint

ROWS	CONTACT ID			
	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

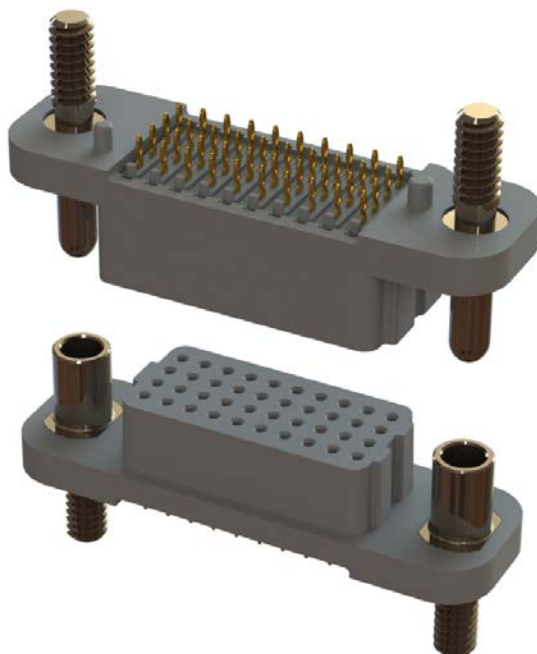
Plate all surface features with 50 μ ", minimum, electrolytic hard gold over 50-150 μ " nickel.

(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.)



The logo for verSI consists of a 3x4 grid of grey dots to the left of the word "verSI" in a blue sans-serif font, with a trademark symbol (TM) to the right.

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.



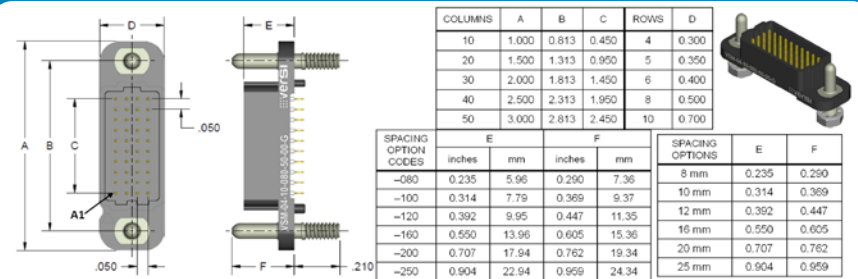


VSM – Vertical (Male)

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.

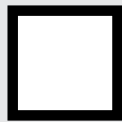
DIMENSIONS



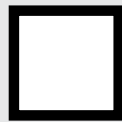
Sample Part Number Format: VSM-04-10-080-50-02-G



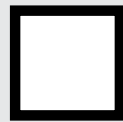
SERIES
Vertical (Male)
1.27 mm



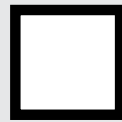
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



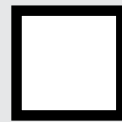
COLUMNS
10 – 10 Columns
20 – 20 Columns
30 – 30 Columns
40 – 40 Columns
50 – 50 Columns



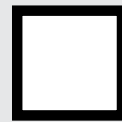
**BOARD
SPACING***
080 – 8 mm
100 – 10 mm
120 – 12 mm
160 – 16 mm
200 – 20 mm
250 – 25 mm



**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.

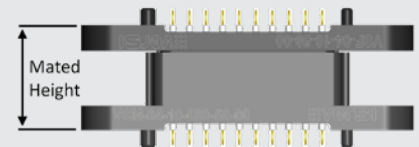
* No hardware supplied with blank hardware option connectors.

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

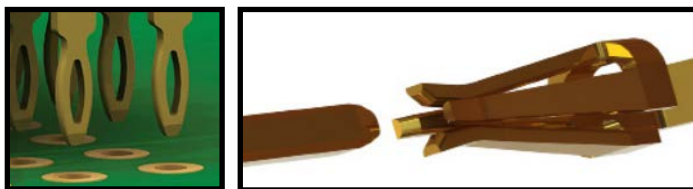
Max allowable separation between mating faces is 0.035 inches.



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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)

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)

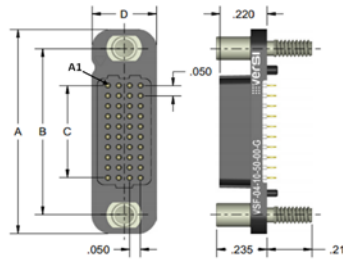


VSF – Vertical (Female)

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

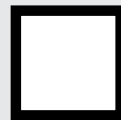
Sample Part Number Format: VSF-04-10-50-02



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 socket[†]
G1 – Guide socket[†]
J – Turning jackscrew[†]
J1 – Turning jackscrew[†]
L – Locking screw[†]
L1 – Locking screw[†]
N – Fixed jacknut[†]
N1 – Fixed jacknut[†]

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.

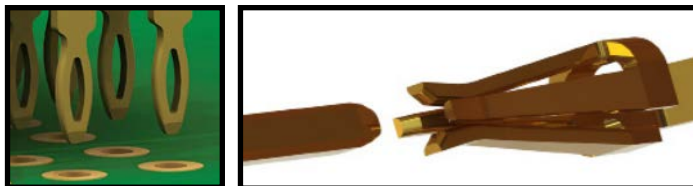
AirBorn can manufacture other configurations to your exact specifications.

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

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

Socket Contacts: BeCu per ASTM B194
Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μ N 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 $\pm$ 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)

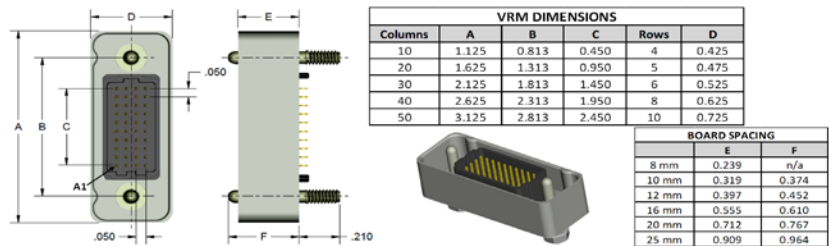


VRM – Vertical Rugged (Male)

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



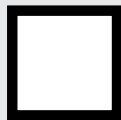
Sample Part Number Format: VRM-04-10-100-50-02-G



SERIES
Vertical Rugged
(Male)
1.27 mm



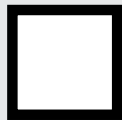
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



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**
G1 – Guide pin**
J – Turning jackscrew**
J1 – Turning jackscrew**
L – Locking screw**
L1 – Locking screw**
N – Fixed jacknut**
N1 – Fixed jacknut**
E – No Hardware/EMI gasket†
GE – Guide pin/EMI gasket**
G1E – Guide pin/EMI gasket**
JE – Turning jackscrew/EMI gasket**
J1E – Turning jackscrew/EMI gasket**
LE – Locking screw/EMI gasket**
L1E – Locking screw/EMI gasket**
NE – Fixed jacknut/EMI gasket**
N1E – Fixed jacknut/EMI gasket**

NOTES

Connector potting is standard.

* Consult factory for additional board spacing options.

** Not available with 8 mm board spacing

† Used for PC board thickness up to 0.125"

‡ 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.

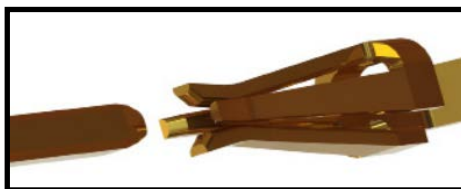
AirBorn can manufacture other configurations to your exact specifications.

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

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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)

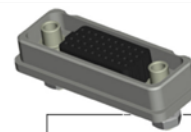
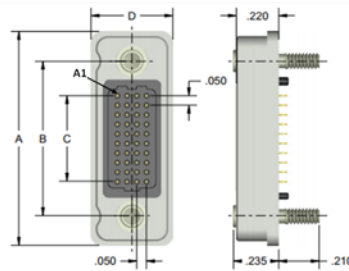


VRF – Vertical Rugged

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

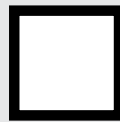
Sample Part Number Format: VRF-04-10-50-04-J



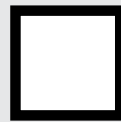
SERIES
Vertical Rugged
(Female)
1.27 mm



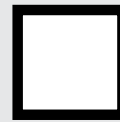
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



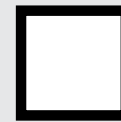
COLUMNS
10 – 10 Columns
20 – 20 Columns
30 – 30 Columns
40 – 40 Columns
50 – 50 Columns



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 jackscrew†
J1 – Turning jackscrew†
L – Locking screw†
L1 – Locking screw†
N – Fixed jacknut†
N1 – Fixed jacknut†
E – No hardware/EMI gasket†
GE – Guide socket/EMI gasket†
G1E – Guide socket/EMI gasket†
JE – Turning jackscrew/EMI gasket†
J1E – Turning jackscrew/EMI gasket†
LE – Locking screw/EMI gasket†
L1E – Locking screw/EMI gasket†
NE – Fixed jacknut/EMI gasket†
N1E – Fixed jacknut/EMI gasket†

NOTES

Connector potting is standard.

* Used for PC board thickness up to 0.125"

* 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

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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 μ N min
Socket Contact: BeCu per ASTM B194
Contact Finish: Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μ N 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 $\pm$ 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)

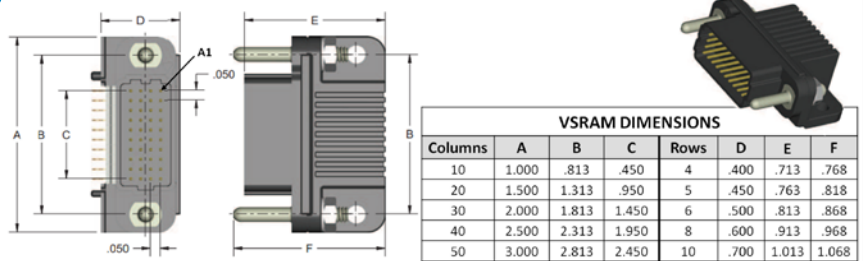


VSRAM – Right Angle (Male)

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.

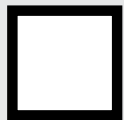
DIMENSIONS



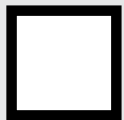
Sample Part Number Format: VSRAM-04-10-50-02-G



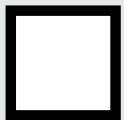
SERIES
Right Angle (Male)
1.27 mm



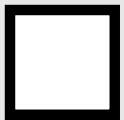
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



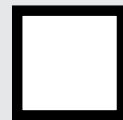
COLUMNS
10 – 10 Columns
20 – 20 Columns
30 – 30 Columns
40 – 40 Columns
50 – 50 Columns



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.

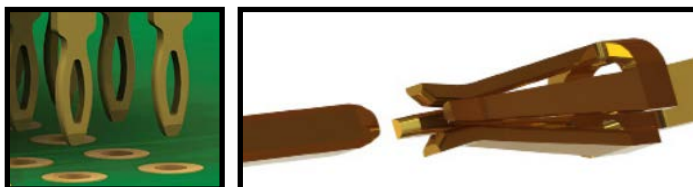
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FEATURES

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 μ N min

Contact Finish (Termination): Localized gold finish per ASTM B488, Type II, Code C, 50 μ N min over nickel per ASTM B689 Type I, 50 μ N min (Press Fit) or Localized Gold per ASTM B488 Type I, Code A or C, 10-25 μ N over nickel per ASTM B689 Type I, 50 μ N 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 $\pm$ 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)

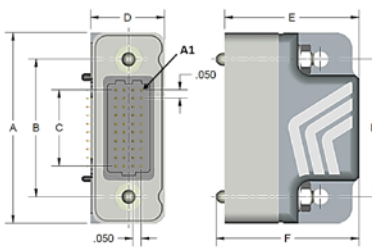


VRRAM – Rugged Right Angle (Male)

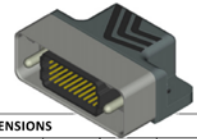
Pitch: 1.27 mm

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



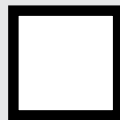
VRRAM DIMENSIONS							
Columns	A	B	C	Rows	D	E	F
10	1.125	0.813	0.450	4	0.438	0.798	0.847
20	1.625	1.313	0.950	5	0.488	0.848	0.897
30	2.125	1.813	1.450	6	0.538	0.898	0.947
40	2.625	2.313	1.950	8	0.638	0.998	1.047
50	3.125	2.813	2.450	10	0.738	1.098	1.147



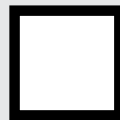
Sample Part Number Format: VRRAM-04-10-50-02-N



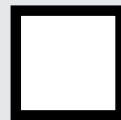
SERIES
Rugged Right
Angle (Male)
1.27 mm



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

¹ Shells & hardware supplied uninstalled.

² Connectors come pre-assembled with shells & hardware.

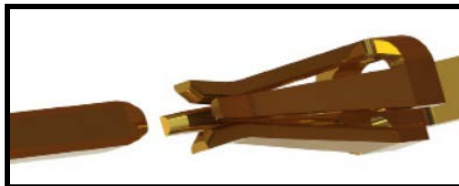
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FEATURES

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 μ N 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 μ N min

Contact Finish (Termination Face): . . . Localized gold finish per ASTM B488, Type II, Code C, 50 μ N min over nickel per ASTM B689 Type I, 50 μ N min (Press Fit) or Localized Gold per ASTM B488, Type 1, Code A or C, 10-25 μ N over nickel per ASTM B689 Type I, 50 μ N 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 $\pm$ 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)

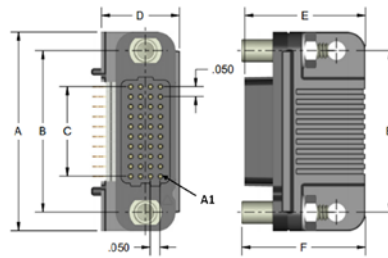


VSRAF – Right Angle (Female)

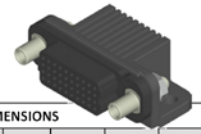
Pitch: 1.27 mm

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



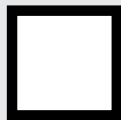
VSRAF DIMENSIONS						
Columns	A	B	C	Rows	D	E
10	1.000	.813	.450	4	.400	.619
20	1.500	1.313	.950	5	.450	.669
30	2.000	1.813	1.450	6	.500	.719
40	2.500	2.313	1.950	8	.550	.769
50	3.000	2.813	2.450	10	.600	.819



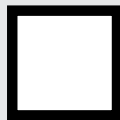
Sample Part Number Format: VSRAF-04-10-50-02-N



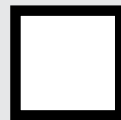
SERIES
Right Angle
(Female)
1.27 mm



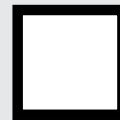
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



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.

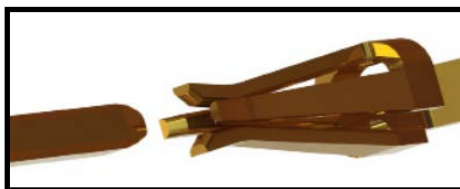
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FEATURES

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 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 μ N min
Contact Finish (Termination): Localized gold finish per ASTM B488, Type II, Code C, 50 μ N min over nickel per ASTM B689 Type I, 50 μ N min (Press Fit) or localized gold per ASTM B488, Type I, Code A or C, 10-25 μ N over nickel per ASTM B689 Type I, 50 μ N 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 $\pm$ 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)

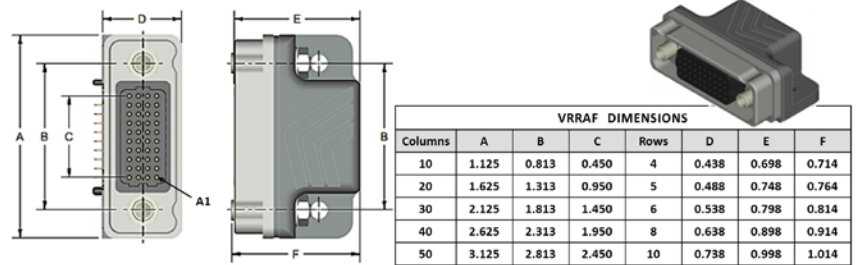


VRRAF – Rugged Right Angle (Female)

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.

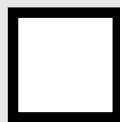
DIMENSIONS



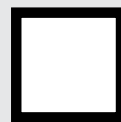
Sample Part Number Format: VRRAF-04-10-50-00-G



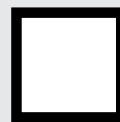
SERIES
Rugged Right Angle
(Female)
1.27 mm



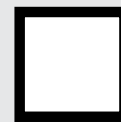
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



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

¹ Shells & hardware supplied uninstalled.

² Connectors come pre-assembled with shells & hardware.

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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 μ N 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 μ N min
Contact Finish (Termination): Localized gold finish per ASTM B488, Type II, Code C, 50 μ N min over nickel per ASTM B689, Type I, 50 μ N min (Press Fit) or localized gold per ASTM B488, Type I, Code A or C, 10-25 μ N over nickel per ASTM B689 Type I, 50 μ N 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 $\pm$ 10% @ 50 ps rise time	
4	Diff. Skew	< 2 psec	

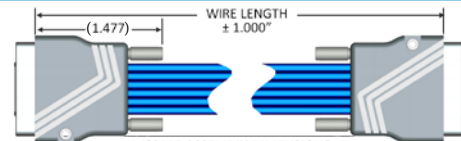
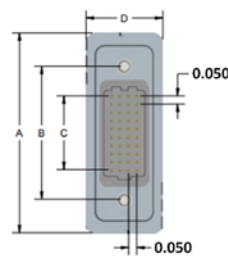


VRD – Differential Pair Twinax Cable Assembly

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

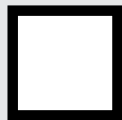


CABLE ASSEMBLY DIMENSIONS					
Columns	A	B	C	Rows	D
10	1.222	0.813	0.450	4	0.470
20	1.722	1.313	0.950	5	0.520
30	2.222	1.813	1.450	6	0.570
40	2.722	2.313	1.950	8	0.670
50	3.222	2.813	2.450	10	0.770

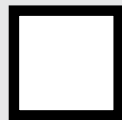
Sample Part Number Format: VRD-04-10-50-01-03-060



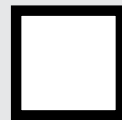
SERIES
Differential Pair
Twinax Cable
Assembly
1.27 mm



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



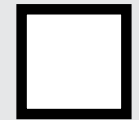
CONTACT PLATING
50 – 50 μ " Au



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

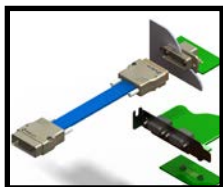
* Other cable lengths and configurations available.

AirBorn can manufacture other configurations to your exact specifications.

PLEASE CONSULT THE 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-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-II-49 or equiv.

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 $\pm$ 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)

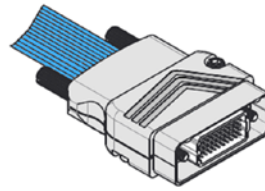


VRW – Discrete Wire Cable Assembly with Internal Solder Connection

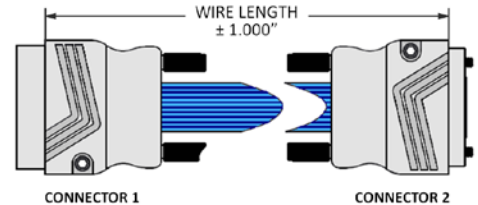
Pitch: 1.27 mm

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

DIMENSIONS



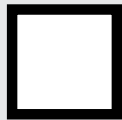
See next page for detailed drawings



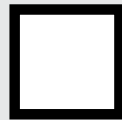
Sample Part Number Format: VRW-04-10-50-03J-01J-A030



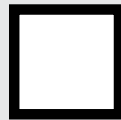
SERIES
Discrete Wire Cable Assembly
1.27 mm



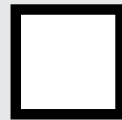
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



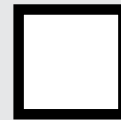
COLUMNS
10 – 10 Columns
20 – 20 Columns
30 – 30 Columns
40 – 40 Columns
50 – 50 Columns



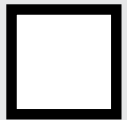
CONTACT PLATING
50 – 50 µ" Au



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.

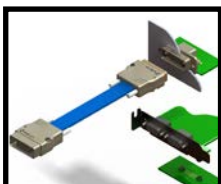
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

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

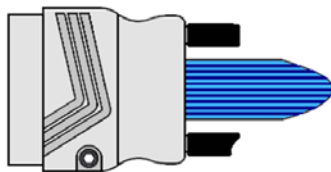
COLOR (per 83513) and GAGE		LENGTH		
			M	FT
NEMA HP3 EXBEB (24 AWG) – Multicolored	A			
White	B	010	0.10	0.328
NEMA HP3 EXBDB (26 AWG) – Multicolored	C	020	0.20	0.656
White	D	030	0.30	0.984
NEMA HP3 EXBCB (28 AWG) – Multicolored	E	040	0.40	1.312
White	F	050	0.50	1.640
NEMA HP3 EXBBB (30 AWG) – Multicolored	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. *

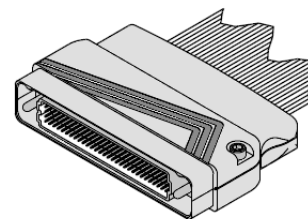


VRW DIMENSIONS

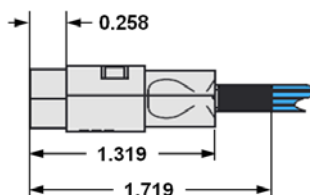
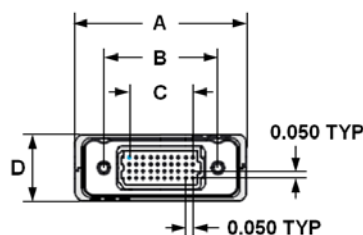
Male (Connector 1)



(Dimensional drawings shown with turning hardware)



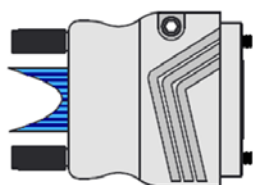
(Connector with guide pin hardware)



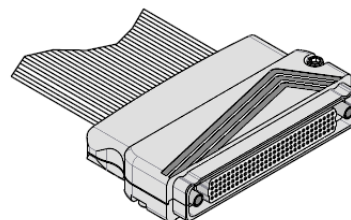
Columns	A	B	C	Rows	D
10	1.222	0.813	0.450	4	0.470
20	1.722	1.313	0.950	5	0.520
30	2.222	1.813	1.450	6	0.570
40	2.722	2.313	1.950	8	0.670
50	3.222	2.813	2.450	10	0.770

Tolerances (unless otherwise specified): ± 0.010 "

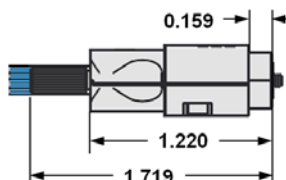
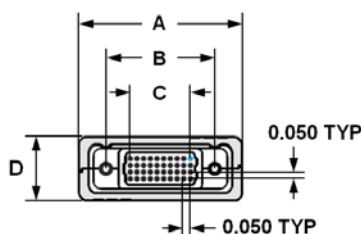
Female (Connector 2)



(Dimensional drawings shown with turning hardware)



(Connector with guide socket hardware)



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VRW PINOUTS

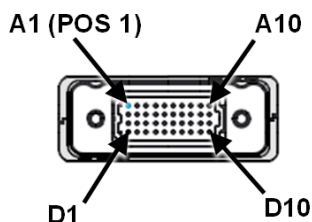
1-TO-1 WIRE CHART FOR JUMPER ASSEMBLIES

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

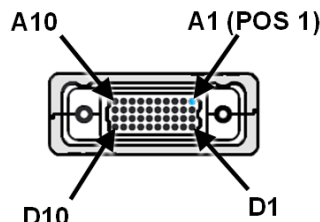
Connector 1	Connector 2	Connector 1	Connector 2	Connector 1	Connector 2	Connector 1	Connector 2
A1 — BLK — A1	B1 — BLK — B1	C1 — BLK — C1	D1 — BLK — D1				
A2 — BRN — A2	B2 — BRN — B2	C2 — BRN — C2	D2 — BRN — D2				
A3 — RED — A3	B3 — RED — B3	C3 — RED — C3	D3 — RED — D3				
A4 — ORN — A4	B4 — ORN — 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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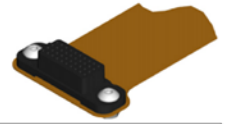
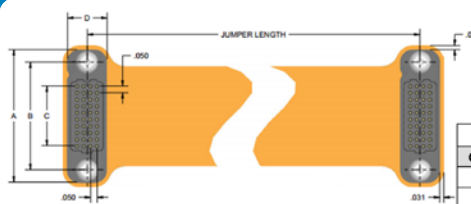


VSX – Flexible Circuit Jumper Assembly

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

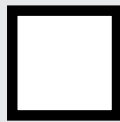
Sample Part Number Format: VSX-04-10-50-01G-03A-030



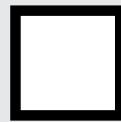
SERIES
Flexible Circuit Jumper
1.27 mm



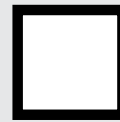
ROWS
04 – 4 Rows
05 – 5 Rows
06 – 6 Rows
08 – 8 Rows
10 – 10 Rows



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



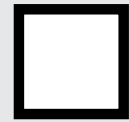
CONTACT PLATING
50 – 50 μ " Au



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)

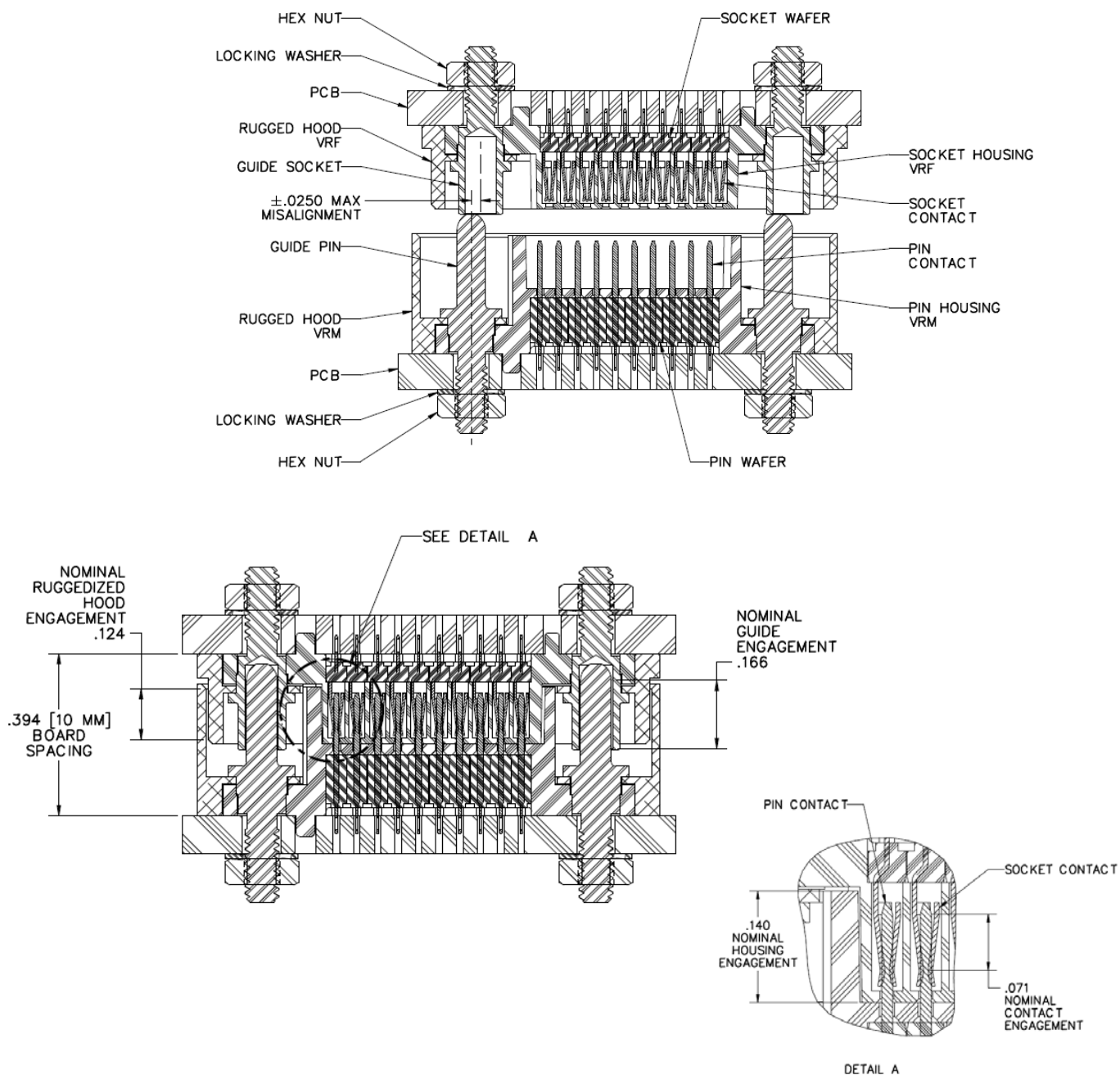
1	Diff. Insertion Loss	22 GHz @ -2 db	
2	Diff. Return Loss	7.5 GHz @ -20 db	17.5 GHz @ -10 db
3	Diff. Impedance	100 ohm $\pm$ 10%	
4	Diff. Skew	< 2 psec	

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



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Diversion contrary to U.S. law is prohibited.

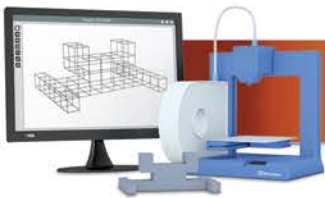
In-House Engineering Services



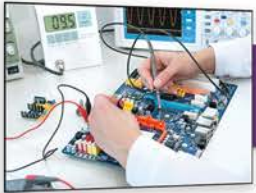
Concept
Development



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.



Global Interconnect Solutions for Mission-Critical Applications



 **AirBorn**

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