



High-Reliability Interconnect Solutions



## verSI Series

High-Speed, Micro-Density Interconnects

# Complete Electronic Solutions

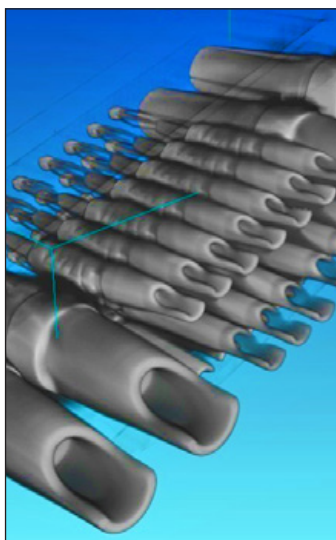


AirBorn is an employee owned company whose core business is engineering & manufacturing specialized connectors & electronic components for OEMs worldwide. We serve customers across many industries including: Commercial Air, Industrial, Medical, Military/Defense, & Space Exploration.

Companies today are looking for more than a supplier, they're looking for a strategic partner to collaborate & grow with. AirBorn products are trusted to perform in extreme conditions, where mission-critical reliability is vital to success. Customers trust AirBorn products, and have for over 60 years.

## AirBorn Engineering = Problem Solved®

AirBorn's engineering group specializes in new product design and development for OEMs across the globe. Our team of 50+ degreed engineers are the most innovative and committed to solving our customer's challenges, but that's only the beginning of where we can help! Leverage our design and manufacturing expertise throughout the entire product development process. From conceptual design, prototyping, pilot-runs through to mass production, our teams work efficiently to cut down your program's time to market.



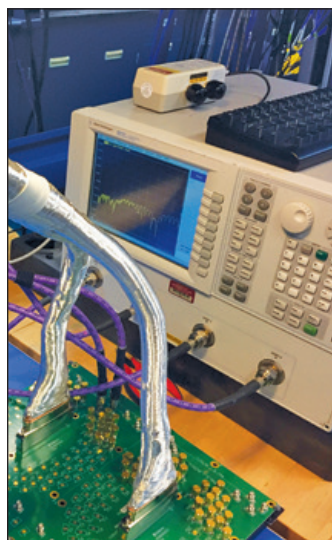
### Solution Engineering

AirBorn has a dedicated team of experienced and degreed solution engineers on staff to help solve your most pressing electronic challenges.



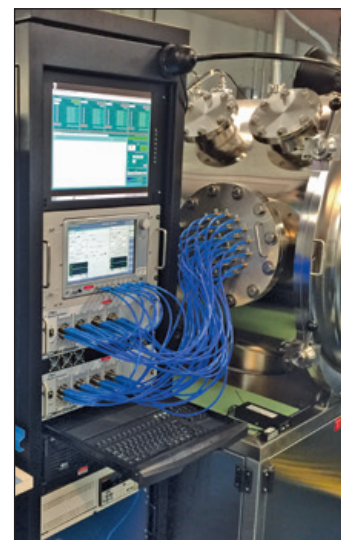
### Cable vs. Flex Assemblies

We manufacture cable and flex assemblies and can impartially recommend whichever solution is best for your distinct design or application.



### Signal Integrity Expertise

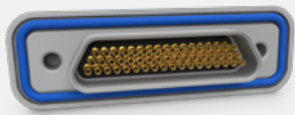
Whether a new design retrofit, or a field issue, let us help you design an end-to-end interconnect solution to support your high-speed signal integrity design.



### Lab & Test Services

We'll test against the highest standards imaginable to ensure your products stand up to the rigors of space, military, commercial air, and industrial applications.

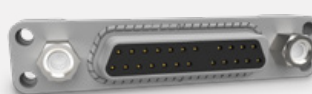
## Connectors



Micro D  
M Series



Hybrid-Keyed Micro D  
microQUAD



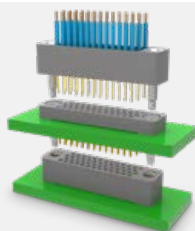
High-Speed Micro D  
microSI



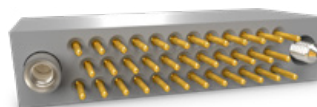
Nano D  
N Series



Rectangular 25Gbps  
verSI



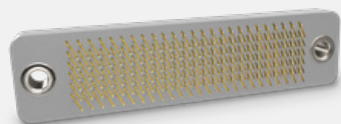
Stackable  
RC & RCII Series



Rectangular  
R Series



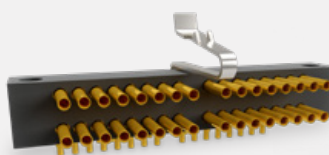
Rectangular  
W Series



Z Axis Interposer  
Z Series



Circular  
Series 360

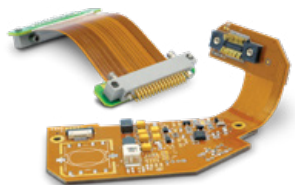


Strip Connector  
AirStrip



Macro D  
RockKet

## Assemblies



Flexible Circuit Assemblies



Cable Assemblies



FUZE Assemblies

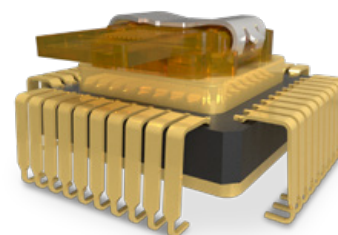


Active Optical Assemblies

## Embedded Systems



Rugged Power Systems



Photonics/Optoelectronics

# AirBorn In Action



Voyager Program

## AirBorn Solutions Are "In-Action" Inside Many Important & Famous Applications

AirBorn Connectors, Inc. was founded in 1958 to manufacture electronic connectors for aviation applications, hence our company name. By 1960, our 12 employees engaged with customers including Motorola Inc., Texas Instruments (now Raytheon), Lockheed Aircraft, Boeing and Burroughs. In the time since our founding, we've managed to be a part of many famous and important projects in human history. The Voyager I & II program, launched in 1977 and still traveling interstellar space today, is emblematic of how customers view AirBorn parts: rugged, reliable and long lasting.

We're proud to be a part of America's, and our allies', vast military and defense initiatives too. AirBorn parts were designed into the Apache & Blackhawk Helicopters, F-16 & F-35 Jets, Abram's & Bradley Tanks and Ohio-Class Attack Subs just to name a few. Our solutions are also part of Patriot, Javelin, Hellfire, Tomahawk and THAAD missile programs. We excel at providing unfailing quality to mission-critical applications.

While military/defense and aviation applications are our specialty, we by no means stop there. AirBorn parts are an integral part of commercial aircraft, MRI machines, defibrillators as well as pain management systems. From deep sea to deep space, AirBorn connectors are ready for any challenge.



Mars Rovers



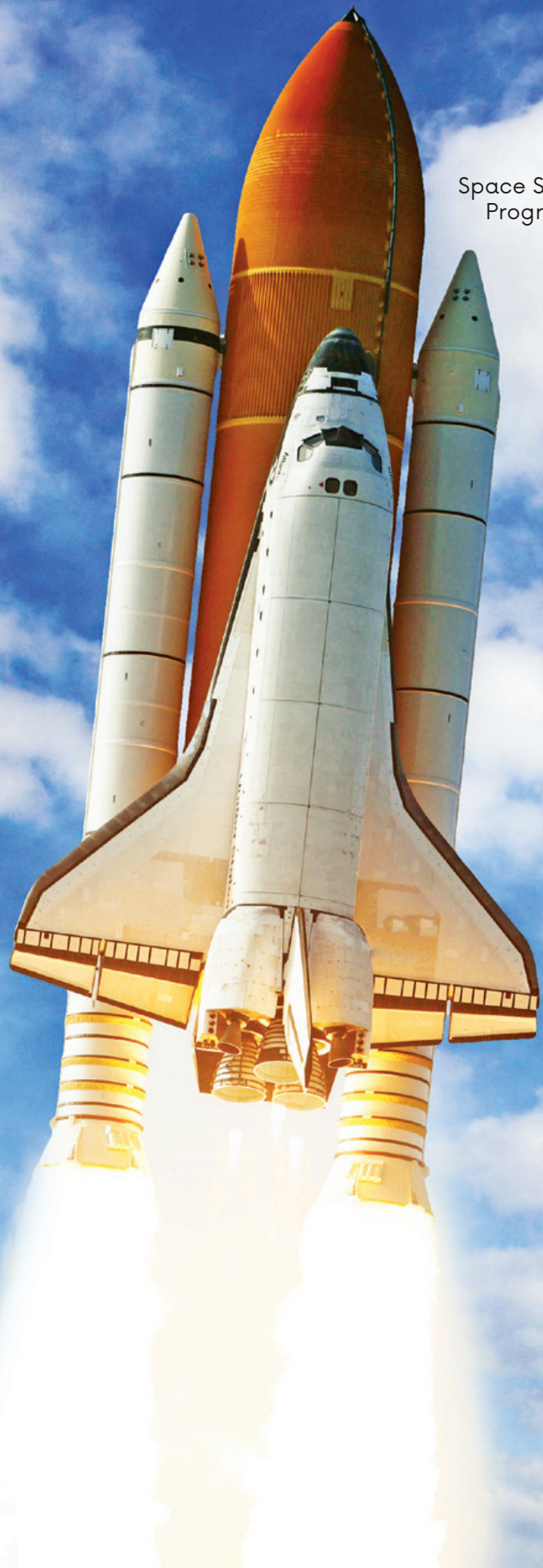
Commercial Airliners



Military Communications & Rifle Scopes



Pain Management Systems



Space Shuttle Program

# verSI Overview



## verSI: High-Speed & High Reliability

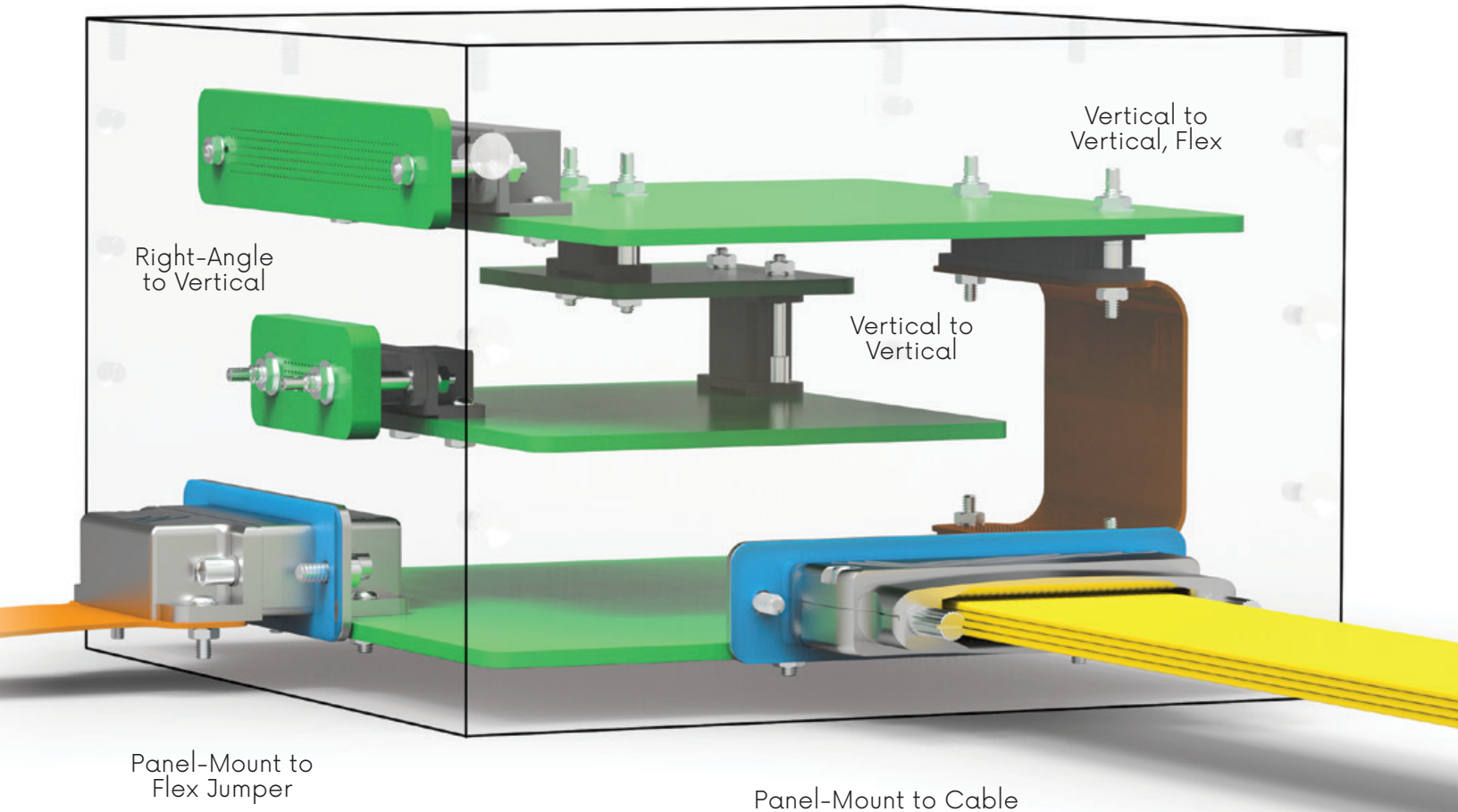
The AirBorn verSI (**Versatile Signal Integrity**) open-pin field product line is designed to meet the requirements for high-speed/high-density/signal integrity 100  $\Omega$  differential serial bus applications while still delivering the reliability customers have come to expect from AirBorn.

Please visit [airborn.com/versi](http://airborn.com/versi) to configure a part numbers, learn more about electrical models, review more product specification details, or read our the verSI signal integrity performance white paper. ESL6004 qualification testing information is also available online.

### Key Features & Benefits:

- 2-, 4-, 5-, 6-, 8-, & 10-row models available
- 10-500 pin/socket positions
- 5-50 columns
- Plastic & metal body materials
- Ruggedized models for tougher applications
- Works well with flexible circuits
- Locking & jacking mating/mounting hardware
- Guide hardware - blind mating
- 10,000 mating cycles
- .050 x .050 pitch
- Panel-mounting option

# Excellent Design Flexibility



## OEMs Worldwide Trust verSI's Versatility

The verSI product family affords flexibility in design by offering vertical board-mount, right-angle board-mount, cable I/O, and flex circuit mounting with 40 to 500 contacts. Vertical board-mount plugs and mating vertical receptacles also support board-to-board stacking applications. Board-spacing ranges from 8mm to 25mm. EMI hoods and mounting tabs allow for worry-free mating/un-mating and best-in-class durability.

The AirBorn verSI offers several board termination types including paste-in-hole, thru-hole, surface-mount, and compliant pin press fit technology, which eliminates the need for costly X-ray inspection.

# Critical to Success Applications



## Ruggedness & Reliability: Keys to Surviving the Harshest Applications

When it comes to durability in the face of unforgiving conditions, they don't come any tougher than AirBorn's verSI Series connectors. Whether they're enduring the extreme shock and vibration of a rocket launch, the unrelenting repetition of factory robotics, or the temperature fluctuations inherent with commercial air travel, verSI connectors are designed to withstand all of that and much more.

Looking for a rugged and reliable connector that's endured the harshest environments of Earth and space, look no further than AirBorn's verSI family of connectors. With the quality that AirBorn's customers can count on and space-flight heritage, verSI Series connectors set the standard for toughness.

### Applications

- Satellite vision systems
- Ground combat vehicles
- Radar defense systems
- Commercial aircraft
- MRI machines (non-magnetic)
- Missile systems
- Avionics control unit
- Cube satellites
- Commercial flight equipment

# verSIs Are Designed Into:



Avionics



Helicopters



Satellites

And More...



MRI Machines



Commercial Aircraft

## V2M — Vertical Male

V2M signal-integrity connectors are ruggedized 2-row male connectors. With the proven verSI contact system, these connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance. Pitch: .050" (1.27 mm).



### Sample Part Number Format: V2M-02-05-080-50-00-N

| V2M                                         | 02                         | 05                               | 080                                              | 50                                                       |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------|----------------------------|----------------------------------|--------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Vertical (Male)<br>1.27 mm | <b>ROWS</b><br>02 – 2 Rows | <b>COLUMNS</b><br>05 – 5 Columns | <b>BOARD SPACING*</b><br>080 – 8 mm <sup>4</sup> | <b>CONTACT PLATING</b><br>50 – 50 μ" Au mating interface | <b>TERMINATION</b><br>00 – Press-fit<br>01 – Paste-in-hole<br>02 – PTH 0.078"<br>03 – PTH 0.109"<br>04 – PTH 0.140"<br>05 – PTH 0.156"<br>06 – PTH 0.172"<br>10 – SMT - Non-RoHS compliant<br>11 – SMT - RoHS compliant | <b>HARDWARE<sup>1</sup></b><br>G – Guide pin <sup>2</sup><br>N – Fixed jacknut <sup>2</sup><br>J – Turning jackscrew <sup>2</sup><br>L – Locking screw <sup>2</sup><br>G1 – Guide pin <sup>3</sup><br>N1 – Fixed jacknut <sup>3</sup><br>J1 – Turning jackscrew <sup>3</sup><br>L1 – Locking screw <sup>3</sup> |

### Notes:

See AirBorn spec ESL6155 for additional information.

See AirBorn spec ESL5001 for installation information.

<sup>1</sup>See product spec drawing for replacement hardware kits.

<sup>2</sup>Used for PC board thickness up to 0.125".

<sup>3</sup>Used for PC board thickness 0.125" up to 0.250".

<sup>4</sup>Board spacing 8.29mm.

Hardware supplied loosely installed.

Mates with connector series: V2F and V2C (female).

Dimensions within brackets [X, XX] are in millimeters and for reference only.

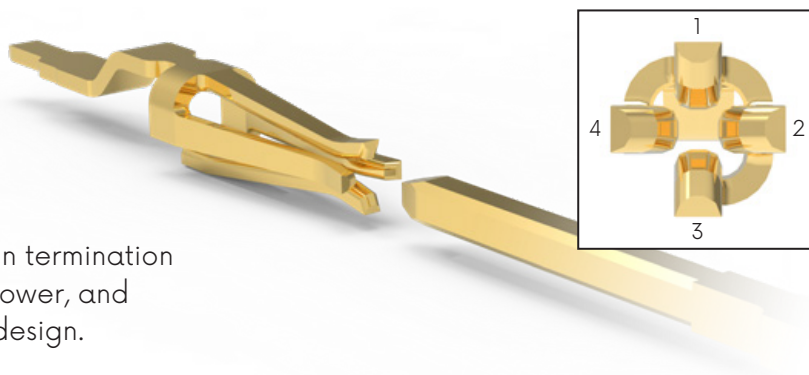
Please view product spec drawing V2M-XX-XX-XXX-XX-X on [airborn.com](http://airborn.com) before part configuration for complete product definition.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

## Reliable Contact Every Time

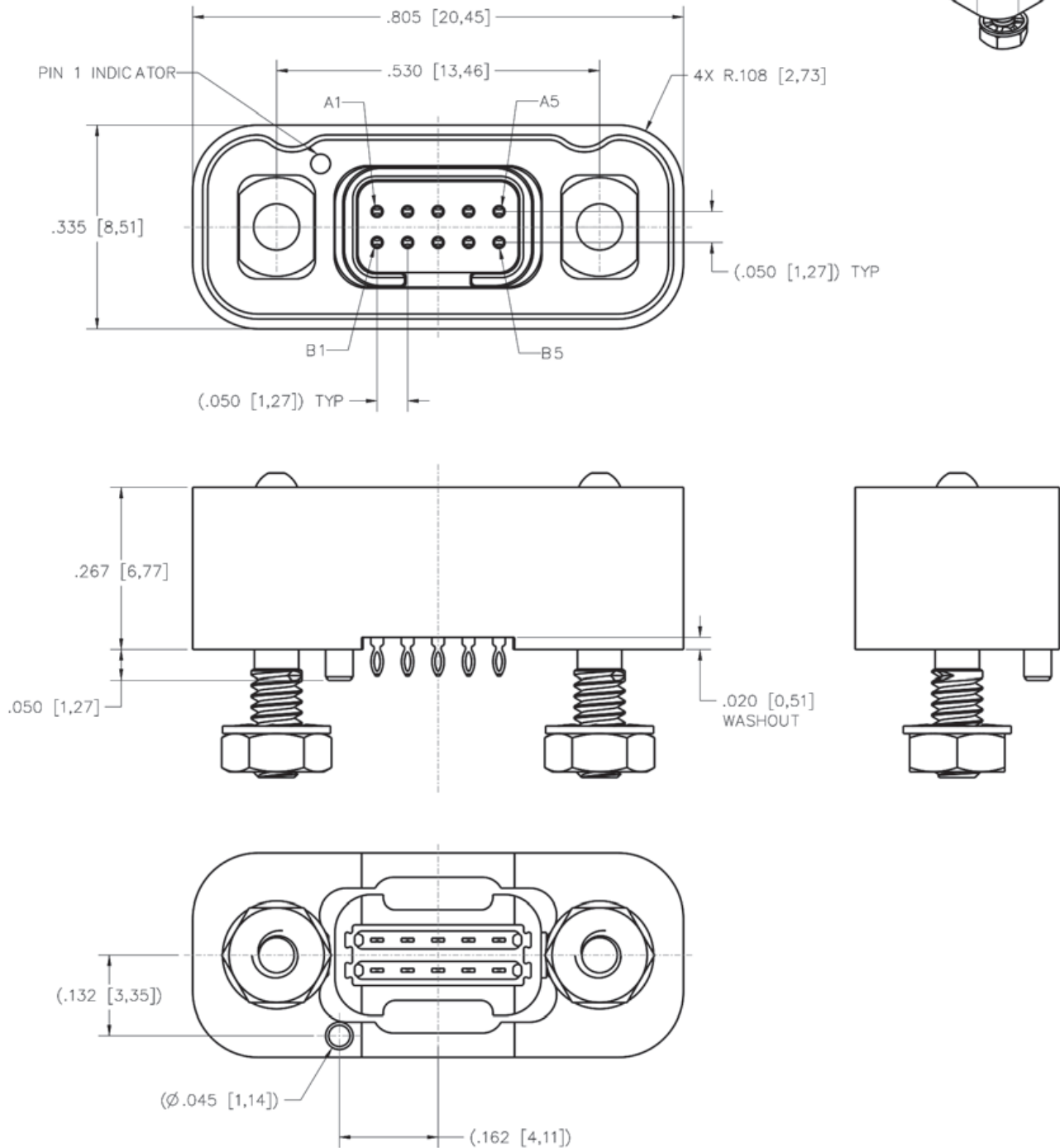
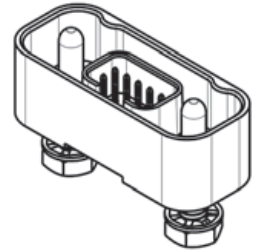
VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



## Dimensions

ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER: V2M-02-05-080-50-00-G SHOWN)



Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## V2F — Vertical Rugged Female

V2F signal-integrity connectors are ruggedized 2-row female connectors. With the proven verSI contact system, these connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance Pitch: 0.050" [1.27 mm].



### Sample Part Number Format: V2F-02-05-50-00-J

| V2F                                                  | 02                         | 05                               | 50                                                                 |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------|----------------------------|----------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Vertical Rugged<br>(Female) 1.27 mm | <b>ROWS</b><br>02 – 2 Rows | <b>COLUMNS</b><br>05 – 5 Columns | <b>CONTACT<br/>PLATING</b><br>50 – 50 µ" Au<br>mating<br>interface | <b>TERMINATION</b><br>00 – Press-fit<br>01 – Paste-in-hole<br>02 – PTH 0.078"<br>03 – PTH 0.109"<br>04 – PTH 0.140"<br>05 – PTH 0.156"<br>06 – PTH 0.172"<br>10 – SMT - Non RoHS<br>compliant<br>11 – SMT - RoHS compliant | <b>HARDWARE<sup>1</sup></b><br>G – Guide socket <sup>2</sup><br>N – Fixed jacknut <sup>2</sup><br>J – Turning jackscrew <sup>2</sup><br>L – Locking screw <sup>2</sup><br>G1 – Guide socket <sup>3</sup><br>N1 – Fixed jacknut <sup>3</sup><br>J1 – Turning jackscrew <sup>3</sup><br>L1 – Locking screw <sup>3</sup> |

### Notes:

See AirBorn spec ESL6155 for additional information.

See AirBorn spec ESL5001 for installation information.

<sup>1</sup>See product specification drawing for replacement hardware kits.

<sup>2</sup>Used for PC board thickness up to 0.125".

<sup>3</sup>Used for PC board thickness 0.125" up to 0.250".

Hardware supplied loosely installed.

Mates with connector series: V2M and V2C (male).

Dimensions within brackets [X, XX] are in millimeters and for reference only.

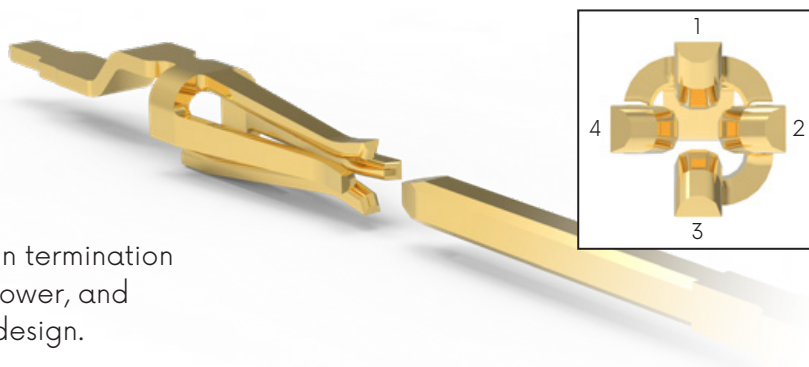
Please view product information drawing V2F-XX-XX-XX-XX-X on [airborn.com](http://airborn.com) before part configuration for complete product definition.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

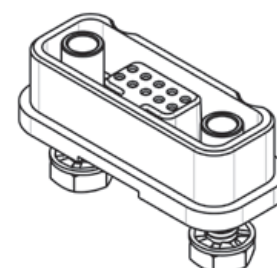
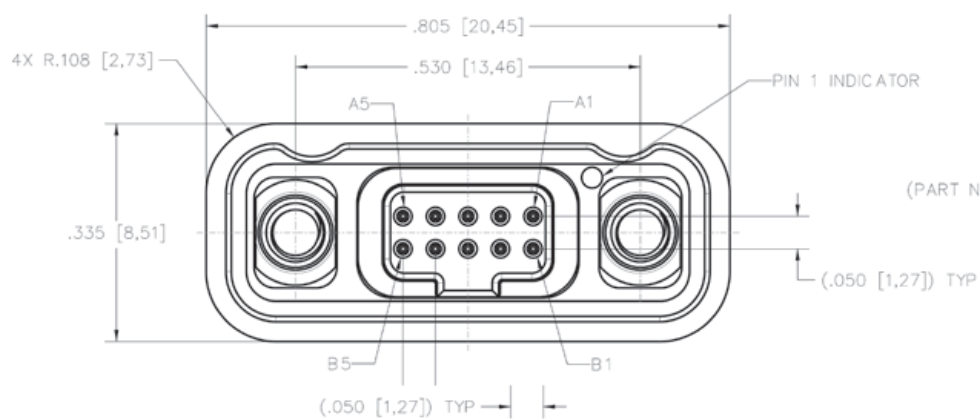
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

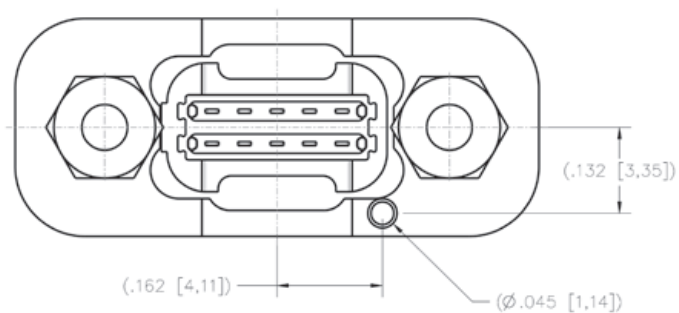
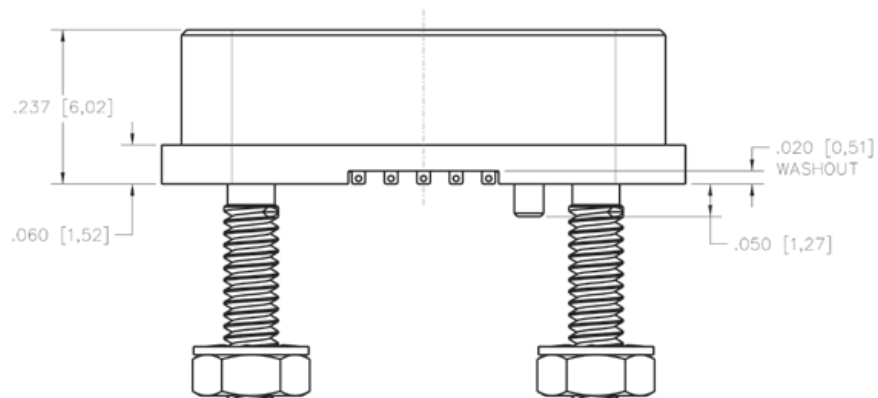
The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



## Dimensions



ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER: V2F-02-05-50-00-G) SHOWN



Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## V2C — Differential Pair Twinax Cable Assembly

V2C cable assemblies are designed for twinax and/or discrete wire applications. These cable assemblies come in standard lengths but custom lengths and configurations can also be requested. Ruggedized hoods are standard. Pitch: .050" [1.27 mm].



### Sample Part Number Format: V2C-02-05-50-MN-BB-304-010

| V2C                        | 02          | 05             | 50                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                |
|----------------------------|-------------|----------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SERIES                     | ROWS        | COLUMNS        | CONTACT PLATING                | CONNECTOR 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CONNECTOR 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | AWG/LAYOUT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | LENGTH <sup>1</sup>                                                                                                                                                                                                            |
| verSI 2-Row Cable Assembly | 02 – 2 Rows | 05 – 5 Columns | 50 – 50 μ" Au mating interface | MG – Male with guide pins<br>MN – Male with fixed jacknut<br>MJ – Male turning jackscrew<br>ML – Male with locking screw<br>MGP – Male with guide pins, panel mount<br>MNP – Male with fixed jacknut, panel mount<br>MJP – Male with turning jackscrew, panel mount<br>MLP – Male with locking screw, panel mount<br>FG – Female with guide pins<br>FN – Female fixed jacknut<br>FJ – Female with turning jackscrew<br>FL – Female with locking screw<br>FGP – Female with guide pins, panel mount<br>FNP – Female with fixed jacknut, panel mount<br>FJP – Female with turning jackscrew, panel mount<br>FLP – Female with locking screw, panel mount | MG – Male with guide pins<br>MN – Male with fixed jacknut<br>MJ – Male turning jackscrew<br>ML – Male with locking screw<br>MGP – Male with guide pins, panel mount<br>MNP – Male with fixed jacknut, panel mount<br>MJP – Male with turning jackscrew, panel mount<br>MLP – Male with locking screw, panel mount<br>FG – Female with guide pins<br>FN – Female with fixed jacknut<br>FJ – Female with turning jackscrew<br>FL – Female with locking screw<br>FGP – Female with guide pins, panel mount<br>FNP – Female with fixed jacknut, panel mount<br>FJP – Female with turning jackscrew, panel mount<br>FLP – Female with locking screw, panel mount<br>BB – No second connector | 302 – 30AWG, 2 differential pairs<br>303 – 30AWG, 3 differential pairs<br>304 – 30AWG, 4 differential pairs<br>282 – 28AWG, 2 differential pairs<br>283 – 28AWG, 3 differential pairs<br>284 – 28AWG, 4 differential pairs<br>262 – 26AWG, 2 differential pairs<br>30M – 30AWG, mixed discrete<br>26M – 26AWG, mixed discrete<br>30W – 30AWG, discrete white<br>26W – 26AWG, discrete white<br>30C – 30AWG, color-coded wires*<br>26C – 26AWG, color-coded wires*<br>SCT – Solder cup termination, no wires | 000 – 0.00 M**<br>010 – 0.10 M<br>020 – 0.20 M<br>030 – 0.30 M<br>040 – 0.40 M<br>050 – 0.50 M<br>060 – 0.60 M<br>070 – 0.70 M<br>080 – 0.80 M<br>090 – 0.90 M<br>100 – 1.00 M<br>150 – 1.50 M<br>200 – 2.00 M<br>300 – 3.00 M |

### Notes:

See AirBorn spec ESL5001 for installation information.

\*Color coded per MIL-STD-681.

AirBorn can manufacture other configurations to your exact specifications.

Please view product specification drawing V2C-XX-XX-XX-XXX-XXX-XXX-XXX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

Dimensions within brackets [X, XX] are in millimeters and for reference only.

\*\*Used in conjunction with solder-cup termination (SCT) only.

<sup>1</sup>See product specification drawing for replacement hardware kits.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

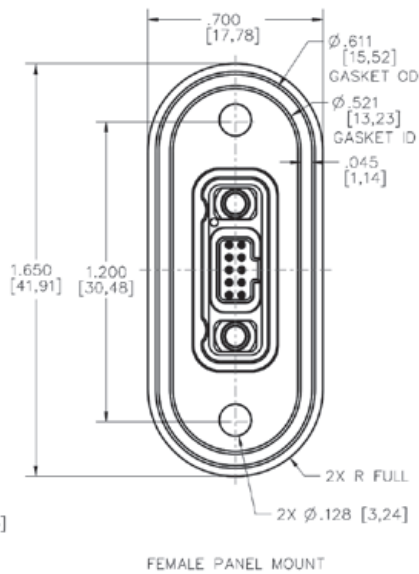
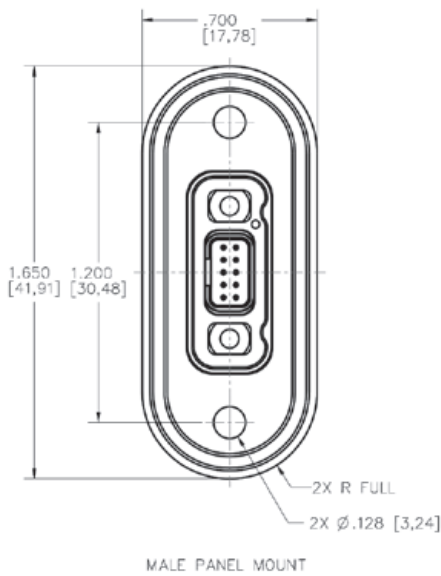
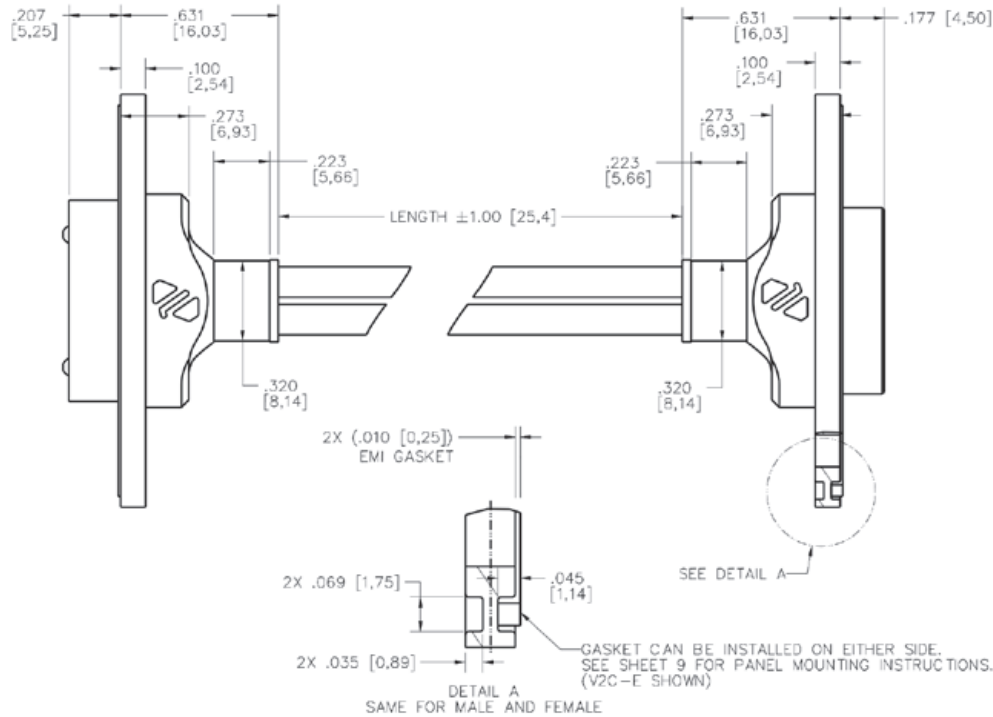
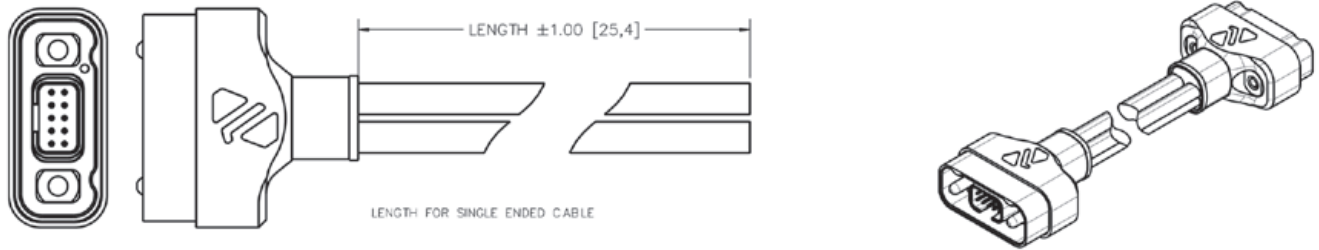
## Reliable Contact Every Time

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The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



## Dimensions



| Length |            |              |
|--------|------------|--------------|
| Code   | Length (M) | Length (In.) |
| 010    | 0,10       | 3.94         |
| 020    | 0,20       | 7.87         |
| 030    | 0,30       | 11.81        |
| 040    | 0,40       | 15.75        |
| 050    | 0,50       | 19.69        |
| 060    | 0,60       | 23.62        |
| 070    | 0,70       | 27.56        |
| 080    | 0,80       | 31.50        |
| 090    | 0,90       | 35.43        |
| 100    | 1,00       | 39.37        |
| 150    | 1,50       | 59.06        |
| 200    | 2,00       | 78.74        |
| 300    | 3,00       | 118.11       |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VSM — Vertical Male

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 plated thru-hole. Pitch: 1.27 mm.



### Sample Part Number Format: VSM-04-10-120-50-02-L



**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  $\mu$  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<sup>†</sup> – SMT - SN63PB37  
Solder Dipped  
11<sup>†</sup> – SMT -  
42Sn/57.6Bi/0.4Ag  
lead free, solder  
dipped

**OPTIONS**  
Blank – No options<sup>‡</sup>  
G – Guide pin<sup>‡</sup>  
G1 – Guide pin<sup>‡</sup>  
J – Turning jackscrew<sup>1</sup>  
J1 – Turning jackscrew<sup>2</sup>  
L – Locking screw<sup>1</sup>  
L1 – Locking screw<sup>2</sup>  
N – Fixed jacknut<sup>1</sup>  
N1 – Fixed jacknut<sup>2</sup>

### Notes:

See AirBorn spec ESL5001 for installation information.  
Connector potting is standard.

\* Consult factory for additional board spacing options.

<sup>1</sup> Used for PC board thickness up to 0.125".

<sup>2</sup> Used for PC board thickness 0.125" up to 0.250".

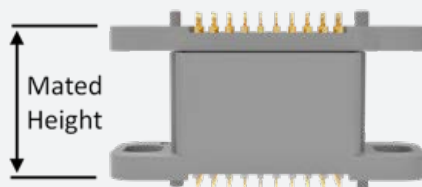
<sup>†</sup> Surface Mount Termination only available on 4 Row vertical connectors.

<sup>‡</sup> 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 view document VSM-XX-XX-XXX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information.



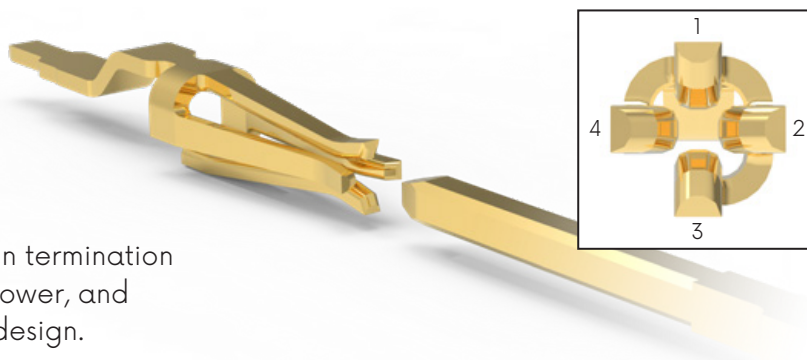
| Board Spacing |       | Mated Height (in) |
|---------------|-------|-------------------|
| Code          | Value | Nominal           |
| 080           | 8mm   | 0.315 (.350 Max)  |
| 100           | 10mm  | 0.394 (.429 Max)  |
| 120           | 12mm  | 0.427 (.507 Max)  |
| 160           | 16mm  | 0.630 (.665 Max)  |
| 200           | 20mm  | 0.787 (.822 Max)  |
| 250           | 25mm  | 0.984 (1.02 Max)  |

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

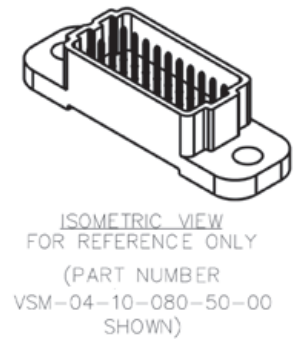
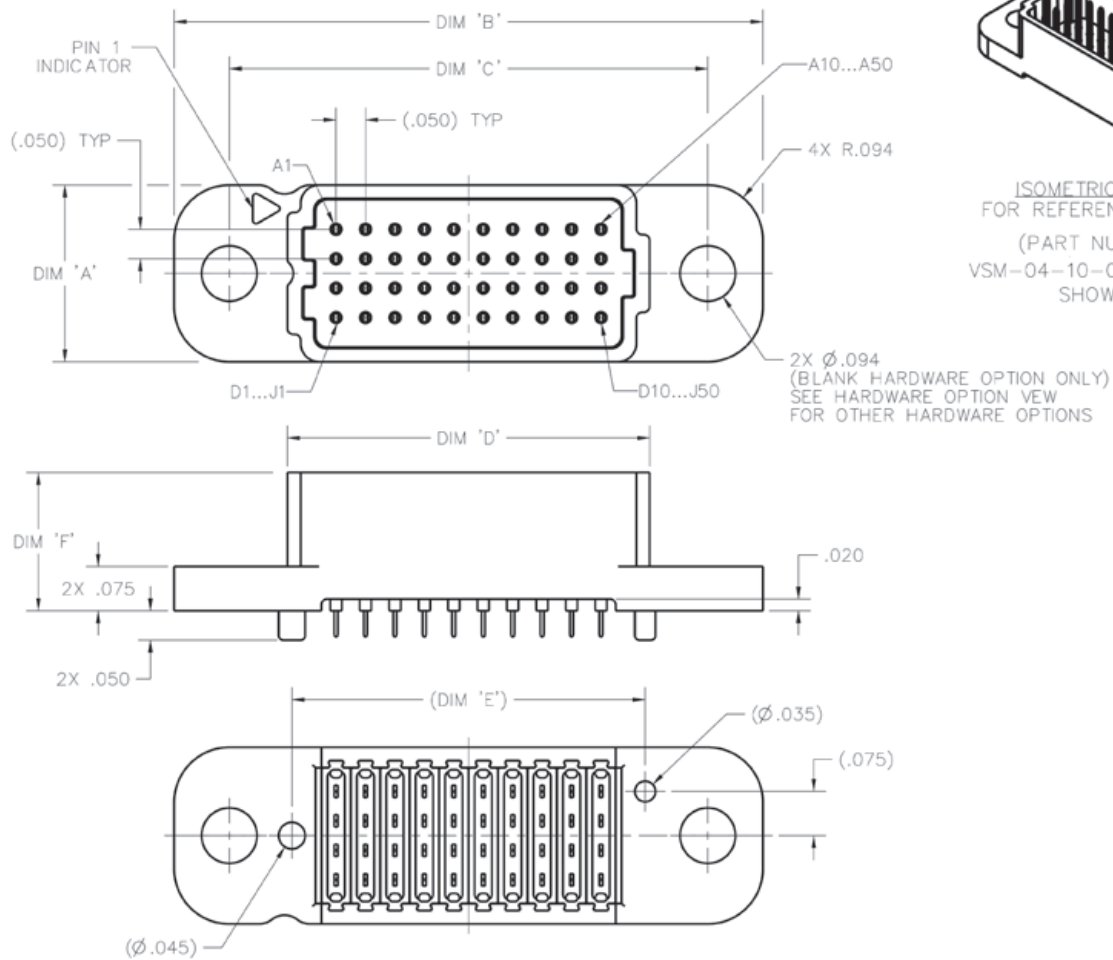
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



# CONNECTOR DIMENSIONS (BLANK HARDWARE OPTION SHOWN)

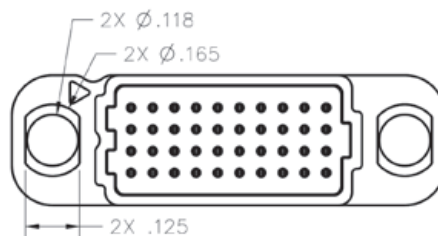


| ROWS | DIM 'A' |
|------|---------|
| 04   | .300    |
| 05   | .350    |
| 06   | .400    |
| 08   | .500    |
| 10   | .600    |

| COLUMNS | DIM 'B' | DIM 'C' | DIM 'D' | DIM 'E' |
|---------|---------|---------|---------|---------|
| 10      | 1.000   | .813    | .615    | .600    |
| 20      | 1.500   | 1.313   | 1.115   | 1.100   |
| 30      | 2.000   | 1.813   | 1.615   | 1.600   |
| 40      | 2.500   | 2.313   | 2.115   | 2.100   |
| 50      | 3.000   | 2.813   | 2.615   | 2.600   |

| BOARD SPACING | DIM 'F' |
|---------------|---------|
| -080 [8mm]    | .235    |
| -100 [10mm]   | .314    |
| -120 [12mm]   | .392    |
| -160 [16mm]   | .550    |
| -200 [20mm]   | .707    |
| -250 [25mm]   | .904    |

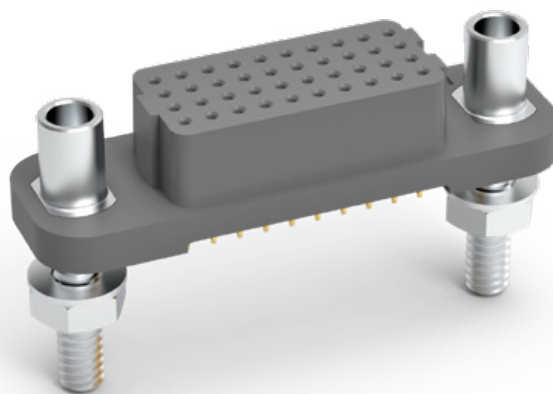
## HARDWARE OPTION VIEW



Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VSF — Vertical Female

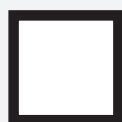
VSF signal-integrity connectors are used in vertical, PCB-mount applications where a male interface is required. Termination styles include press-fit, paste-in-hole and plated thru-hole. Pitch: 1.27 mm.



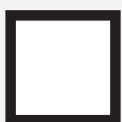
### Sample Part Number Format: VSF-04-10-50-02-G



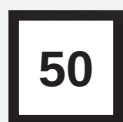
**SERIES**  
Vertical (Female)  
1.27 mm



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



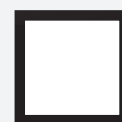
**COLUMNS**  
10 – 10 Columns  
20 – 20 Columns  
30 – 30 Columns  
40 – 40 Columns  
50 – 50 Columns



**CONTACT PLATING**  
50 – 50  $\mu$  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<sup>†</sup> – SMT - SN63PB37  
Solder Dipped  
11<sup>†</sup> – SMT - 42Sn/57.6Bi/0.4Ag  
lead free, solder dipped



**OPTIONS**  
Blank – No hardware<sup>‡</sup>  
G – Guide socket<sup>‡</sup>  
G1 – Guide socket<sup>‡</sup>  
J – Turning jackscrew<sup>‡</sup>  
J1 – Turning jackscrew<sup>‡</sup>  
L – Locking screw<sup>‡</sup>  
L1 – Locking screw<sup>‡</sup>  
N – Fixed jacknut<sup>‡</sup>  
N1 – Fixed jacknut<sup>‡</sup>

### Notes:

See AirBorn spec ESL5001 for installation information.  
Connector potting is standard.

<sup>1</sup>Used for PC board thickness up to 0.125"

<sup>2</sup>Used for PC board thickness 0.125" up to 0.250"

<sup>†</sup>Surface Mount Termination only available on 4 Row vertical connectors.

<sup>‡</sup>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

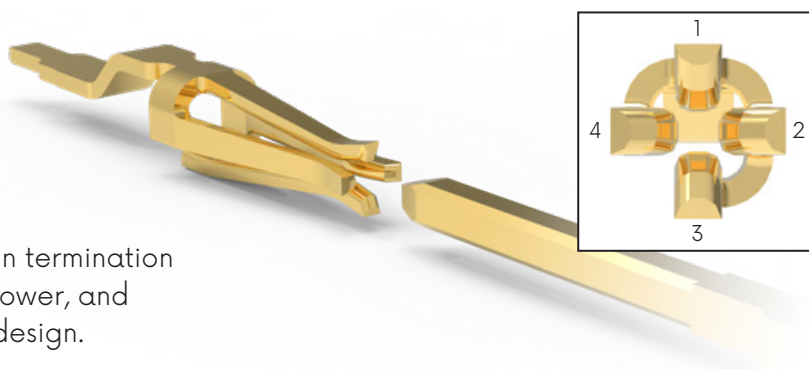
Please view document VSF-XX-XX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

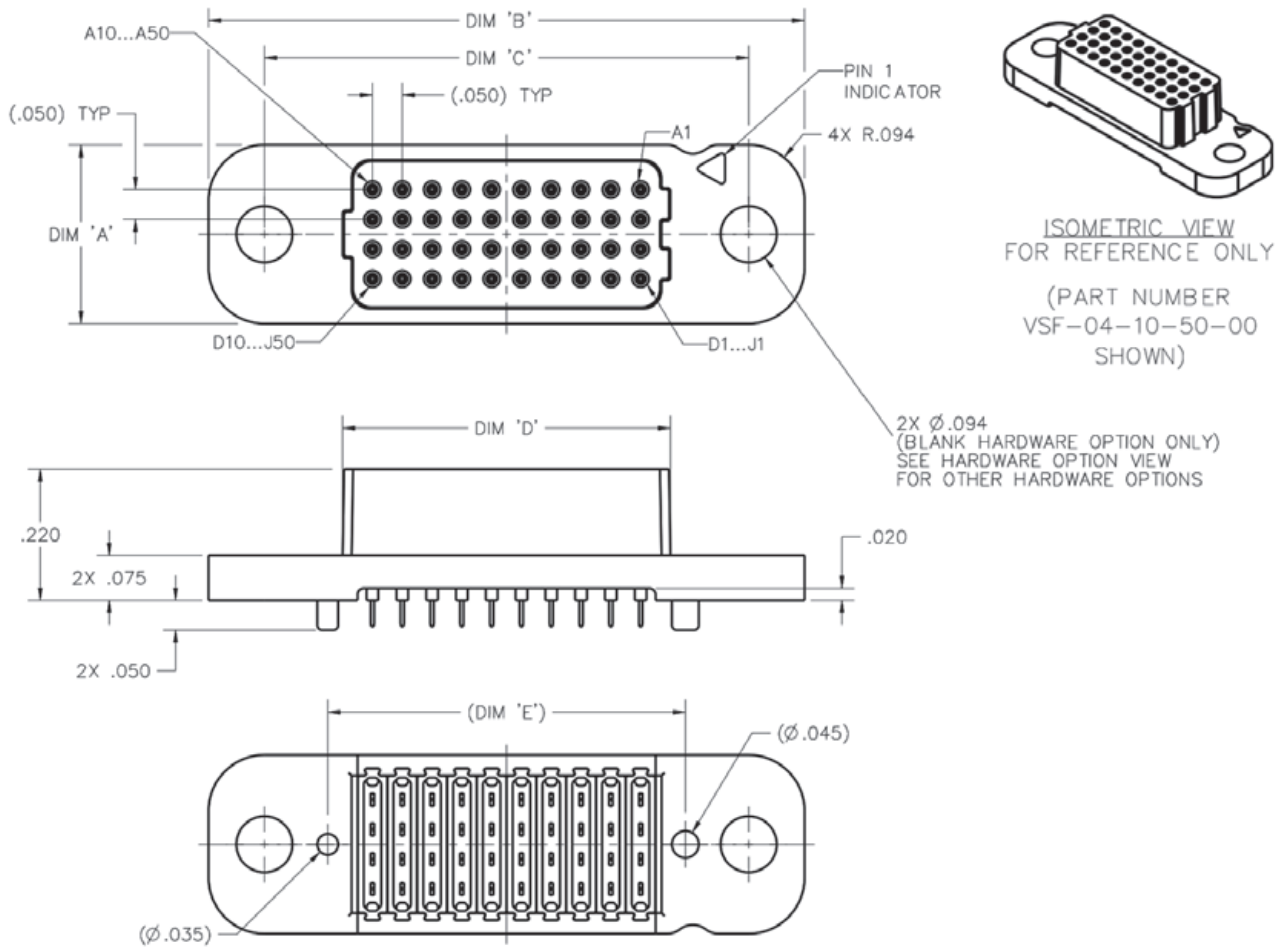
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



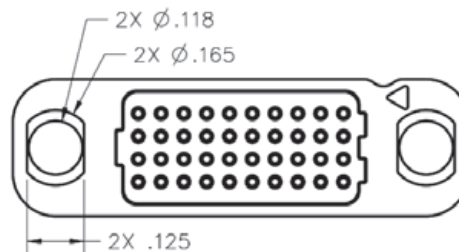
# CONNECTOR DIMENSIONS (BLANK HARDWARE OPTION SHOWN)



| ROWS | DIM 'A' |
|------|---------|
| 04   | .300    |
| 05   | .350    |
| 06   | .400    |
| 08   | .500    |
| 10   | .600    |

| COLUMNS | DIM 'B' | DIM 'C' | DIM 'D' | DIM 'E' |
|---------|---------|---------|---------|---------|
| 10      | 1.000   | .813    | .550    | .600    |
| 20      | 1.500   | 1.313   | 1.050   | 1.100   |
| 30      | 2.000   | 1.813   | 1.550   | 1.600   |
| 40      | 2.500   | 2.313   | 2.050   | 2.100   |
| 50      | 3.000   | 2.813   | 2.550   | 2.600   |

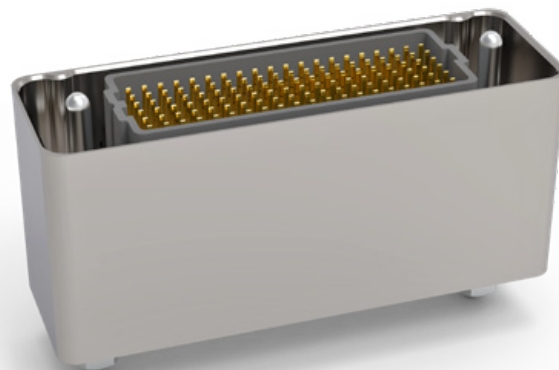
## HARDWARE OPTION VIEW



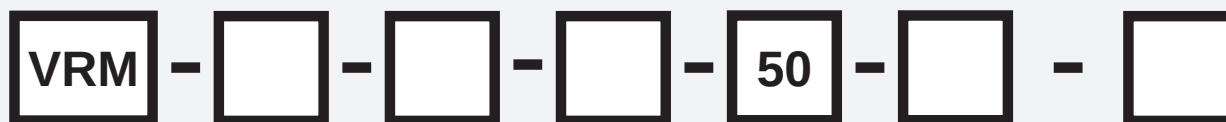
Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRM — Vertical Rugged Male

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. Pitch: 1.27 mm.



### Sample Part Number Format: VRM-04-10-120-50-02-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  $\mu$  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<sup>†</sup> – SMT - SN63PB37  
Solder Dipped  
11<sup>†</sup> – SMT -  
42Sn/57.6Bi/0.4Ag  
lead free, solder  
dipped

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

### Notes:

See AirBorn spec ESL5001 for installation information.  
Connector potting is standard.

\* Consult factory for additional board spacing options.

\*\* Not available with 8 mm board spacing

<sup>1</sup> Used for PC board thickness up to 0.125"

<sup>2</sup> Used for PC board thickness 0.125" up to 0.250"

<sup>†</sup> Surface Mount Termination only available on 4 Row vertical connectors.

<sup>‡</sup> 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 view document VRM-XX-XX-XXX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information



| Board Spacing |       | Mated Height (in) |
|---------------|-------|-------------------|
| Code          | Value | Nominal           |
| 080           | 8mm   | 0.315 (.350 Max)  |
| 100           | 10mm  | 0.394 (.429 Max)  |
| 120           | 12mm  | 0.472 (.507 Max)  |
| 160           | 16mm  | 0.630 (.665 Max)  |
| 200           | 20mm  | 0.787 (.822 Max)  |
| 250           | 25mm  | 0.984 (1.02 Max)  |

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

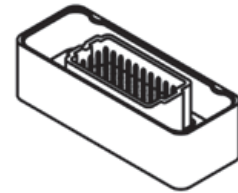
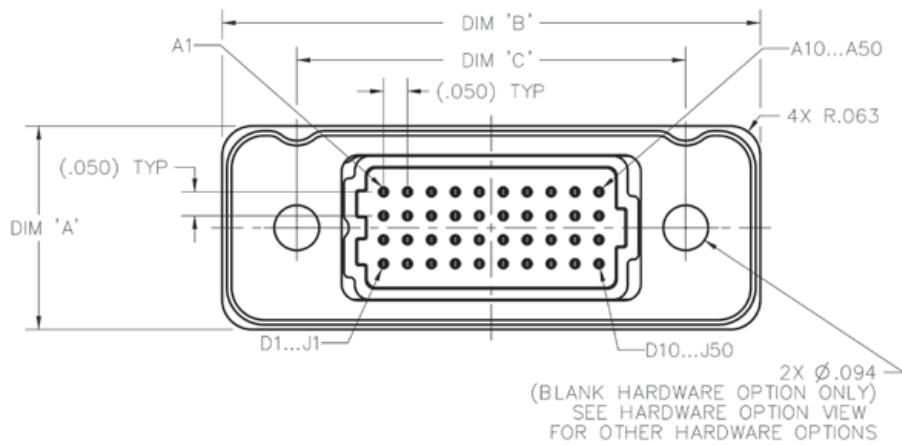
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

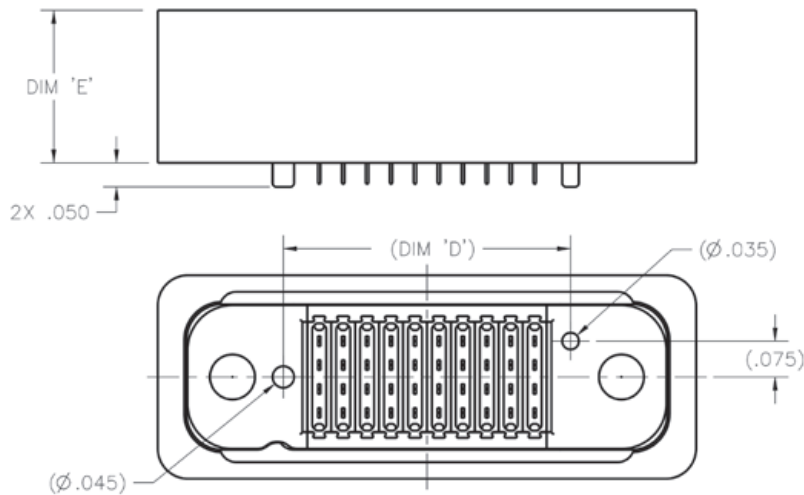
The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



# CONNECTOR DIMENSIONS (NON EMI GASKET HARDWARE OPTIONS)



ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER  
VRM-04-10-100-50-00  
SHOWN)

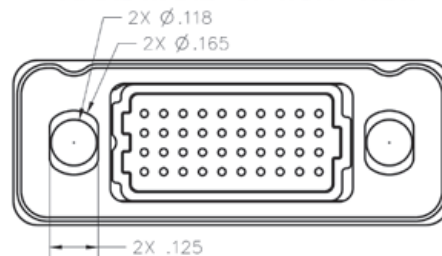


| ROWS | DIM 'A' |
|------|---------|
| 04   | .425    |
| 05   | .475    |
| 06   | .525    |
| 08   | .625    |
| 10   | .725    |

| COLUMNS | DIM 'B' | DIM 'C' | DIM 'D' |
|---------|---------|---------|---------|
| 10      | 1.125   | .813    | .600    |
| 20      | 1.625   | 1.313   | 1.100   |
| 30      | 2.125   | 1.813   | 1.600   |
| 40      | 2.625   | 2.313   | 2.100   |
| 50      | 3.125   | 2.813   | 2.600   |

| BOARD SPACING | DIM 'E' |
|---------------|---------|
| -080 [8mm]    | .240    |
| -100 [10mm]   | .319    |
| -120 [12mm]   | .397    |
| -160 [16mm]   | .555    |
| -200 [20mm]   | .712    |
| -250 [25mm]   | .909    |

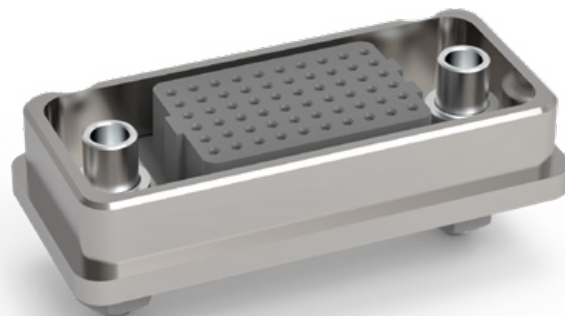
## HARDWARE OPTION VIEW



Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRF — Vertical Rugged Female

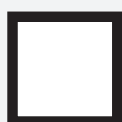
VRF signal-integrity connectors are ruggedized versions of the standard VSF female connectors. These connectors can be used in extreme environmental conditions while maintaining high reliability and continuous performance  
Pitch: 1.27 mm.



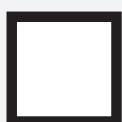
### Sample Part Number Format: VRF-04-10-50-50-04-G



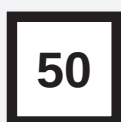
**SERIES**  
Vertical Rugged  
(Female) 1.27 mm



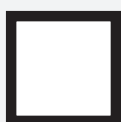
**ROWS**  
04 – 4 Rows  
05 – 5 Rows  
06 – 6 Rows  
08 – 8 Rows  
10 – 10 Rows



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



**CONTACT  
PLATING**  
50 – 50  $\mu$ " 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<sup>†</sup> – SMT - SN63PB37  
Solder Dipped  
11<sup>†</sup> – SMT - 42Sn/57.6Bi/0.4Ag  
lead free, solder dipped



**OPTIONS**  
Blank – No hardware<sup>‡</sup>  
G – Guide socket<sup>‡</sup>  
G1 – Guide socket<sup>‡</sup>  
J – Turning jackscrew<sup>‡</sup>  
J1 – Turning jackscrew<sup>‡</sup>  
L – Locking screw<sup>‡</sup>  
L1 – Locking screw<sup>‡</sup>  
N – Fixed jacknut<sup>‡</sup>  
N1 – Fixed jacknut<sup>‡</sup>  
E – No hardware/EMI gasket<sup>‡</sup>  
GE – Guide socket/EMI gasket<sup>‡</sup>  
G1E – Guide socket/EMI gasket<sup>‡</sup>  
JE – Turning jackscrew/EMI gasket<sup>‡</sup>  
J1E – Turning jackscrew/EMI gasket<sup>‡</sup>  
LE – Locking screw/EMI gasket<sup>‡</sup>  
L1E – Locking screw/EMI gasket<sup>‡</sup>  
NE – Fixed jacknut/EMI gasket<sup>‡</sup>  
N1E – Fixed jacknut/EMI gasket<sup>‡</sup>

### Notes:

See AirBorn spec ESL5001 for installation information.  
Connector potting is standard.

<sup>†</sup>Used for PC board thickness up to 0.125".

<sup>‡</sup>Used for PC board thickness 0.125" up to 0.250".

<sup>†</sup>Surface Mount Termination only available on 4 Row vertical connectors.

<sup>‡</sup>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 view document VRF-XX-XX-XX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

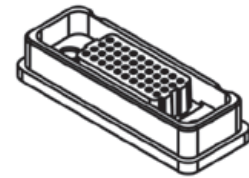
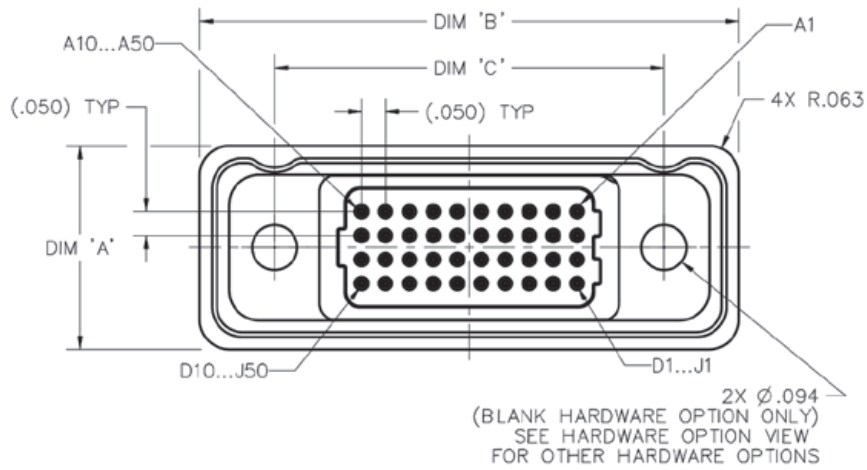
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

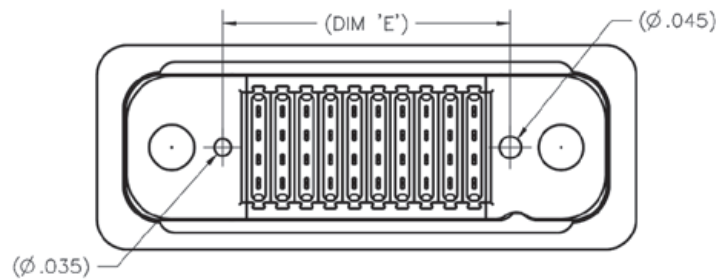
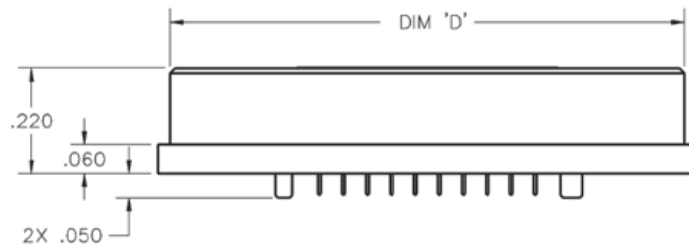
The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



## CONNECTOR DIMENSIONS (NON EMI GASKET HARDWARE OPTIONS)



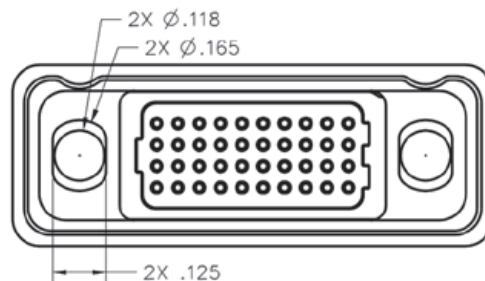
ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER  
VRF-04-10-50-00  
SHOWN)



| ROWS | DIM 'A' |
|------|---------|
| 04   | .425    |
| 05   | .475    |
| 06   | .525    |
| 08   | .625    |
| 10   | .725    |

| COLUMNS | DIM 'B' | DIM 'C' | DIM 'D' | DIM 'E' |
|---------|---------|---------|---------|---------|
| 10      | 1.125   | .813    | 1.073   | .600    |
| 20      | 1.625   | 1.313   | 1.573   | 1.100   |
| 30      | 2.125   | 1.813   | 2.073   | 1.600   |
| 40      | 2.625   | 2.313   | 2.573   | 2.100   |
| 50      | 3.125   | 2.813   | 3.073   | 2.600   |

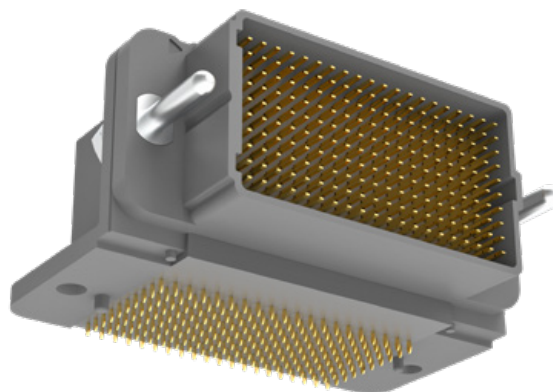
## HARDWARE OPTION VIEW



Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VSRAM — Right Angle Male

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. Pitch: 1.27 mm.



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

| VSRAM                                          |                                                                                         |                                                                                                               | 50                                           |                                                                                                                                                           |                                                                                                                           |
|------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Right Angle (Male)<br>1.27 mm | <b>ROWS</b><br>04 – 4 Rows<br>05 – 5 Rows<br>06 – 6 Rows<br>08 – 8 Rows<br>10 – 10 Rows | <b>COLUMNS</b><br>10 – 10 Columns<br>20 – 20 Columns<br>30 – 30 Columns<br>40 – 40 Columns<br>50 – 50 Columns | <b>CONTACT PLATING</b><br>50 – 50 $\mu$ " Au | <b>TERMINATION</b><br>00 – Press-fit<br>01 – Paste-in-hole<br>02 – PTH 0.078"<br>03 – PTH 0.109"<br>04 – PTH 0.140"<br>05 – PTH 0.156"<br>06 – PTH 0.172" | <b>OPTIONS</b><br>Blank – No options†<br>G – Guide pin<br>N – Fixed jacknut<br>J – Turning jackscrew<br>L – Locking screw |

#### Notes:

See AirBorn spec ESL5001 for installation information.

Connector potting is standard.

† No hardware supplied with blank hardware option connectors.

AirBorn can manufacture other configurations to your exact specifications.

RoHS Complaint; certificate of conformance available upon request with each shipment.

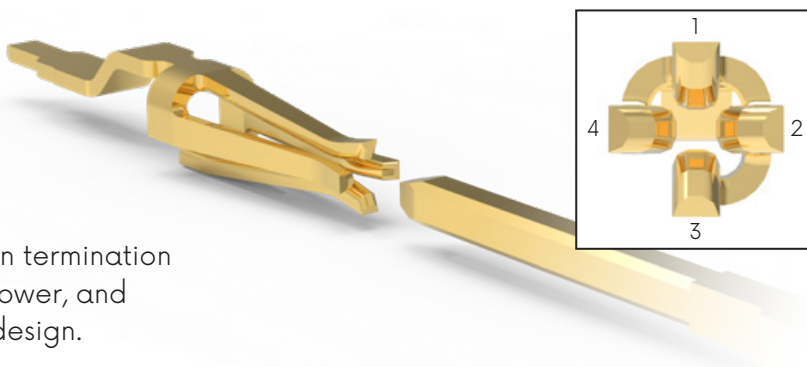
Please view document VSRAM-XX-XX-XX-XX-X on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

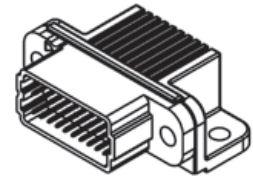
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

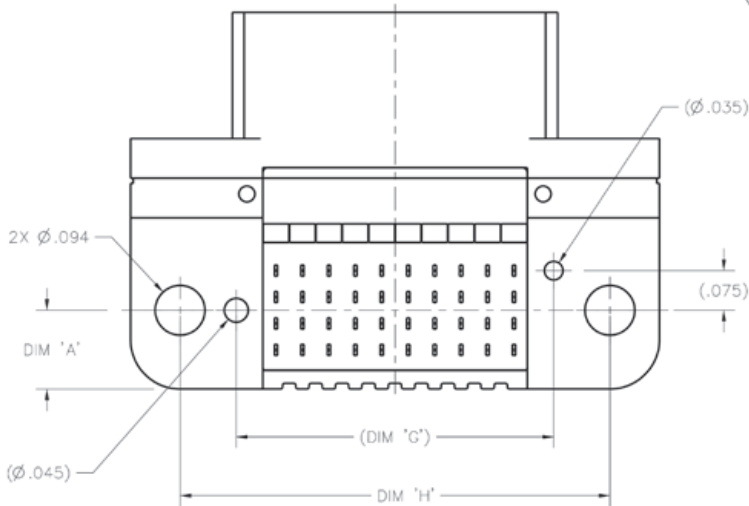
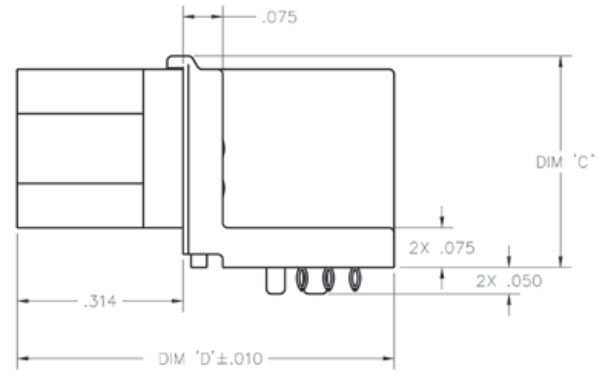
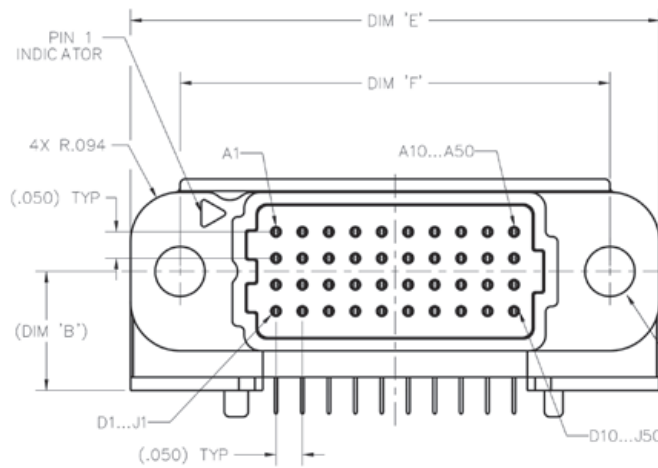
The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



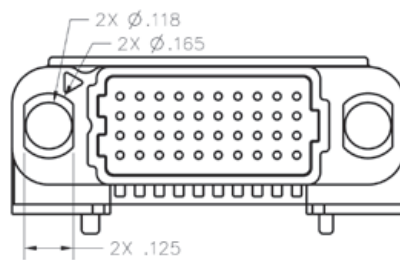
## CONNECTOR DIMENSIONS (BLANK HARDWARE OPTION SHOWN)



ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER VSRAM-04-10-50-00 SHOWN)



HARDWARE OPTION VIEW



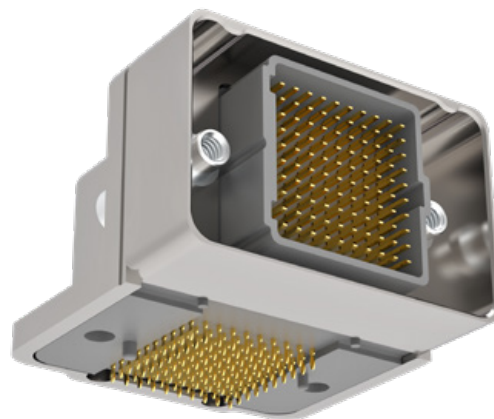
| ROWS | DIM 'A' | DIM 'B' | DIM 'C' | DIM 'D' |
|------|---------|---------|---------|---------|
| 04   | .149    | .225    | .400    | .713    |
| 05   | .174    | .250    | .450    | .763    |
| 06   | .199    | .275    | .500    | .813    |
| 08   | .249    | .325    | .600    | .913    |
| 10   | .299    | .375    | .700    | 1.013   |

| COLUMNS | DIM 'E' | DIM 'F' | DIM 'G' | DIM 'H' |
|---------|---------|---------|---------|---------|
| 10      | 1.000   | .813    | .600    | .813    |
| 20      | 1.500   | 1.313   | 1.100   | 1.313   |
| 30      | 2.000   | 1.813   | 1.600   | 1.813   |
| 40      | 2.500   | 2.313   | 2.100   | 2.313   |
| 50      | 3.000   | 2.813   | 2.600   | 2.813   |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRRAM — Rugged, Right Angle Male

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 performance. Pitch: 1.27 mm.



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

| VRRAM                                                 |                                                                                         |                                                                                                               | 50                                             |                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Rugged Right Angle<br>(Male) 1.27 mm | <b>ROWS</b><br>04 – 4 Rows<br>05 – 5 Rows<br>06 – 6 Rows<br>08 – 8 Rows<br>10 – 10 Rows | <b>COLUMNS</b><br>10 – 10 Columns<br>20 – 20 Columns<br>30 – 30 Columns<br>40 – 40 Columns<br>50 – 50 Columns | <b>CONTACT<br/>PLATING</b><br>50 – 50 $\mu$ Au | <b>TERMINATION</b><br>00 – Press-fit<br>01 – Paste-in-hole<br>02 – PTH 0.078"<br>03 – PTH 0.109"<br>04 – PTH 0.140"<br>05 – PTH 0.156"<br>06 – PTH 0.172" | <b>OPTIONS</b><br>Blank – Standard<br>G – Guide pin<br>N – Fixed jacknut<br>J – Turning jackscrew <sup>1</sup><br>L – Locking screw <sup>1</sup><br>E – Standard/EMI gasket<br>GE – Guide pin/EMI gasket<br>NE – Fixed jacknut/EMI gasket<br>JE – Turning jackscrew/EMI gasket <sup>1</sup><br>LE – Locking screw/EMI gasket <sup>1</sup> |

### Notes:

See AirBorn spec ESL5001 for installation information.

<sup>1</sup> Connectors come pre-assembled with shells & hardware.

AirBorn can manufacture other configurations to your exact specifications.

RoHS Complaint; certificate of conformance available upon request with each shipment.

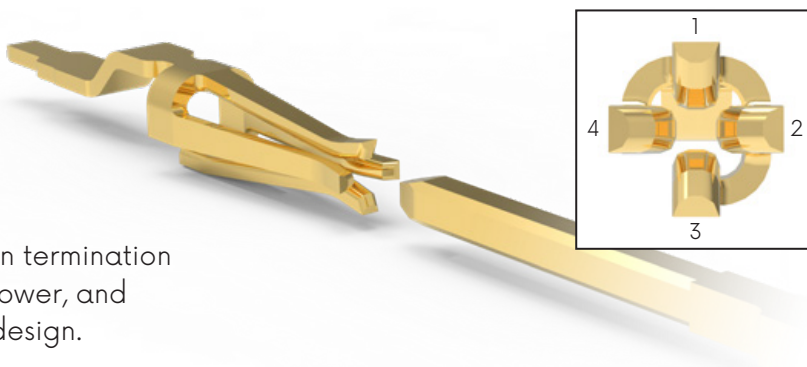
Please view document VRRAM-XX-XX-XX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

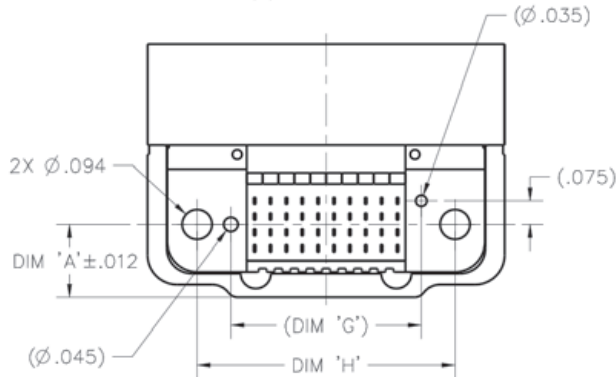
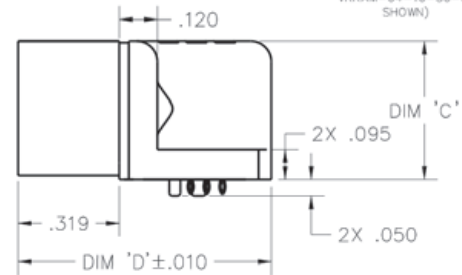
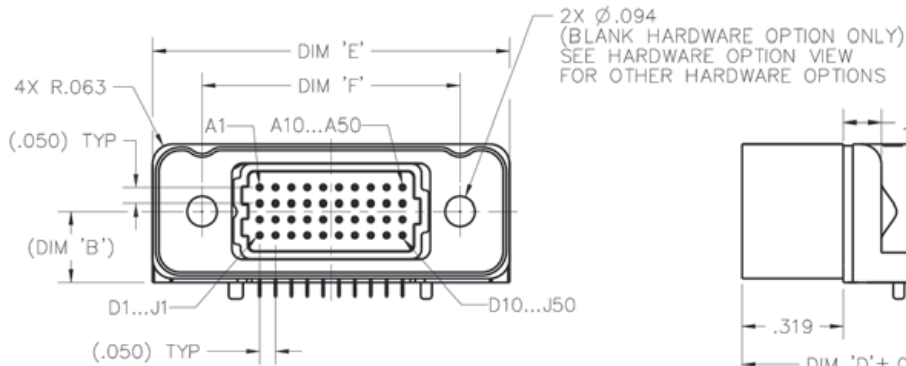
The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



# CONNECTOR DIMENSIONS (BLANK, G AND N HARDWARE OPTIONS)



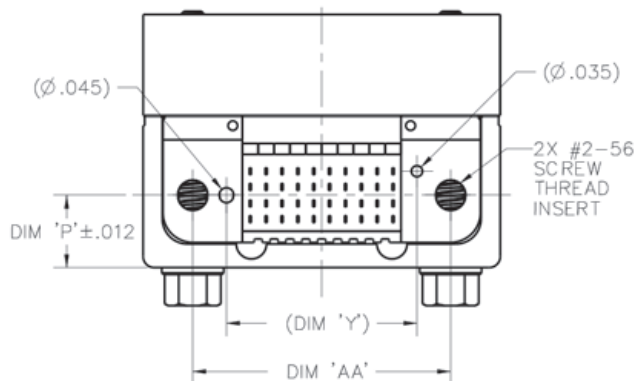
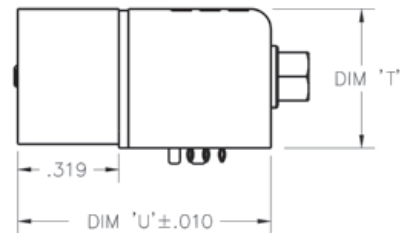
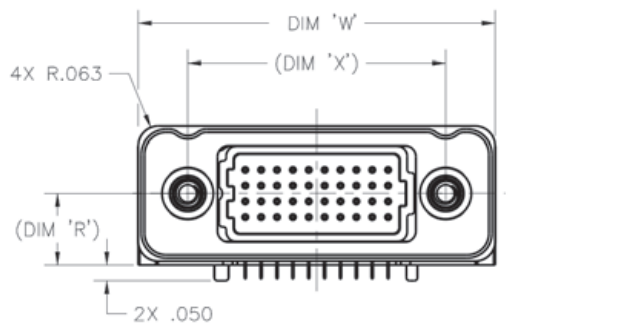
ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER  
VRRAM-04-10-50-00  
SHOWN)



| ROWS | DIM 'A' | DIM 'B' | DIM 'C' | DIM 'D' |
|------|---------|---------|---------|---------|
| 04   | .229    | .225    | .437    | .798    |
| 05   | .254    | .250    | .487    | .848    |
| 06   | .279    | .275    | .537    | .898    |
| 08   | .329    | .325    | .637    | .998    |
| 10   | .379    | .375    | .737    | 1.098   |

| COLUMNS | DIM 'E' | DIM 'F' | DIM 'G' | DIM 'H' |
|---------|---------|---------|---------|---------|
| 10      | 1.125   | .813    | .600    | .813    |
| 20      | 1.625   | 1.313   | 1.100   | 1.313   |
| 30      | 2.125   | 1.813   | 1.600   | 1.813   |
| 40      | 2.625   | 2.313   | 2.100   | 2.313   |
| 50      | 3.125   | 2.813   | 2.600   | 2.813   |

# CONNECTOR DIMENSIONS (J & L HARDWARE OPTIONS)



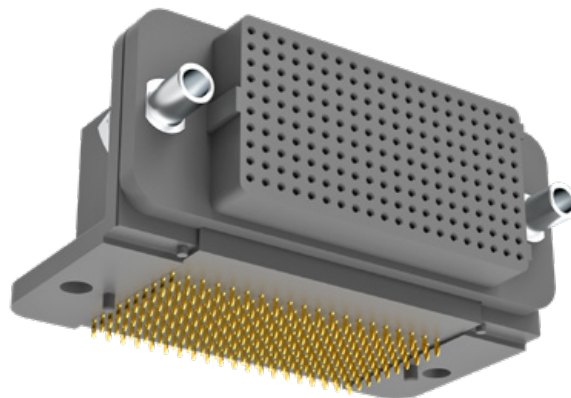
| ROWS | DIM 'P' | DIM 'R' | DIM 'T' | DIM 'U' |
|------|---------|---------|---------|---------|
| 04   | .229    | .225    | .438    | .798    |
| 05   | .254    | .250    | .488    | .848    |
| 06   | .279    | .275    | .538    | .898    |
| 08   | .329    | .325    | .638    | .998    |
| 10   | .379    | .375    | .738    | 1.098   |

| COLUMNS | DIM 'W' | DIM 'X' | DIM 'Y' | DIM 'AA' |
|---------|---------|---------|---------|----------|
| 10      | 1.125   | .813    | .600    | .813     |
| 20      | 1.625   | 1.313   | 1.100   | 1.313    |
| 30      | 2.125   | 1.813   | 1.600   | 1.813    |
| 40      | 2.625   | 2.313   | 2.100   | 2.313    |
| 50      | 3.125   | 2.813   | 2.600   | 2.813    |

Please consult the AirBorne website for the latest revision of this document prior to beginning any design work.

## VSRAF — Right Angle Female

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. Pitch: 1.27 mm.



### Sample Part Number Format: VSRAF-04-10-50-02-G

| VSRAF                                            |                                                                                         |                                                                                                               | 50                                           |                                                                                                                                                           |                                                                                                                                          |
|--------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Right Angle (Female)<br>1.27 mm | <b>ROWS</b><br>04 – 4 Rows<br>05 – 5 Rows<br>06 – 6 Rows<br>08 – 8 Rows<br>10 – 10 Rows | <b>COLUMNS</b><br>10 – 10 Columns<br>20 – 20 Columns<br>30 – 30 Columns<br>40 – 40 Columns<br>50 – 50 Columns | <b>CONTACT PLATING</b><br>50 – 50 $\mu$ " Au | <b>TERMINATION</b><br>00 – Press-fit<br>01 – Paste-in-hole<br>02 – PTH 0.078"<br>03 – PTH 0.109"<br>04 – PTH 0.140"<br>05 – PTH 0.156"<br>06 – PTH 0.172" | <b>OPTIONS</b><br>Blank – No options <sup>‡</sup><br>G – Guide socket<br>N – Fixed jacknut<br>J – Turning jackscrew<br>L – Locking screw |

### Notes:

See AirBorn spec ESL5001 for installation information.

Connector potting is standard.

<sup>‡</sup> No hardware supplied with blank hardware option connectors.

AirBorn can manufacture other configurations to your exact specifications.

RoHS Complaint; certificate of conformance available upon request with each shipment.

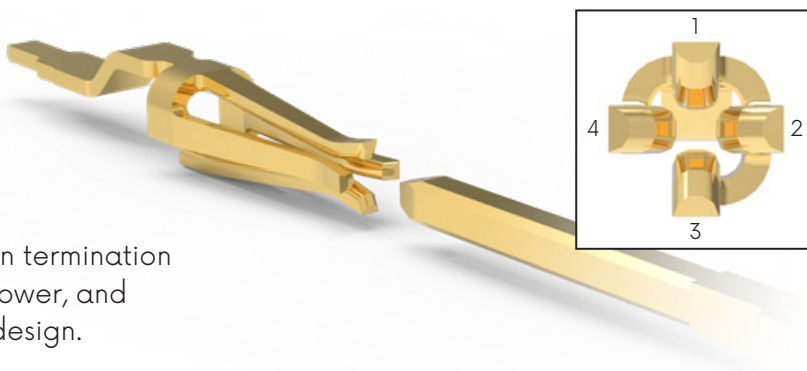
Please view document VSRAF-XX-XX-XX-XX-X on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

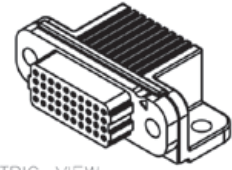
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

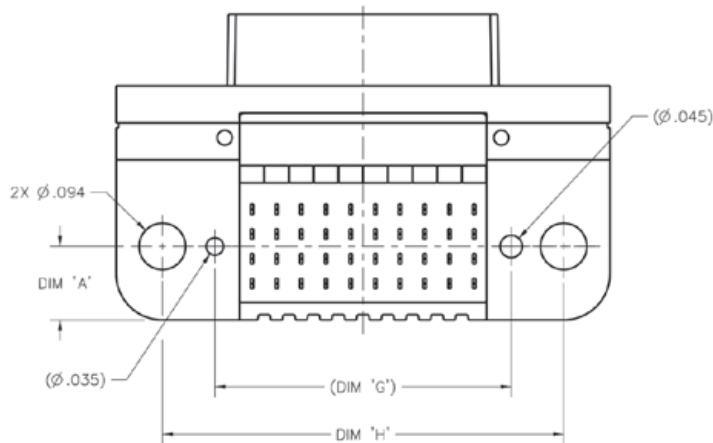
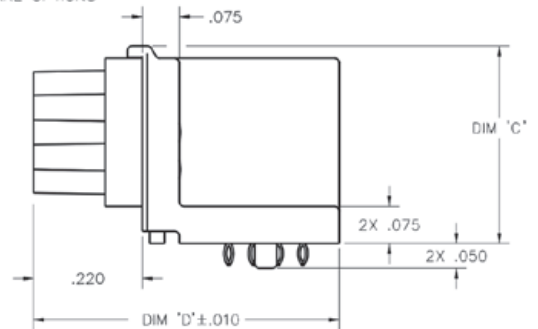
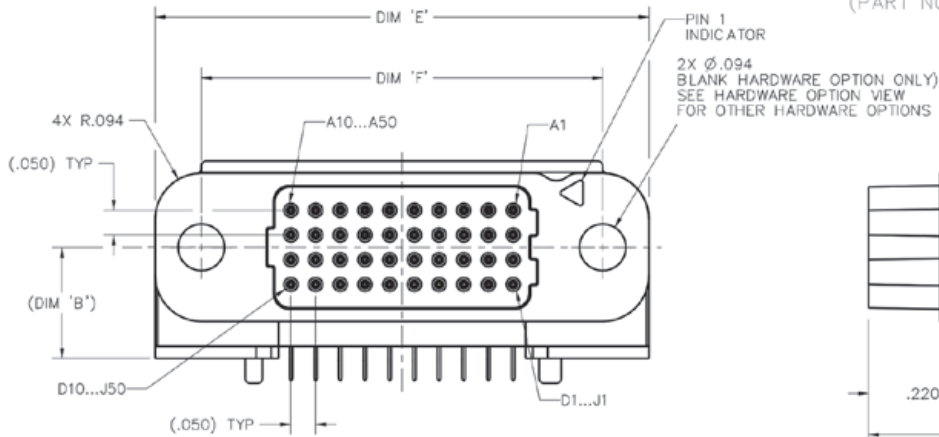
The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



## CONNECTOR DIMENSIONS (BLANK HARDWARE OPTION SHOWN)



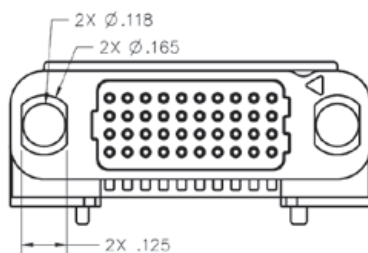
ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER VSRAF-04-10-50-00 SHOWN)



| ROWS | DIM 'A' | DIM 'B' | DIM 'C' | DIM 'D' |
|------|---------|---------|---------|---------|
| 04   | .149    | .225    | .400    | .619    |
| 05   | .174    | .250    | .450    | .669    |
| 06   | .199    | .275    | .500    | .719    |
| 08   | .249    | .325    | .600    | .819    |
| 10   | .299    | .375    | .700    | .919    |

| COLUMNS | DIM 'E' | DIM 'F' | DIM 'G' | DIM 'H' |
|---------|---------|---------|---------|---------|
| 10      | 1.000   | .813    | .600    | .813    |
| 20      | 1.500   | 1.313   | 1.100   | 1.313   |
| 30      | 2.000   | 1.813   | 1.600   | 1.813   |
| 40      | 2.500   | 2.313   | 2.100   | 2.313   |
| 50      | 3.000   | 2.813   | 2.600   | 2.813   |

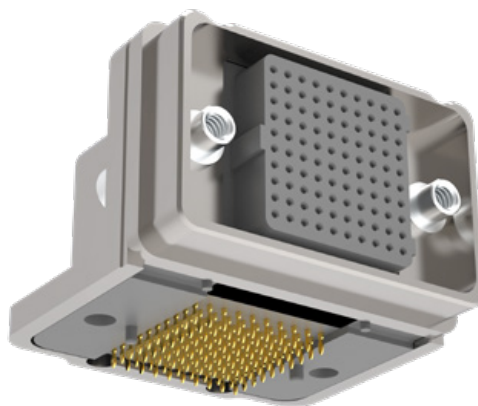
### HARDWARE OPTION VIEW



Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRRAF — Rugged, Right Angle Female

VRRAF 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 performance. Pitch: 1.27 mm.



### Sample Part Number Format: VRRAF-04-10-50-00-N

| VRRAF                                                   |                                                                                         |                                                                                                               | 50                                             |                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Rugged Right Angle<br>(Female) 1.27 mm | <b>ROWS</b><br>04 – 4 Rows<br>05 – 5 Rows<br>06 – 6 Rows<br>08 – 8 Rows<br>10 – 10 Rows | <b>COLUMNS</b><br>10 – 10 Columns<br>20 – 20 Columns<br>30 – 30 Columns<br>40 – 40 Columns<br>50 – 50 Columns | <b>CONTACT<br/>PLATING</b><br>50 – 50 $\mu$ Au | <b>TERMINATION</b><br>00 – Press-fit<br>01 – Paste-in-hole<br>02 – PTH 0.078"<br>03 – PTH 0.109"<br>04 – PTH 0.140"<br>05 – PTH 0.156"<br>06 – PTH 0.172" | <b>OPTIONS</b><br>Blank – Standard<br>G – Guide socket<br>N – Fixed jacknut<br>J – Turning jackscrew <sup>1</sup><br>L – Locking screw <sup>1</sup><br>E – Standard/EMI gasket<br>GE – Guide socket/EMI gasket<br>NE – Fixed jacknut/EMI gasket<br>JE – Turning jackscrew/EMI gasket <sup>1</sup><br>LE – Locking screw/EMI gasket <sup>1</sup> |

### Notes:

See AirBorn spec ESL5001 for installation information.

<sup>1</sup> Connectors come pre-assembled with shells & hardware.

AirBorn can manufacture other configurations to your exact specifications.

RoHS Complaint; certificate of conformance available upon request with each shipment.

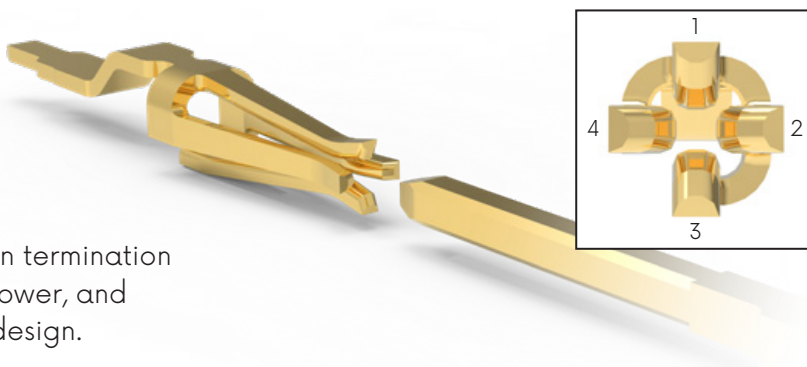
Please view document VRRAF-XX-XX-XX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.

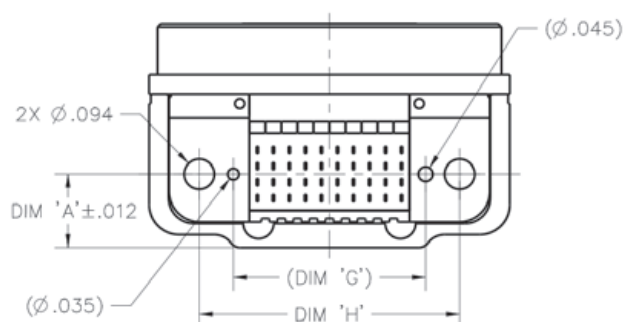
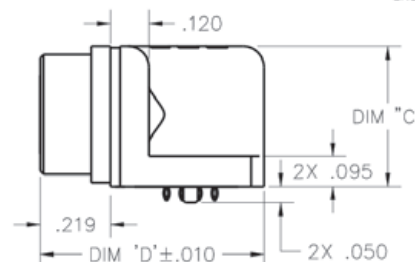
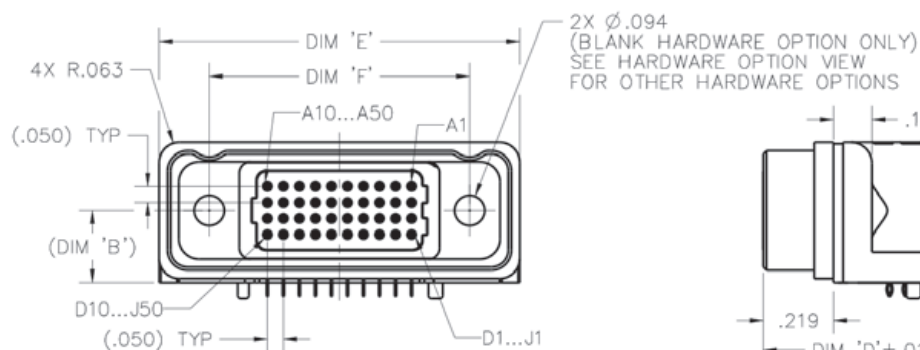


## Dimensions

## CONNECTOR DIMENSIONS (BLANK, G AND N HARDWARE OPTIONS)



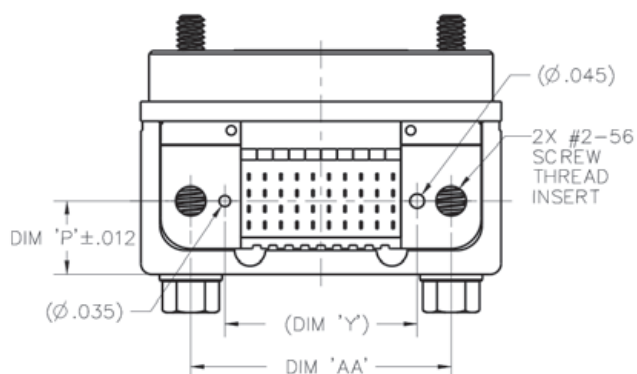
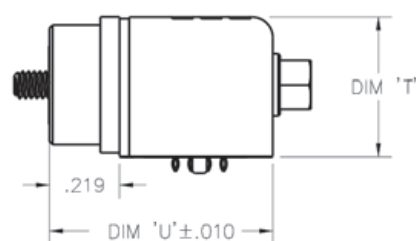
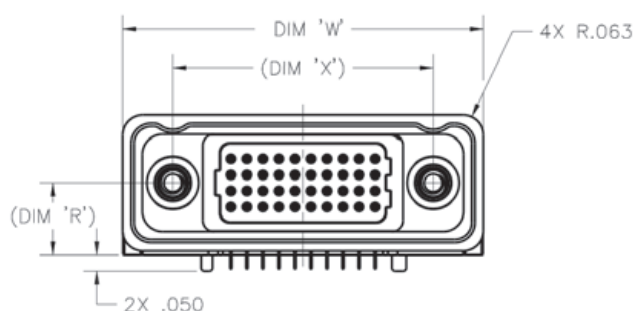
ISOMETRIC VIEW  
FOR REFERENCE ONLY  
(PART NUMBER  
VRRAF-04-10-50-00  
SHOWN)



| ROWS | DIM 'A' | DIM 'B' | DIM 'C' | DIM 'D' |
|------|---------|---------|---------|---------|
| 04   | .229    | .225    | .437    | .698    |
| 05   | .254    | .250    | .487    | .748    |
| 06   | .279    | .275    | .537    | .798    |
| 08   | .329    | .325    | .637    | .898    |
| 10   | .379    | .375    | .737    | .998    |

| COLUMNS | DIM 'E' | DIM 'F' | DIM 'G' | DIM 'H' |
|---------|---------|---------|---------|---------|
| 10      | 1.125   | .813    | .600    | .813    |
| 20      | 1.625   | 1.313   | 1.100   | 1.313   |
| 30      | 2.125   | 1.813   | 1.600   | 1.813   |
| 40      | 2.625   | 2.313   | 2.100   | 2.313   |
| 50      | 3.125   | 2.813   | 2.600   | 2.813   |

### CONNECTOR DIMENSIONS (J & L HARDWARE OPTIONS)



| ROWS | DIM 'P' | DIM 'R' | DIM 'T' | DIM 'U' |
|------|---------|---------|---------|---------|
| 04   | .228    | .225    | .438    | .697    |
| 05   | .253    | .250    | .488    | .747    |
| 06   | .278    | .275    | .538    | .798    |
| 08   | .328    | .325    | .638    | .897    |
| 10   | .378    | .375    | .738    | .997    |

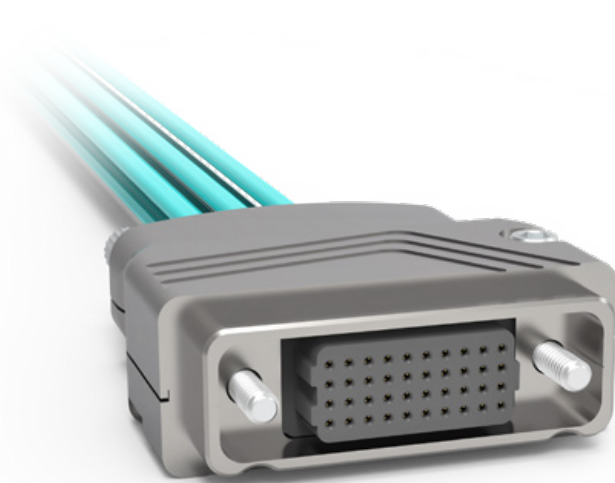
| COLUMNS | DIM 'W' | DIM 'X' | DIM 'Y' | DIM 'AA' |
|---------|---------|---------|---------|----------|
| 10      | 1.125   | .813    | .600    | .813     |
| 20      | 1.625   | 1.313   | 1.100   | 1.313    |
| 30      | 2.125   | 1.813   | 1.600   | 1.813    |
| 40      | 2.625   | 2.313   | 2.100   | 2.313    |
| 50      | 3.125   | 2.813   | 2.600   | 2.813    |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.



## VRD — Differential Pair Twinax Cable Assembly

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. Pitch: 1.27 mm.



### Sample Part Number Format: VRD-04-10-50-03J-000-030



**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  $\mu$ " 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:

See AirBorn spec ESL5001 for installation information.

\*Other cable lengths and configurations available.

AirBorn can manufacture other configurations to your exact specifications.

Reference pinout information on product spec drawing on [www.airborn.com](http://www.airborn.com).

RoHS Complaint; certificate of conformance available upon request with each shipment.

Please view document VRD-XX-XX-XX-XXX-XXX-XXX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

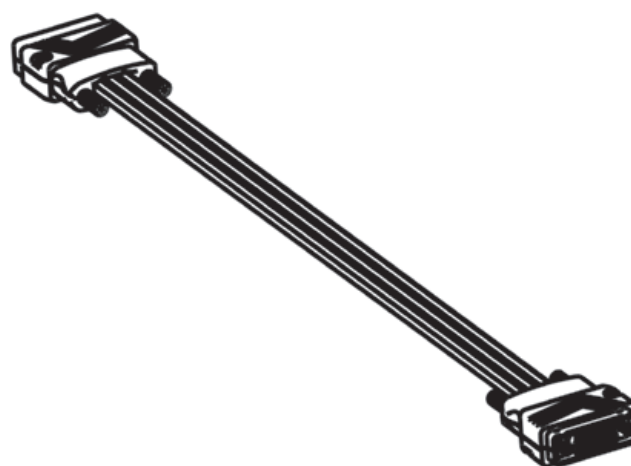
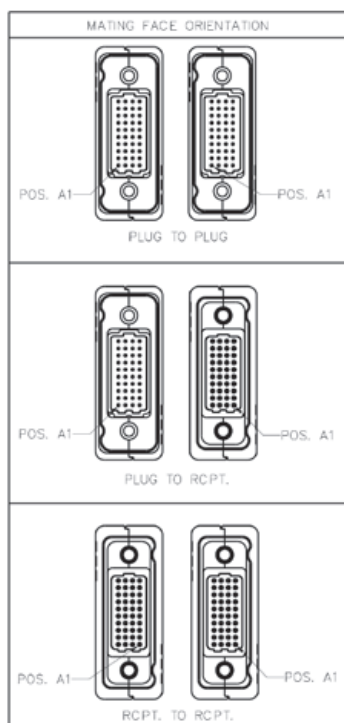
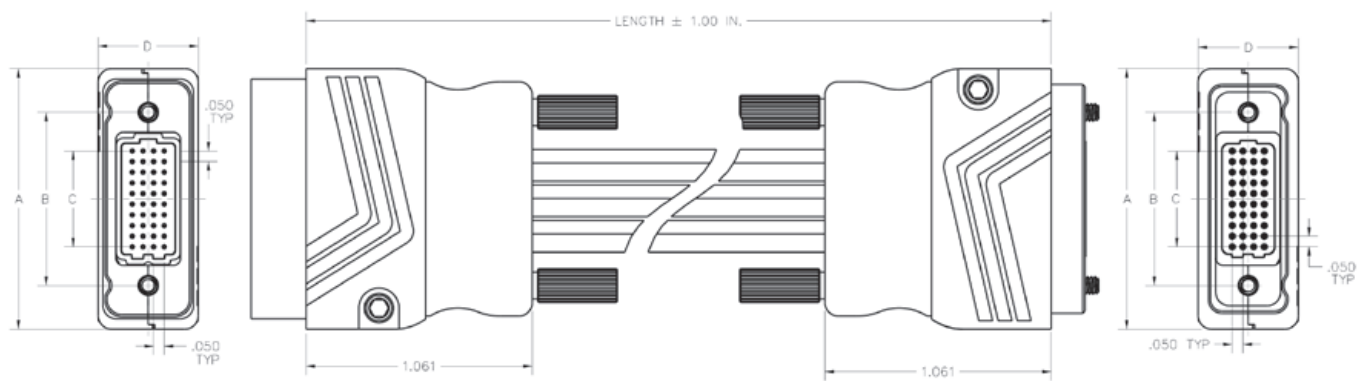
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



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 |

| LENGTH |           |             |
|--------|-----------|-------------|
| CODE   | LENGH (M) | LENGTH (IN) |
| 030    | 0.30      | 11.81       |
| 040    | 0.40      | 15.75       |
| 050    | 0.50      | 19.69       |
| 060    | 0.60      | 23.62       |
| 070    | 0.70      | 27.56       |
| 080    | 0.80      | 31.50       |
| 090    | 0.90      | 35.43       |
| 100    | 1.00      | 39.37       |
| 150    | 1.50      | 59.06       |
| 200    | 2.00      | 78.74       |
| 300    | 3.00      | 118.11      |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRW — Discrete Wire Cable Assembly With Internal Solder Connection

VRW cable assemblies come in standard wire and lengths but custom wire and length options are available. Ruggedized shells are standard. Pitch: 1.27 mm.



### Sample Part Number Format: VRW-04-10-50-03G-000-A030

| VRW                                                         |                                                                                         |                                                                                                               | 50                                          |                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                             |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>SERIES</b><br>Discrete Wire<br>Cable Assembly<br>1.27 mm | <b>ROWS</b><br>04 – 4 Rows<br>05 – 5 Rows<br>06 – 6 Rows<br>08 – 8 Rows<br>10 – 10 Rows | <b>COLUMNS</b><br>10 – 10 Columns<br>20 – 20 Columns<br>30 – 30 Columns<br>40 – 40 Columns<br>50 – 50 Columns | <b>CONTACT<br/>PLATING</b><br>50 – 50 µ" Au | <b>CONNECTOR 1</b><br>01G – Male with guide pins<br>01N – Male with threaded nut #2-56<br>01L – Male with locking screw #2-56<br>01J – Male with jackscrew #2-56<br>03G – Female with guide sockets<br>03N – Female with threaded nut #2-56<br>03L – Female with locking screw #2-56<br>03J – Female with jackscrew #2-56 | <b>CONNECTOR 2</b><br>000 – Flying Leads<br>01G – Male with guide pins<br>01N – Male with threaded nut #2-56<br>01L – Male with locking screw #2-56<br>01J – Male with jackscrew #2-56<br>03G – Female with guide sockets<br>03N – Female with threaded nut #2-56<br>03L – Female with locking screw #2-56<br>03J – Female with jackscrew #2-56 | <b>WIRE CODE</b><br>XXXX<br>(Four characters<br>are required -- see<br>blue columns in<br>the chart below.) |

### Notes:

See AirBorn spec ESL5001 for installation information.

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.

Reference pinout information on product spec drawing on [www.airborn.com](http://www.airborn.com).

Please view document VRW-XX-XX-XX-XXX-XXXX-XXXX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

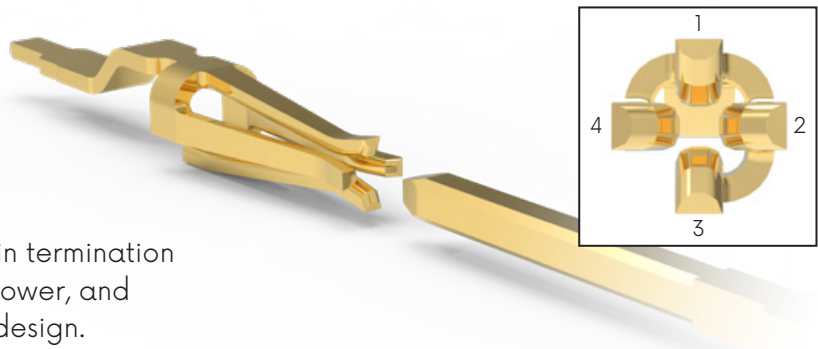
| Color (per 83513) and GAGE             |   | Length |        |       |
|----------------------------------------|---|--------|--------|-------|
| NEMA HP3 EXBEB (24 AWG) - Multicolored | A |        | Meters | Feet  |
| White                                  | B | 010    | 0.10   | 0.328 |
| NEMA HP3 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 |        |        |       |

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

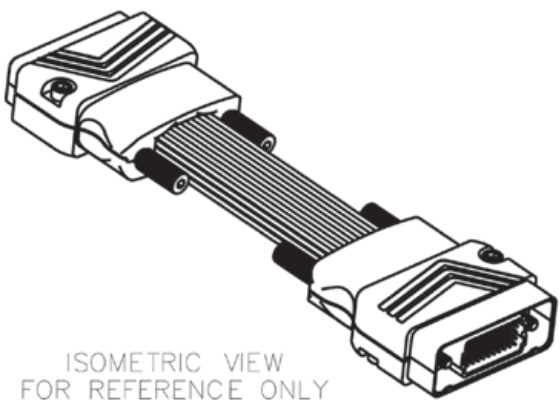
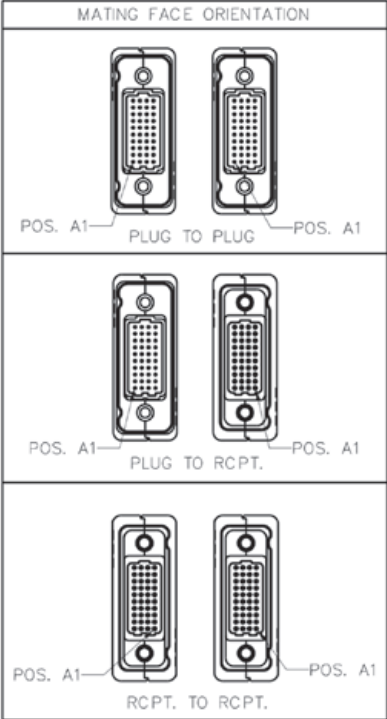
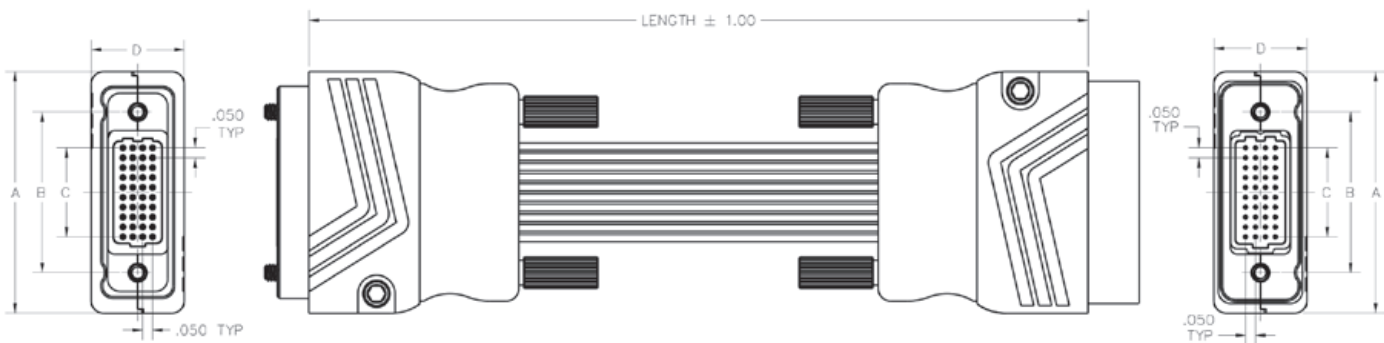
## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



Dimensions



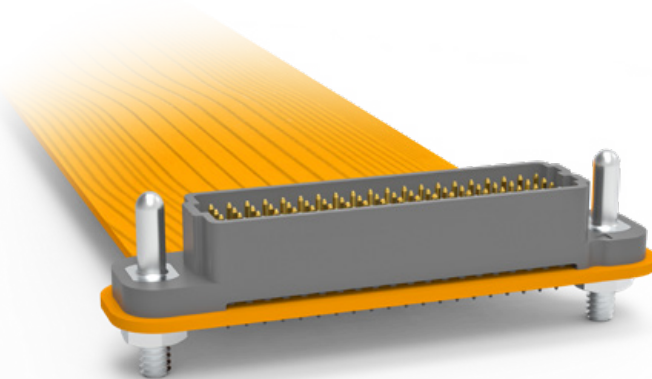
| COLUMNS | A     | B     | C     | ROWS | D     |
|---------|-------|-------|-------|------|-------|
| 10      | 1.222 | 0.813 | 0.450 | 4    | 0.470 |
| 20      | 1.722 | 1.313 | 0.950 | 5    | 0.520 |
| 30      | 2.222 | 1.813 | 1.450 | 6    | 0.570 |
| 40      | 2.722 | 2.313 | 1.950 | 8    | 0.670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

| LENGTH |            |             |
|--------|------------|-------------|
| CODE   | LENGTH (M) | LENGTH (IN) |
| 010    | 0.10       | 3.94        |
| 020    | 0.20       | 7.87        |
| 030    | 0.30       | 11.81       |
| 040    | 0.40       | 15.75       |
| 050    | 0.50       | 19.69       |
| 060    | 0.60       | 23.62       |
| 070    | 0.70       | 27.56       |
| 080    | 0.80       | 31.50       |
| 090    | 0.90       | 35.43       |
| 100    | 1.00       | 39.37       |
| 150    | 1.50       | 59.06       |
| 200    | 2.00       | 78.74       |
| 300    | 3.00       | 118.11      |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## Flexible Circuit Jumper Assemblies

verSI flexible jumper assemblies are available in standard and rugged connector offerings meeting all your application and reliability needs. Standard length offerings are shown but custom length and configuration options are available upon request. Pitch: 1.27 mm.



### Sample Part Number Format: VSX-04-10-50-01VG-03VG-015

| SERIES                         | ROWS                                                                     | COLUMNS                                                                                     | CONNECTOR 1 GENDER & ORIENTATION                                                                               | CONNECTOR 1 MATING HARDWARE                                                  | CONNECTOR 2 GENDER & ORIENTATION                                                                               | CONNECTOR 2 MATING HARDWARE                                                  | LENGTH                                                                                                                                                                                                       |
|--------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VSX - Standard<br>VRX - Rugged | 04 - 4 Rows<br>05 - 5 Rows<br>06 - 6 Rows<br>08 - 8 Rows<br>10 - 10 Rows | 10 - 10 Columns<br>20 - 20 Columns<br>30 - 30 Columns<br>40 - 40 Columns<br>50 - 50 Columns | 01V - Male<br>Vertical<br>03V - Female<br>Vertical<br>01R - Male<br>Right Angle<br>03R - Female<br>Right Angle | A - No<br>Hardware<br>J - Jacking<br>L - Locking<br>N - Jacknut<br>G - Guide | 01V - Male<br>Vertical<br>03V - Female<br>Vertical<br>01R - Male<br>Right Angle<br>03R - Female<br>Right Angle | A - No<br>Hardware<br>J - Jacking<br>L - Locking<br>N - Jacknut<br>G - Guide | 015 - 0.15 M<br>030 - 0.30 M<br>040 - 0.40 M<br>045 - 0.45 M<br>050 - 0.50 M<br>060 - 0.60 M<br>070 - 0.70 M<br>080 - 0.80 M<br>090 - 0.90 M<br>100 - 1.00 M<br>150 - 1.50 M<br>200 - 2.00 M<br>300 - 3.00 M |

### Notes:

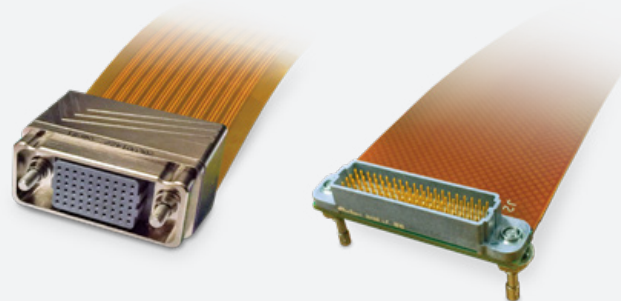
See AirBorn spec ESL5001 for installation information.

Same Gender Jumpers (Male to Male and Female to Female) are not wired 1 to 1.

Connectors are rated for 2 amps, flex traces are rated for 1 amp.

AirBorn can manufacture other configurations to your exact specifications.

Please view document VSX-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) before part configuration for more product specification information.



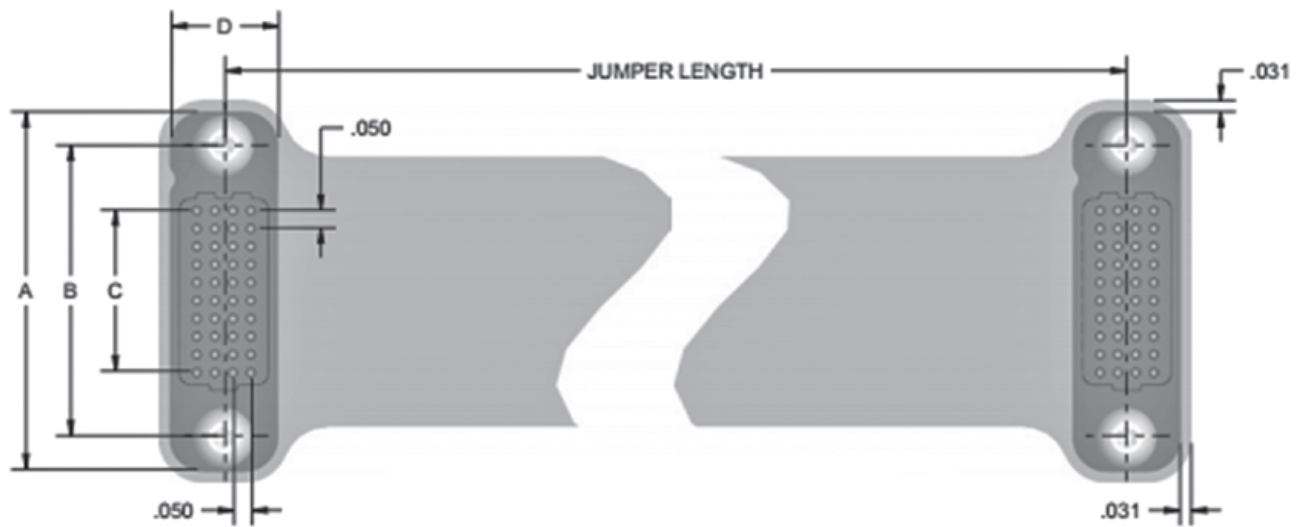
NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

## Reliable Contact Every Time

VerSI connectors feature a low-mating-force, high-reliability contact system with four points-of-contact.

The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.





| 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 |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRCS — Connector Savers

VRCS ruggedized connector savers are designed to protect connectors against repeated mating and unmating cycles during test, initial setup and/or design. VRCS assemblies also serve to protect against costly damage to contacts and hardware during all phases of the connectors life cycle.



### Sample Part Number Format: VRCS-04-10-MJFN



#### 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



#### HARDWARE

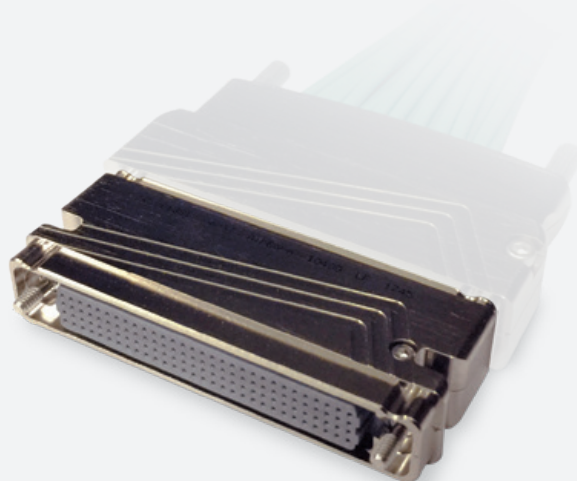
MJFN – Male with Jackscrew; female jacknut  
MNFJ – Male with Jacknut; female jackscrew  
MLFN – Male with locking screw; female jacknut  
MNFL – Male with Jacknut; locking screw  
MGFG – Male guide pin; female guide socket

### Notes:

See AirBorn spec ESL5001 for installation information.

VRCS-XX-XX-XXXX hardware is field reversible, replaceable, & repairable.

Please view document VRCS-XX-XX-XXXX on [airborn.com](http://airborn.com) before part configuration for more product specification information.

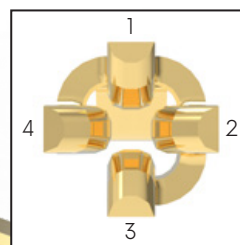


NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

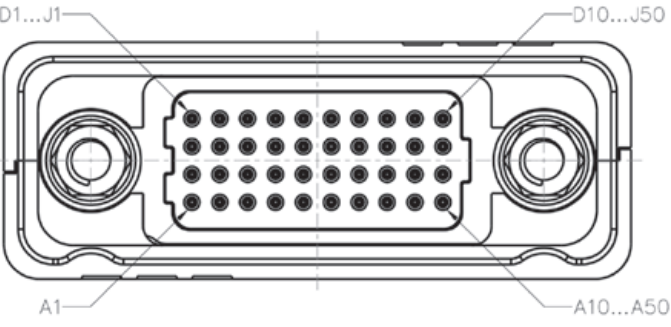
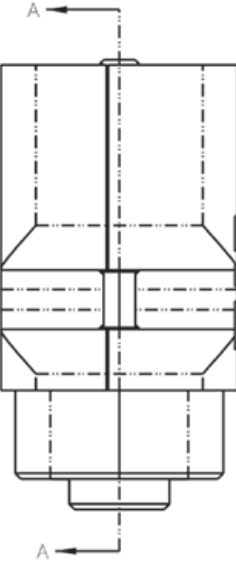
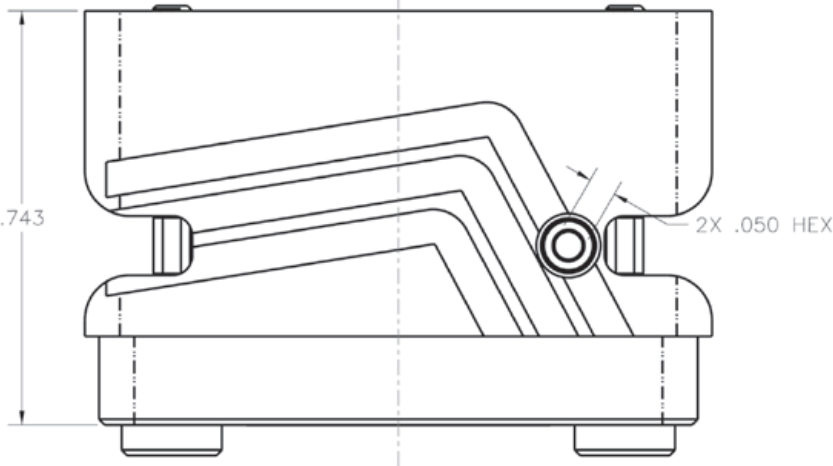
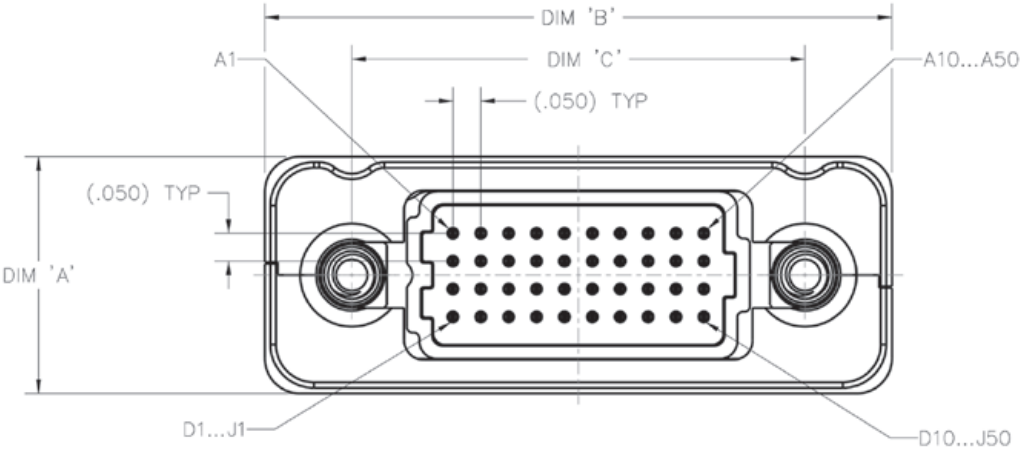
## Reliable Contact Every Time

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The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



Dimensions



| ROWS | DIM 'A' |
|------|---------|
| 04   | .425    |
| 05   | .475    |
| 06   | .525    |
| 08   | .625    |
| 10   | .725    |

| COLUMNS | DIM 'B' | DIM 'C' |
|---------|---------|---------|
| 10      | 1.125   | .813    |
| 20      | 1.625   | 1.313   |
| 30      | 2.125   | 1.813   |
| 40      | 2.625   | 2.313   |
| 50      | 3.125   | 2.813   |

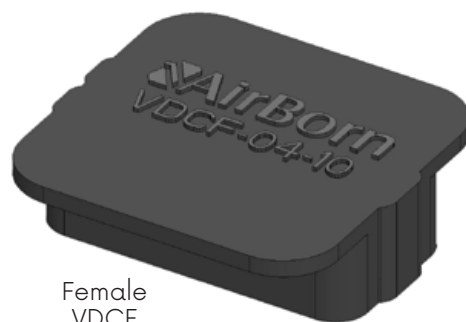
Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## Dust Covers

VDCM & VDCF dust covers offer connectors protection from environmental and mechanical harm using ESD material.

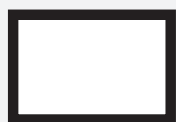


Male  
VDCM



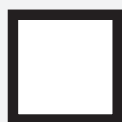
Female  
VDCF

### Sample Part Number Format: VDCM-04-10



#### SERIES

VDCM – Male  
Dust Cover  
VDCF – Female  
Dust Cover



#### 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

### Notes:

See AirBorn spec ESL5001 for installation information.

VDCM covers are applied to VSM, VRM, VSRAM & VRRAM

VDCF covers are applied to VSF, VRF, VSRAF & VRRAF

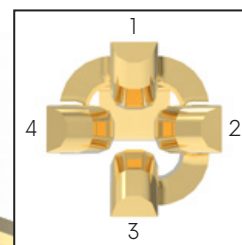
Please view document xxxxxxxxxxxxxx on [airborn.com](http://airborn.com) before part configuration for more product specification information.

NOTE: Please consult [airborn.com](http://airborn.com) to configure your part number and for the latest revision controlled drawing and technical data.

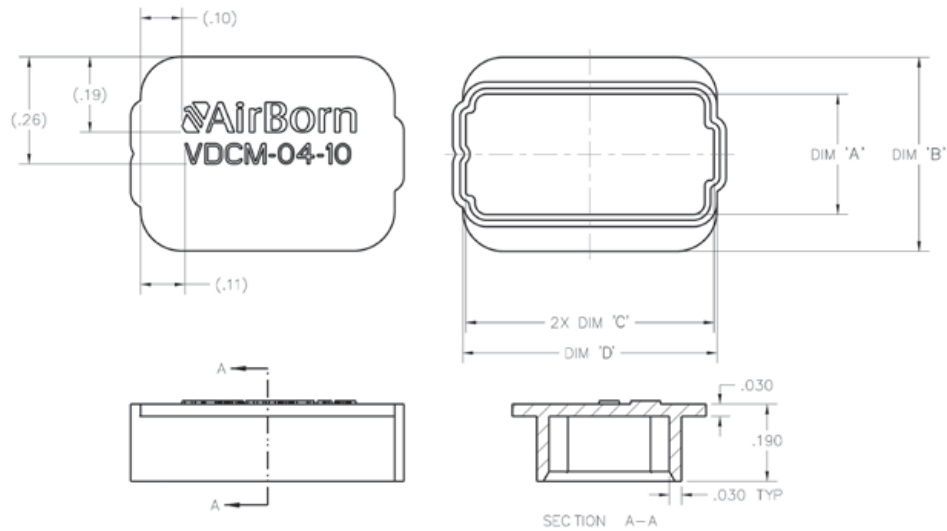
## Reliable Contact Every Time

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The open-pin field design allows flexibility in termination schemes. Single-ended, differential pair, power, and ground are all available in one connector design.



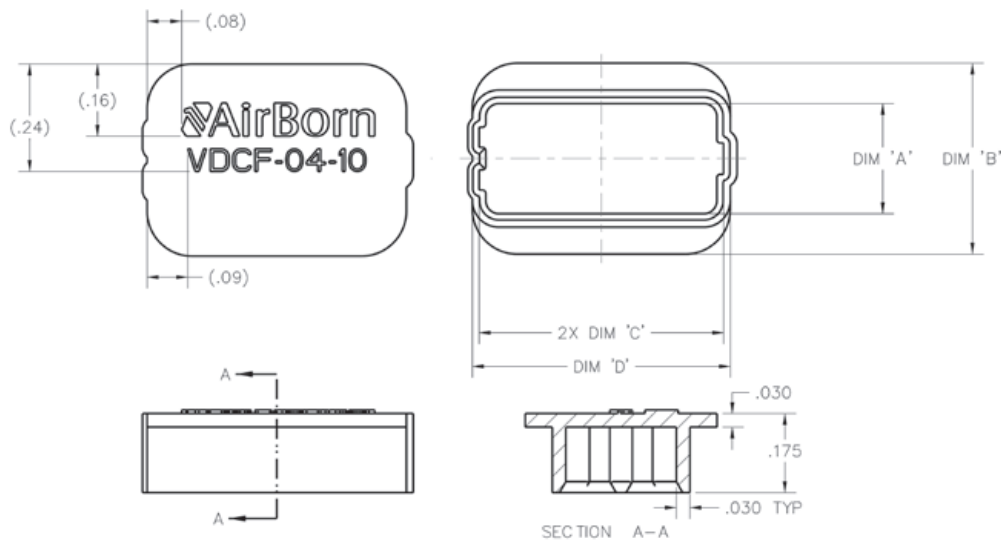
## Dimensions



| COLUMNS   | DIM 'C' | DIM 'D' |
|-----------|---------|---------|
| 10-10 COL | .611    | .63     |
| 20-20 COL | 1.111   | 1.13    |
| 30-30 COL | 1.611   | 1.63    |
| 40-40 COL | 2.111   | 2.13    |
| 50-50 COL | 2.611   | 2.63    |

| ROWS      | DIM 'A' | DIM 'B' |
|-----------|---------|---------|
| 04-4 ROW  | .296    | .48     |
| 05-5 ROW  | .346    | .53     |
| 06-6 ROW  | .396    | .58     |
| 08-8 ROW  | .496    | .68     |
| 10-10 ROW | .596    | .78     |

VDCM



| COLUMNS   | DIM 'C' | DIM 'D' |
|-----------|---------|---------|
| 10-10 COL | .545    | .58     |
| 20-20 COL | 1.045   | 1.08    |
| 30-30 COL | 1.545   | 1.58    |
| 40-40 COL | 2.045   | 2.08    |
| 50-50 COL | 2.545   | 2.57    |

| ROWS      | DIM 'A' | DIM 'B' |
|-----------|---------|---------|
| 04-4 ROW  | .245    | .43     |
| 05-5 ROW  | .295    | .48     |
| 06-6 ROW  | .345    | .53     |
| 08-8 ROW  | .445    | .63     |
| 10-10 ROW | .545    | .73     |

VDCF

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## Signal Integrity Data — Simulated (Connectors Only)

|   |                             |                                     |                |
|---|-----------------------------|-------------------------------------|----------------|
| 1 | Differential Insertion Loss | -0.25 dB @ 5 GHz                    | -3dB @ 16 GHz  |
| 2 | Differential Return Loss    | -20 dB @ 5 GHz                      | -6 dB @ 14 GHz |
| 3 | Differential Impedance      | 100 ohm $\pm$ 10% @ 50 ps rise time |                |
| 4 | Differential Skew           | < 2 psec                            |                |

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

- Pin Contacts Materials: . . . . . PIH & PTH: Phos bronze per ASTM B103 or . . . . . Press Fit: BeCu per ASTM B768 (press-fit contact)
- Pin Contacts Finish: . . . . . 50 µIN min localized gold finish per ASTM B488 over nickel per ASTM B689 Type I
- Pin Contacts Finish Termination End:  
PIH & PTH: . . . . . 10 µIN min localized gold flash per ASTM B488 Type I code A or C over 50 µIN min . . . . . Ni per ASTM B689 Type I  
Press Fit: . . . . . 50 µIN min localized gold per ASTM B488 Type II code C over 50 µIN min . . . . . Ni per ASTM B689 Type I  
SMT non RoHS: . . . . . 10 µIN min localized gold flash per ASTM B488 Type I, code A or C over 50 µIN min . . . . . Ni per ASTM B689 Type I tin dipped with Sn63Pb37 solder  
SMT RoHS: . . . . . 10 µIN localized gold flash per ASTM B488 Type I, code A or C over 50 µIN min . . . . . Ni per ASTM B689 Type I tin dipped with 42Sn/57.6Bi/0.4Ag solder
- Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Shell Material: . . . . . Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
- Shell Finish: . . . . . 500 µIN min electroless Ni per SAE AMS 2404, Class 3
- Embedment Material: . . . . . Frey Engineering Co. insulating compound CF3003-80 or equivalent
- Hardware Material: . . . . . Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320
- Hardware Finish: . . . . . Passivated per SAE AMS-2700
- Washers Material: . . . . . Stainless steel per NASM35333 (ASTM A240)
- Washers Finish: . . . . . Passivated per NASM35333 (SAE AMS-2700)

- Contact Rating: . . . . . 2 amperes maximum
- Operating Temperature: . . . . . -55° to +125° C
- Contact Engagement Force: . . . . . 6.0oz max.\*
- Contact Separation Force: . . . . . 0.5oz min\*
- Connector Mating Force: . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- Connector Unmating Force . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- Low-Level Contact Resistance . . . . . 20mΩ max, V2M mated to V2F, measured at the termination
- DWV (Sea Level) . . . . . 600 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Recommended Maximum Operating Voltage . . . . . 200 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Insulation Resistance: . . . . . 5,000 megaohms minimum @ 500 VDC
- Durability:. . . . . .2,500 connector mating cycles
- Sinusoidal Vibration: . . . . . 20 g (EIA-364-28, condition IV)
- Shock:. . . . . .50 g (EIA-364-27, condition E)
- Outgassing . . . . . Max TML of 1% and max CVCM of .1% per MIL-DTL-83513

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

### Materials & Finishes

- Socket Contacts Materials: . . . . . BeCu per ASTM B194
- Socket Contacts Finish Socket End: . . . . . 50  $\mu$ N min localized gold finish per ASTM B488 Type II, code C  
. . . . . over 50  $\mu$ N min Ni per ASTM B689 Type I
- Socket Contacts Finish Termination End:  
PIH & PTH: . . . . . 10  $\mu$ N min localized gold flash per ASTM B488 Type I code A or C over 50  $\mu$ N min  
. . . . . Ni per ASTM B689 Type I  
Press Fit: . . . . . 50  $\mu$ N min localized gold per ASTM B488 Type II code C over 50  $\mu$ N min  
. . . . . Ni per ASTM B689 Type I  
SMT non RoHS: . . . . . 10  $\mu$ N min localized gold flash per ASTM B488 Type I, code A or C over 50  $\mu$ N min  
. . . . . Ni per ASTM B689 Type I tin dipped with Sn63Pb37 solder  
SMT RoHS: . . . . . 10  $\mu$ N localized gold flash per ASTM B488 Type I, code A or C over 50  $\mu$ N min  
. . . . . Ni per ASTM B689 Type I tin dipped with 42Sn/57.6Bi/0.4Ag solder
- Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Shell Material: . . . . . Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
- Shell Finish: . . . . . 500  $\mu$ N min electroless Ni per SAE AMS 2404, Class 3
- Embedment Material: . . . . . Frey Engineering Co. insulating compound CF3003-80 or equivalent
- Hardware Material: . . . . . Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320
- Hardware Finish: . . . . . Passivated per SAE AMS-2700
- Washers Material: . . . . . Stainless steel per NASM35333 (ASTM A240)
- Washers Finish: . . . . . Passivated per NASM35333 (SAE AMS-2700)

### Performance

- Contact Rating: . . . . . 2 amperes maximum
- Operating Temperature: . . . . . -55° to +125° C
- Contact Engagement Force: . . . . . 6.0oz max.\*
- Contact Separation Force: . . . . . 0.5oz min\*
- Connector Mating Force: . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- Connector Unmating Force . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- Low-Level Contact Resistance . . . . . 30m $\Omega$  max, V2M mated to V2F, measured at the termination
- DWV (Sea Level) . . . . . 600 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Recommended Maximum Operating Voltage . . . . . 200 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Insulation Resistance: . . . . . 5,000 megaohms minimum @ 500 VDC, tested per MIL-DTL-83513
- Durability: . . . . . 2,500 connector mating cycles, exceeds MIL-DTL-83513
- Sinusoidal Vibration: . . . . . 20 g tested per MIL-DTL-83513
- Shock: . . . . . 50 g tested per MIL-DTL-83513
- Outgassing . . . . . Max TML of 1% and max CVCM of .1% per MIL-DTL-83513

\* Forces tested on socket only. Max pin size used for contact engagement force and min pin size used for contact separation force.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## V2C Materials, Finishes, & Performance

### Materials & Finishes

- Shell Material: . . . . . 6061-T6, 6061-T6511 or 6060-T6511 Aluminum SAE AMS 4027 or SAE AMS-QQ-A-200/8
- Shell Finish: . . . . . 500 microinch min electroless Ni per SAE AMS-2404, class3
- Socket Material: . . . . . BeCu per ASTM B194
- Pin Material: . . . . . Phos bronze per ASTM B103
- Contact Finish: . . . 50 microinch min gold finish per SAE AMS B488 over 50 microinch Ni per ASTM B689 Type I
- Cable: . . . . . Reference product specification drawing V2C-XX-XX-XX-XXX-XXX-XXX-XXX
- Wire: . . . . . Reference product specification drawing V2C-XX-XX-XX-XXX-XXX-XXX-XXX
- Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Hardware Materials: . . . . . Stainless steel per ASTM A582/A582M or ASTM A320
- Hardware Finishes: . . . . . Passivated per SAE AMS-2700
- Embedment. . . . . Frey Engineering Co. insulating compound CF3003-80 & L-11-49 or equivalent
- Solder: . . . . . SN/PB solder, 63% PB, 37% SN
- EMI Gasket: . . . . . Conductive elastomer per MIL-DTL-83528 Type D

### Performance

- Contact Rating: . . . . . 2 amperes maximum
- Operating Temperature: . . . . . -55° to +125° C
- Contact Engagement Force: . . . . . 6.0oz max.\*
- Contact Separation Force: . . . . . 0.5oz min\*
- Connector Mating Force: . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- Connector Unmating Force . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- DWV (Sea Level) . . . . . 600 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Recommended Maximum Operating Voltage . . . . . 200 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Insulation Resistance: . . . . . .5,000 megaohms minimum @ 500 VDC per MIL-DTL-83513
- Durability: . . . . . 2,500 connector mating cycles, exceeding MIL-DTL-83513
- Sinusoidal Vibration: . . . . . .20 g tested per MIL-DTL-83513
- Shock: . . . . . .50 g tested per MIL-DTL-83513
- Outgassing . . . . . Max TML of 1% and max CVCM of .1% per MIL-DTL-83513

\* Forces tested on socket only. Max pin size used for contact engagement force and min pin size used for contact separation force.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

### Materials & 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  $\mu$ 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
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
- Solder Paste: . . . . . Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520))

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VSM-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VSF Materials, Finishes, & Performance

### Materials & Finishes

- Socket Contacts: . . . . . BeCu per ASTM B194
- Contact Finish: . . . . . Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50  $\mu$ IN 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
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
- Solder Paste: . . . . . Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VSF-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest engineering to design against. Certificate of RoHS compliance available upon request with each shipment.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRM Materials, Finishes, & Performance

### Materials & 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
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
- Solder Paste: . . . . . Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VRM-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

\*VRM 8MM (VRM-XX-XX-080) spacing is not available with mating hardware options.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRF Materials, Finishes, & Performance

### Materials & Finishes

- Shell: . . . . . Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8
- Finish: . . . . . Electroless nickel per SAE AMS-2404, Class 3; 500 µIN min
- Socket Contact: . . . . . BeCu per ASTM B194
- Contact Finish: . . . . . Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 µIN min
- Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Potting Compound: . . . . . Frey Eng. Co. insulating compound CF3003-80
- Hardware (except washers): . . . . . Stainless steel per ASTM A484/A484M, A582/A582M or ASTM A320;  
. . . . . passivated per SAE AMS-2700
- 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)

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VRF-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

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### Materials & 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  $\mu$ IN min
- Contact Finish (Termination): . . . . . Localized gold finish per ASTM B488, Type II, Code C, 50  $\mu$ IN min over . . . . . nickel per ASTM B689 Type I, 50  $\mu$ IN min (Press Fit) or Localized Gold per ASTM B488 Type I, Code A . . . . . or C, 10-25  $\mu$ IN over nickel per ASTM B689 Type I, 50  $\mu$ IN 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
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VSRAM-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

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## VRRAM Materials, Finishes, & Performance

### Materials & 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  $\mu$ IN 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  $\mu$ IN min
- Contact Finish (Termination Face): . . . . . Localized gold finish per ASTM B488, Type II, Code C, 50  $\mu$ IN min  
. . . . . over nickel per ASTM B689 Type I, 50  $\mu$ IN min (Press Fit) or Localized Gold per ASTM B488, Type I,  
. . . . . Code A or C, 10-25  $\mu$ IN over nickel per ASTM B689 Type I, 50  $\mu$ IN min (PIH or PTH)
- Molded Insulators: . . . . . 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
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VRRAM-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

### Materials & Finishes

- Socket Contact (Mating Face): . . . . . 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  $\mu$ IN min
- Contact Finish (Termination): . . . . . Localized gold finish per ASTM B488, Type II, Code C, 50  $\mu$ IN min over  
. . . . . nickel per ASTM B689 Type I, 50  $\mu$ IN min (Press Fit) or localized gold per ASTM B488,  
. . . . . Type I, Code A or C, 10-25  $\mu$ IN over nickel per ASTM B689 Type I, 50  $\mu$ IN 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
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VSM-XX-XX-XXX-XX-XX-XX on airborne.com for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRRAF Materials, Finishes, & Performance

### Materials & 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 µIN 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 µIN min
- Contact Finish (Termination):. . . . . Localized gold finish per ASTM B488, Type II, Code C, 50 µIN min  
. . . . . over nickel per ASTM B689, Type I, 50 µIN min (Press Fit) or localized gold per ASTM B488, Type I,  
. . . . . Code A or C, 10-25 µIN over nickel per ASTM B689 Type I, 50 µIN min (PIH or PTH)
- Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Potting Compound: . . . . . Frey Eng. Co. insulating compound CF3003-80
- Hardware (except washers): . . . . . Stainless steel per ASTM A484/A484M, A582/A582M or ASTM A320;  
. . . . . passivated per SAE AMS-2700
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
- EMI Gasket (GE and NE options only): . . . . . Conductive Elastomer per MIL-DTL-83528 Type D

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VRRAF-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

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### Materials & 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 equivalent

### Performance

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

NOTE: Performance values are estimates & values are subject to change without notice. Please reference engineering document VRD-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest specifications to design against. Certificate of RoHS compliance available upon request with each shipment.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

## VRW Materials, Finishes, & Performance

### Materials & Finishes

- Shell: . . . . . Aluminum alloy 6061-T6 per QQ-A-250/11 or 6061-T6511 per QQ-A-200/8
- Finish . . . . . Electro-less nickel per SAE AMS-2404, Class 3; 500  $\mu$ ", min.
- Socket Contact: . . . . . BeCu per ASTM B194
- Pin Contacts: . . . . . Phos bronze per ASTM B103 or per BeCu ASTM B768
- 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 equivalent
- Hardware: . . . . . Stainless steel per ASTM A582/A582M or ASTM A320; passivated per SAE AMS-2700

Please reference engineering document VRW-XX-XX-XXX-XX-XX-XX on [airborn.com](http://airborn.com) for the latest engineering specifications to design against.

### Performance

- Contact Rating: . . . . . 2 amperes maximum
- Operating Temperature: . . . . . -55° to +125° C
- Contact Engagement Force: . . . . . 6.0oz max.\*
- Contact Separation Force: . . . . . 0.5oz min\*
- Connector Mating Force: . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- Connector Unmating Force . . . . . 10oz X (# of contacts), max tested per MIL-DTL-83513
- DWV (Sea Level) . . . . . 600 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Recommended Maximum Operating Voltage . . . . . 200 V, RMS, 60Hz, See AirBorn PTB61 for more info
- Insulation Resistance: . . . . . .5,000 megaohms minimum @ 500 VDC per MIL-DTL-83513
- Durability: . . . . . 2,500 connector mating cycles, exceeding MIL-DTL-83513
- Sinusoidal Vibration: . . . . . .20 g tested per MIL-DTL-83513
- Shock: . . . . . .50 g tested per MIL-DTL-83513
- Outgassing . . . . . Max TML of 1% and max CVCM of .1% per MIL-DTL-83513

\* Forces tested on socket only. Max pin size used for contact engagement force and min pin size used for contact separation force.

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

# The AirBorn Advantage

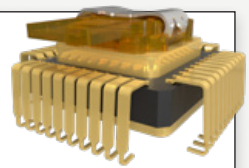
Model-To-Market  
Solutions



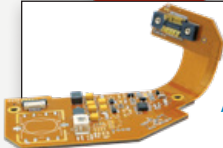
Rugged  
Power  
Systems



Photonics/  
Optoelectronics



Flexible  
Circuit  
Assemblies



Cable  
Assemblies



FUZE  
Assemblies



Active  
Optical  
Assemblies



Rectangular  
W Series



Rectangular  
R Series



Micro D  
M Series



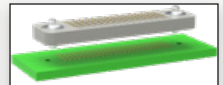
Nano D  
N Series



Rectangular  
25Gbps  
verSI



Z Axis Interposer  
Z Series



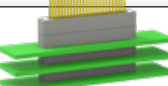
Hybrid-Keyed  
Micro D  
microQUAD



High-Speed  
Micro D  
microSI



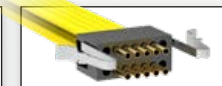
Stackable  
RC & RCII Series



Circular  
Series 360



Strip Connector  
AirStrip



Macro D  
RockeT



VSIC-3.22

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