

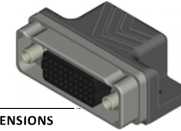
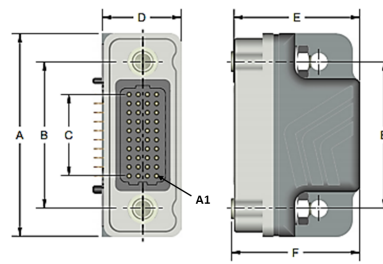


## VRRAF – Rugged Right Angle (Female)

Pitch: 1.27 mm

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

### DIMENSIONS



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

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



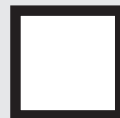
**SERIES**  
Rugged Right Angle  
(Female)  
1.27 mm



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



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



**CONTACT PLATING**  
50 – 50 μ Au



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



**OPTIONS**  
Blank – Standard<sup>1</sup>  
G – Guide socket<sup>1</sup>  
N – Fixed jacknut<sup>1</sup>  
J – Turning jackscrew<sup>2</sup>  
L – Locking screw<sup>2</sup>  
E – Standard/EMI gasket<sup>1</sup>  
GE – Guide socket/EMI gasket<sup>1</sup>  
NE – Fixed jacknut/EMI gasket<sup>1</sup>  
JE – Turning jackscrew/EMI gasket<sup>2</sup>  
LE – Locking screw/EMI gasket<sup>2</sup>

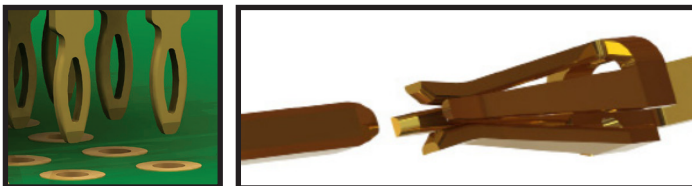
### NOTES

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

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

### FEATURES

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



### MATERIALS and FINISHES

Shell: . . . . . Aluminum alloy 6061-T6 per SAE AMS 4027 or 6061-T6511 per QQ-A-200/8  
Finish: . . . . . Electroless nickel per 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 1, Code A or C, 10-25 μIn over nickel per ASTM B689 Type I, 50 μIn min (PIH or PTH)  
Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138  
Potting Compound: . . . . . Frey Eng. Co insulating compound CF3003-80  
Hardware (except washers): . . . . . Stainless steel per ASTM A484/A484M, A582/A582M or ASTM A320; passivated per SAE AMS-2700, Method 1, Type 2  
Washers: . . . . . Stainless steel & passivated per NASM35333  
EMI Gasket (GE and NE options only): . . . . . Conductive Elastomer per MIL-DTL-83528 Type D

### SI DATA – Simulated (Connectors Only)

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

### PERFORMANCE

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

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