



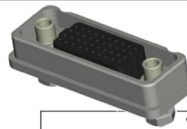
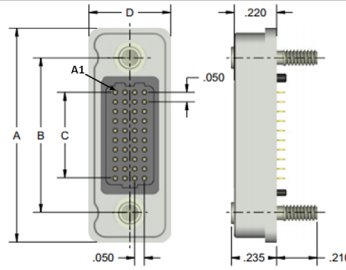
## versI™

### VRF – Vertical Rugged

Pitch: 1.27 mm

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

### DIMENSIONS



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

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



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



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



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



**CONTACT PLATING**  
 50 – 50 μ Au



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



**OPTIONS**  
 Blank – No hardware<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

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.

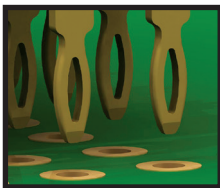
AirBorn can manufacture other configurations to your exact specifications.

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

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

### FEATURES

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



### MATERIALS and FINISHES

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

### SI DATA – Simulated (Connectors Only)

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

### PERFORMANCE

Contact Rating: . . . . . 2 amperes maximum  
 Operating Temperature: . . . . . -55° C to 125° C  
 Min. Contact Wipe: . . . . . 1.27 mm (0.050")  
 Contact Normal Force: . . . . . 35-40 grams  
 Max Recommended Voltage: . . . . . 200 V, RMS, 60 Hz  
 Insulation Resistance: . . . . . 5,000 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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