

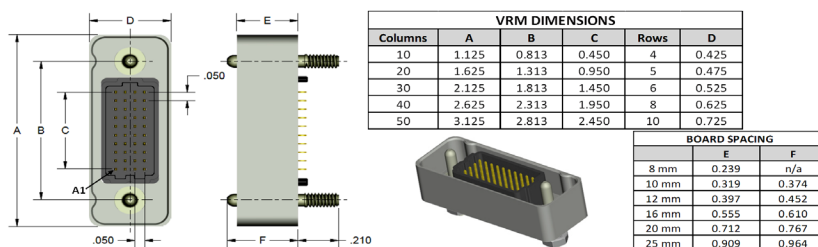


## VRM – Vertical Rugged (Male)

Pitch: 1.27 mm

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

## DIMENSIONS



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



### SERIES

Vertical Rugged  
(Male)  
1.27 mm

### ROWS

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

### COLUMNS

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

### BOARD SPACING\*

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

### CONTACT PLATING

50 – 50  $\mu$  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>1</sup> – SMT - SN63PB37  
Solder Dipped  
11<sup>1</sup> – SMT -  
42Sn/57.6Bi/0.4Ag lead  
free, solder dipped

### OPTIONS

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

## NOTES

Connector potting is standard.

\* Consult factory for additional board spacing options.

\*\* Not available with 8 mm board spacing

<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.

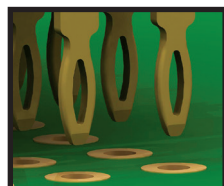
AirBorn can manufacture other configurations to your exact specifications.

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  $\mu$ in 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  $\mu$ 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, Method 1, Type 2  
Washers: ..... Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)  
Solder Paste: ..... Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

## SI DATA – Simulated (Connectors Only)

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

## PERFORMANCE

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

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[VRM-06-20-100-50-01-G](#) [VRM-04-20-100-50-01-G](#) [VRM-04-10-100-50-01-G](#) [VRM-04-10-100-50-03-J](#) [VRM-06-40-100-50-05-N](#)