



## VSM – Vertical (Male)

**Pitch: 1.27 mm**

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

### DIMENSIONS

COLUMNS	A	B	C	ROWS	D
10	1.000	0.813	0.450	4	0.300
20	1.500	1.313	0.950	5	0.350
30	2.000	1.813	1.450	6	0.400
40	2.500	2.313	1.950	8	0.500
50	3.000	2.813	2.450	10	0.600

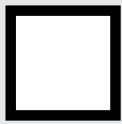
SPACING OPTION CODES	E		F	
	inches	mm	inches	mm
-080	0.235	5.95	0.290	7.36
-100	0.314	7.79	0.369	9.37
-120	0.392	9.95	0.447	11.35
-160	0.550	13.96	0.605	15.36
-200	0.707	17.94	0.762	19.34
-250	0.904	22.94	0.959	24.34

SPACING OPTIONS	E	F
8 mm	0.235	0.290
10 mm	0.314	0.369
12 mm	0.392	0.447
16 mm	0.550	0.605
20 mm	0.707	0.762
25 mm	0.904	0.959

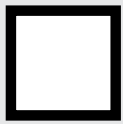
### Sample Part Number Format: VSM-04-10-080-50-02-G



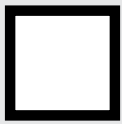
**SERIES**  
 Vertical (Male)  
 1.27 mm



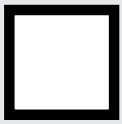
**ROWS**  
 04 – 4 Rows  
 05 – 5 Rows  
 06 – 6 Rows  
 08 – 8 Rows  
 10 – 10 Rows



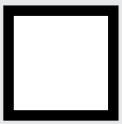
**COLUMNS**  
 10 – 10 Columns  
 20 – 20 Columns  
 30 – 30 Columns  
 40 – 40 Columns  
 50 – 50 Columns



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



**CONTACT PLATING**  
 50 – 50 μ" Au



**TERMINATION**  
 00 – Press-fit  
 01 – Paste-In-hole  
 02 – PTH 0.078"  
 03 – PTH 0.109"  
 04 – PTH 0.140"  
 05 – PTH 0.156"  
 06 – PTH 0.172"  
 10<sup>1</sup> – SMT - SN63PB37 Solder Dipped  
 11<sup>1</sup> – SMT - 42Sn/57.6Bi/0.4Ag lead free, solder dipped



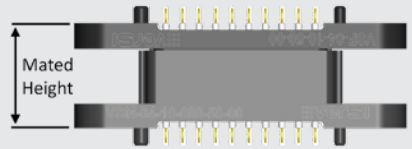
**OPTIONS**  
 Blank – No options<sup>†</sup>  
 G – Guide pin<sup>1</sup>  
 G1 – Guide pin<sup>2</sup>  
 J – Turning jackscrew<sup>1</sup>  
 J1 – Turning jackscrew<sup>2</sup>  
 L – Locking screw<sup>1</sup>  
 L1 – Locking screw<sup>2</sup>  
 N – Fixed jacknut<sup>1</sup>  
 N1 – Fixed jacknut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

### NOTES

- 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

BOARD SPACING		MATED HEIGHT (in)
VALUE	CODE	NOMINAL
8 mm	080	0.315
10 mm	100	0.394
12 mm	120	0.473
16 mm	160	0.630
20 mm	200	0.788
25 mm	250	0.985

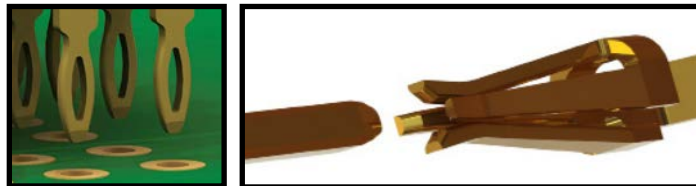
Max allowable separation between mating faces is 0.035 inches.



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## FEATURES

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



## MATERIALS and FINISHES

- Pin Contacts: . . . . . Phos bronze per ASTM B103 or BeCu per ASTM B768 (press-fit contact)
- Contact Finish: . . . . . Localized gold finish per ASTM B488 over nickel per ASTM B689 Type I, 50 μin min
- Molded Insulators: . . . . . Glass-filled liquid crystal polymer (LCP) per ASTM D5138
- Potting Compound: . . . . . Frey Eng. Co. insulating compound CF3003-80
- Hardware (except washers): . . . . . Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320 passivated per SAE AMS-2700, Method 1, Type 2
- Washers: . . . . . Stainless steel per NASM35333 (ASTM A240), passivated per NASM35333 (SAE AMS-2700)
- Solder Paste: . . . . . Sn63Pb37 (PN WS483) and 42Sn/57.6Bi/0.4Ag (PN ALPHA CVP-520)

### SI DATA – Simulated (Connectors Only)

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

## PERFORMANCE

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

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