ORDERING GUIDE

#	Category	Options
1	**Series**	**MNPO** Metal Nano Pin Offset **MNSO** Metal Nano Socket Offset
2	**Number Of Contacts**	**09** **15** **21** **25** **31** **37** **51** **65** **69** **85** **91**
3	**Termination Type**	**VV** Vertical Surface Mount
4	**Shell Material & Finish**	**N** Aluminum Shell, Electroless Nickel Plated **CD** Aluminium shell, Cadmium Plated **B** Aluminium Shell, Black Anodized **S** Stainless Steel Shell, Passivated **T** Titanium Shell, Unplated
5	**Common Options**	**ETH** End Threaded Hole, #0-80 **EJS** End Jack Screw **NTH** Non-Threaded Holes For Mounting To The Board **YY** Non Standard Hardware (threaded holes, thumb screws, #2-56 screw) **HT** High Temp. Epoxy **RH** RoHS Compliant **CS** Customer Supplied Material
6	**Mod Codes**	**M10** Keyed **M30** Ground Spring **M50** Space Grade Nano-D, SPT1 **M53** Space Grade Nano-D, SPT2
7	**Special Instructions**	**YYY** Describe anything that is not covered in standard options

DUAL ROW VERTICAL SMT (TYPE VV)

As electronic devices scale down, Omnetics is ready with ever-smaller connectors designed to offer exceptional performance in reduced package sizes. Our **Vertical SMT Bi-Lobe**® nano connectors require minimal board space on flex circuits and printed circuit boards. These connectors feature Omnetics' highly reliable Flex Pin contact system and are available with threaded mounting holes and retention screws. Omnetics' Vertical SMT Type VV Bi-Lobe® nano connectors are available in a wide range of configurations to meet the needs of a variety of critical applications. These connectors are available in standard sizes ranging from 9 through 91 positions, as well as custom configurations.

Electro-Mechanical Specifications

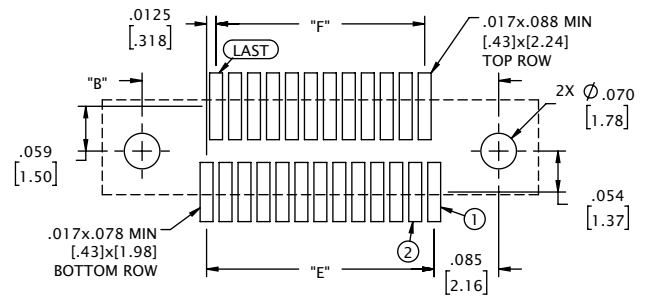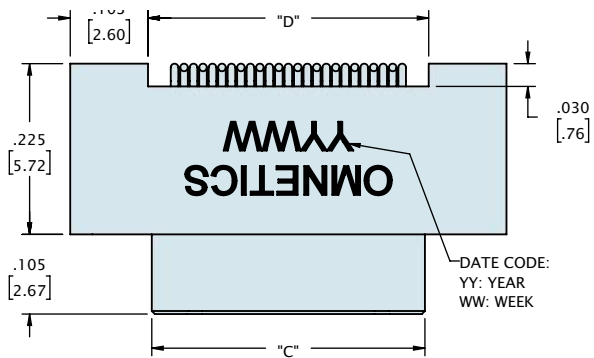| TYPE	PERFORMANCE
Durability	> 2000 Mating Cycles min
Temperature	-55ºC to +125 ºC (200 ºC w/HTE)
Current rating	1 Amp per contact
Voltage Rating (DWV)	250 VAC RMS Sea Level
Insulation Resistance	5,000 Megohms @ 100 VDC
Shock	100 g's discontinuity < 10 nanoseconds
Vibration	20 g's discontinuity < 10 nanoseconds
Thermal Vacuum Outgassing	1.0% max TML, 0.1% VCM
Contact Resistance	87 milliohms (87 mV) max @ 1 Amp
Mating/Unmating Force	2.5 oz. (.71g) typical per contact

Material Specifications

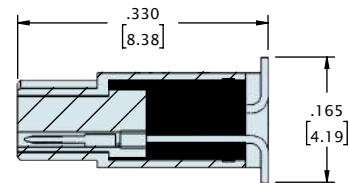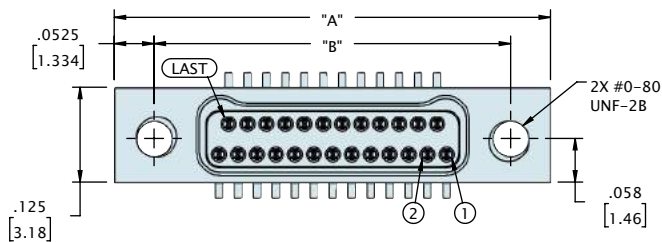| TYPE	PERFORMANCE
Contact	Copper Alloy Per MIL-DTL-32139
Contact Finish	Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate
Insulator	Thermoplastic per MIL-M-24519
Encapsulant	Epoxy

Shell Options

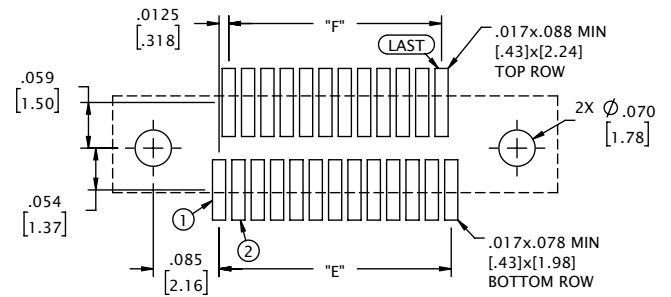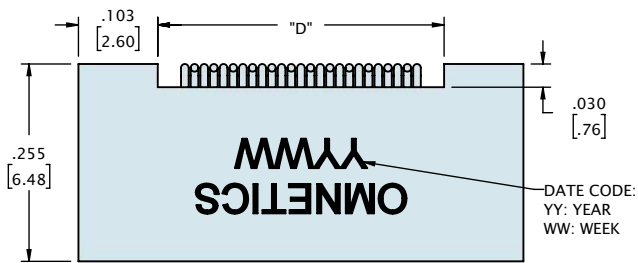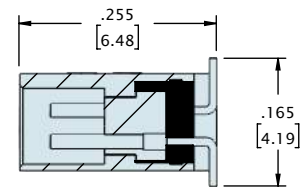| TYPE	PERFORMANCE
Aluminum 6061	Electroless Nickel per SAE-AMS-2404
Stainless Steel, 300 Series	Passivated per SAE-AMS-2700

SUGGESTED PAD LAYOUT
(VIEW FROM MOUNTING SIDE OF BOARD)

DATE CODE:
YY: YEAR
WW: WEEK

2X #0-80 UNF-2B

CONTACTS	"A"	"B"	"C"	"D"	"E"	"F"
09	.375 [9.53]	.270 [6.86]	.160 [4.06]	.170 [4.32]	.100 [2.54]	.075 [1.91]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.245 [6.22]	.175 [4.45]	.150 [3.81]
21	.525 [13.34]	.420 [10.67]	.310 [7.87]	.320 [8.13]	.250 [6.35]	.225 [5.72]
25	.575 [14.61]	.470 [11.94]	.360 [9.14]	.370 [9.40]	.218 [5.54]	.193 [4.90]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.445 [11.30]	.375 [9.53]	.350 [8.89]
37	.725 [18.42]	.620 [15.75]	.510 [12.95]	.520 [13.21]	.450 [11.43]	.425 [10.80]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.695 [17.65]	.625 [15.88]	.600 [15.24]
65	1.075 [27.31]	.970 [24.64]	.860 [21.84]	.870 [22.10]	.800 [20.32]	.775 [19.69]
69	1.125 [28.58]	1.020 [25.91]	.910 [23.11]	.920 [23.37]	.850 [21.59]	.825 [20.96]
85	1.325 [33.66]	1.220 [30.99]	1.110 [28.19]	1.120 [28.45]	1.050 [26.67]	1.025 [26.04]
91	1.452 [36.88]	1.321 [33.55]	1.185 [30.10]	1.195 [30.35]	1.125 [28.58]	1.100 [27.94]

DIMENSIONS IN [ ] ARE IN MILLIMETERS AND ARE FOR REFERENCE ONLY
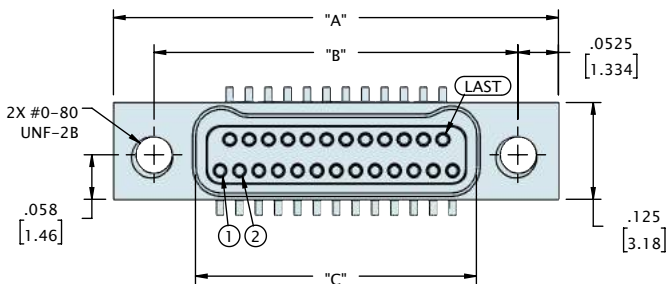
**SUGGESTED PAD LAYOUT
(VIEW FROM MOUNTING SIDE OF BOARD)**

.017x.088 MIN [.43]x[2.24] TOP ROW

2X Ø .070 [1.78]

.017x.078 MIN [.43]x[1.98] BOTTOM ROW

DATE CODE:
YY: YEAR
WW: WEEK

2X #0-80 UNF-2B
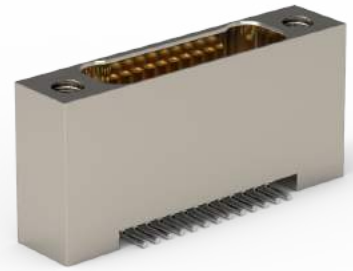
CONTACTS	"A"	"B"	"C"	"D"	"E"	"F"
09	.375 [9.53]	.270 [6.86]	.163 [4.14]	.170 [4.32]	.100 [2.54]	.075 [1.91]
15	.450 [11.43]	.345 [8.76]	.238 [6.05]	.245 [6.22]	.175 [4.45]	.150 [3.81]
21	.525 [13.34]	.420 [10.67]	.313 [7.95]	.320 [8.13]	.250 [6.35]	.225 [5.72]
25	.575 [14.61]	.470 [11.94]	.363 [9.22]	.370 [9.40]	.300 [7.62]	.275 [6.99]
31	.650 [16.51]	.545 [13.84]	.438 [11.13]	.445 [11.30]	.375 [9.53]	.350 [8.89]
37	.725 [18.42]	.620 [15.75]	.513 [13.03]	.520 [13.21]	.450 [11.43]	.425 [10.80]
51	.900 [22.86]	.795 [20.19]	.688 [17.48]	.695 [17.65]	.625 [15.88]	.600 [15.24]
65	1.075 [27.31]	.970 [24.64]	.863 [21.92]	.870 [22.10]	.800 [20.32]	.775 [19.69]
69	1.125 [28.58]	1.020 [25.91]	.913 [23.19]	.920 [23.37]	.850 [21.59]	.825 [20.96]
85	1.325 [33.66]	1.220 [30.99]	1.113 [28.27]	1.120 [28.45]	1.050 [26.67]	1.025 [26.04]
91	1.452 [36.88]	1.321 [33.55]	1.188 [30.18]	1.195 [30.35]	1.125 [28.58]	1.100 [27.94]

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