Ph +612 9482 1944 - Email sales@clarke.com.au - www.clarke.com.au - webshop www.cseonline.com.au





METAL SHELL MICRO-D DISCRETE LEADWIRE (TYPE WD)

Omnetics **Metal Shell Micro-D Discrete Leadwire** Connectors deliver exceptional performance under demanding conditions common to the military, medical, and aeronautics environments. These high-reliability connectors meet or exceed the rugged requirements of MIL-DTL-83513. They are available in two, three, or four contact rows. RoHS and overmolded versions are available upon request. These small form factor connectors feature reduced size and weight to meet SWaP goals in next-generation technologies.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE | | |
|---------------------------|---|--|--|
| Durability | > 2000 Mating Cycles min | | |
| Temperature | -55°C to +125°C (200 °C w/HTE) | | |
| Current rating | 3 Amps per contact per MIL-DTL-83513 | | |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level | | |
| Insulation Resistance | 5,000 Megohms @ 500 VDC | | |
| Shock | 50 g's with no discontinuties > 1 microsecond | | |
| Vibration | 20 g's with no discontinuties > 1 microsecond | | |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 | | |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 | | |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact | | |

Material Specifications

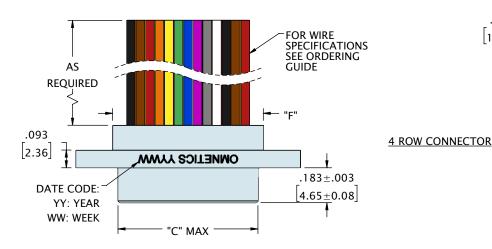
| ТҮРЕ | PERFORMANCE | | |
|------------------|--|--|--|
| Contact | Copper Alloy Per MIL-DTL-83513 | | |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate | | |
| Insulator | Thermoplastic per MIL-DTL-83513 | | |
| Interfacial Seal | Silicone Elastomer per A-A-59588 | | |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 | | |

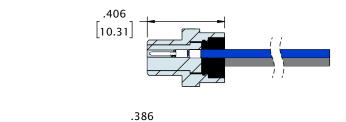
| MATERIAL | FINISH |
|-----------------------------|-------------------------------------|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 |

METAL SHELL MICRO-D DISCRETE LEADWIRE (TYPE WD)

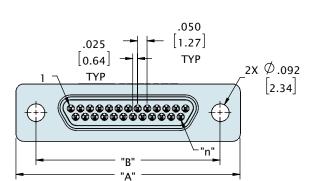


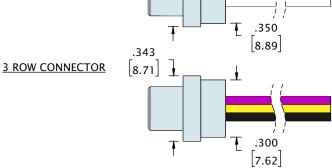


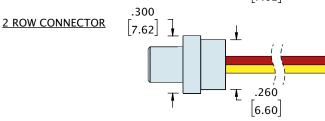




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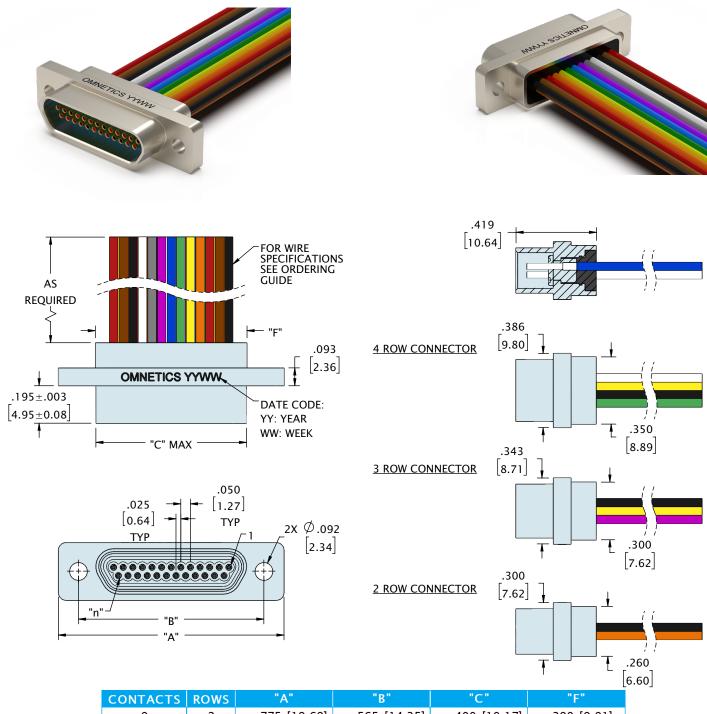






| CONTACTS | ROWS | "A" | "B" | "C" | "F" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .390 [9.91] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .540 [13.72] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .690 [17.53] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .790 [20.07] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .940 [23.88] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.090 [27.69] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.440 [36.58] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | .984 [24.99] | 1.040 [26.42] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.284 [32.61] | 1.340 [34.04] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.384 [35.15] | 1.432 [36.37] |

METAL SHELL MICRO-D DISCRETE LEADWIRE (TYPE WD)



| CONTACTS | ROWS | "A" | "B" | "C" | "F" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .390 [9.91] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .540 [13.72] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .690 [17.53] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .790 [20.07] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .940 [23.88] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | 1.090 [27.69] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | 1.440 [36.58] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | 1.050 [26.68] | 1.040 [26.42] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.350 [34.29] | 1.340 [34.04] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.450 [36.83] | 1.432 [36.37] |

METAL SHELL MICRO-D DISCRETE LEADWIRE (TYPE WD)



| 1 | Series | MMDP Metal Micro-D Pin | | MMDS Metal | Micro-D Socket |
|----|-------------------------|---|---|--|---|
| 2 | Number of Contacts | 009 015 021 (** Use 512 for Two Rows 051 and 51 | 025 031 3 for Three Rows 0 | O37 O51 [*] | 069 100 |
| 3 | Termination Type | WD Discrete Leadwire | | | |
| 4 | Wire AWG | 4 24 AWG 6 26 A | WG (STD) | 8 28 AWG | o 30 AWG |
| 5 | Wire Type | Q Nema HP3 (STD) R | M22759/11 | S M22759/33 | X Other |
| 6 | Wire Length (inches) | 18.0 (STD) | | XX.X Custom length | |
| 7 | Color Scheme | 1 10 Repeating 2 Blue | 3 White | 4 Non Repeating | 5 Yellow |
| 8 | Shell Material & Finish | N Aluminum Shell, Electroless B Aluminium Shell, Black Anoc | | CD Aluminium Shell, P Stainless Steel Sh | |
| 9 | Hardware | None, Ø .092 Hole Jackscrews, STD Length, H Jackscrews, Long Length, H Float Mount, Front Mounte Non-Removable | Hex | O1 Fixed Jack-postsD) O3 Jackscrews, STDO5 Jackscrews, LongO7 Float Mount, ReaYY Non Standard Ha | Length, Slotted Length, Slotted Mounted |
| 10 | Common Options | PA Panel Mount Rear, O-Ring BS1 45 Degree Round Entry, M BS2 Straight Oval Entry, Micro BS3 90 Degree Oval Entry, M BS4 45 Degree Elliptical Entry, BS5 Straight Elliptical Entry, S BS6 45 Degree Round Entry, S | o-D Backshell icro-D Backshell ,, Micro-D Backs plit Micro-D Bac | BSY Custom HT High Ten shell RH RoHS Co | ed Backshell Backshell np Epoxy |
| 11 | Shield / Jacket | • | achine Braid Shrink Tube | F Flexo Braid | |
| 12 | Mod Codes | M10 KeyedM50 Space Grade Micro-D, Sl | | Ground Spring Space Grade Micro-D, SP | T2 |
| 13 | Special Instructions | YYY Describe anything that i | s not covered ir | n standard options | |

Omnetics **Metal Shell Micro-D Solder Cup** Connectors simplify connections for designs that require soldering. These connectors are well-suited for high-reliability board to wire I/O and wire-to-wire applications. They serve critical technologies in the military, medical, and aeronautics industries. They provide exceptional performance even under conditions that include shock and vibration. These connectors meet or exceed the rugged requirements of MIL-DTL-83513 and are available in two, three, or four rows.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE | | |
|---------------------------|---|--|--|
| Durability | > 2000 Mating Cycles min | | |
| Temperature | -55°C to +125°C (200 °C w/HTE) | | |
| Current rating | 3 Amps per contact per MIL-DTL-83513 | | |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level | | |
| Insulation Resistance | 5,000 Megohms @ 500 VDC | | |
| Shock | 50 g's with no discontinuties > 1 microsecond | | |
| Vibration | 20 g's with no discontinuties > 1 microsecond | | |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 | | |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 | | |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact | | |

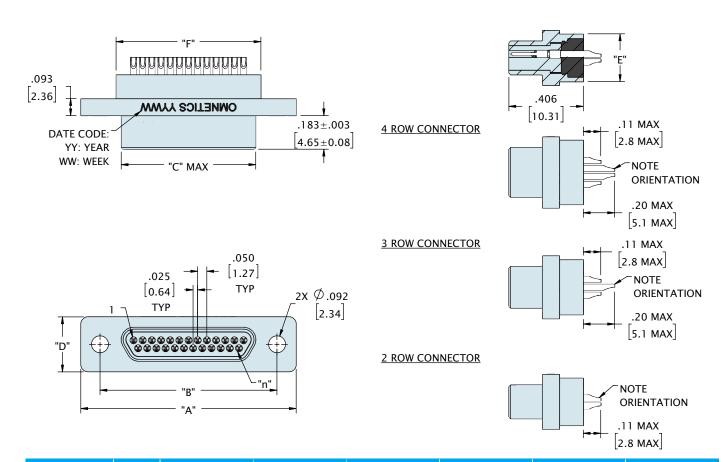
Material Specifications

| ТҮРЕ | PERFORMANCE | | |
|------------------|--|--|--|
| Contact | Copper Alloy Per MIL-DTL-83513 | | |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate | | |
| Insulator | Thermoplastic per MIL-DTL-83513 | | |
| Interfacial Seal | Silicone Elastomer per A-A-59588 | | |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 | | |

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



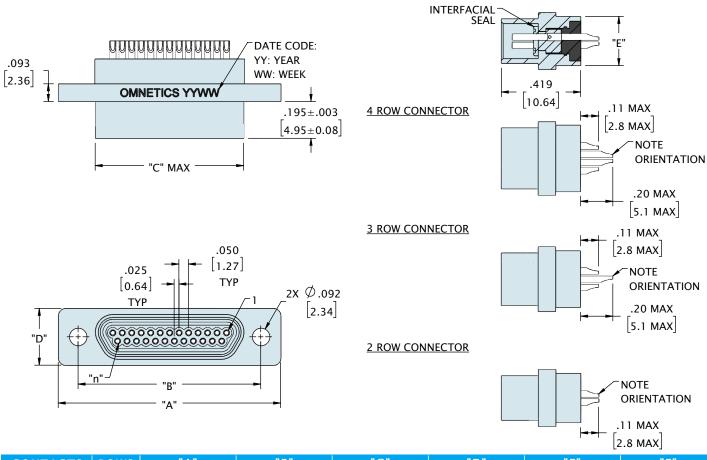




| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" | "F" |
|----------|------|---------------|---------------|---------------|-------------|-------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .300 [7.62] | .260 [6.60] | .390 [9.91] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .300 [7.62] | .260 [6.60] | .540 [13.72] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .300 [7.62] | .260 [6.60] | .690 [17.53] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .300 [7.62] | .260 [6.60] | .790 [20.07] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .300 [7.62] | .260 [6.60] | .940 [23.88] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | .300 [7.62] | .260 [6.60] | 1.090 [27.69] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | .300 [7.62] | .260 [6.60] | 1.440 [36.58] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | .984 [24.99] | .343 [8.71] | .300 [7.62] | 1.040 [26.42] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.284 [32.61] | .343 [8.71] | .300 [7.62] | 1.340 [34.04] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.384 [35.15] | .386 [9.80] | .350 [8.89] | 1.432 [36.37] |







| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" | "F" |
|----------|------|---------------|---------------|---------------|-------------|-------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .300 [7.62] | .260 [6.60] | .390 [9.91] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .300 [7.62] | .260 [6.60] | .540 [13.72] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .300 [7.62] | .260 [6.60] | .690 [17.53] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .300 [7.62] | .260 [6.60] | .790 [20.07] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .300 [7.62] | .260 [6.60] | .940 [23.88] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | .300 [7.62] | .260 [6.60] | 1.090 [27.69] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | .300 [7.62] | .260 [6.60] | 1.440 [36.58] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | 1.050 [26.68] | .343 [8.71] | .300 [7.62] | 1.040 [26.42] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.350 [34.29] | .343 [8.71] | .300 [7.62] | 1.340 [34.04] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.450 [36.83] | .386 [9.80] | .350 [8.89] | 1.432 [36.37] |



| 1 | Series | MMDP Metal Micro-D Pin | MMDS Metal Micro-D Socket | | |
|---|-------------------------|---|---|--|--|
| 2 | Number of Contacts | 009 015 021 025 031 * Use 512 for Two Rows 051 and 513 for Three Rows 051 | 037 051 [*] 069 100 | | |
| 3 | Termination Type | SS Soldercup | | | |
| 4 | Shell Material & Finish | N Aluminum Shell, Electroless Nickel Plated B Aluminium Shell, Black Anodized | CD Aluminium Shell, Cadmium Plated P Stainless Steel Shell, Passivated | | |
| 5 | Hardware | None, Ø .092 Hole Jackscrews, STD Length, Hex (MMDP - STD) Jackscrews, Long Length, Hex Float Mount, Front Mounted Non-Removable | O1 Fixed Jack-posts (MMDS - STD) O3 Jackscrews, STD Length, Slotted O5 Jackscrews, Long Length, Slotted O7 Float Mount, Rear Mounted YY Non Standard Hardware | | |
| 6 | Common Options | PA Panel Mount Rear, O-Ring BS1 45 Degree Round Entry, Micro-D Backshell BS2 Straight Oval Entry, Micro-D Backshell BS3 90 Degree Oval Entry, Micro-D Backshell BS4 45 Degree Elliptical Entry, Micro-D Backshell BS5 Straight Elliptical Entry, Split Micro-D Back BS6 45 Degree Round Entry, Split Micro-D Back | HT High Temp Epoxy RH RoHS Compliant ell shell | | |
| 7 | Mod Codes | | round Spring ace Grade Micro-D, SPT2 | | |
| 8 | Special Instructions | YYY Describe anything that is not covered in standard options | | | |

METAL SHELL MICRO-D HORIZONTAL SURFACE MOUNT (TYPE HO)

Omnetics Micro-D Horizontal Surface Mount Connectors are an excellent choice for high-reliability applications in which a secure connection is needed directly on the board. These connectors are selected by designers of military, medical, and aerospace equipment and are used in devices such as guidance systems, optics, and on-board equipment. They are built to meet or exceed the rugged requirements of MIL-DTL-83513 and feature Omnetics' innovative one-piece flex pin design to protect the integrity of the system even under shock and vibration. Shell options include aluminum with nickel plating, stainless steel, and aluminum with cadmium plating.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE |
|---------------------------|---|
| Durability | > 2000 Mating Cycles min |
| Temperature | -55°C to +125°C (200 °C w/HTE) |
| Current rating | 3 Amps per contact per MIL-DTL-83513 |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level |
| Insulation Resistance | 5,000 Megohms @ 500 VDC |
| Shock | 50 g's with no discontinuties > 1 microsecond |
| Vibration | 20 g's with no discontinuties > 1 microsecond |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact |

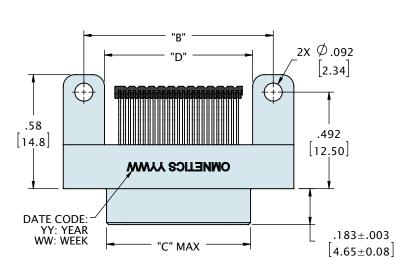
Material Specifications

| ТҮРЕ | PERFORMANCE |
|------------------|--|
| Contact | Copper Alloy Per MIL-DTL-83513 |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate |
| Insulator | Thermoplastic per MIL-DTL-83513 |
| Interfacial Seal | Silicone Elastomer per A-A-59588 |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 |

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

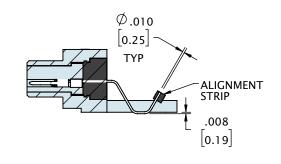
METAL SHELL MICRO-D HORIZONTAL SURFACE MOUNT (TYPE HO)

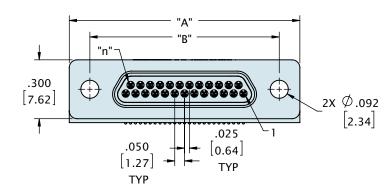


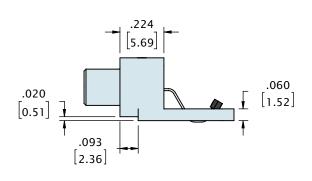




See page 158 for recommended board layout







| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .355 [9.02] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .505 [12.83] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .655 [16.64] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .755 [19.18] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .905 [22.99] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.055 [26.80] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.405 [35.69] |

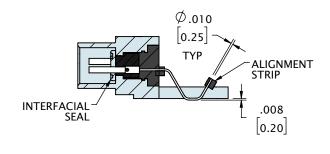
DIMENSIONS IN [] ARE IN MILLIMETERS AND ARE FOR REFERENCE ONLY

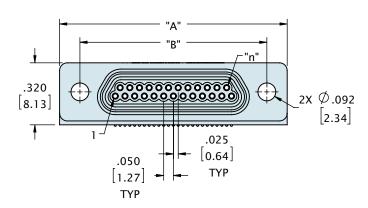
METAL SHELL MICRO-D HORIZONTAL SURFACE MOUNT (TYPE HO)

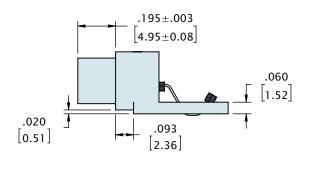




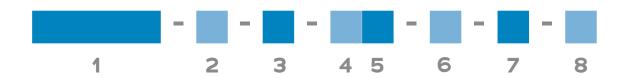
See page 158 for recommended board layout







| CONTACTS | ROWS | /S "A" "B" | | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .355 [9.02] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .505 [12.83] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .655 [16.64] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .755 [19.18] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .905 [22.99] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | 1.055 [26.80] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | 1.405 [35.69] |



| 1 | Series | MMDF | Metal Mic | ro-D Pin | MMD | S Metal Micro-D Socket | | | |
|---|-------------------------|-------------------------------|---------------------------------|--------------|--------------|------------------------------------|------------------------------|--|--|
| 2 | Number of Contacts | 009 | 015 | 021 | 025 | 031 | 037 | 051* | |
| _ | Number of Contacts | * Use 5 | 12 for Two Rov | ws 051 | | | | | |
| 3 | Termination Type | но н | orizontal Sur | face Moun | nt | | | | |
| 4 | | N Alur | minum Shell, | Electroles | s Nickel Pl | ated | CD Aluminiu | ım Shell, Cadmium Plated | |
| 4 | Shell Material & Finish | B Aluı | minium Shel | l, Black And | odized | | P Stainless | Steel Shell, Passivated | |
| | | 00 N | one, Ø .092 l | Hole | | | O1 Fixed Jac | ck-posts (MMDS - STD) | |
| 5 | Hardware | 02 Ja | ckscrews, ST | D Length, | Hex (MMD | O3 Jackscrews, STD Length, Slotted | | | |
| 3 | | 04 Ja | O4 Jackscrews, Long Length, Hex | | | | | 05 Jackscrews, Long Length, Slotted | |
| | | O6 Float Mount, Front Mounted | | | | | 07 Float Mount, Rear Mounted | | |
| | | 08 No | on-Removabl | е | | | YY Non Sta | andard Hardware | |
| | | PA Pa | inel Mount R | ear, O-Ring | g | | PB Panel Mo | ount, Rear | |
| 6 | Common Options | HT Hi | gh Temp Epo | оху | | | RH RoHS Co | ompliant | |
| | | | Keyed | | | M30 Gro | ound Spring | | |
| _ | Mod Codes | M50 | Space Grade | e Micro-D, S | SPT1 | M53 Spa | ace Grade Mi | cro-D, SPT2 | |
| 8 | Special Instructions | YYY | Describe an | ything that | t is not cov | vered in s | tandard optic | ons | |

Omnetics Metal Shell Vertical SMT Micro-D Connectors provide designers with the flexibility needed to create compact system architectures. These connectors serve innovative military, medical, and aerospace technologies such as guidance systems, optics, and on-board equipment in land and sea vehicles and avionics. They are built to meet or exceed the rugged requirements of MIL-DTL-83513 and feature Omnetics' innovative one-piece flex pin design to protect the integrity of the system even under shock and vibration. These connectors are ready to provide reliable service at temperatures ranging from -55°C to 125°C, making them an excellent choice for the widest variety of applications.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE |
|---------------------------|---|
| Durability | > 2000 Mating Cycles min |
| Temperature | -55°C to +125°C (200 °C w/HTE) |
| Current rating | 3 Amps per contact per MIL-DTL-83513 |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level |
| Insulation Resistance | 5,000 Megohms @ 500 VDC |
| Shock | 50 g's with no discontinuties > 1 microsecond |
| Vibration | 20 g's with no discontinuties > 1 microsecond |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact |

Material Specifications

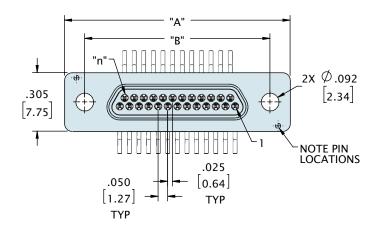
| ТҮРЕ | PERFORMANCE |
|------------------|--|
| Contact | Copper Alloy Per MIL-DTL-83513 |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate |
| Insulator | Thermoplastic per MIL-DTL-83513 |
| Interfacial Seal | Silicone Elastomer per A-A-59588 |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 |

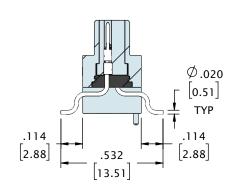
| MATERIAL | FINISH |
|-----------------------------|-------------------------------------|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 |

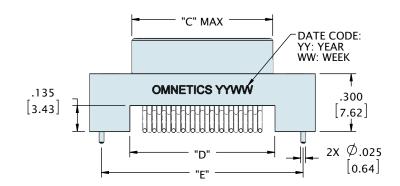


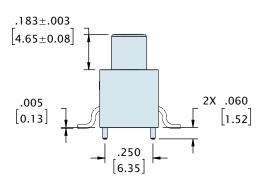


See page 158 for recommended board layout



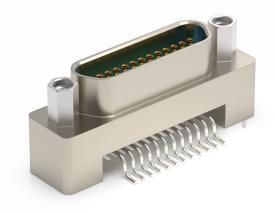




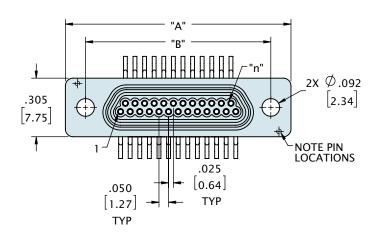


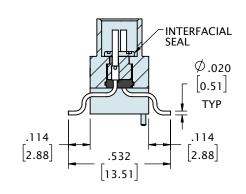
| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .355 [9.02] | .650 [16.51] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .505 [12.83] | .800 [20.32] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .655 [16.64] | .950 [24.13] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .755 [19.18] | 1.050 [26.67] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .905 [22.99] | 1.200 [30.48] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.055 [26.80] | 1.350 [34.29] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.405 [35.69] | 1.700 [43.18] |

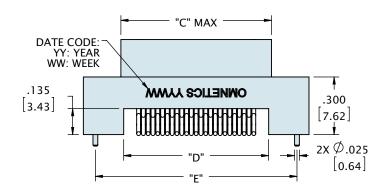


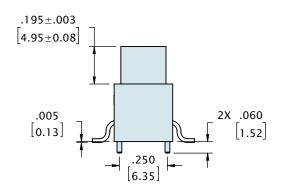


See page 158 for recommended board layout









| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .355 [9.02] | .650 [16.51] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .505 [12.83] | .800 [20.32] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .655 [16.64] | .950 [24.13] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .755 [19.18] | 1.050 [26.67] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .905 [22.99] | 1.200 [30.48] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | 1.055 [26.80] | 1.350 [34.29] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | 1.405 [35.69] | 1.700 [43.18] |



| 1 | Series | MMD | MMDP Metal Micro-D Pin | | | | | | MMDS | Metal Micro-D Socket |
|---|-------------------------|----------------|--|--------|-----------------|-------------|----------|--------|-----------------------|--|
| 2 | Number of Contacts | 009 * Use ! | 01 512 for T | | O21 | 025 | 0: | 31 | 037 | 051* |
| 3 | Termination Type | VV V | ertical : | Surfac | e Mount | | | | | |
| 4 | Shell Material & Finish | | | | | | | | | m Shell, Cadmium Plated Steel Shell, Passivated |
| 5 | Hardware | | None, Ø .092 Hole Y Non Standard Hardware | | | | | 01 | Fixed Jac | k-posts (STD) |
| 6 | Common Options | | anel Mo igh Tem | | ar, O-Rin xy | g | | | Panel Mo | , |
| 7 | Mod Codes | | Keyed Space | Grade | Micro-D, | SPT1 | | | d Spring Grade Mic | ro-D, SPT2 |
| 8 | Special Instructions | YYY | Describ | oe any | thing tha | t is not co | overed i | n stan | dard optior | าร |

METAL SHELL MICRO-D CARD EDGE SURFACE MOUNT (TYPE CO)

Omnetics Metal Shell Micro-D Card Edge Surface Mount Connectors are engineered for applications with tight architectures, providing high signal integrity while preserving space on the board. These connectors serve innovative military and civilian technologies such as navigation and communications systems and computing devices. They are built to meet or exceed the rugged requirements of MIL-DTL-83513 and feature Omnetics' one-piece flex pin design to protect the integrity of the system even under shock and vibration. These connectors are rated to three amps per contact.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE |
|---------------------------|---|
| Durability | > 2000 Mating Cycles min |
| Temperature | -55°C to +125°C (200 °C w/HTE) |
| Current rating | 3 Amps per contact per MIL-DTL-83513 |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level |
| Insulation Resistance | 5,000 Megohms @ 500 VDC |
| Shock | 50 g's with no discontinuties > 1 microsecond |
| Vibration | 20 g's with no discontinuties > 1 microsecond |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact |

Material Specifications

| ТҮРЕ | PERFORMANCE | | | |
|------------------|--|--|--|--|
| Contact | Copper Alloy Per MIL-DTL-83513 | | | |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate | | | |
| Insulator | Thermoplastic per MIL-DTL-83513 | | | |
| Interfacial Seal | Silicone Elastomer per A-A-59588 | | | |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 | | | |

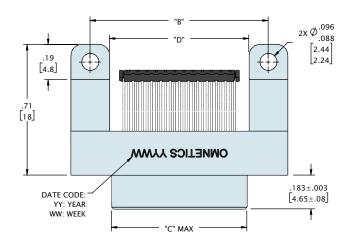
| MATERIAL | FINISH |
|-----------------------------|-------------------------------------|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 |

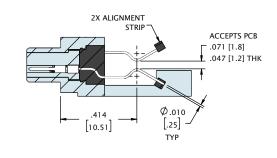
METAL SHELL MICRO-D CARD EDGE SURFACE MOUNT (TYPE CO)

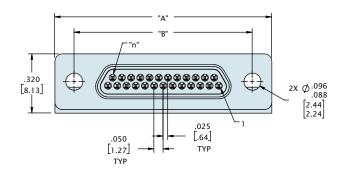


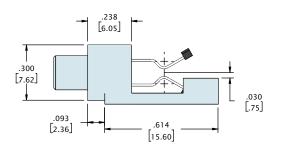


See page 159 for recommended board layout



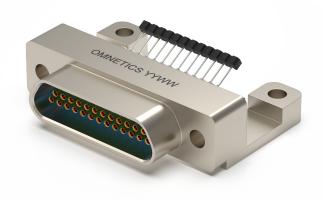






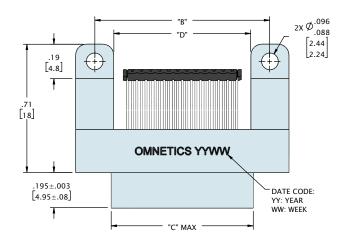
| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .355 [9.02] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .505 [12.83] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .655 [16.64] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .755 [19.18] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .905 [22.99] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.055 [26.80] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.405 [35.69] |

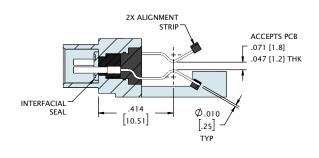
DIMENSIONS IN [] ARE IN MILLIMETERS AND ARE FOR REFERENCE ONLY

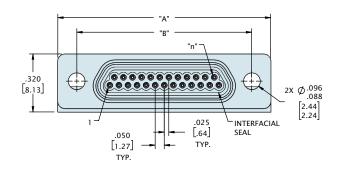


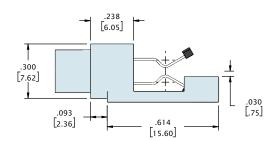


See page 159 for recommended board layout





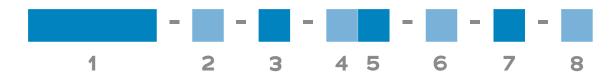




| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .355 [9.02] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .505 [12.83] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .655 [16.64] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .755 [19.18] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .905 [22.99] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | 1.055 [26.80] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | 1.405 [35.69] |

DIMENSIONS IN [] ARE IN MILLIMETERS AND ARE FOR REFERENCE ONLY

METAL SHELL MICRO-D CARD EDGE SURFACE MOUNT (TYPE CO)



| 1 Series | MMDP N | MMDP Metal Micro-D Pin | | | | | MMDS Metal Micro-D Socket | | |
|---------------------------|--|--|------------------------|-----|----------|-------------------------|--|--|--|
| 2 Number of Contacts | 009 * Use 512 | O15 | O21 | 025 | 031 | 037 | O51 [*] | | |
| 3 Termination Type | co Card | Edge Surf | face Mour | nt | | | | | |
| 4 Shell Material & Finish | N Aluminum Shell, Electroless Nickel Plated B Aluminium Shell, Black Anodized P Stainless Steel Shell, Passi | | | | | | | | |
| 5 Hardware | O2 Jacks | e, Ø .092 H crews, ST crews, Loi Standard H | D Length, ng Length | | P-STD) C | 3 Jackscre | ck-posts (MMDS - STD) ews, STD Length, Slotted ews, Long Length, Slotted | | |
| 6 Common Options | | l Mount Re Temp Epo | | 9 | P R | B Panel M H RoHS Co | ount, Rear ompliant | | |
| 7 Mod Codes | M10 Key | /ed ace Grade | Micro-D, S | | | nd Spring e Grade Mi | cro-D, SPT2 | | |
| 8 Special Instructions | YYY Describe anything that is not covered in standard options | | | | | | | | |

Omnetics Metal Shell Micro-D Flex Tail Connectors are ideal for small devices, robotics, and unmanned systems. They serve emerging technologies in the military, medical, and aeronautics worlds. They are built to meet or exceed the rugged requirements of MIL-DTL-83513 and feature Omnetics' innovative one-piece flex pin design to protect the integrity of the system even under shock and vibration. The gold-plated flex pins are built to withstand more than 2,000 mating cycles, making them a good choice for hand-on applications that see significant use in the field.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE |
|---------------------------|---|
| Durability | > 2000 Mating Cycles min |
| Temperature | -55°C to +125°C (200 °C w/HTE) |
| Current rating | 3 Amps per contact per MIL-DTL-83513 |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level |
| Insulation Resistance | 5,000 Megohms @ 500 VDC |
| Shock | 50 g's with no discontinuties > 1 microsecond |
| Vibration | 20 g's with no discontinuties > 1 microsecond |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact |

Material Specifications

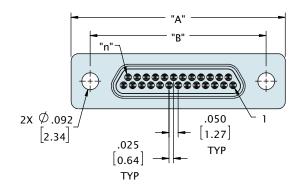
| ТҮРЕ | PERFORMANCE | | | |
|------------------|--|--|--|--|
| Contact | Copper Alloy Per MIL-DTL-83513 | | | |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate | | | |
| Insulator | Thermoplastic per MIL-DTL-83513 | | | |
| Interfacial Seal | Silicone Elastomer per A-A-59588 | | | |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 | | | |

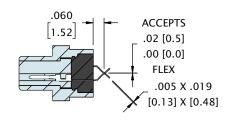
| MATERIAL | FINISH |
|-----------------------------|-------------------------------------|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 |

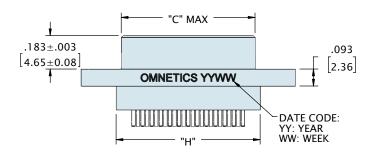


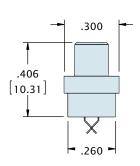


See page 159 for recommended board layout







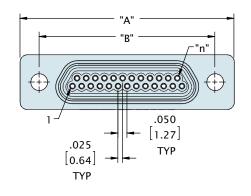


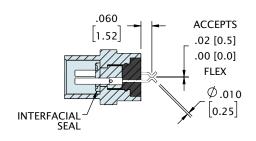
| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .390 [9.91] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .540 [13.72] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .690 [17.53] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .790 [20.07] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .940 [23.88] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.090 [27.69] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.440 [36.58] |

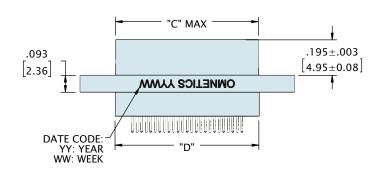


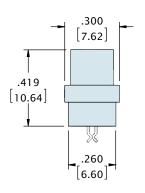


See page 159 for recommended board layout









| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .390 [9.91] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .540 [13.72] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .690 [17.53] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .790 [20.07] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .940 [23.88] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.090 [27.69] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.440 [36.58] |



| 1 | Series | MMD | P Metal M | licro-D Pin | | | MMD | S Metal Micro-D Socket |
|---|-------------------------|---|------------------------------------|-----------------------------------|--------|-------------|-------------------------|--|
| 2 | Number of Contacts | 009 * Use ! | 015 512 for Two I | O21 Rows 051 | 025 | 031 | 037 | 051* |
| 3 | Termination Type | FF F | lex Tail | | | | | |
| 4 | Shell Material & Finish | | | ell, Electroles iell, Black An | | ated CI | | m Shell, Cadmium Plated Steel Shell, Passivated |
| 5 | Hardware | O2 Ja | ackscrews, | | n, Hex | OP - STD) O | 3 Jackscre 5 Jackscre | ck-posts (MMDS - STD) ews, STD Length, Slotted ews, Long Length, Slotted ndard Hardware |
| 6 | Common Options | | anel Mount ligh Temp E | : Rear, O-Rin Epoxy | g | | B Panel Mo H RoHS Co | • |
| 7 | Mod Codes | | Keyed Space Gra | ıde Micro-D, | | | nd Spring e Grade Mi | cro-D, SPT2 |
| 8 | Special Instructions | YYY Describe anything that is not covered in standard options | | | | | | |

Omnetics Metal Shell Micro-D Straight Thru-Hole Connectors provide high performance in rugged environments. They serve critical technologies in military, medical, and aeronautics systems. They meet or exceed the rugged requirements of MIL-DTL-83513 and feature Omnetics' innovative one-piece flex pin design to protect the integrity of the system even under shock and vibration. The gold-plated flex pins are built to withstand more than 2,000 mating cycles. They are ideal for designs that require maximum performance in the smallest and tightest systems.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE | | | | |
|---------------------------|---|--|--|--|--|
| Durability | > 2000 Mating Cycles min | | | | |
| Temperature | -55°C to +125°C (200 °C w/HTE) | | | | |
| Current rating | 3 Amps per contact per MIL-DTL-83513 | | | | |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level | | | | |
| Insulation Resistance | 5,000 Megohms @ 500 VDC | | | | |
| Shock | 50 g's with no discontinuties > 1 microsecond | | | | |
| Vibration | 20 g's with no discontinuties > 1 microsecond | | | | |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 | | | | |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 | | | | |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact | | | | |

Material Specifications

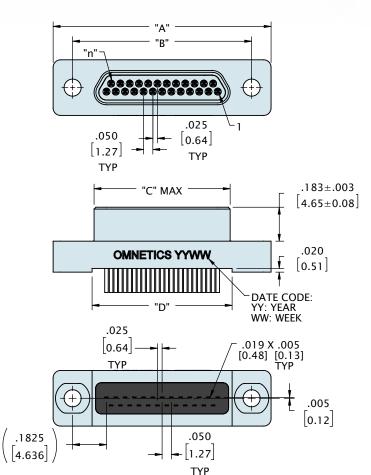
| ТҮРЕ | PERFORMANCE |
|------------------|--|
| Contact | Copper Alloy Per MIL-DTL-83513 |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate |
| Insulator | Thermoplastic per MIL-DTL-83513 |
| Interfacial Seal | Silicone Elastomer per A-A-59588 |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 |

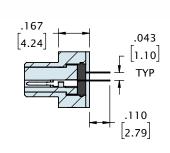
| MATERIAL | FINISH |
|-----------------------------|-------------------------------------|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 |

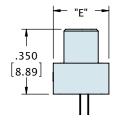




See page 160 for recommended board layout





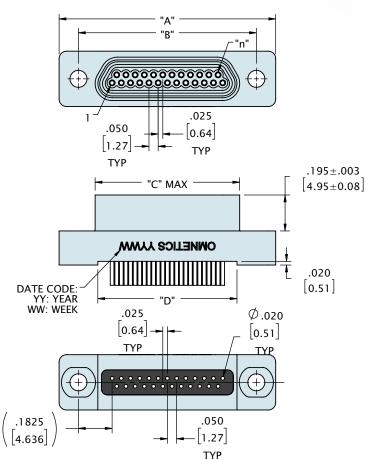


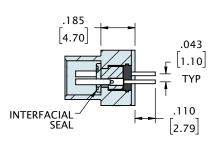
| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|---------------|-------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .355 [9.02] | .300 [7.62] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .505 [12.83] | .300 [7.62] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .655 [16.64] | .300 [7.62] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .755 [19.18] | .300 [7.62] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .905 [22.99] | .300 [7.62] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.055 [26.80] | .300 [7.62] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.405 [35.69] | .300 [7.62] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | .984 [24.99] | 1.005 [25.53] | .341 [8.66] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.284 [32.61] | 1.305 [33.15] | .341 [8.66] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.384 [35.15] | 1.440 [36.58] | .386 [9.80] |

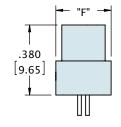




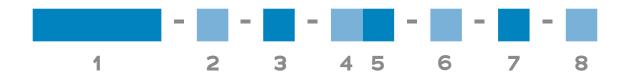
See page 160 for recommended board layout







| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|---------------|-------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .355 [9.02] | .300 [7.62] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .505 [12.83] | .300 [7.62] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .655 [16.64] | .300 [7.62] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .755 [19.18] | .300 [7.62] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .905 [22.99] | .300 [7.62] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | 1.055 [26.80] | .300 [7.62] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | 1.405 [35.69] | .300 [7.62] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | 1.050 [26.67] | 1.005 [25.53] | .343 [8.71] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.350 [34.29] | 1.305 [33.15] | .343 [8.71] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.450 [36.83] | 1.440 [36.58] | .386 [9.80] |



| 1 | Series | MMDP | MDP Metal Micro-D Pin MMDS Metal Micro-D So | | | | | | | Socket |
|---|-------------------------|------------------|---|--------------|--------------|---------------|------------|-------------|--------------|---------|
| 2 | Number of Contacts | 009 | 015 | 021 | 025 | 031 | 037 | 051* | 069 | 100 |
| | Number of Contacts | * Use 512 | for Two Ro | ws O51 and | 513 for The | ee Rows 05 | 1 | | | |
| 3 | Termination Type | DD Stra | D Straight Thru-Hole | | | | | | | |
| | | N Alumi | num Shell | l, Electrole | ess Nickel F | Plated | CD Alum | inium Shel | l, Cadmium | Plated |
| 4 | Shell Material & Finish | B Alumi | nium She | ll, Black A | nodized | | P Stainl | ess Steel S | Shell, Passi | vated |
| | | oo Non | e, Ø .092 | Hole | | | O1 Fixe | d Jack-post | ts (MMDS - | - STD) |
| 5 | | O2 Jack | screws, S | TD Lengtl | h, Hex (MM | NDP - STD | 03 Jack | screws, ST | TD Length, | Slotted |
| 3 | Hardware | O4 Jack | screws, L | ong Lengt | th, Hex | | O5 Jack | screws, Loi | ng Length, | Slotted |
| | | 06 Floa | it Mount, I | Front Mou | unted | | YY Non | Standard I | Hardware | |
| | | PA Pane | el Mount F | Rear, O-Ri | ng | | PB Pa | nel Mount | , Rear | |
| 6 | Common Options | IBS Inte | grated Ba | ackshell | | | HT Hi | gh Temp E | роху | |
| | | RH RoH | S Complia | ant | | | | | | |
| | | M10 Ke | yed | | | M30 Gr | ound Spri | ng | | |
| 7 | Mod Codes | M50 Sp | ace Grad | e Micro-D |), SPT1 | M53 Sp | ace Grade | Micro-D, S | SPT2 | |
| 8 | Special Instructions | YYY De | escribe ar | ything th | at is not c | overed in s | standard o | ptions | | |

Omnetics Metal Shell Micro-D Right Angle Thru-Hole Connectors enable designers to fit powerful connectivity into compressed electronic systems. They serve critical technologies in the military, medical, and aeronautics industries. These high-reliability connectors meet or exceed the rugged requirements of MIL-DTL-83513. They feature Omnetics' innovative one-piece flex pin design to protect the integrity of system that must provide exceptional performance even under conditions that include shock and vibration. The gold-plated flex pins are built to withstand more than 2,000 mating cycles. They play a key role in emerging product design for the most demanding environments.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE |
|---------------------------|---|
| Durability | > 2000 Mating Cycles min |
| Temperature | -55°C to +125°C (200 °C w/HTE) |
| Current rating | 3 Amps per contact per MIL-DTL-83513 |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level |
| Insulation Resistance | 5,000 Megohms @ 500 VDC |
| Shock | 50 g's with no discontinuties > 1 microsecond |
| Vibration | 20 g's with no discontinuties > 1 microsecond |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact |

Material Specifications

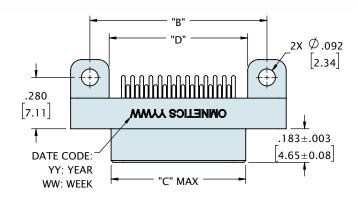
| ТҮРЕ | PERFORMANCE |
|------------------|--|
| Contact | Copper Alloy Per MIL-DTL-83513 |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate |
| Insulator | Thermoplastic per MIL-DTL-83513 |
| Interfacial Seal | Silicone Elastomer per A-A-59588 |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 |

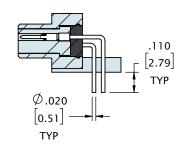
| MATERIAL | FINISH |
|-----------------------------|-------------------------------------|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 |

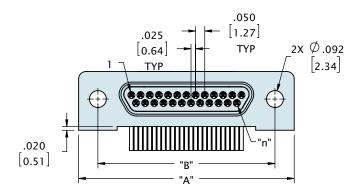


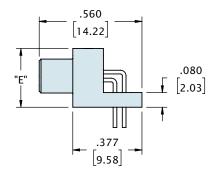


See page 161 for recommended board layout







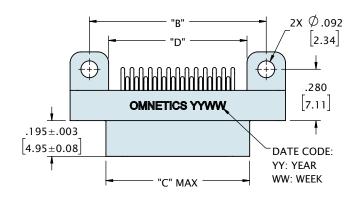


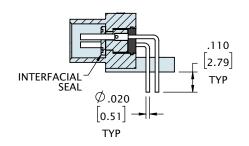
| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|---------------|--------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .355 [9.02] | .320 [8.13] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .505 [12.83] | .320 [8.13] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .655 [16.64] | .320 [8.13] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .755 [19.18] | .320 [8.13] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .905 [22.99] | .320 [8.13] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.055 [26.80] | .320 [8.13] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.384 [35.15] | 1.405 [35.69] | .320 [8.13] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | .984 [24.99] | 1.005 [25.53] | .361 [9.17] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.284 [32.61] | 1.305 [33.15] | .361 [9.17] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.384 [35.15] | 1.440 [36.58] | .406 [10.31] |

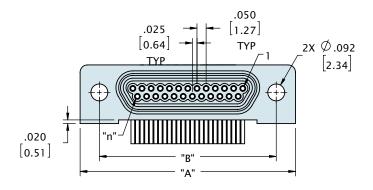


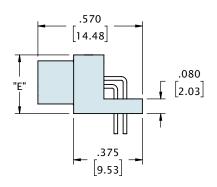


See page 161 for recommended board layout

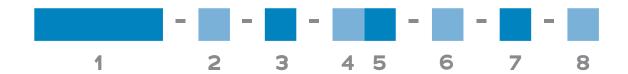








| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|---------------|--------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.17] | .355 [9.02] | .320 [8.13] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.98] | .505 [12.83] | .320 [8.13] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.79] | .655 [16.64] | .320 [8.13] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.33] | .755 [19.18] | .320 [8.13] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.14] | .905 [22.99] | .320 [8.13] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.95] | 1.055 [26.80] | .320 [8.13] |
| 51 | 2 | 1.825 [46.36] | 1.615 [41.02] | 1.450 [36.84] | 1.405 [35.69] | .320 [8.13] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | 1.050 [26.67] | 1.005 [25.53] | .361 [9.17] |
| 69 | 3 | 1.725 [43.82] | 1.515 [38.48] | 1.350 [34.29] | 1.305 [33.15] | .361 [9.17] |
| 100 | 4 | 2.160 [54.86] | 1.800 [45.72] | 1.450 [36.83] | 1.440 [36.58] | .406 [10.31] |



| 1 | Series | MMDP I | IMDP Metal Micro-D Pin MMDS Metal Micro-D Soc | | | | | | | Socket | |
|---|-------------------------|------------------|--|---------------------------|-------------------|-----------|--|--|------------|---------|--|
| 2 | Number of Contacts | 009 * Use 512 | O15 | O21 ows 051 and | 025 513 for Th | O31 | 037 | 051* | 069 | 100 | |
| 3 | Termination Type | H2 Right | 2 Right Angle Thru-Hole | | | | | | | | |
| 4 | Shell Material & Finish | | Aluminum Shell, Electroless Nickel Plated Aluminium Shell, Black Anodized | | | | CD Aluminium Shell, Cadmium PlatedP Stainless Steel Shell, Passivated | | | | |
| 5 | Hardware | OO2 Jac | None, Ø .092 Hole Jackscrews, STD Length, Hex (MMDP - STE Jackscrews, Long Length, Hex Y Non Standard Hardware | | | | D) 03 Jack | ed Jack-pos screws, S screws, Lo | ΓD Length, | Slotted | |
| 6 | Common Options | PA Pane | | Rear, O-Ri ooxy | ng | | | l Mount, Re 6 Complian | | | |
| 7 | Mod Codes | M10 Ke | - | e Micro-D |), SPT1 | | round Spri bace Grade | ng e Micro-D, S | SPT2 | | |
| 8 | Special Instructions | YYY De | escribe ar | nything th | at is not c | overed in | standard c | ptions | | | |

METAL SHELL MICRO-D NARROW RIGHT ANGLE .100 (TYPE SR1)

Omnetics Micro-D Narrow Right Angle Thru-Hole board mount connectors offer the traditional .100 inch pitch. These high-reliability connectors provide excellent shock and vibration performance and meet or exceed the requirements of MIL-DTL-83513 utilizing the rugged Omnetics flex pin contact.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE | | | | | |
|---------------------------|---|--|--|--|--|--|
| Durability | > 2000 Mating Cycles min | | | | | |
| Temperature | -55°C to +125°C (200 °C w/HTE) | | | | | |
| Current rating | 3 Amps per contact per MIL-DTL-83513 | | | | | |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level | | | | | |
| Insulation Resistance | 5,000 Megohms @ 500 VDC | | | | | |
| Shock | 50 g's with no discontinuties > 1 microsecond | | | | | |
| Vibration | 20 g's with no discontinuties > 1 microsecond | | | | | |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 | | | | | |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 | | | | | |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact | | | | | |

Material Specifications

| ТҮРЕ | PERFORMANCE |
|------------------|--|
| Contact | Copper Alloy Per MIL-DTL-83513 |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate |
| Insulator | Thermoplastic per MIL-DTL-83513 |
| Interfacial Seal | Silicone Elastomer per A-A-59588 |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 |

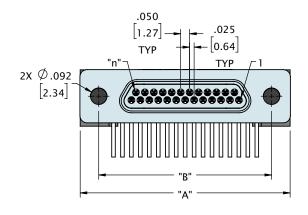
| MATERIAL | FINISH | | | | |
|-----------------------------|-------------------------------------|--|--|--|--|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 | | | | |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 | | | | |

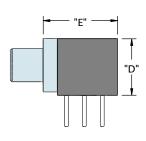
METAL SHELL MICRO-D NARROW RIGHT ANGLE .100 (TYPE SR1)

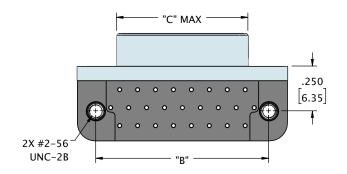


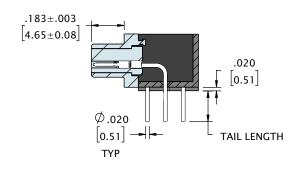


See page 162 for recommended board layout









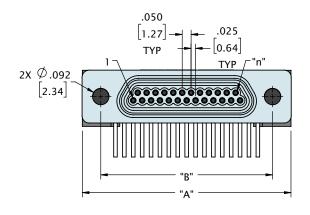
| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|-------------|--------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .315 [8.00] | .415 [10.54] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .315 [8.00] | .415 [10.54] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .315 [8.00] | .415 [10.54] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .315 [8.00] | .415 [10.54] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .315 [8.00] | .515 [13.08] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | .315 [8.00] | .515 [13.08] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | .984 [24.99] | .350 [8.89] | .650 [16.51] |

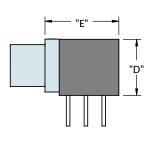
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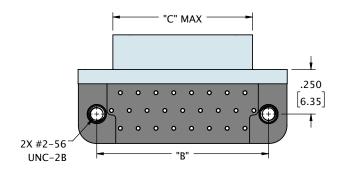


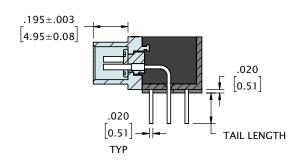


See page 162 for recommended board layout



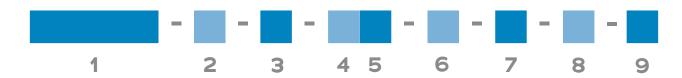






| CONTACTS | ROWS | "A" | "B" | "C" | "D" | "E" |
|----------|------|---------------|---------------|---------------|-------------|--------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.16] | .315 [8.00] | .415 [10.54] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.97] | .315 [8.00] | .415 [10.54] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.78] | .315 [8.00] | .415 [10.54] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.32] | .315 [8.00] | .415 [10.54] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.13] | .315 [8.00] | .515 [13.08] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.94] | .315 [8.00] | .515 [13.08] |
| 51 | 3 | 1.425 [36.20] | 1.215 [30.86] | 1.100 [27.94] | .350 [8.89] | .650 [16.51] |

METAL SHELL MICRO-D NARROW RIGHT ANGLE .100 (TYPE SR1)



| 1 | Series | MMD | P Metal N | ∕licro-[|) Pin | | | | MMDS | Metal Micro-D Socket |
|---|-------------------------|--------------|------------------------|----------|------------|----------|--------|---------|--------------------------|--|
| 2 | Number of Contacts | 009 * Use | 015 513 for Thre | | O21 | 025 | 0 | 31 | 037 | 051* |
| 3 | Termination Type | SR1 | Narrow Rig | ght An | gle .100 |) | | | | |
| 4 | Shell Material & Finish | | uminum Sh uminium S | • | | | Plated | CI P | | m Shell, Cadmium Plated Steel Shell, Passivated |
| 5 | Hardware | 00 1 | None, Ø .09 | 92 Hole | е | | | 0 | 1 Fixed Jac | k-posts (STD) |
| 6 | Common Options | | End Threa | | | 2-56 UN(| C-2B) | | l Plain Mou H RoHS Co | unting Holes Impliant |
| 7 | Mod Codes | | Keyed Space Gr | ade M | licro-D, S | SPT1 | | | nd Spring e Grade Mic | cro-D, SPT2 |
| 8 | Tail Length | 109 | 140 | 17 | 72 | | | | | |
| 9 | Special Instructions | YYY | Describe | anyth | ing that | is not c | overed | in staı | ndard option | ns |

Omnetics Micro-D Standard Vertical Board Mount connectors offer the traditional .075 inch terminal spacing design. These high-reliability connectors meet or exceed the shock and vibration requirements of MIL-DTL-83513 and utilize the rugged Omnetics flex pin contact.



Electro-Mechanical Specifications

| ТҮРЕ | PERFORMANCE | | | | | |
|---------------------------|---|--|--|--|--|--|
| Durability | > 2000 Mating Cycles min | | | | | |
| Temperature | -55°C to +125°C (200 °C w/HTE) | | | | | |
| Current rating | 3 Amps per contact per MIL-DTL-83513 | | | | | |
| Voltage Rating (DWV) | 600 VAC RMS Sea Level | | | | | |
| Insulation Resistance | 5,000 Megohms @ 500 VDC | | | | | |
| Shock | 50 g's with no discontinuties > 1 microsecond | | | | | |
| Vibration | 20 g's with no discontinuties > 1 microsecond | | | | | |
| Thermal Vacuum Outgassing | 1.0% max TML, 0.1% max CVCM - NASA SP-R-0022 | | | | | |
| Contact Resistance | 26 milliohms (65 mV) max @ 2.5 Amps per MIL-DTL-83513 | | | | | |
| Mating/Unmating Force | 3 oz. (.85g) typical per contact | | | | | |

Material Specifications

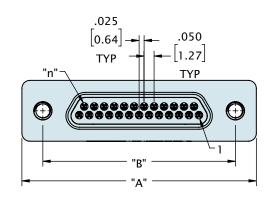
| ТҮРЕ | PERFORMANCE |
|------------------|--|
| Contact | Copper Alloy Per MIL-DTL-83513 |
| Contact Finish | Gold per ASTM B488, Type II, Class 1.27, Code C Over Nickel Underplate |
| Insulator | Thermoplastic per MIL-DTL-83513 |
| Interfacial Seal | Silicone Elastomer per A-A-59588 |
| Hardware | Stainless Steel, 300 Series, Passivated per SAE AMS-2700 |

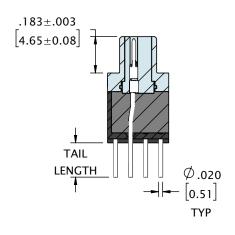
| MATERIAL | FINISH | | | | | |
|-----------------------------|-------------------------------------|--|--|--|--|--|
| Aluminum 6061 | Electroless Nickel per SAE-AMS-2404 | | | | | |
| Stainless Steel, 300 Series | Passivated per SAE-AMS-2700 | | | | | |

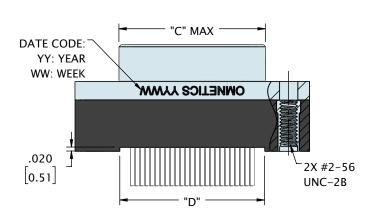


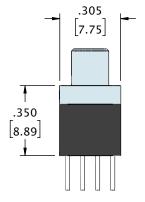


See page 163 for recommended board layout





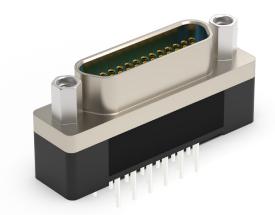




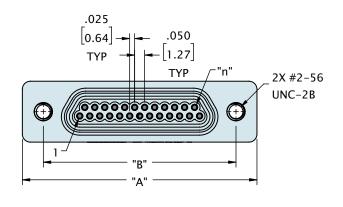
| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .334 [8.48] | .325 [8.26] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .484 [12.29] | .475 [12.07] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .634 [16.10] | .625 [15.88] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .734 [18.64] | .725 [18.42] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .884 [22.45] | .875 [22.23] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.034 [26.26] | 1.025 [26.04] |

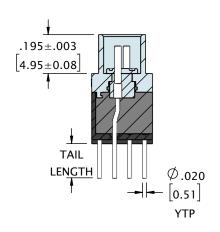
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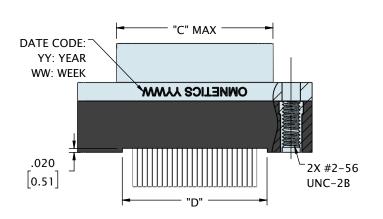


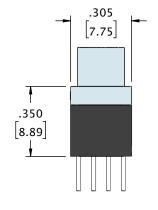


See page 163 for recommended board layout



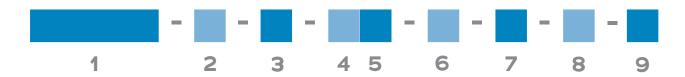






| CONTACTS | ROWS | "A" | "B" | "C" | "D" |
|----------|------|---------------|---------------|---------------|---------------|
| 9 | 2 | .775 [19.69] | .565 [14.35] | .400 [10.16] | .325 [8.26] |
| 15 | 2 | .925 [23.50] | .715 [18.16] | .550 [13.97] | .475 [12.07] |
| 21 | 2 | 1.075 [27.31] | .865 [21.97] | .700 [17.78] | .625 [15.88] |
| 25 | 2 | 1.175 [29.85] | .965 [24.51] | .800 [20.32] | .725 [18.42] |
| 31 | 2 | 1.325 [33.66] | 1.115 [28.32] | .950 [24.13] | .875 [22.23] |
| 37 | 2 | 1.475 [37.47] | 1.265 [32.13] | 1.100 [27.94] | 1.025 [26.04] |

DIMENSIONS IN [] ARE IN MILLIMETERS AND ARE FOR REFERENCE ONLY



| 1 | Series | MMD | P Metal M | licro-D Pin | | | MMDS Metal Micro-D Socket |
|---|-------------------------|-------|-------------|----------------|--------------|--------------|-------------------------------------|
| 2 | Number of Contacts | 009 | 015 | 021 | 025 | 03 | 1 037 |
| 3 | Termination Type | SV7 | Standard V | ertical Boa | rd Mount . | 075 | |
| | | N Alu | ıminum She | ell, Electrole | ss Nickel P | lated | CD Aluminium Shell, Cadmium Plated |
| 4 | Shell Material & Finish | B Alu | ıminium Sh | ıell, Black Aı | nodized | | P Stainless Steel Shell, Passivated |
| 5 | Hardware | 00 N | lone, Ø .09 | 2 Hole | | | O1 Fixed Jack-posts (STD) |
| 6 | Common Options | ETH | End Threa | ded Holes (‡ | ‡2-56 UNC | C-2B) | M Plain Mounting Holes |
| | Common Options | нт н | ligh Temp E | Ероху | | | RH RoHS Compliant |
| | | M10 | Keyed | | | M30 G | Ground Spring |
| _ | Mod Codes | M50 | Space Gra | de Micro-D | , SPT1 | M53 S | pace Grade Micro-D, SPT2 |
| 8 | Tail Length | 109 | 140 | 172 | | | |
| 9 | Special Instructions | YYY | Describe a | anything tha | at is not co | overed in | standard options |