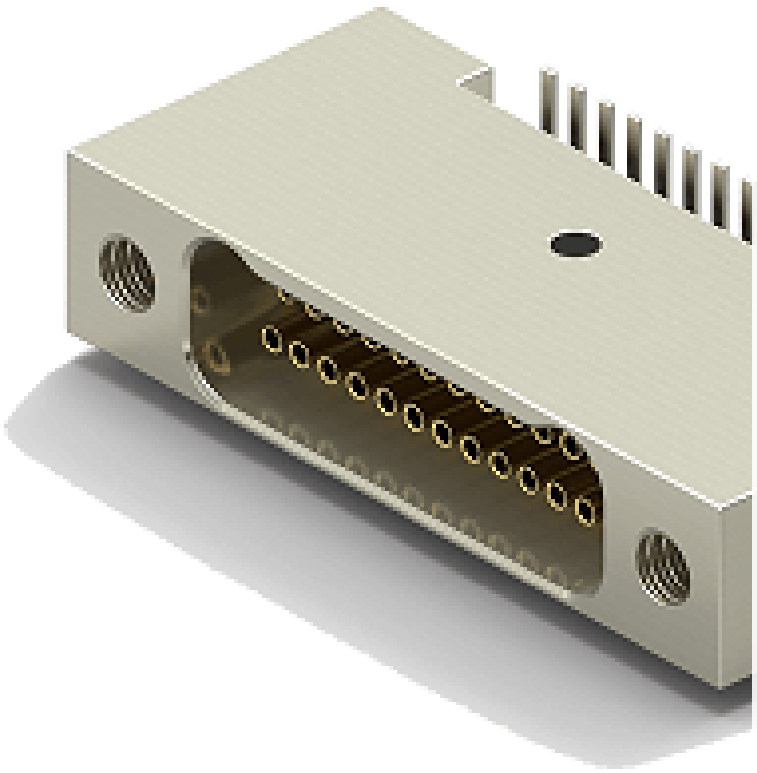
Ulti-Mate™ Connectors



Standard Rectangular Nano-D Connectors

Winchester Interconnect is the leading manufacturer for high density, lightweight Nano connectors. Our Ulti-Mate™ Nano-D connectors are made with metal and plastic shells. The shell materials include aluminum, stainless steel, and titanium.

We supply a full line of Nano connector styles in fully molded liquid crystal polymer bodies, with a wide choice of stranded wire types as well as pre-wired stranded wire.

The contact center-to-center pitch for Nano-D Connectors is .025".

Winchester Interconnect

www.winconn.com

Table of Contents

3-34.....Nano-D Wired

4...Wired Single Row Single Ended
10...Wired Dual Row Single Ended Metal Shell
16...Wired Dual Row Single Ended Plastic Shell
22...Wired Dual Row Double Ended Metal Shell
28...Wired Dual Row Double Ended Plastic Shell
34...Nano Integrated Back Shell

39-138.....Nano-D PCB

40...Vertical Dual Row Plated Thru Hole Metal Shell (Style 6)
45...Vertical Dual Row Plated Thru Hole Plastic Shell (Style 6)
50...Vertical Single Row Plated Thru Hole Metal Shell (Style 6)
57...Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8)
64...Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8)
71...Right Angle Single Row Plated Thru Hole Metal Shell (Style 8)
78...Vertical Dual Row Surface Mount Metal Shell (Style 26)
85...Vertical Dual Row Surface Mount Plastic Shell (Style 26)
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96...Right Angle Dual Row Surface Mount Metal Shell (Style 28)
101...Right Angle Dual SMT Plastic Shell (Style 28)
108...Right Angle Single Row SMT Plastic Shell (Style 28)
115...Vertical Dual Row SMT Metal Shell Low Profile Male Only (Style 36)
121...Vertical SMT Plastic Shell Male Only (Style 36)
127...Right Angle SMT Extended Profile Female Only Metal Shell (Style 38)
133...Right Angle Dual Row SMT Plastic Shell Female Only Plastic Shell (Style 38)

Winchester Interconnect



Nano-D Wired

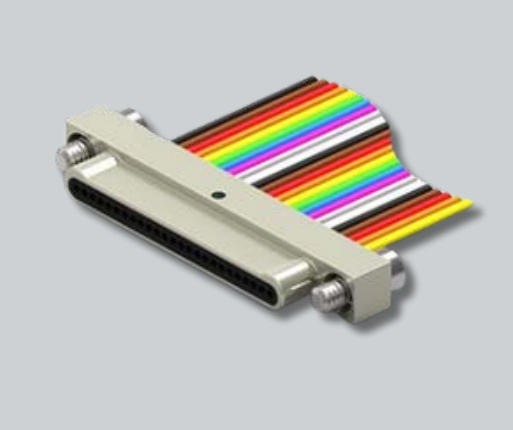
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano Wired

Single Row Single Ended Connectors

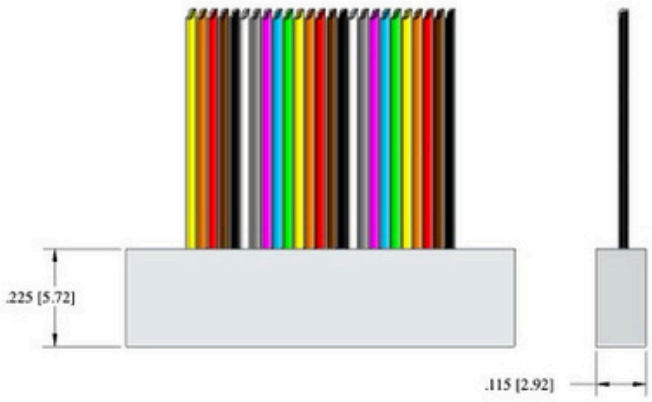
Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers Nano Wired Single Row Single Ended Connectors designed for precision, durability, and superior performance. These metal shell connectors with wire leads operate from −55°C to 125°C, with high-temperature versions up to 200°C (add HT) for extreme conditions. Available in 9 to 51 contacts, they ensure reliable performance in compact and demanding applications. As a QPL qualified supplier for MIL-DTL-32139 products, Winchester guarantees consistent quality and long-term dependability.



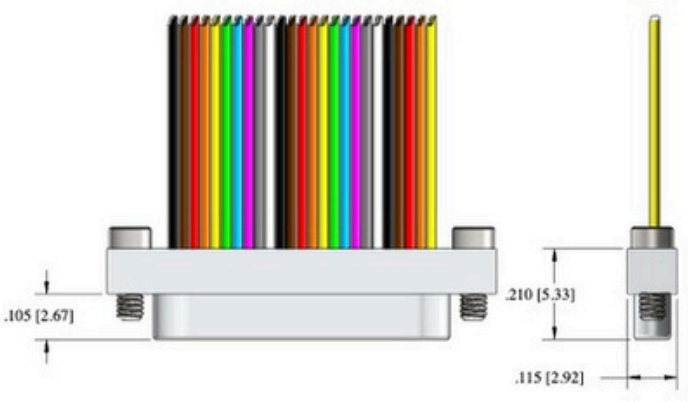
KEY FEATURES & BENEFITS

- Single Row Design – Compact and efficient layout suited for high-density applications.
- Metal Shell Construction – Ensures robust mechanical strength and shielding protection.
- Wide Temperature Range – Operates from −55°C to 125°C, extendable up to 200°C (HT option).
- Reliable Electrical Performance – Maximum contact resistance of 33 milliohms (contact only) and 87 milliohms with 6" wire at 1A.
- Dielectric Strength – Withstands 250 VAC at sea level and 100 VAC at 70,000 feet for insulation integrity.
- Qualified to MIL-DTL-32139 – Ensures military-grade quality and proven reliability.
- Flexible Contact Options – Available with 9 to 51 contacts to meet diverse interconnect needs.

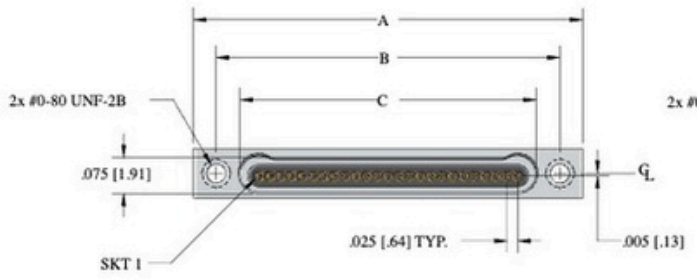
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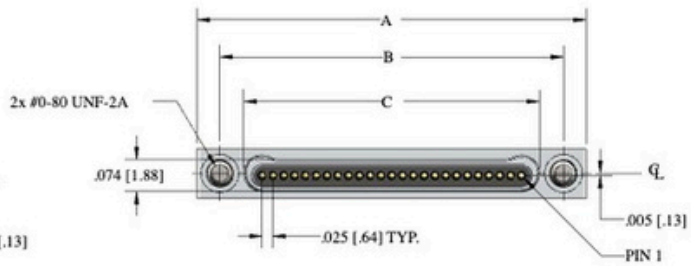


RECEPTACLE (SOCKETS)



PLUG (PINS)

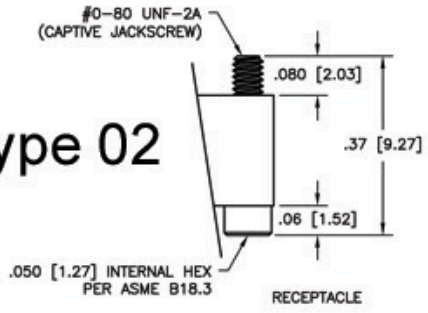


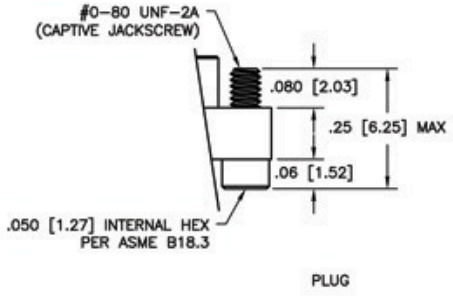


Size	A	B	C	
			Receptacle	Plug
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40
31	1.050 [26.67]	.945 [24.00]	.834 [21.18]	.835 [21.21]
37	1.200 [30.48]	1.095 [27.81]	.984 [24.99]	.985 [25.02]
51	1.550 [39.37]	1.445 [36.70]	1.334 [33.88]	1.335 [33.91]

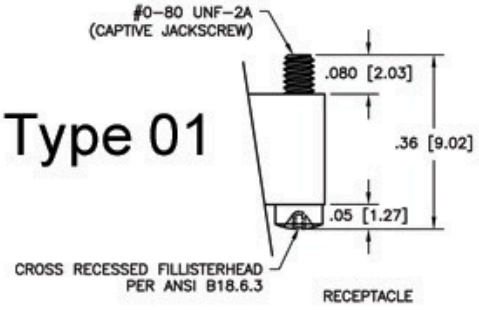
HARDWARE

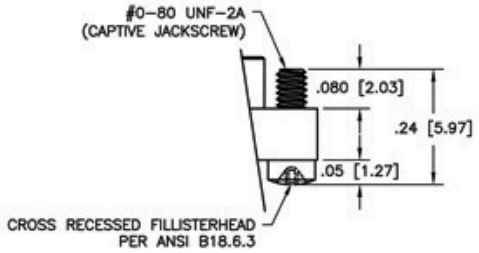
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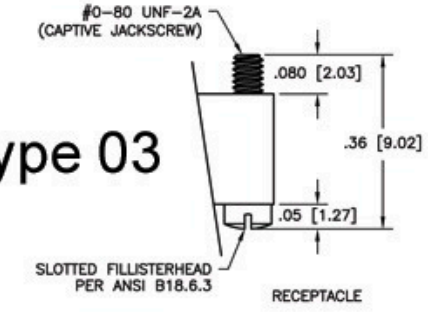


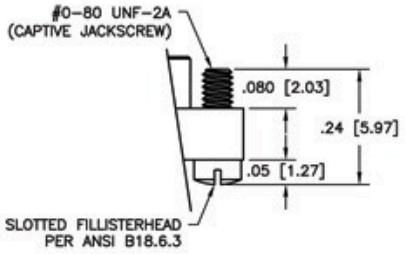
Type 01



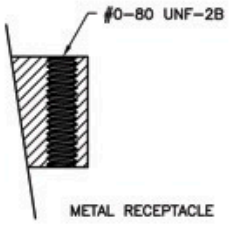


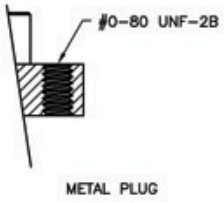
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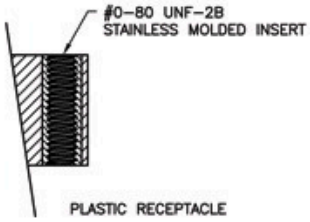


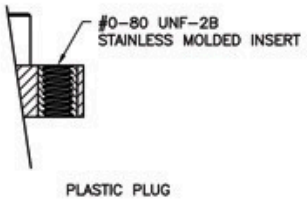
Type 07





Type 07





Winchester Interconnect

PERFORMANCE

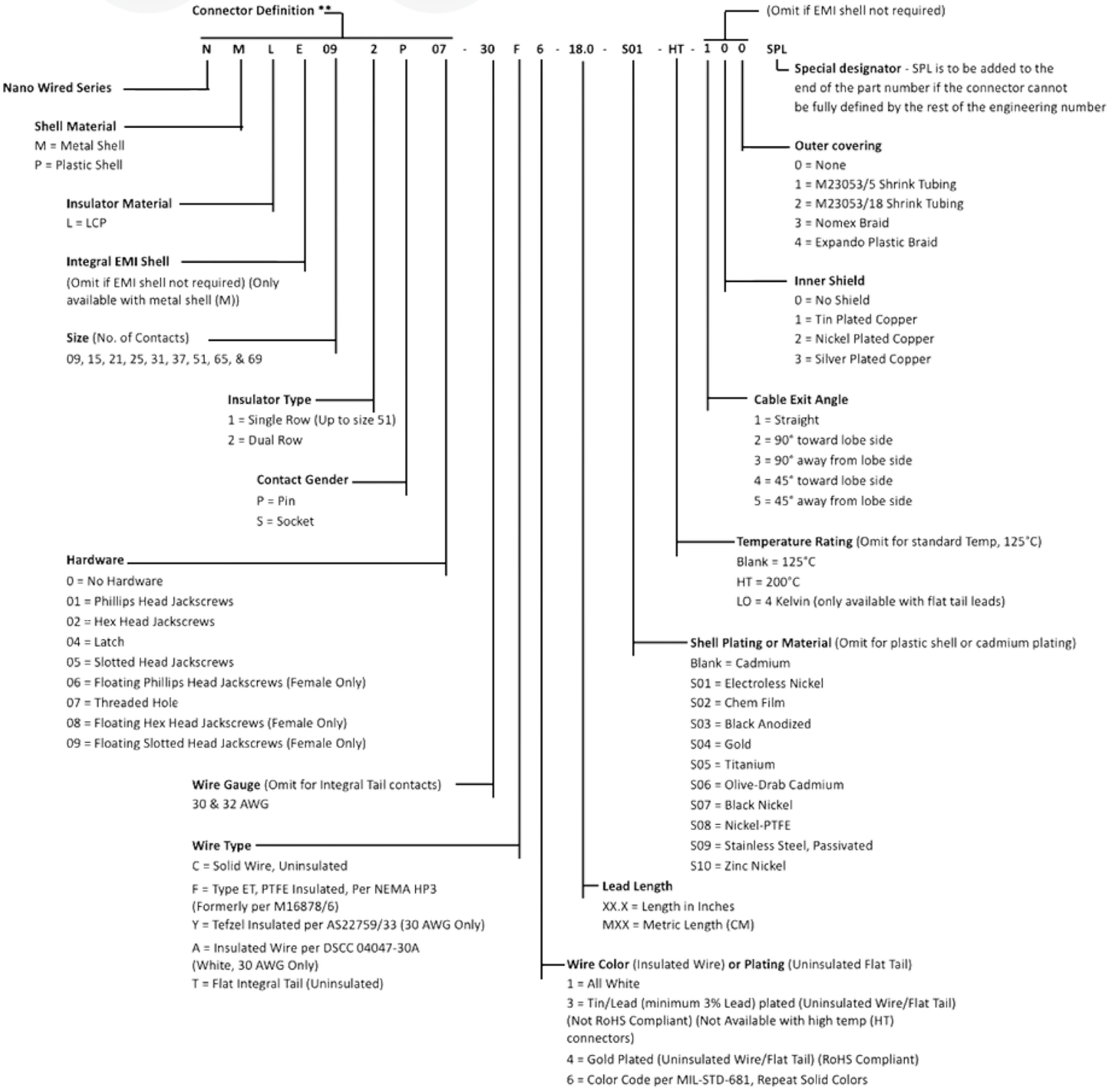
Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F

HOW TO ORDER



** For double ended assemblies, include connector definition for both ends separated by a forward slash (/)
Excludes Integral Shell assemblies ("E" option)

Ulti-Mate Connectors

Ulti-Mate Nano Wired

Dual Row Single Ended Metal Shell Connectors

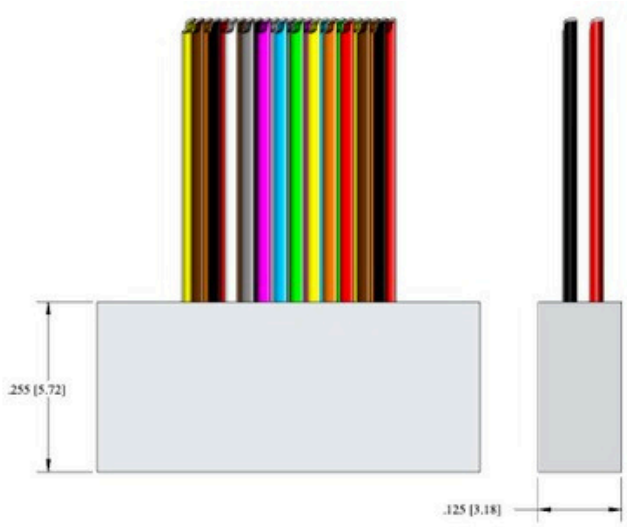
Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers Wired Dual Row Single Ended Metal Shell Connectors engineered for reliability and precision in demanding environments. These metal shell connectors with wire leads operate within a temperature range of −55°C to 125°C, with high-temperature versions available up to 200°C (add HT). Available in 9 to 65 contacts, they are QPL qualified to MIL-DTL-32139 standards, ensuring superior performance and compliance with military specifications. Built to endure vibration, shock, durability, and salt spray tests, these connectors are ideal for rugged applications.



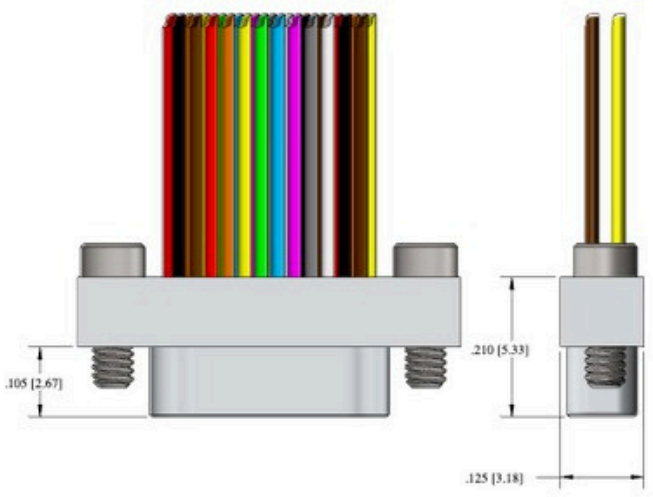
KEY FEATURES & BENEFITS

- Dual Row Configuration – Provides high contact density for compact, space-efficient designs.
- Metal Shell Construction – Offers robust mechanical protection and EMI shielding.
- Wide Temperature Range – Operates from −55°C to 125°C, extendable to 200°C (HT option).
- Reliable Mechanical Performance – Engaging force of 5 oz max., separation force of 0.4 oz min., and mating/unmating force of 7 oz × number of contacts max.
- Tested for Durability – Passes vibration, shock, salt spray, and endurance testing for dependable operation.
- MIL-DTL-32139 Qualified – Ensures consistent quality and performance to military-grade standards.
- Flexible Contact Options – Available in 9 to 65 contact configurations to suit diverse interconnect requirements.

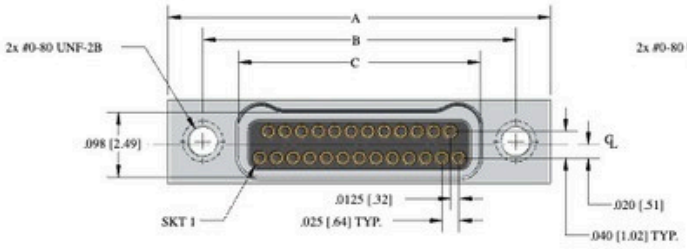
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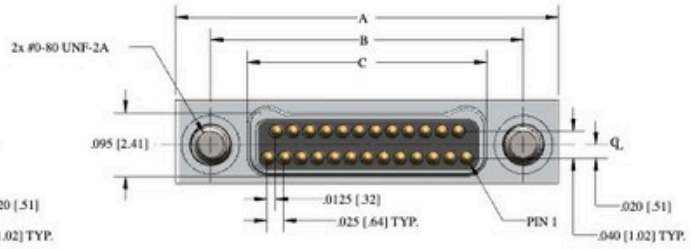


RECEPTACLE (SOCKETS)



PLUG (PINS)





Size	A	B	C	
			Receptacle	Plug
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]

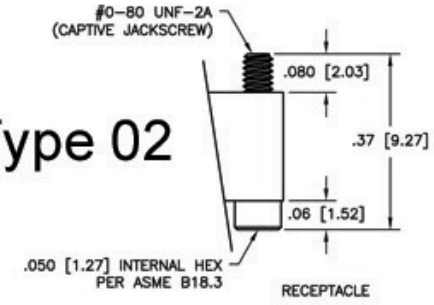
PERFORMANCE

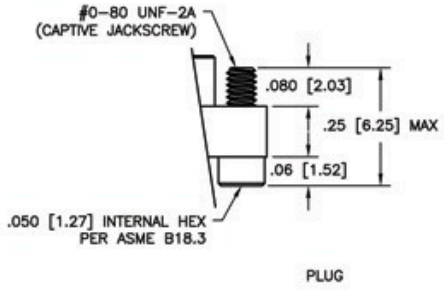
Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

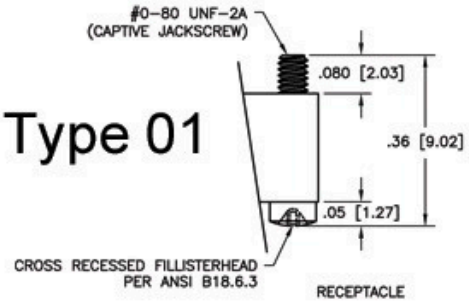
HARDWARE

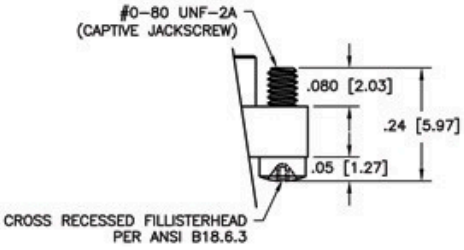
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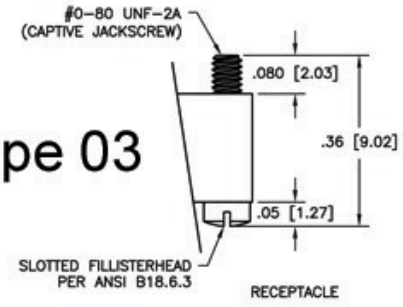


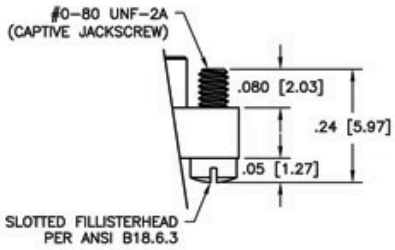
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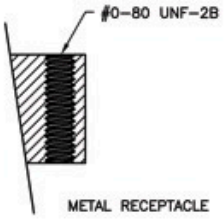


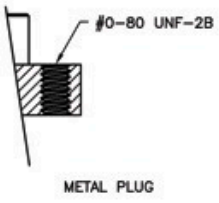
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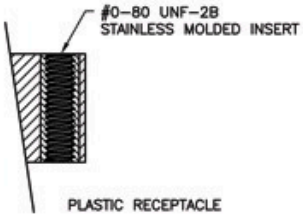


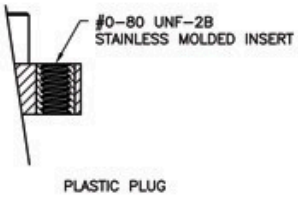
Type 07





Type 07



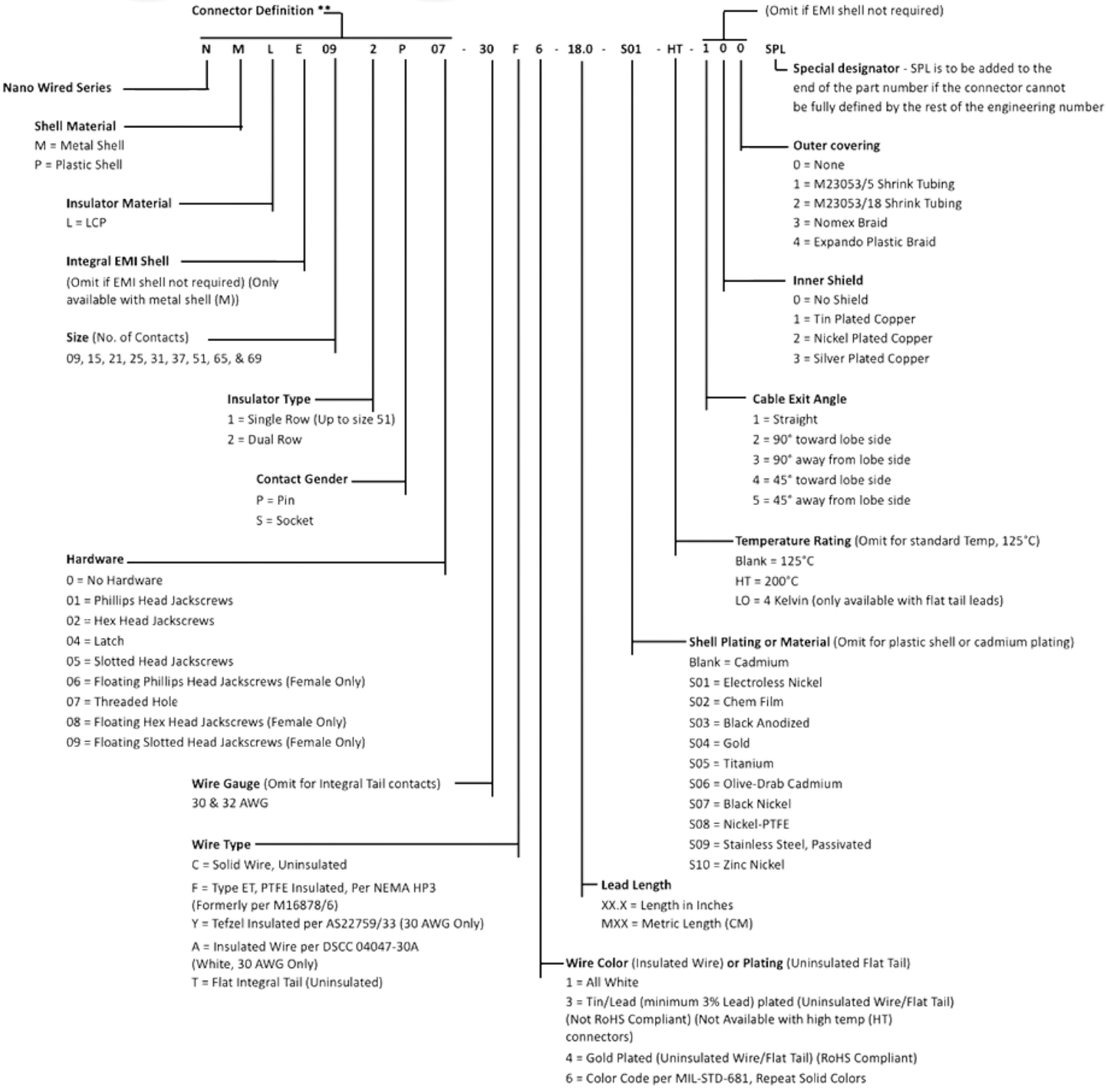


MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17200 Beryllium Copper per ASTM B194
Signal Socket Contacts	C26000 Brass Alloy per ASTM B135
Contact Plating	Gold Plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano Wired Dual Row Single Ended

HOW TO ORDER



** For double ended assemblies, include connector definition for both ends separated by a forward slash (/)
Excludes Integral Shell assemblies ("E" option)

Ulti-Mate Connectors

Ulti-Mate Nano Wired

Dual Row Single Ended Plastic Shell Connectors

Winchester Interconnect Micro offers Wired Dual Row Single Ended Plastic Shell Connectors designed for high performance in compact and lightweight applications. These plastic shell connectors with wire leads operate within a standard temperature range of −55°C to 125°C, with high-temperature versions available up to 200°C (add HT). Available in 9 to 65 contact configurations, they provide flexibility for a wide range of interconnect solutions. As a QPL qualified supplier for MIL-DTL-32139 products, Winchester ensures military-grade reliability and durability.

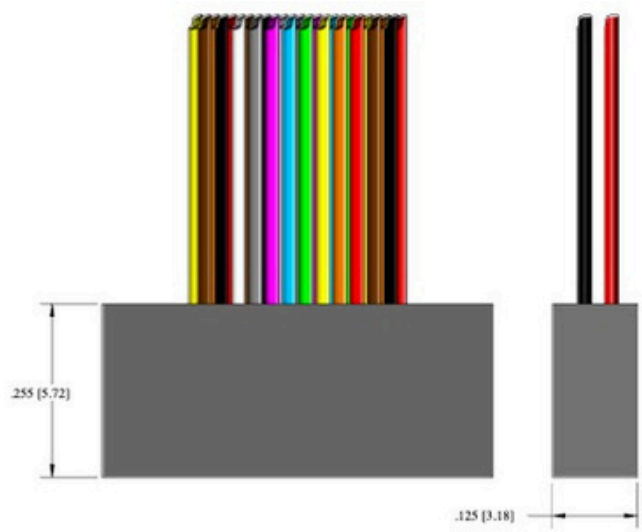


KEY FEATURES & BENEFITS

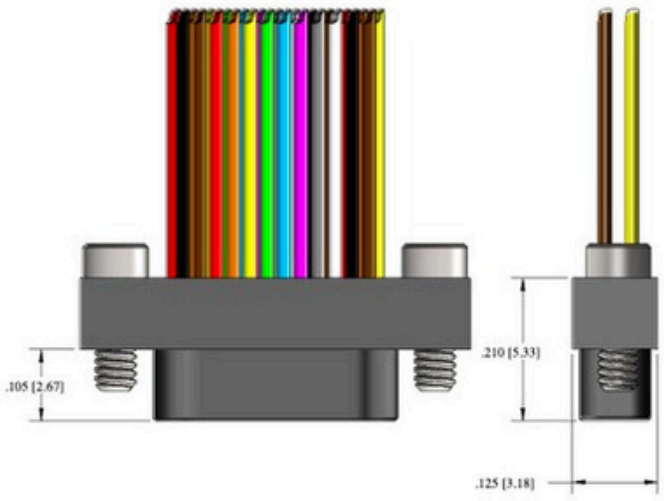
- Lightweight Plastic Shell – Provides durability while minimizing weight for compact systems.
- Dual Row Design – Supports higher contact density in limited space.
- Wide Temperature Range – Operates from −55°C to 125°C, extendable to 200°C (HT option).
- Reliable Electrical Performance – Ensures consistent connectivity under varying environmental conditions.
- MIL-DTL-32139 Qualified – Meets stringent military and aerospace standards for quality and reliability.
- Flexible Contact Options – Available in 9 to 65 contact configurations to suit diverse application needs.

Winchester Interconnect

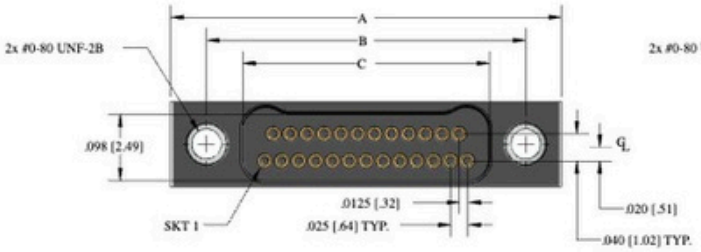
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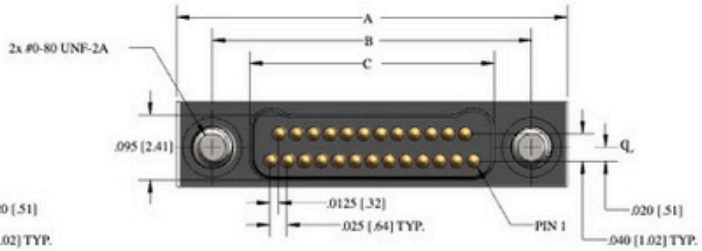


RECEPTACLE (SOCKETS)



PLUG (PINS)





Size	A	B	C	
			Receptacle	Plug
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]

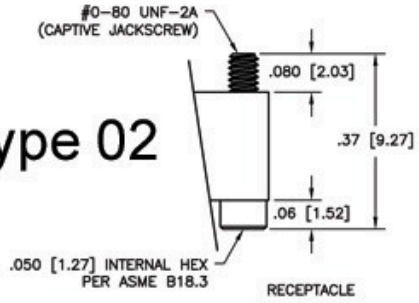
PERFORMANCE

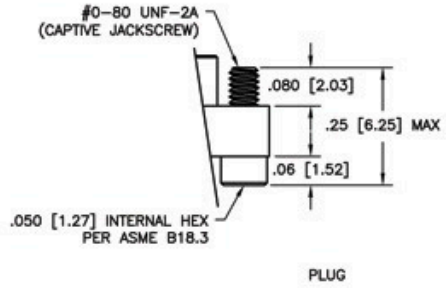
Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

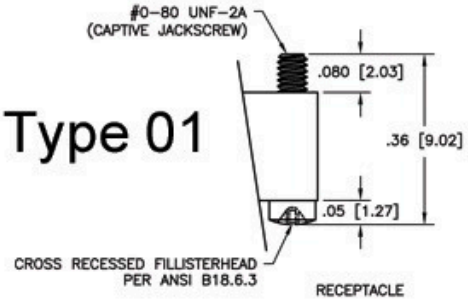
HARDWARE

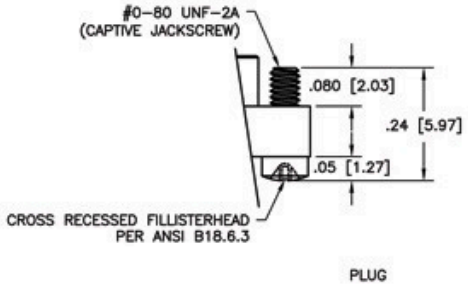
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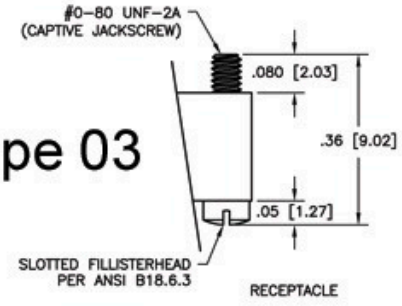


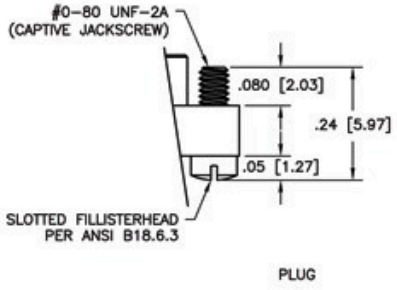
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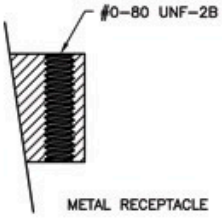


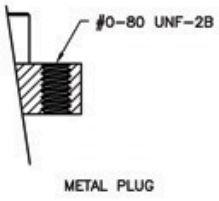
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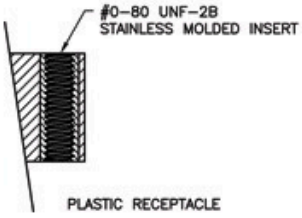


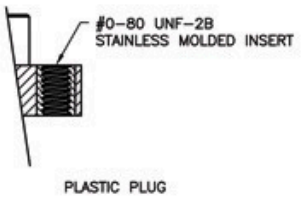
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Type 07





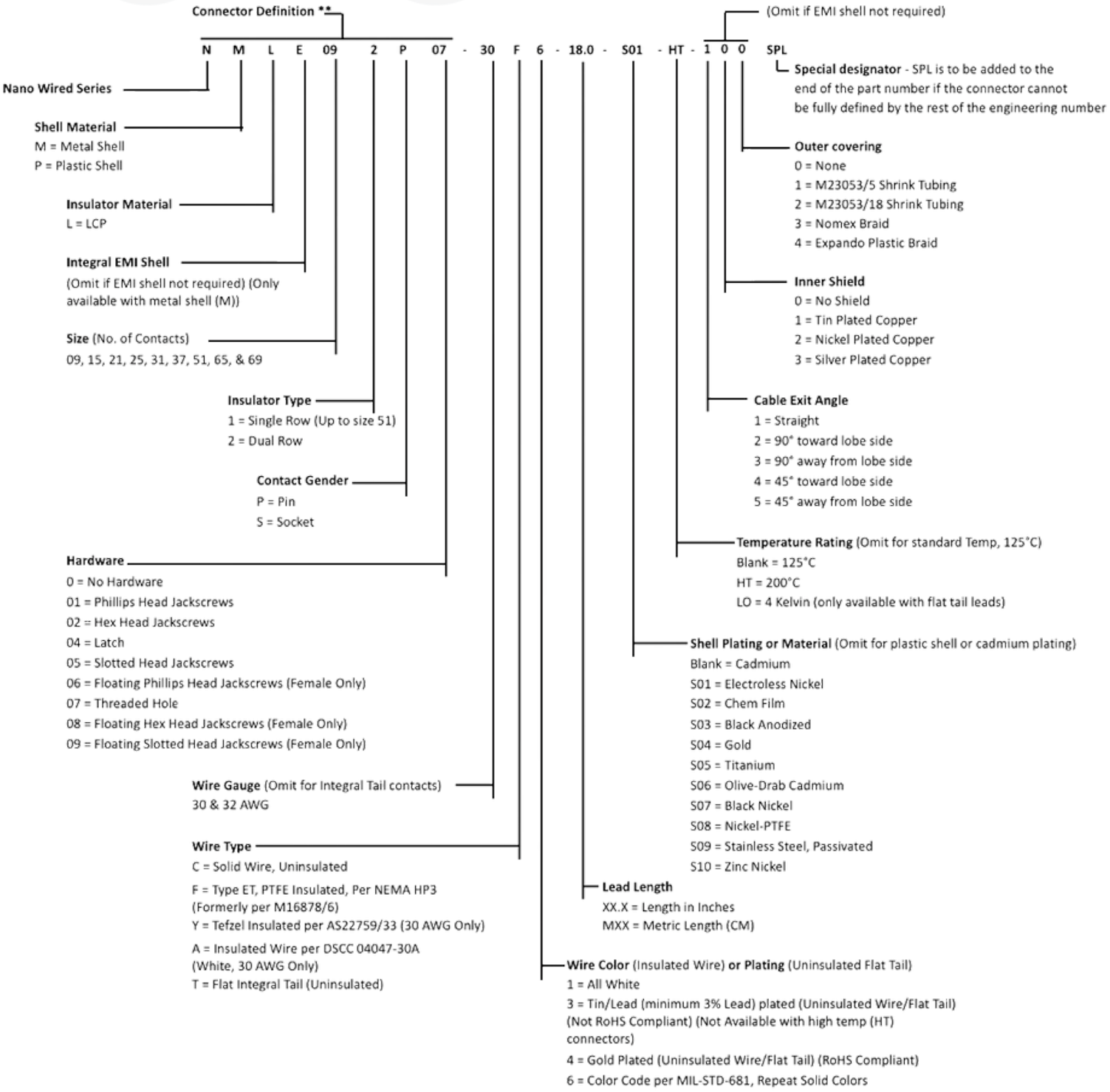
Winchester Interconnect

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17200 Beryllium Copper per ASTM B194
Signal Socket Contacts	C26000 Brass Alloy per ASTM B135
Contact Plating	Gold Plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano Wired Dual Row Single Ended Plastic Shell

HOW TO ORDER



** For double ended assemblies, include connector definition for both ends separated by a forward slash (/)
Excludes Integral Shell assemblies ("E" option)

Ulti-Mate Connectors

Ulti-Mate Nano Wired

Dual Row Double Ended Metal Shell Connectors

Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers Nano Wired Dual Row Double Ended Metal Shell Connectors designed for durability and reliability in demanding environments. These metal shell connectors with wire leads operate across a wide temperature range from −55°C to 125°C, with high-temperature versions available up to 200°C (add HT). Available in configurations from 9 to 65 contacts, they meet MIL-DTL-32139 QPL qualifications, ensuring military-grade performance. Constructed with high-quality materials and precision plating, these connectors deliver exceptional electrical and mechanical integrity for mission-critical applications.

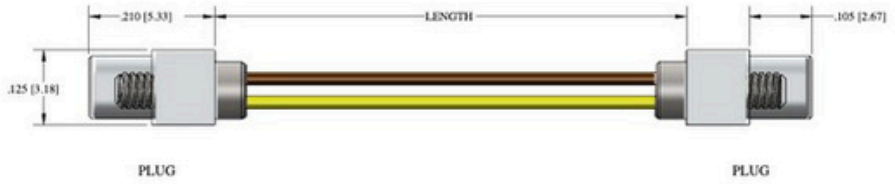


KEY FEATURES & BENEFITS

- Rugged Metal Shell – Made from 6061-T6 Aluminum or 300 Series Stainless Steel for superior strength and protection.
- Wide Temperature Range – Performs reliably from −55°C to 125°C; high-temp versions up to 200°C available (add HT).
- High-Quality Contact Materials – Signal pins use C17200 Beryllium Copper per ASTM B194; sockets use C26000 Brass Alloy per ASTM B135.
- Gold-Plated Contacts – Gold plating per ASTM B488 ensures excellent conductivity and corrosion resistance.
- Durable Insulator Options – Available in LCP GLCP-30F or PPS per MIL-M-24519 GST-40F for long-term stability.
- Flexible Contact Configurations – Offered in 9 to 65 contacts for a range of design requirements.
- MIL-DTL-32139 Qualified – QPL-certified to meet stringent military and aerospace standards.

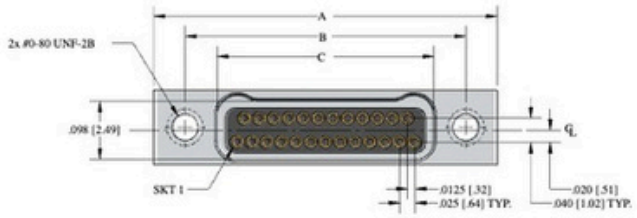
Winchester Interconnect

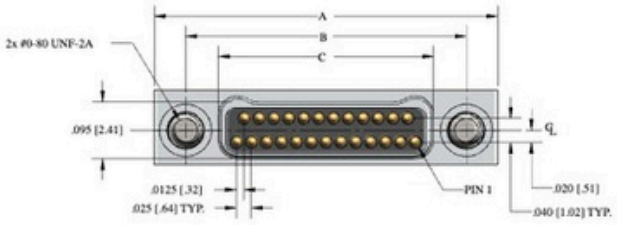
DIMENSIONAL











Size	A	B	C	
			Receptacle	Plug
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]

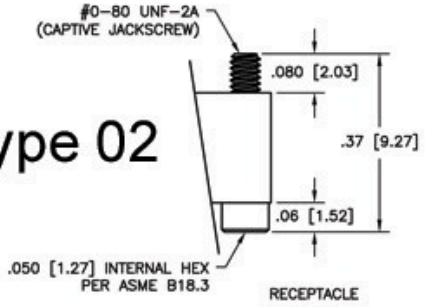
PERFORMANCE

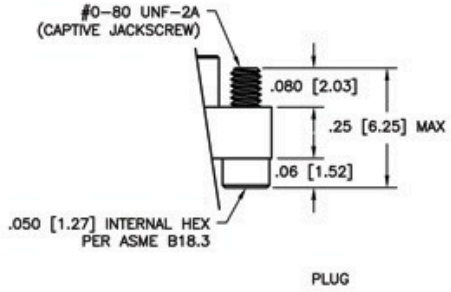
Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

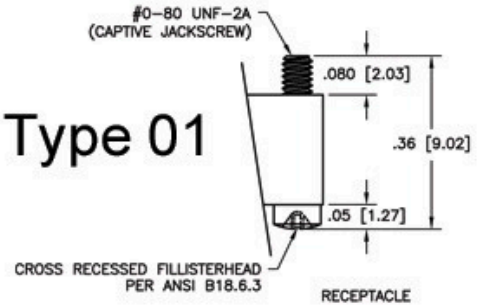
HARDWARE

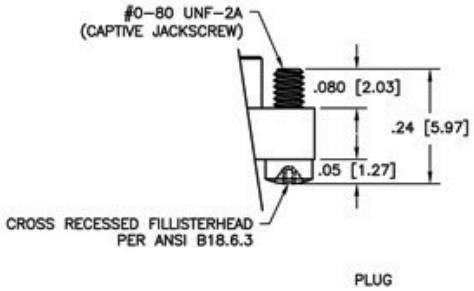
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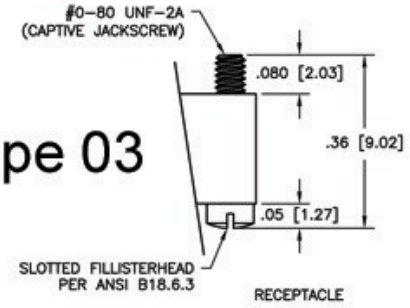


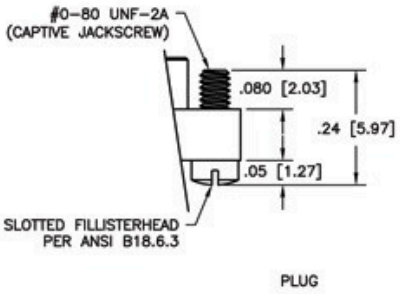
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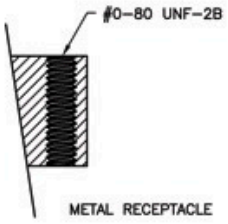


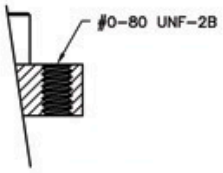
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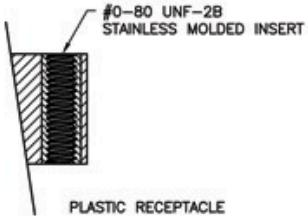


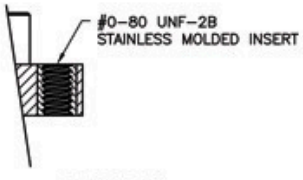
Type 07





Type 07





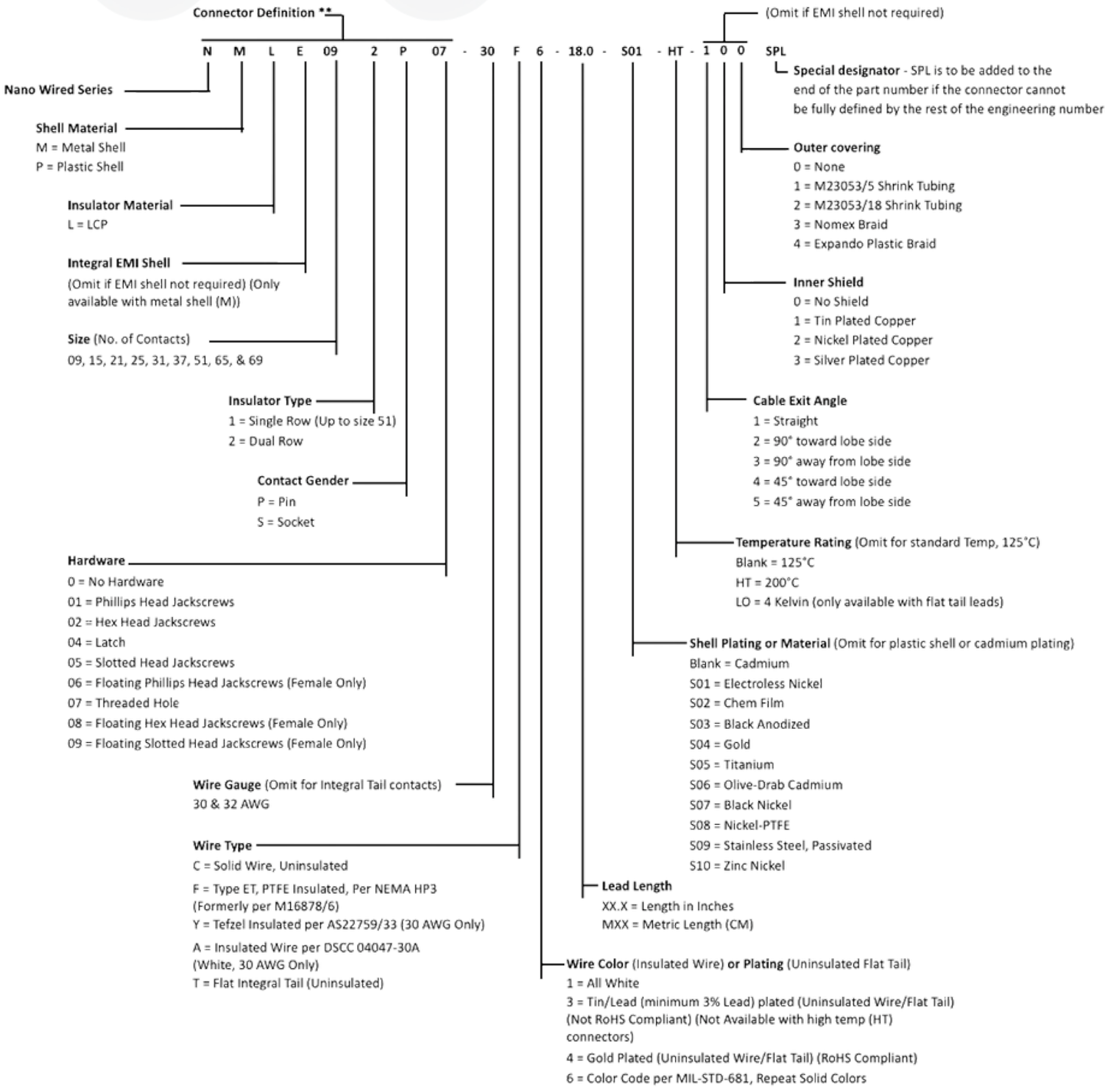
Winchester Interconnect

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17200 Beryllium Copper per ASTM B194
Signal Socket Contacts	C26000 Brass Alloy per ASTM B135
Contact Plating	Gold Plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano Wired Dual Row Double Ended Metal Shell

HOW TO ORDER



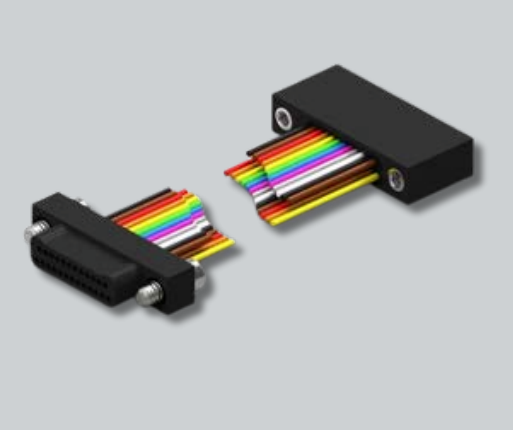
** For double ended assemblies, include connector definition for both ends separated by a forward slash (/)
Excludes Integral Shell assemblies ("E" option)

Ulti-Mate Connectors

Ulti-Mate Nano Wired

Dual Row Double Ended Plastic Shell Connectors

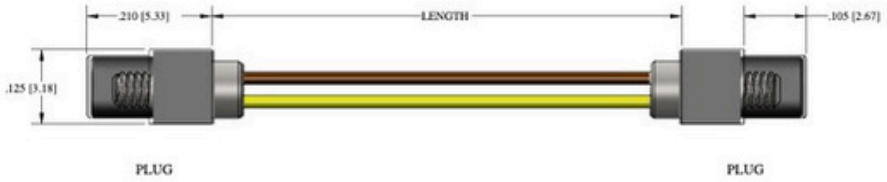
Winchester Interconnect Micro offers Nano Wired Dual Row Double Ended Plastic Shell Connectors, engineered for high performance and reliability in demanding environments. These plastic shell connectors with wire leads operate across a temperature range of −55°C to 125°C, with high-temperature versions available up to 200°C (add HT). Available in 9 to 65 contacts, they deliver excellent electrical performance with a contact resistance of 33 milliohms max (contact only) and 87 milliohms max with 6" wire at 1A. They feature a current rating of 1A max and dielectric withstanding voltages of 250 VAC at sea level and 100 VAC at 70,000 feet, with a 1mA leakage current maximum.



KEY FEATURES & BENEFITS

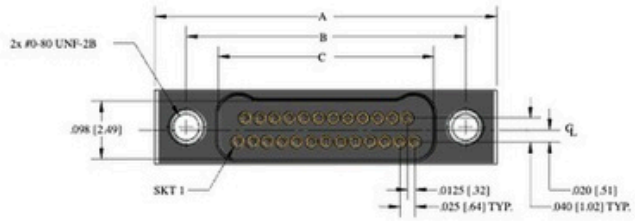
- Durable Plastic Shell – Lightweight and corrosion-resistant design ideal for demanding environments.
- Wide Temperature Range – Operates from −55°C to 125°C; high-temp versions up to 200°C available (add HT).
- Excellent Electrical Performance – Contact resistance of 33 mΩ (contact only) and 87 mΩ (with 6" wire at 1A).
- Reliable Power Handling – Supports a maximum current rating of 1A for consistent performance.
- High Dielectric Strength – Withstands 250 VAC at sea level and 100 VAC at 70,000 feet with ≤1mA leakage.
- Multiple Contact Options – Available in configurations from 9 to 65 contacts for application flexibility.
- Qualified to MIL-DTL-32139 – QPL-certified for military-grade quality and long-term reliability.

DIMENSIONAL

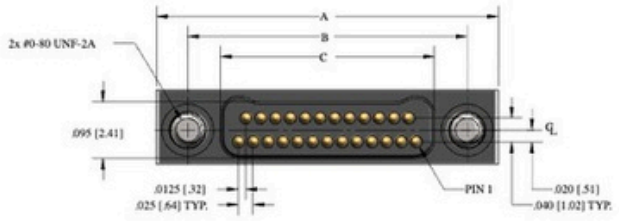








RECEPTACLE (SOCKETS)



PLUG (PINS)

Size	A	B	C	
			Receptacle	Plug
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]

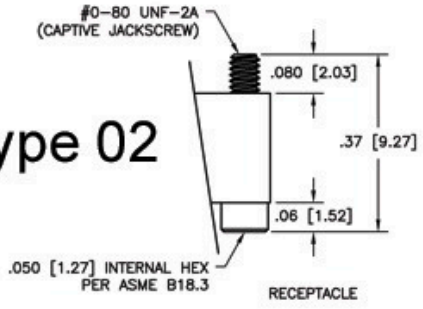
PERFORMANCE

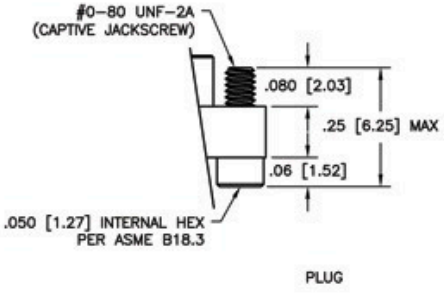
Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

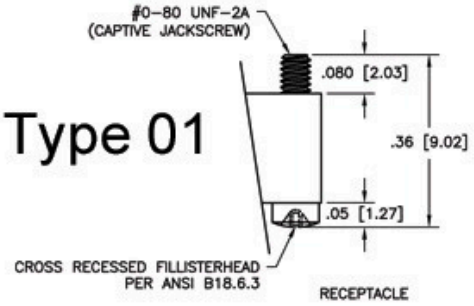
HARDWARE

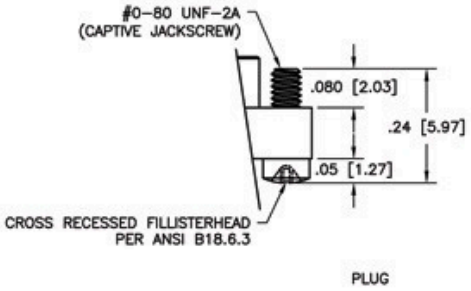
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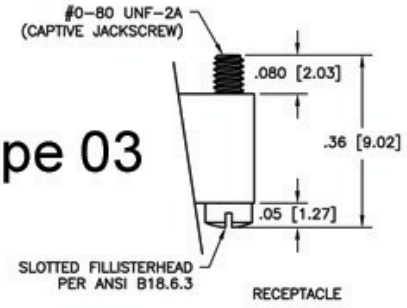


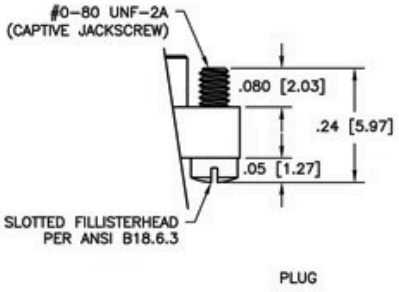
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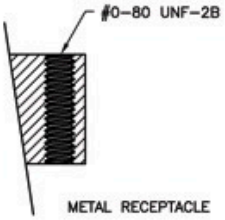


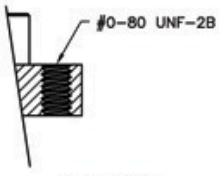
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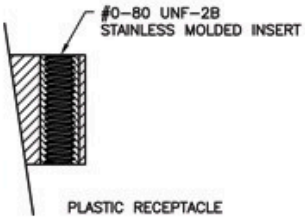


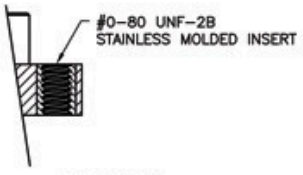
Type 07





Type 07





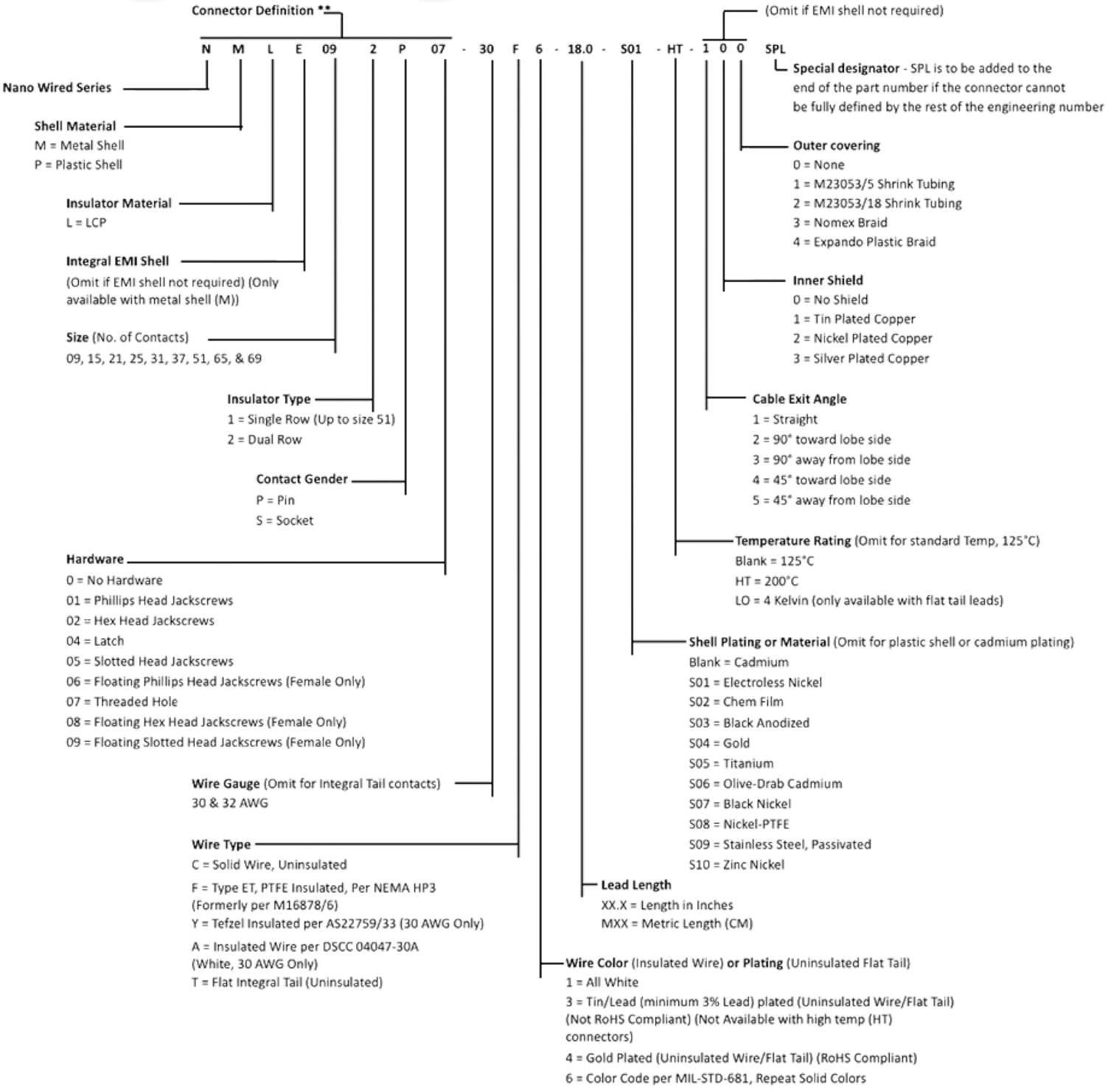
Winchester Interconnect

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17200 Beryllium Copper per ASTM B194
Signal Socket Contacts	C26000 Brass Alloy per ASTM B135
Contact Plating	Gold Plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano Wired Dual Row Double Ended Plastic Shell

HOW TO ORDER



** For double ended assemblies, include connector definition for both ends separated by a forward slash (/)
Excludes Integral Shell assemblies ("E" option)

Ulti-Mate Connectors

Ulti-Mate Nano Wired

Integrated BackShell Connectors

Winchester Interconnect Micro offers Nano Wired Integrated Backshell Connectors, engineered to deliver compact, high-performance EMI protection for next-generation cable assemblies. Designed around the M32139 and M83513 interfaces, these connectors integrate the backshell into the connector body, minimizing overall height and width while reducing component count and cost. Ideal for space-constrained or complex harness applications, they provide 360° EMI shielding and enhanced cable strength without traditional clamps. Available with multiple braiding options, exit angles, and custom configurations for versatile system integration.



KEY FEATURES & BENEFITS

- Integrated Backshell Design – Minimizes size and eliminates the need for separate backshell components, reducing BOM complexity and cost.
- Compact Profile – Integrated structure reduces overall connector height and width for space-limited applications.
- Full 360° EMI Protection – Ensures complete shielding against electromagnetic interference for signal integrity.
- Enhanced Cable Strength – Provides mechanical reinforcement without requiring traditional band-style clamps.
- Flexible Braiding Options – Available with inner/outer metal or non-metallic braids for customized EMI and abrasion protection.
- Durable Construction – Metal braided sleeving in tinned or silver-plated copper per A-A-59551; non-metallic braids use Denier Fiber per MIL-C-572.
- Versatile Configurations – Offered for both Nano-D and Micro-D connector lines with multiple cable exit angles and custom harness solutions.

Winchester Interconnect

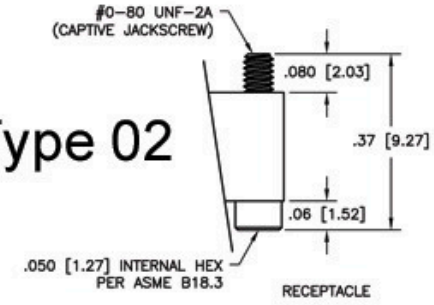
PERFORMANCE

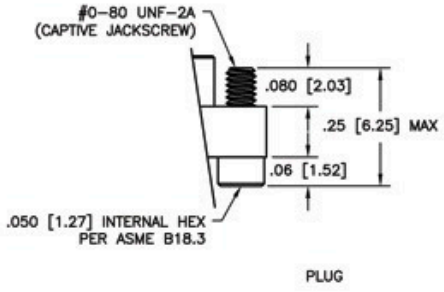
Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

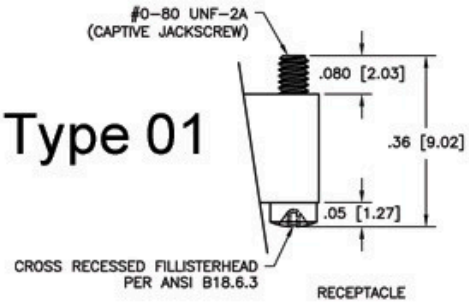
HARDWARE

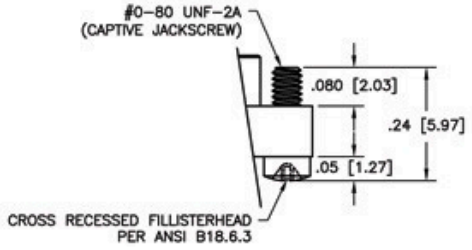
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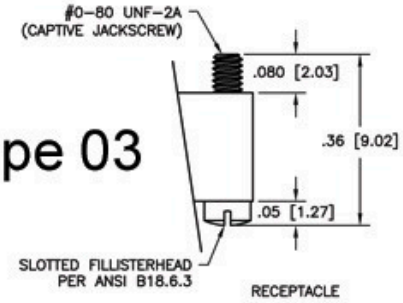


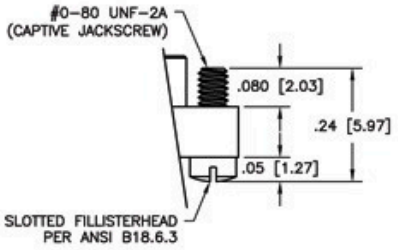
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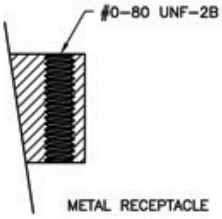


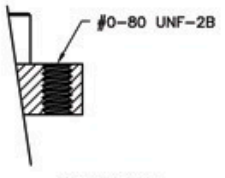
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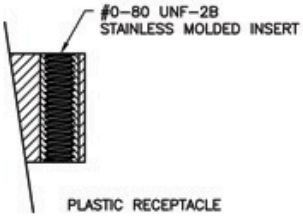


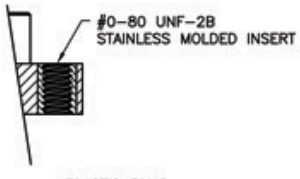
Type 07





Type 07



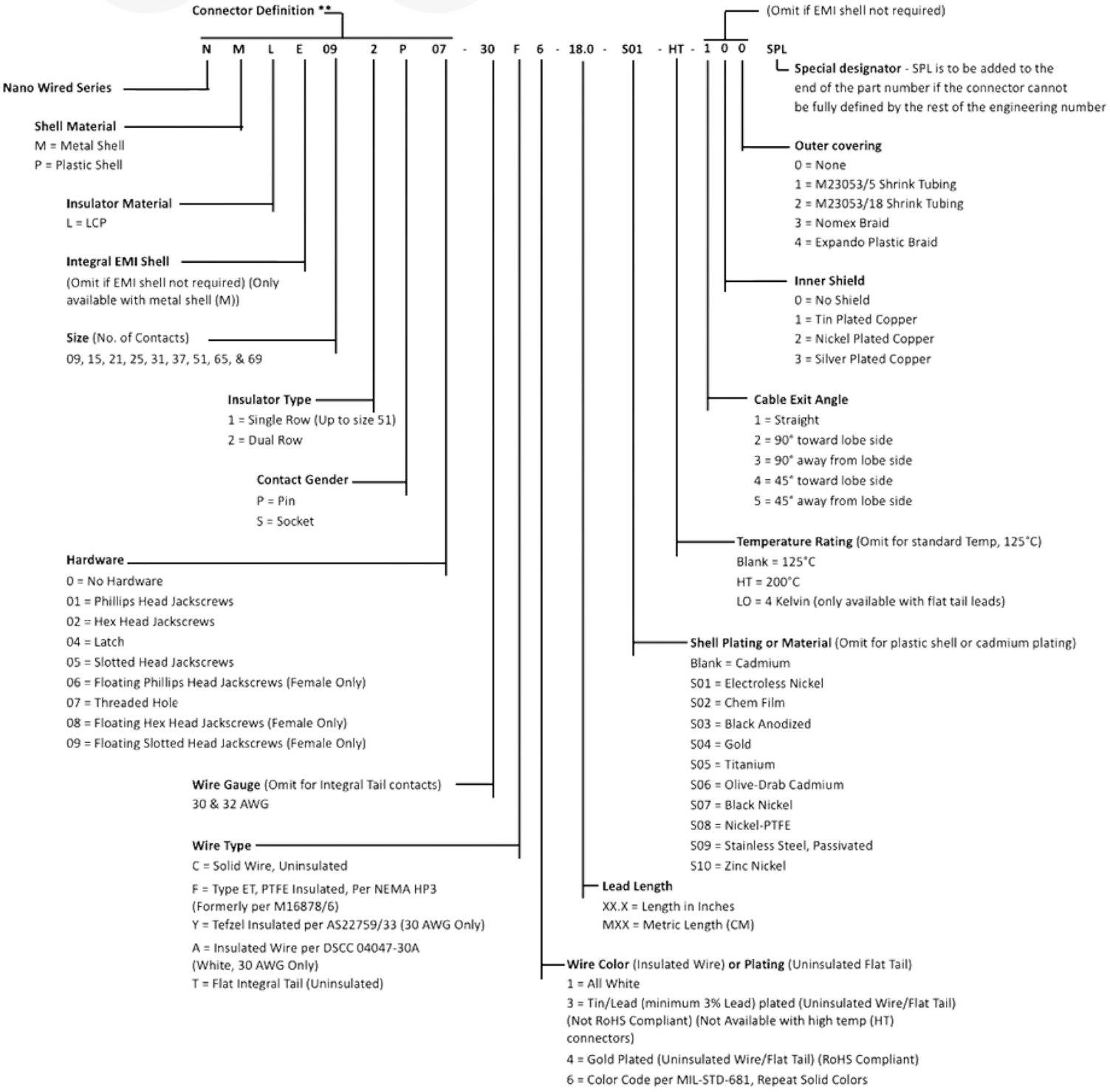


Winchester Interconnect

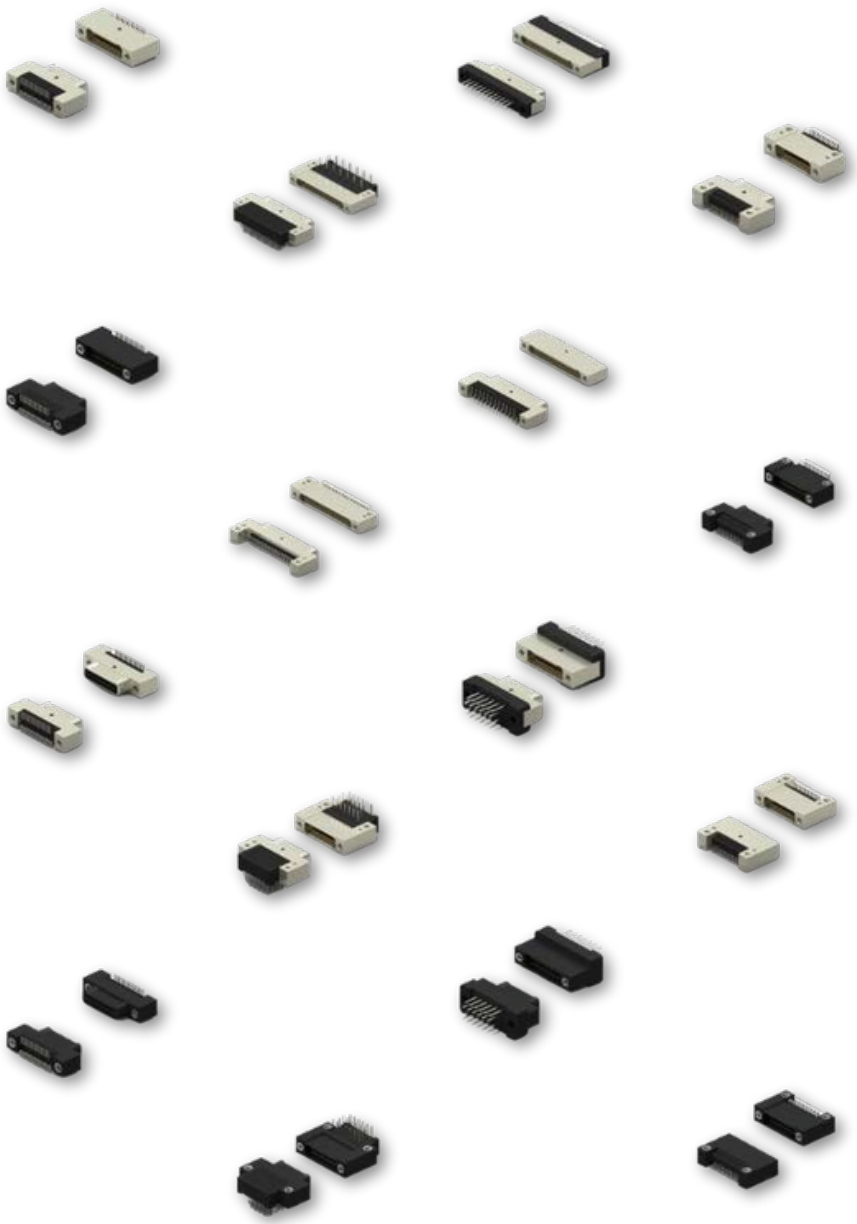
MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17200 Beryllium Copper per ASTM B194
Signal Socket Contacts	C26000 Brass Alloy per ASTM B135
Contact Plating	Gold Plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

HOW TO ORDER



** For double ended assemblies, include connector definition for both ends separated by a forward slash (/)
Excludes Integral Shell assemblies ("E" option)



Nano-D PCB

Winchester Interconnect™

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Dual Row Plated Thru Hole Metal Shell (Style 6)

Winchester Interconnect Micro offers Nano PCB Vertical Dual Row Plated Thru Hole Metal Shell (Style 6) Connectors, engineered for dependable performance and long-term reliability. Featuring a metal shell with surface mount .050 x .050 configuration, these connectors include a 1-piece contact with flat tail termination for secure soldering and mechanical strength. Operating efficiently from −55°C to 125°C, with high-temperature versions available up to 200°C (add HT), they are ideal for demanding environments.



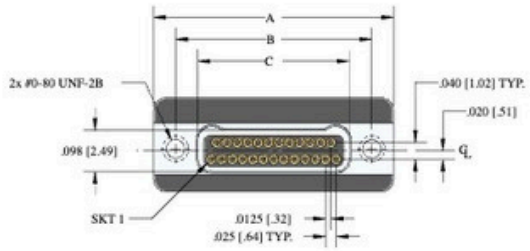
KEY FEATURES & BENEFITS

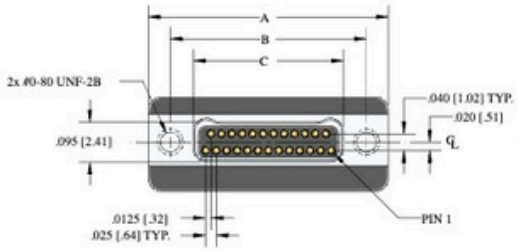
- Rugged Metal Shell Design – Ensures durability and reliable EMI protection.
- 1-Piece Contact Construction – Provides consistent electrical performance and secure termination.
- Wide Temperature Range – Operates from −55°C to 125°C; HT versions up to 200°C.
- Excellent Mechanical Strength – 5 oz max engaging force, 0.4 oz min separation force, and 7 oz × # of contacts mating/unmating force.
- High Shock and Vibration Resistance – Tested per EIA-364-28 (vibration) and EIA-364-27 (shock), 1 µs max discontinuity.
- Flexible Configurations – Available with 9 to 65 contacts.
- Qualified Performance – QPL approved for MIL-DTL-32139 compliance.
- Ideal for High-Reliability PCB Applications – Perfect for aerospace, defense, and instrumentation systems.

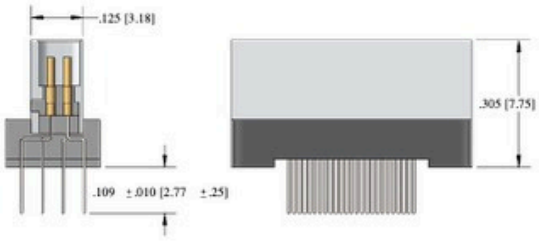
Winchester Interconnect

Nano PCB Vertical Dual Row Plated Thru Hole Metal Shell (Style 6)

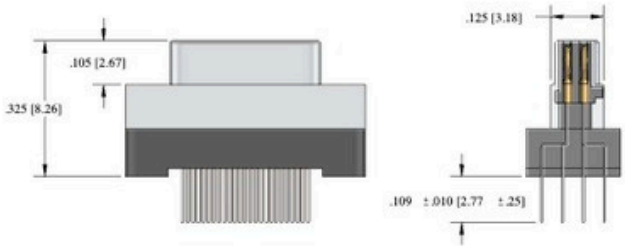
DIMENSIONAL



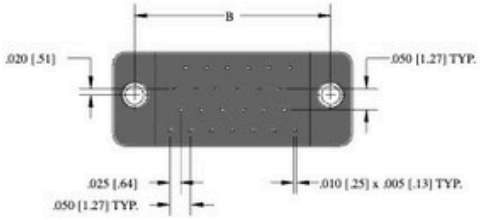


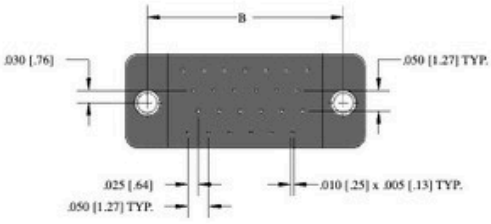


RECEPTACLE (SOCKETS)



PLUG (PINS)





Size	A	B	C		D
			Receptacle	Plug	
.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]	.218(5.54)
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

MATERIALS

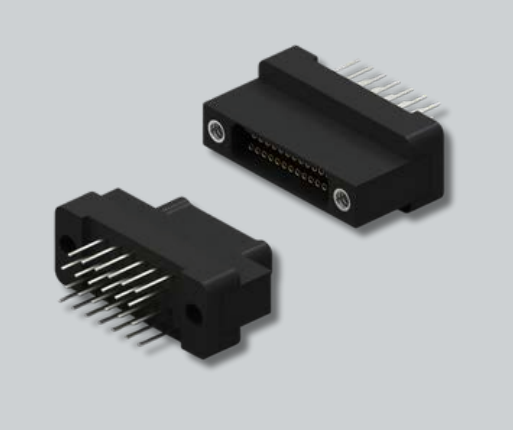
Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Dual Row Plated Thru Hole Plastic Shell (Style 6)

Winchester Interconnect Micro offers Nano PCB Vertical Dual Row Plated Thru Hole Plastic Shell (Style 6) Connectors, designed for compact, high-performance PCB applications. Featuring a plastic shell with plated thru-hole .050 x .050 (Style 6) configuration, these connectors include a 1-piece contact and flat tail termination for strong, reliable solder connections. They operate across a −55°C to 125°C temperature range, with high-temperature versions available up to 200°C (add HT), ensuring dependable performance in demanding environments.

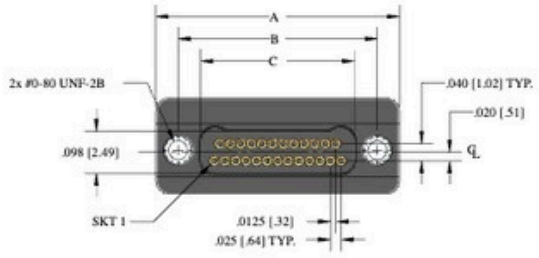


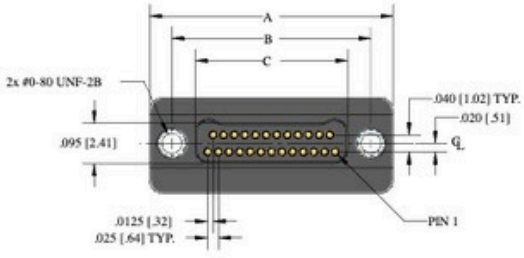
KEY FEATURES & BENEFITS

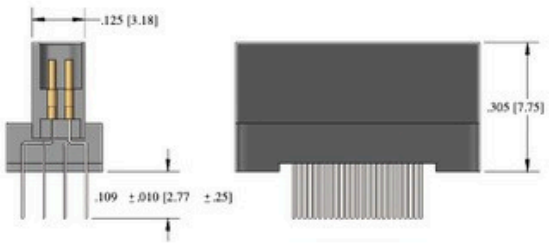
- Lightweight Plastic Shell – Provides strength and weight reduction for compact designs.
- 1-Piece Contact with Flat Tail – Delivers stable electrical performance and secure solder joints.
- Wide Temperature Range – Standard operation from −55°C to 125°C; HT versions up to 200°C.
- Flexible Configurations – Available with 9 to 65 contacts for various design needs.
- QPL Qualified – Meets MIL-DTL-32139 military performance standards.
- Ideal for Space-Sensitive PCB Applications – Perfect for aerospace, medical, and instrumentation systems requiring precision and reliability.

Nano PCB Vertical Dual Row Plated Thru Hole Plastic Shell (Style 6)

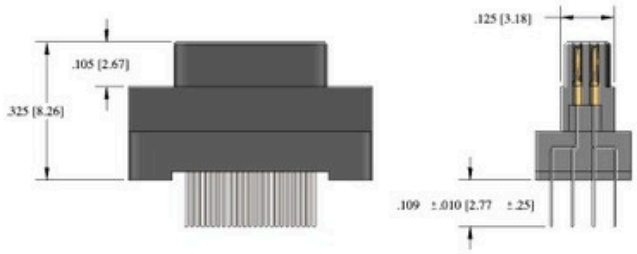
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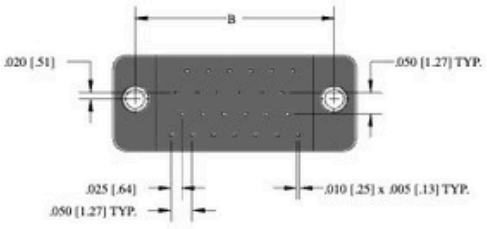


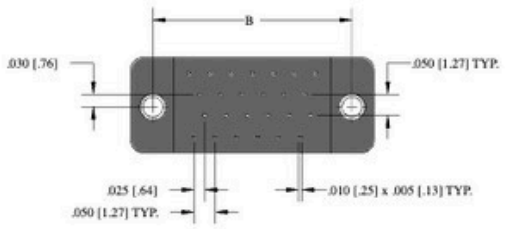


RECEPTACLE (SOCKETS)



PLUG (PINS)





Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Vertical Dual Row Plated Thru Hole Plastic Shell (Style 6)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Single Row Plated Thru Hole Metal Shell (Style 6) Connectors

Winchester Interconnect Micro offers Nano PCB Vertical Single Row Plated Thru Hole Metal Shell (Style 6) Connectors, engineered for precision and reliability in compact electronic systems. Featuring a metal shell with plated thru-hole .050 x .050 (Style 6) and a 1-piece contact design with flat tail termination, these connectors ensure efficient soldering and secure electrical performance. Operating within a temperature range of -55°C to 125°C, with high-temperature versions available up to 200°C (add HT), they are ideal for demanding environments.

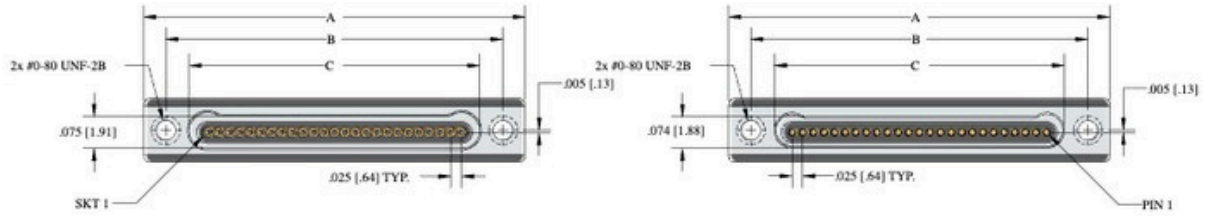


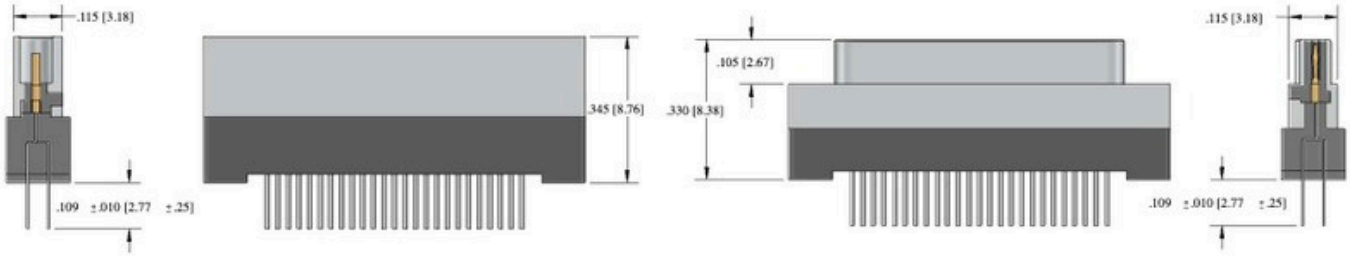
KEY FEATURES & BENEFITS

- Durable Metal Shell – Provides robust protection and EMI resistance in harsh environments.
- 1-Piece Contact with Flat Tail Termination – Ensures efficient soldering and secure mechanical connection.
- Wide Operating Range – Performs reliably from -55°C to 125°C; HT versions up to 200°C.
- Flexible Contact Options – Available with 9 to 51 contacts for varied design requirements.
- High-Quality Materials – C17410 Beryllium Copper used for signal pin, socket, and PC tails.
- Superior Plating Options – Gold contact plating per ASTM B488; PC tails plated with 60/40 Tin/Lead or Gold for optimal conductivity.
- Ideal for Compact PCB Designs – Offers reliable connectivity and strength in high-density layouts.

Nano PCB Vertical Single Row Plated Thru Hole Metal Shell (Style 6)

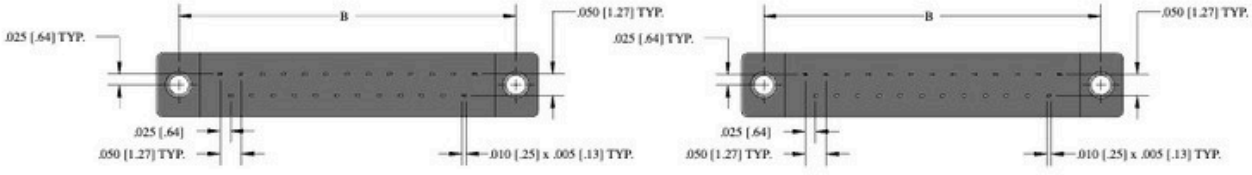
DIMENSIONAL





RECEPTACLE (SOCKETS)

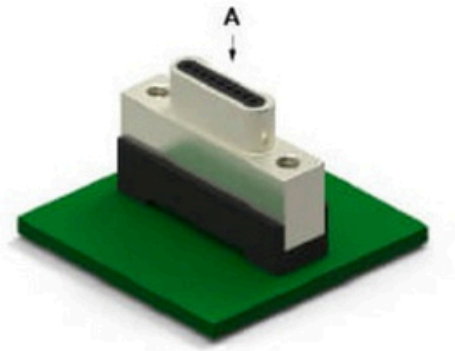
PLUG (PINS)

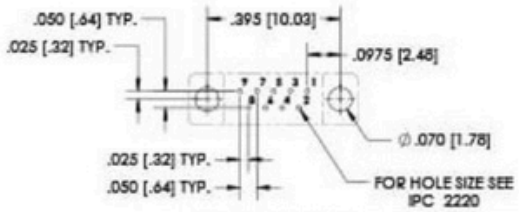


Size	A	B	C		D
			Receptacle	Plug	
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700[17.78]
31	1.050 [26.67]	.945 [24.00]	.834 [21.18]	.835 [21.21]	.850[21.59]
37	1.200 [30.48]	1.095 [27.81]	.984 [24.99]	.985 [25.02]	1.000[25.40]
51	1.550 [39.37]	1.445 [36.70]	1.334 [33.88]	1.335 [33.91]	1.350 [34.29]

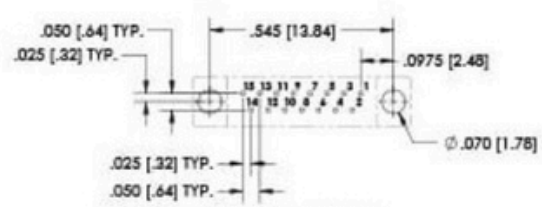
Nano PCB Vertical Single Row Plated Thru Hole Metal Shell (Style 6)

PCB – MALE

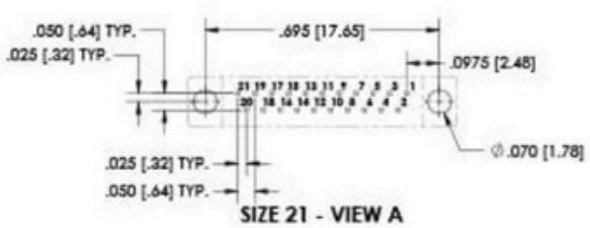




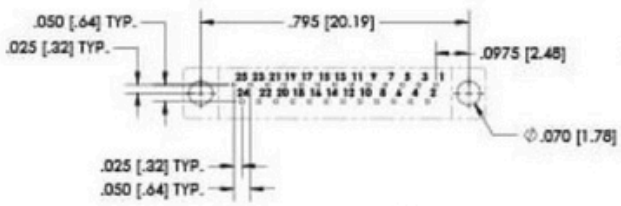
SIZE 9 - VIEW A



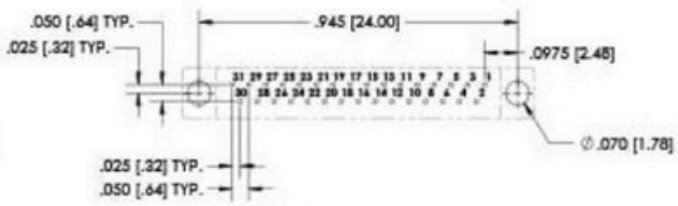
SIZE 15 - VIEW A



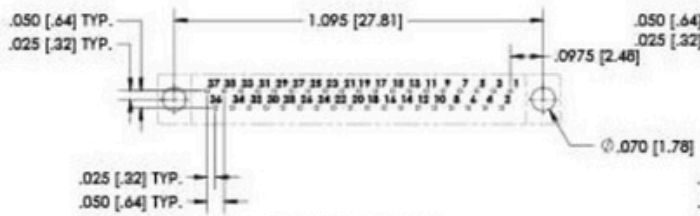
SIZE 21 - VIEW A



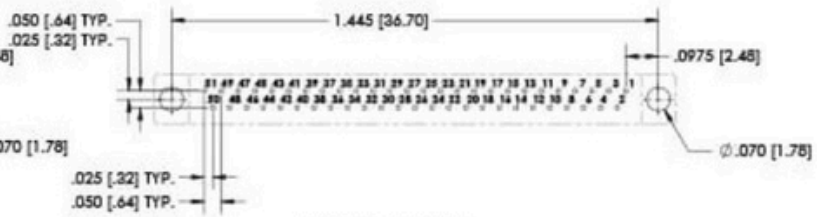
SIZE 25 - VIEW A



SIZE 31 - VIEW A



SIZE 37 - VIEW A

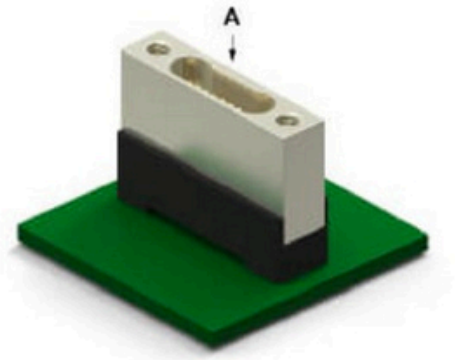


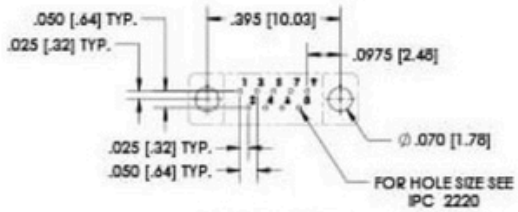
SIZE 51 - VIEW A

Winchester Interconnect.

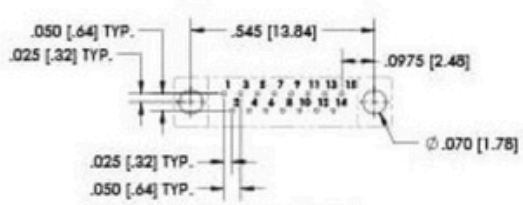
Nano PCB Vertical Single Row Plated Thru Hole Metal Shell (Style 6)

PCB – FEMALE

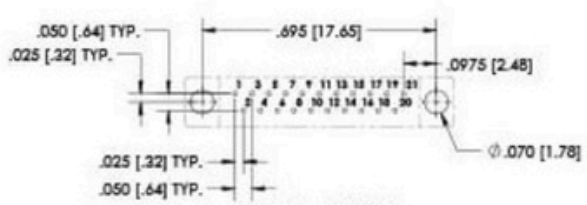




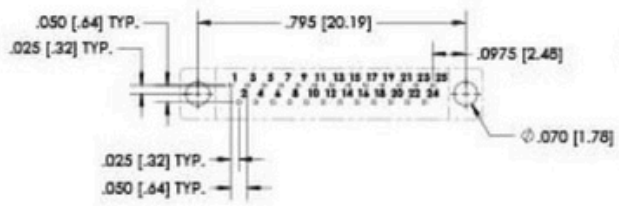
SIZE 9 - VIEW A



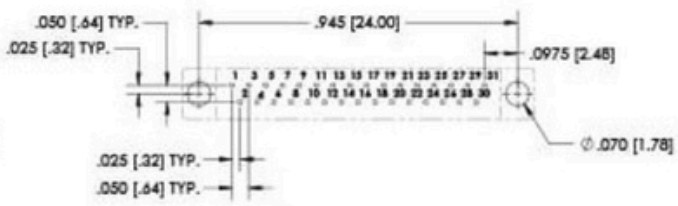
SIZE 15 - VIEW A



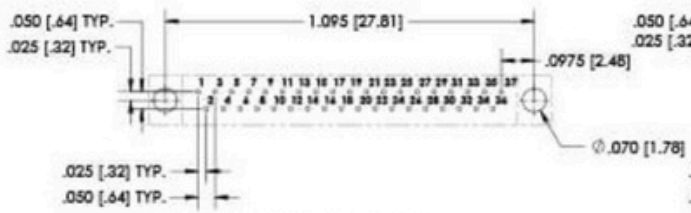
SIZE 21 - VIEW A



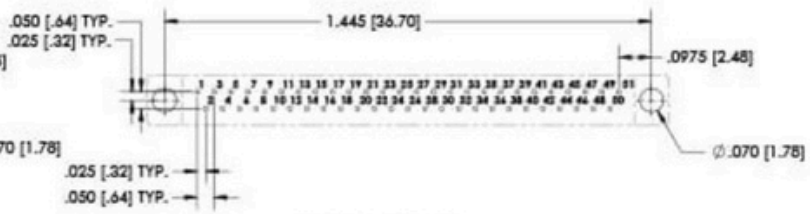
SIZE 25 - VIEW A



SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Vertical Single Row Plated Thru Hole Metal Shell (Style 6)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8) Connectors

Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers PCB Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8) Connectors engineered for high reliability and performance. Featuring a durable metal shell and flat tail termination with .050 x .050 spacing, these connectors ensure precise board integration. They operate within a temperature range of −55°C to 125°C, with high-temperature versions available up to 200°C (add HT). Available in 9 to 65 contacts, these QPL-qualified MIL-DTL-32139 connectors deliver dependable electrical performance and long service life.

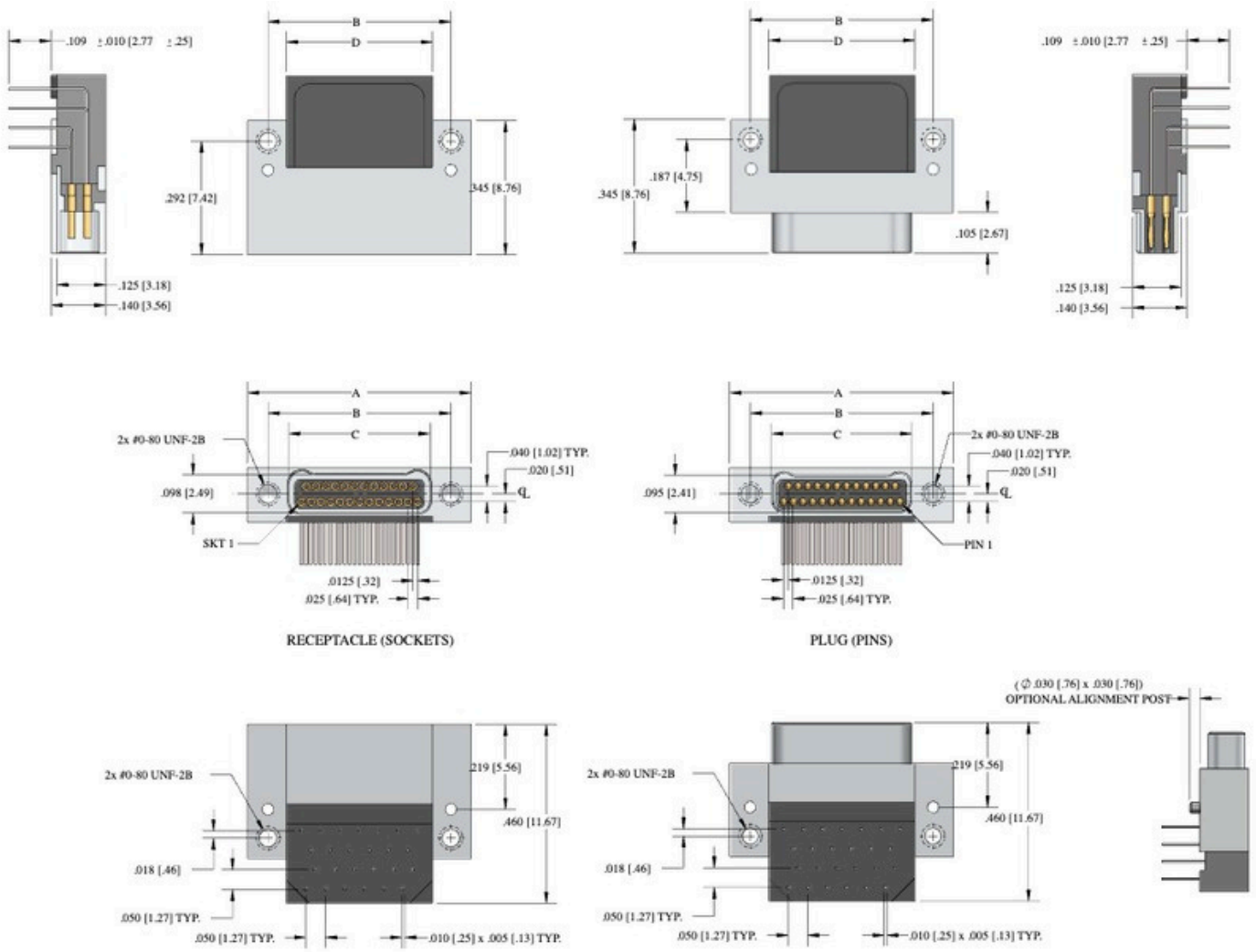


KEY FEATURES & BENEFITS

- Robust Metal Shell Design – Provides superior mechanical protection and EMI shielding.
- Right-Angle Plated Thru Hole Style – Ensures secure and stable PCB mounting.
- Wide Temperature Range – Operates from −55°C to 125°C, extendable to 200°C (HT option).
- High-Strength Contacts – Signal pin and socket contacts made from C17410 Beryllium Copper for excellent conductivity.
- Gold-Plated Contacts – Gold plating per ASTM B488 ensures reliable, corrosion-resistant performance.
- Versatile PC Tail Options – Available with 60/40 tin/lead or gold-plated PC tails for application flexibility.
- Multiple Contact Configurations – Offered in 9 to 65 contact options to support diverse circuit requirements.

Nano PCB Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8)

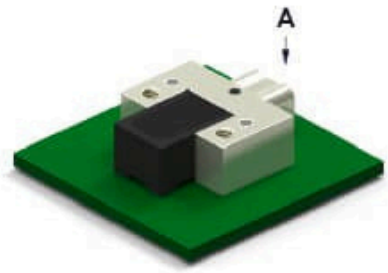
DIMENSIONAL

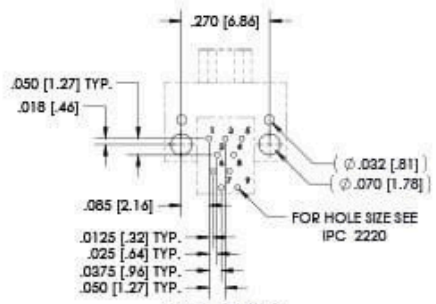


Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

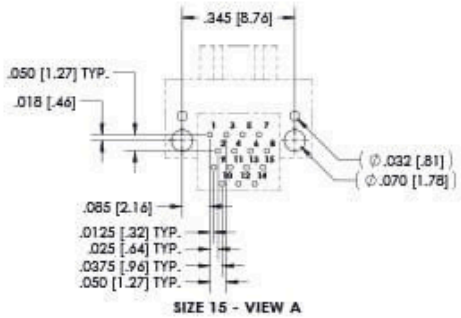
Nano PCB Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8)

PCB – MALE

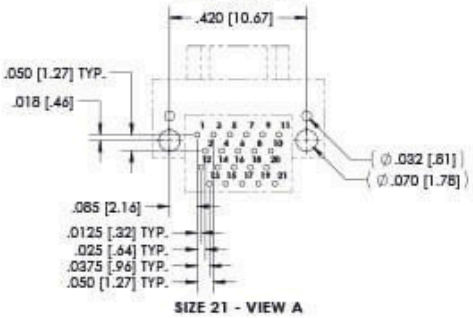




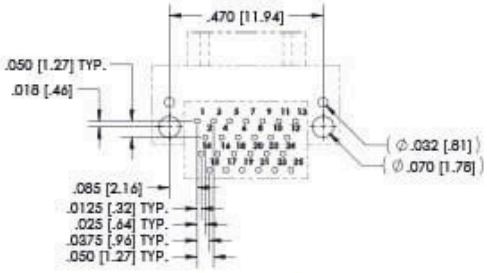
SIZE 9 - VIEW A



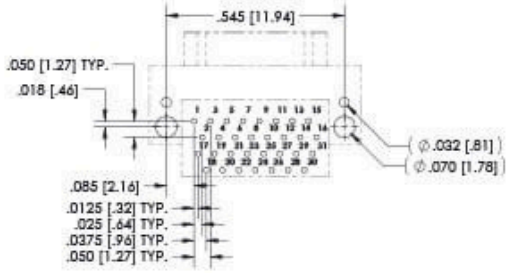
SIZE 15 - VIEW A



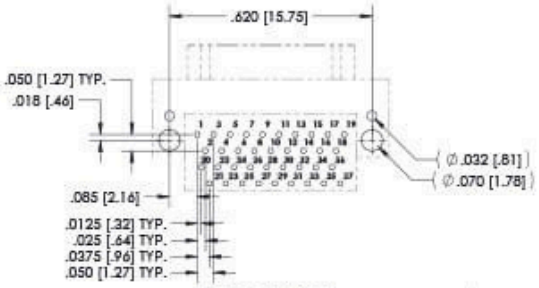
SIZE 21 - VIEW A



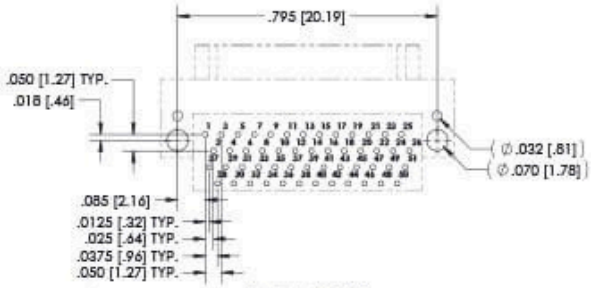
SIZE 25 - VIEW A



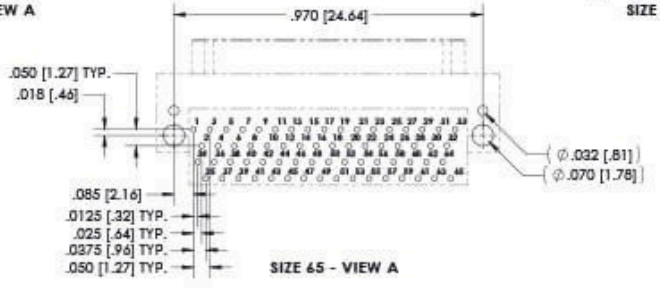
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

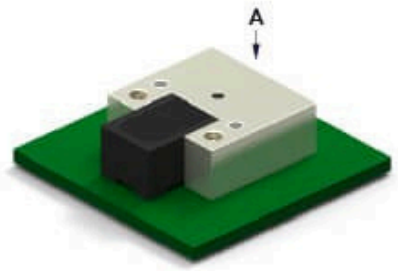


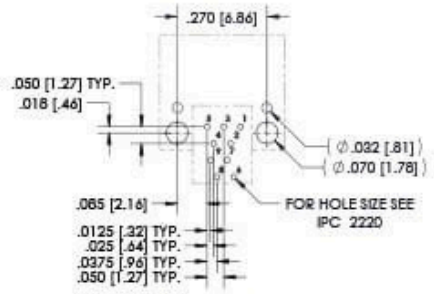
SIZE 65 - VIEW A

Winchester Interconnect.

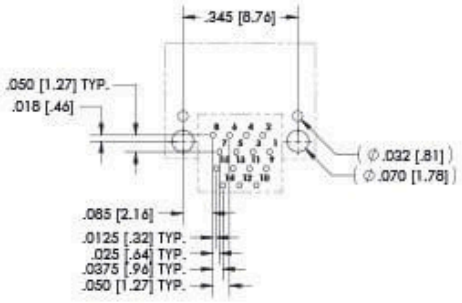
Nano PCB Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8)

PCB – FEMALE

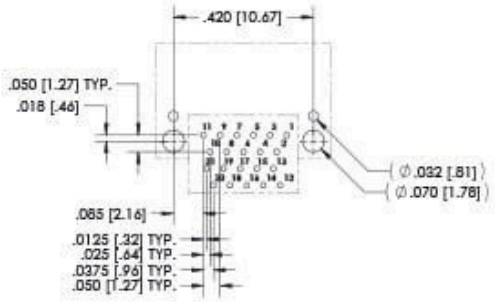




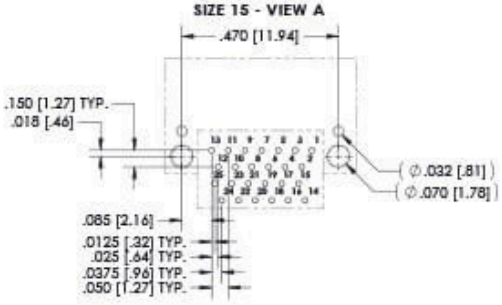
SIZE 9 - VIEW A



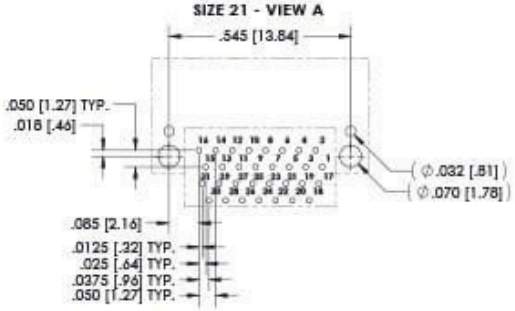
SIZE 15 - VIEW A



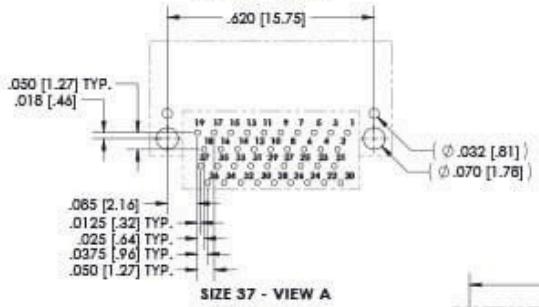
SIZE 21 - VIEW A



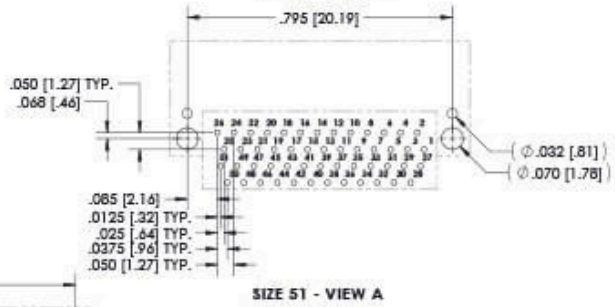
SIZE 25 - VIEW A



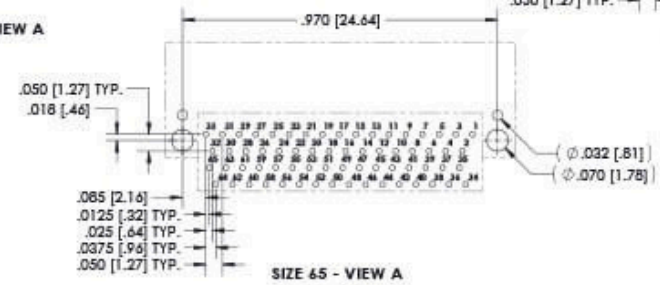
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle Dual Row Plated Thru Hole Metal Shell (Style 8)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

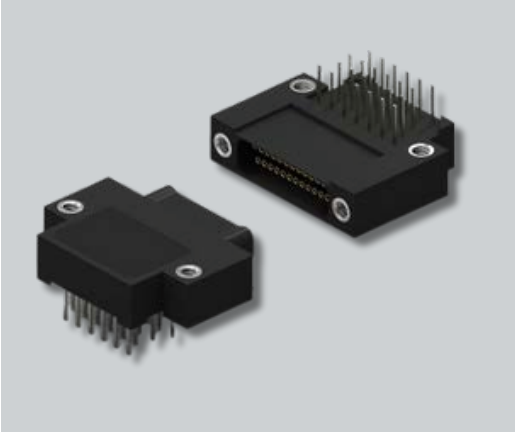
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8) Connectors

Winchester Interconnect Micro offers Nano PCB Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8) Connectors, engineered for compact, high-performance interconnect applications. These connectors feature a durable plastic shell with flat tail termination and .025 x .040 (Style 28) spacing for stable PCB mounting. Operating within a temperature range of −55°C to 125°C—with high-temperature versions up to 200°C (add HT)—they are available in 9 to 65 contact configurations. As a QPL-qualified supplier for MIL-DTL-32139 products, Winchester ensures reliability and precision in every connection.

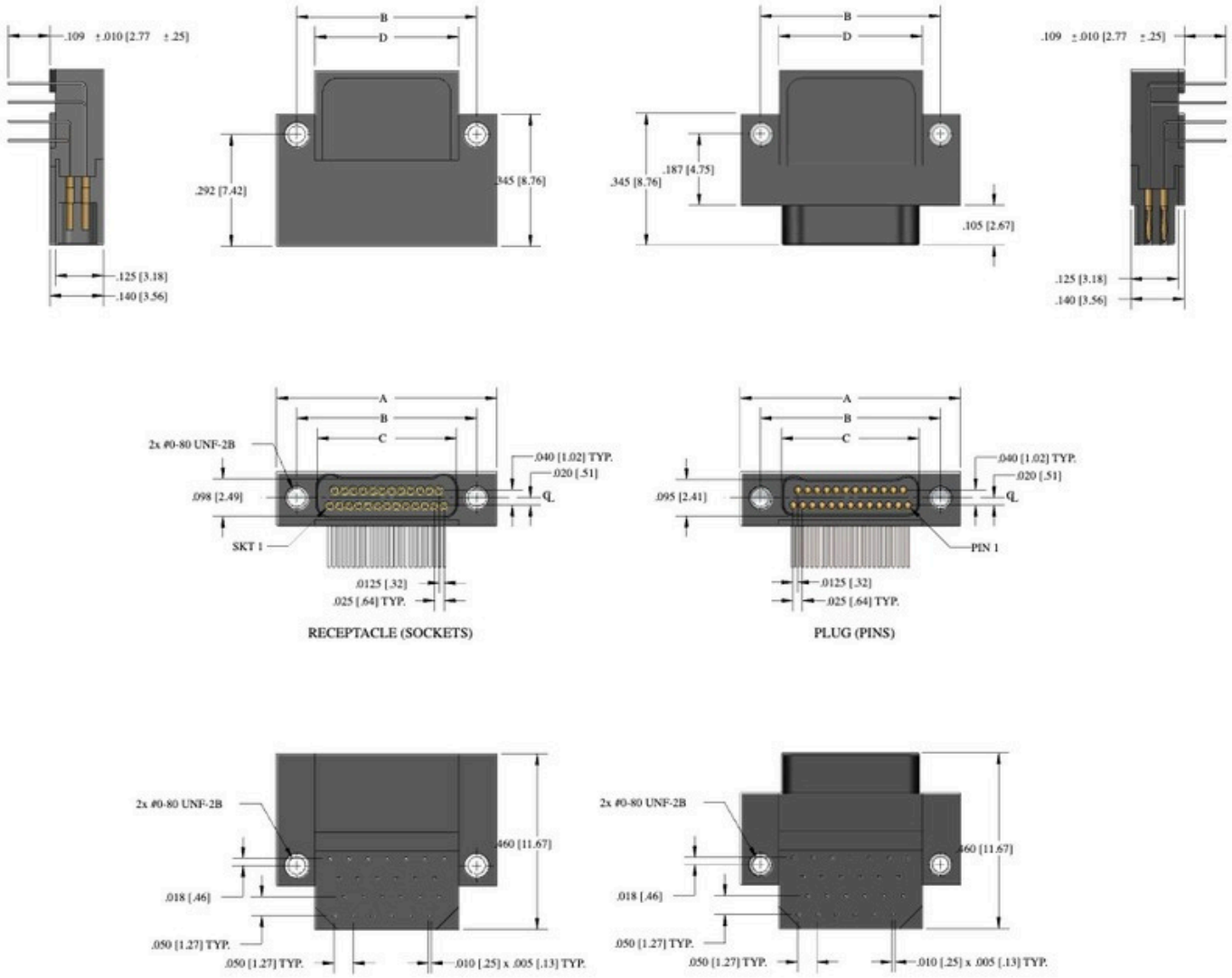


KEY FEATURES & BENEFITS

- Durable Plastic Shell – Provides lightweight protection and insulation for compact designs.
- Right-Angle Plated Thru Hole Design – Enables secure, low-profile PCB integration.
- Wide Temperature Range – Operates from −55°C to 125°C, with optional high-temp versions up to 200°C.
- High-Performance Contacts – Signal pin and socket contacts made from C17410 Beryllium Copper for superior conductivity.
- Gold-Plated Finish – Gold plating per ASTM B488 ensures corrosion resistance and stable signal transmission.
- Versatile PC Tail Options – PC tails in C17410 Beryllium Copper with 60/40 Tin/Lead or Gold plating options.
- Multiple Contact Counts – Available with 9 to 65 contacts to support diverse application requirements.

Nano PCB Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8)

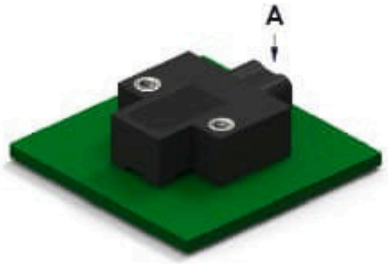
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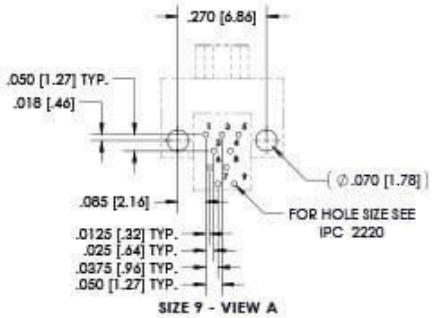


Size	A	B	C		D
			Receptacle	Plug	
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700[17.78]
31	1.050 [26.67]	.945 [24.00]	.834 [21.18]	.835 [21.21]	.850[21.59]
37	1.200 [30.48]	1.095 [27.81]	.984 [24.99]	.985 [25.02]	1.000[25.40]
51	1.550 [39.37]	1.445 [36.70]	1.334 [33.88]	1.335 [33.91]	1.350 [34.29]

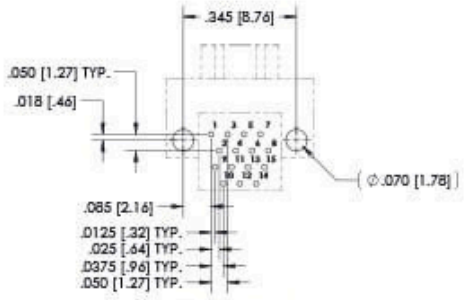
Nano PCB Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8)

PCB – MALE

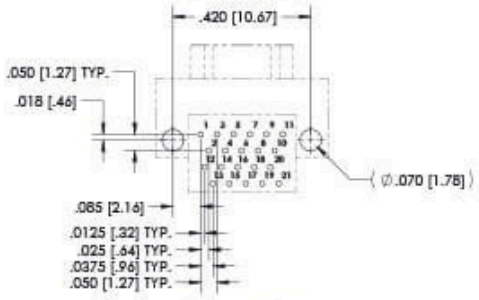




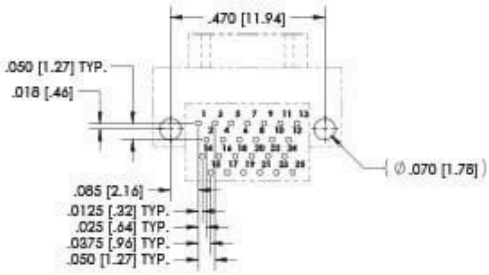
SIZE 9 - VIEW A



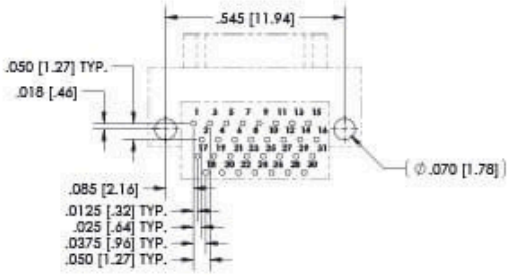
SIZE 15 - VIEW A



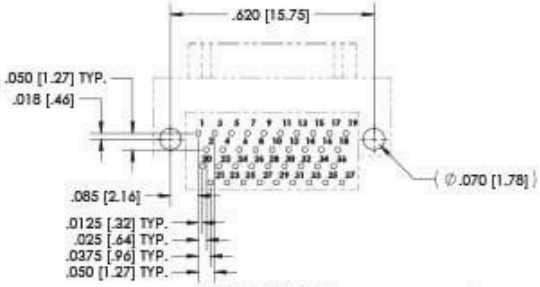
SIZE 21 - VIEW A



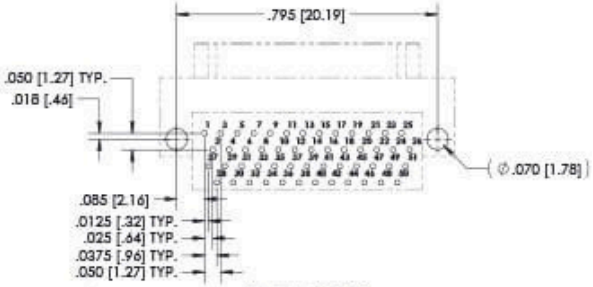
SIZE 25 - VIEW A



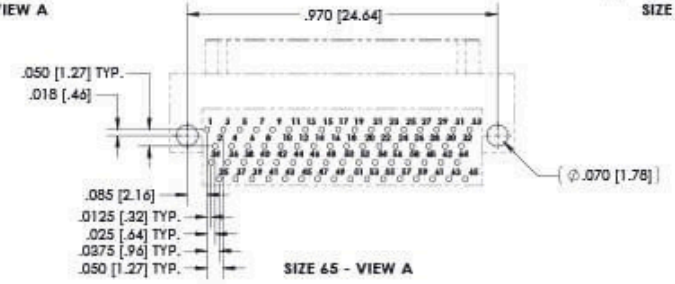
SIZE 31 - VIEW A



SIZE 37 - VIEW A



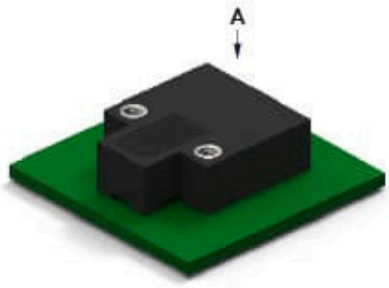
SIZE 51 - VIEW A

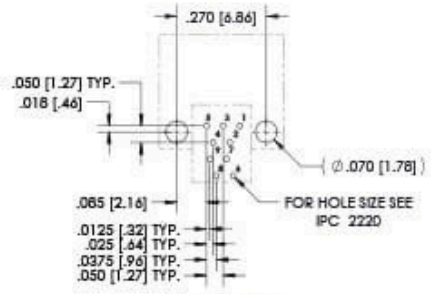


SIZE 65 - VIEW A

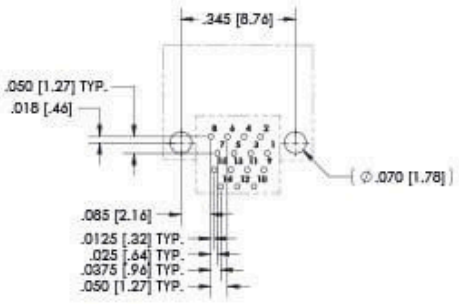
Nano PCB Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8)

PCB – FEMALE

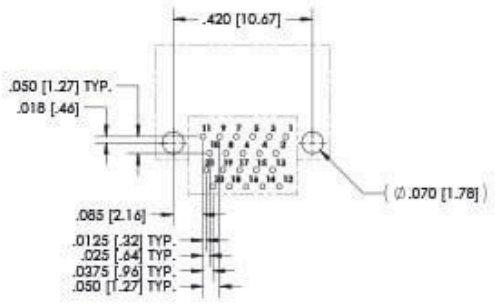




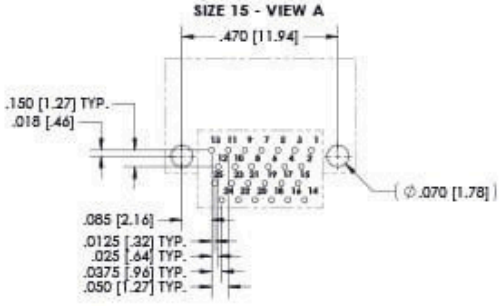
SIZE 9 - VIEW A



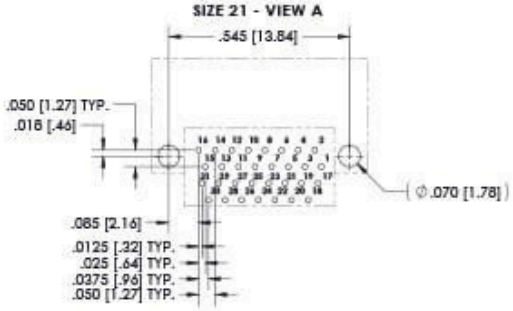
SIZE 15 - VIEW A



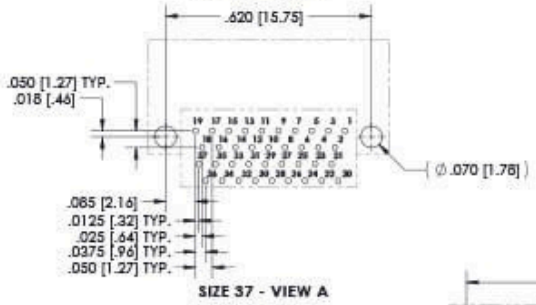
SIZE 21 - VIEW A



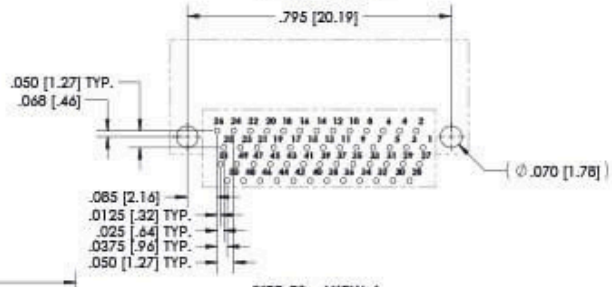
SIZE 25 - VIEW A



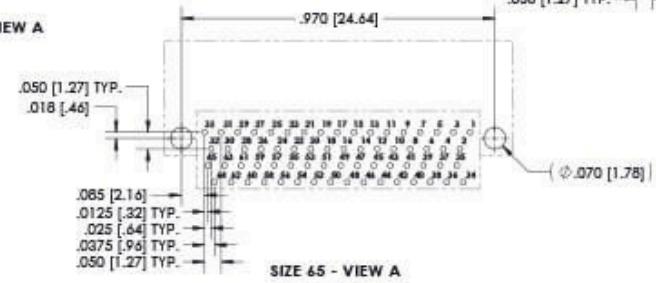
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Single Row Plated Thru Hole Metal Shell (Style 8) Connectors

Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers Nano PCB Right Angle Single Row Plated Thru Hole Metal Shell (Style 8) Connectors, designed for compact, high-reliability interconnects. Featuring a metal shell with plated thru-hole spacing of .050 x .050 inches and a 1-piece contact with flat tail termination, these connectors ensure secure and durable performance. Operating in temperatures from −55°C to 125°C, with high-temperature versions available up to 200°C (add HT), they support 9 to 51 contacts for versatile design integration. As a QPL-qualified supplier for MIL-DTL-32139 products, Winchester delivers proven quality and precision.



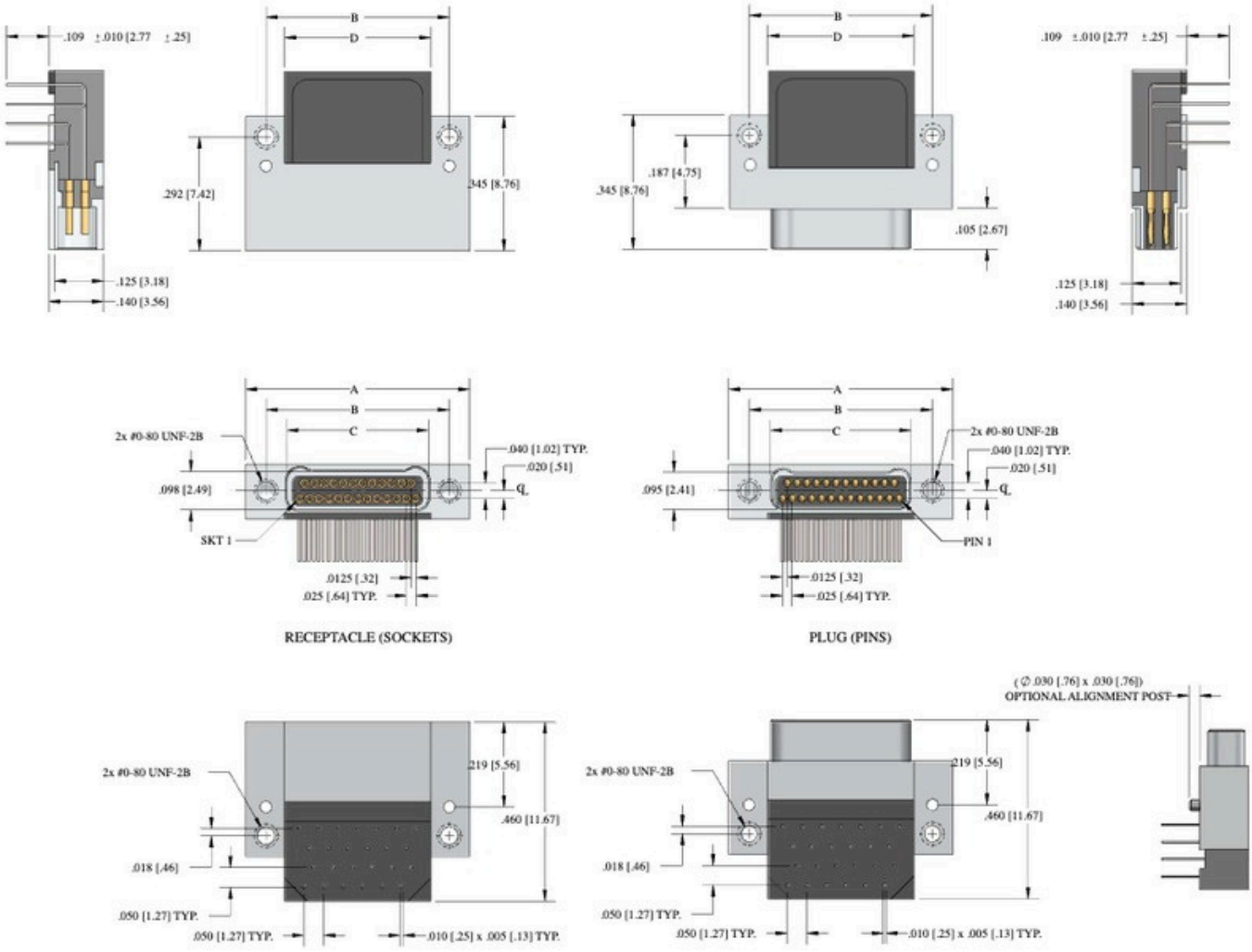
KEY FEATURES & BENEFITS

- Rugged Metal Shell Construction – Provides superior strength and shielding in demanding environments.
- Compact Right-Angle Design – Ideal for space-constrained PCB applications.
- Wide Temperature Range – Operates from −55°C to 125°C, extendable to 200°C (HT option).
- Reliable Electrical Interface – Features plated thru-hole spacing of .050 x .050 inches and 1-piece flat tail termination.
- Consistent Mechanical Performance – Engaging force of 5 oz max, separation force of 0.4 oz min, and 7 oz × # of contacts mating/unmating force.
- Versatile Contact Options – Available with 9 to 51 contacts for flexible configurations.
- MIL-DTL-32139 Qualified – QPL-certified for military-grade reliability and precision performance.

Winchester Interconnect

Nano PCB Right Angle Single Row Plated Thru Hole Metal Shell (Style 8)

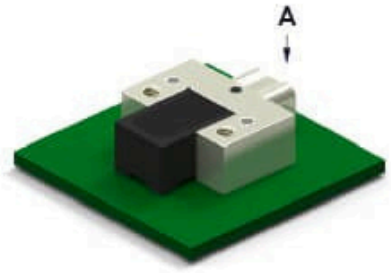
DIMENSIONAL

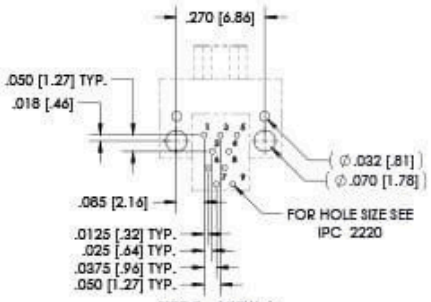


Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

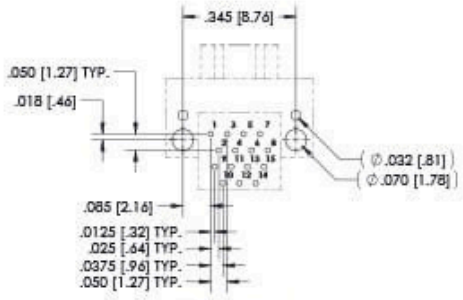
Nano PCB Right Angle Single Row Plated Thru Hole Metal Shell (Style 8)

PCB – MALE

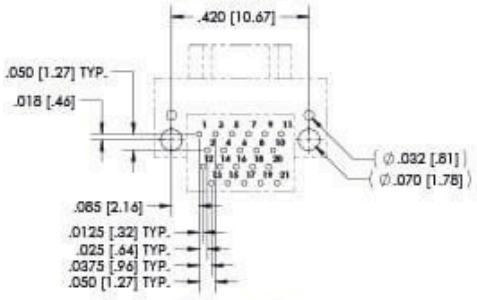




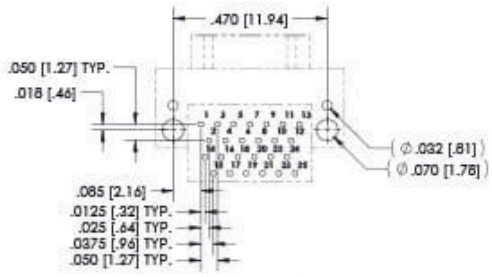
SIZE 9 - VIEW A



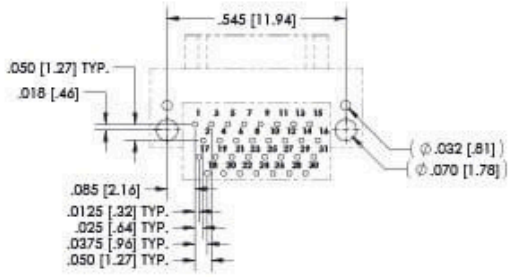
SIZE 15 - VIEW A



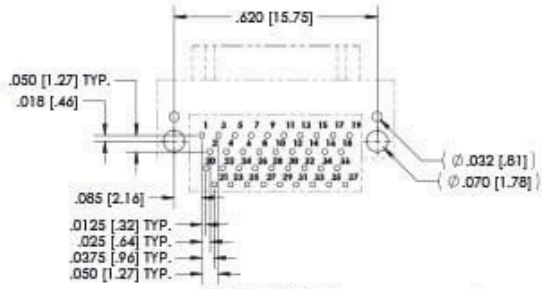
SIZE 21 - VIEW A



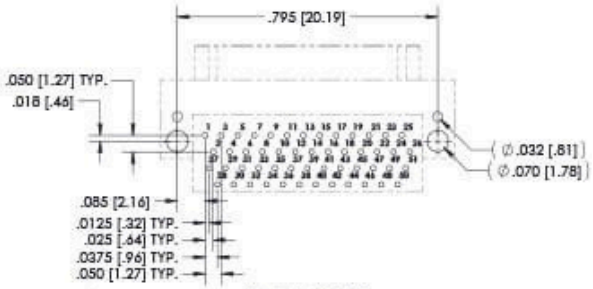
SIZE 25 - VIEW A



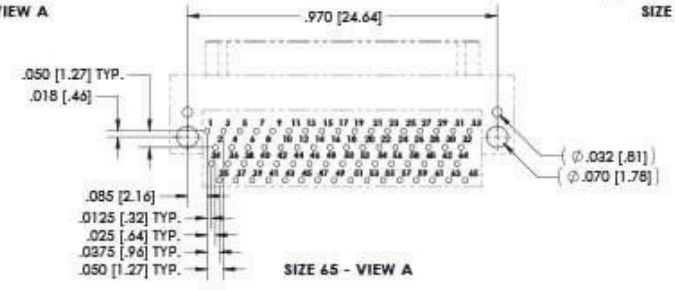
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

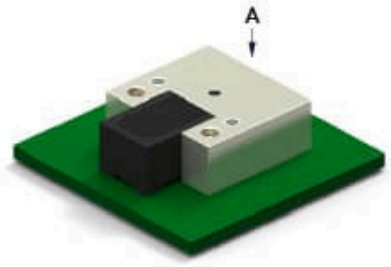


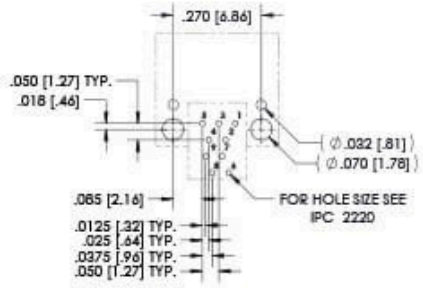
SIZE 65 - VIEW A

Winchester Interconnect.

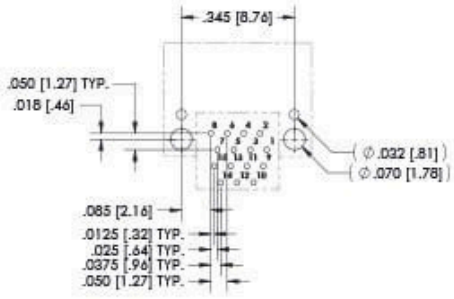
Nano PCB Right Angle Single Row Plated Thru Hole Metal Shell (Style 8)

PCB – FEMALE

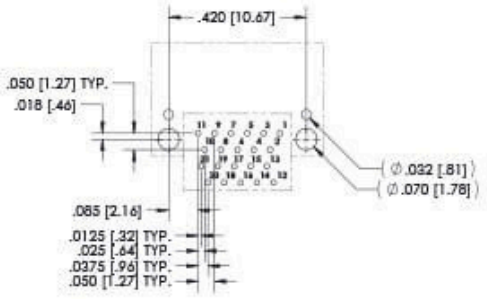




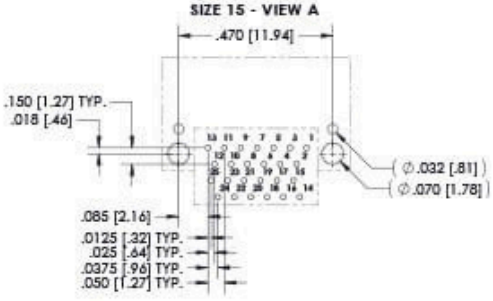
SIZE 9 - VIEW A



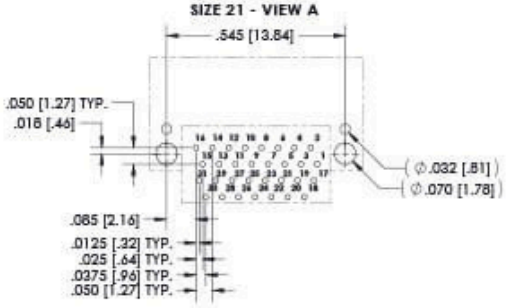
SIZE 15 - VIEW A



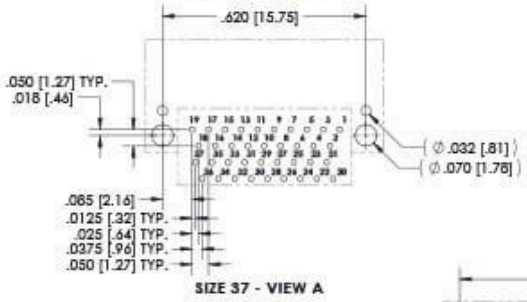
SIZE 21 - VIEW A



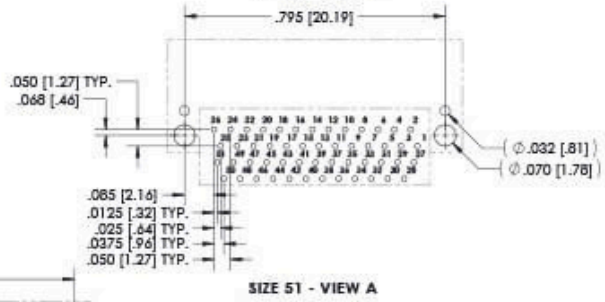
SIZE 25 - VIEW A



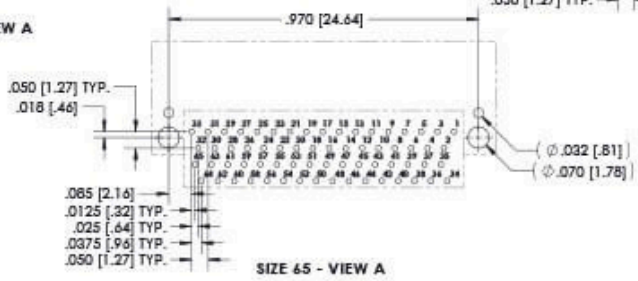
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17200 Beryllium Copper per ASTM B194
Signal Socket Contacts	C26000 Brass Alloy per ASTM B135
Contact Plating	Gold Plating per ASTM B488
Shell	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle Single Row Plated Thru Hole Metal Shell (Style 8)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

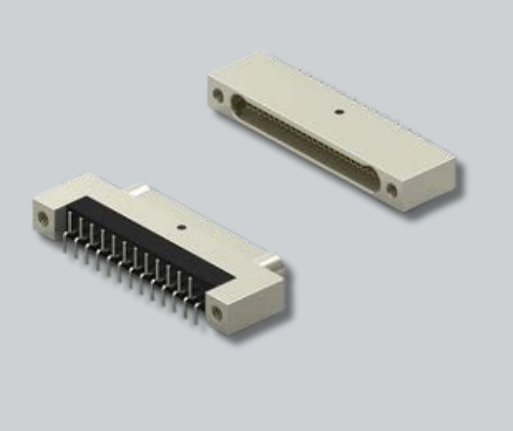
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Dual Row Surface Mount Metal Shell (Style 26) Connectors

Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers Nano PCB Vertical Dual Row Surface Mount Metal Shell (Style 26) Connectors, engineered for exceptional reliability and performance in demanding applications. These connectors feature a metal shell with surface mount .025 x .075 (Style 26) configuration and a rectangular flat tail design that ensures superior soldering results with no lead deformation. Operating across a −55°C to 125°C temperature range, with high-temperature versions available up to 200°C (add HT), these connectors are ideal for rugged environments where consistent electrical performance is essential.

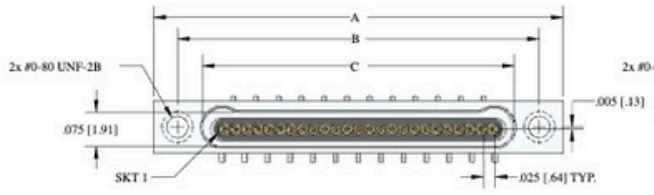


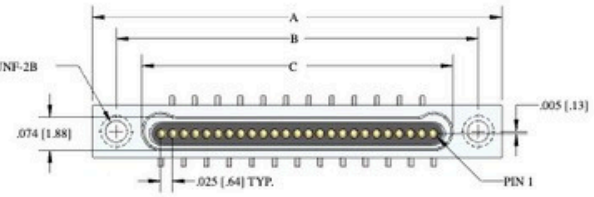
KEY FEATURES & BENEFITS

- Durable Metal Shell Construction – Provides superior shielding and mechanical strength.
- Rectangular Flat Tail Design – Enables precise, distortion-free soldering and secure PCB mounting.
- Wide Temperature Range – Operates from −55°C to 125°C, with optional HT versions up to 200°C.
- Reliable Electrical and Mechanical Performance – Withstands vibration, shock, durability, and salt spray testing.
- Multiple Contact Options – Available in 9 to 65 contacts to suit various applications.
- Controlled Mating Forces – Engaging force 5 oz max, separation force 0.4 oz min, mating/unmating force 7 oz × number of contacts max.
- Ideal for High-Density PCB Applications – Perfect for aerospace, defense, and instrumentation systems requiring compact, high-performance interconnects.

Nano PCB Vertical Dual Row Surface Mount Metal Shell (Style 26)

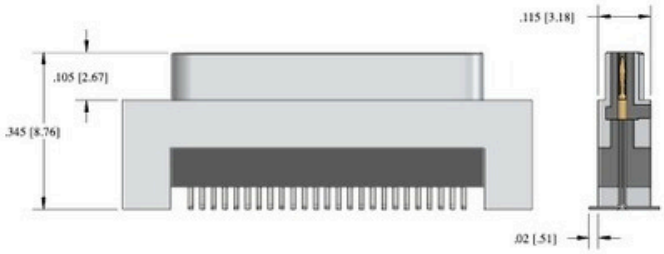
DIMENSIONAL



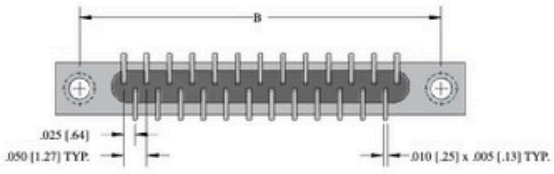


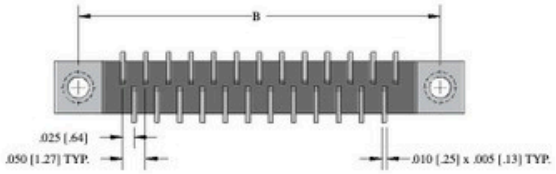


RECEPTACLE (SOCKETS)



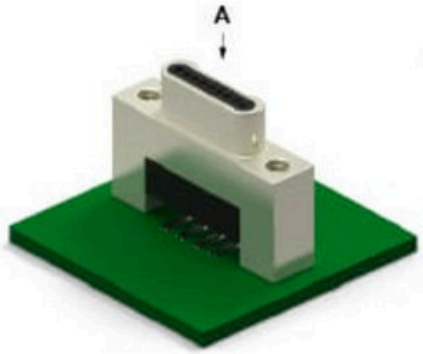
PLUG (PINS)

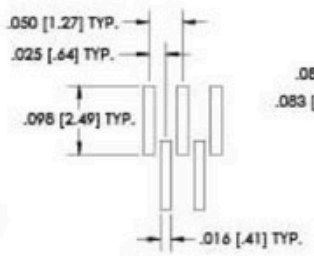




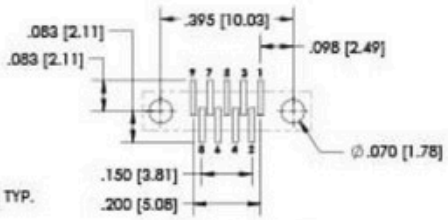
Size	A	B	C		D
			Receptacle	Plug	
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700[17.78]
31	1.050 [26.67]	.945 [24.00]	.834 [21.18]	.835 [21.21]	.850[21.59]
37	1.200 [30.48]	1.095 [27.81]	.984 [24.99]	.985 [25.02]	1.000[25.40]
51	1.550 [39.37]	1.445 [36.70]	1.334 [33.88]	1.335 [33.91]	1.350 [34.29]

PCB – MALE

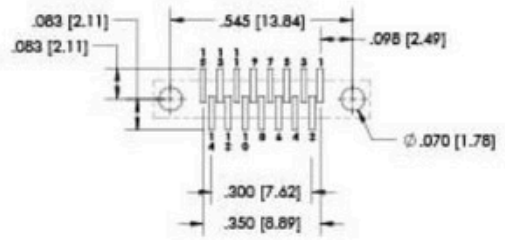




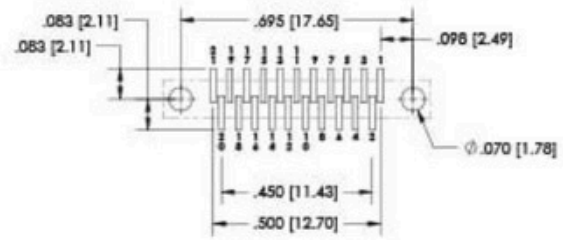
PAD DETAIL



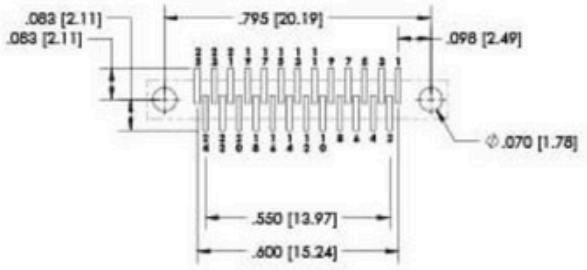
SIZE 9 - VIEW A



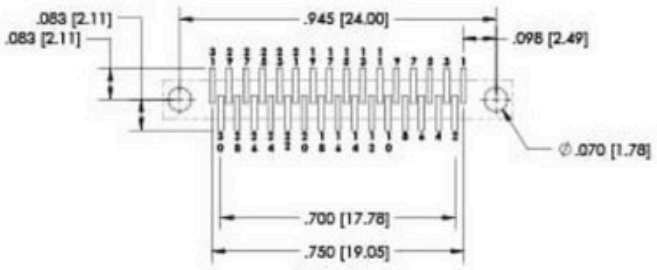
SIZE 15 - VIEW A



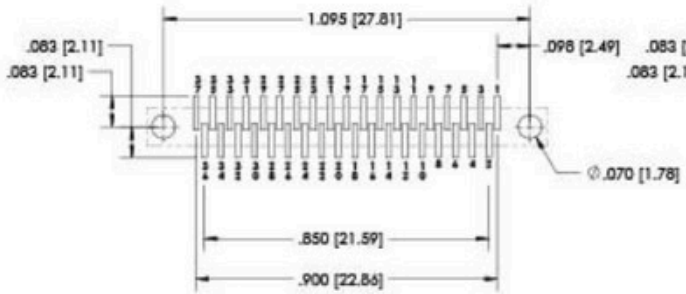
SIZE 21 - VIEW A



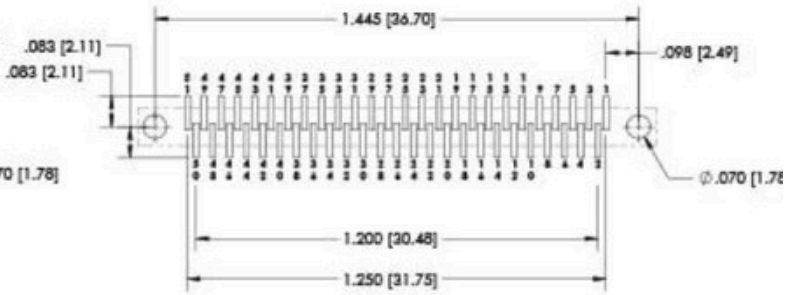
SIZE 25 - VIEW A



SIZE 31 - VIEW A



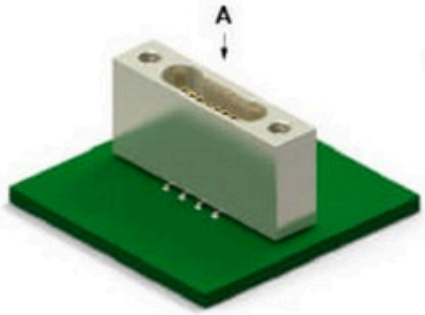
SIZE 37 - VIEW A

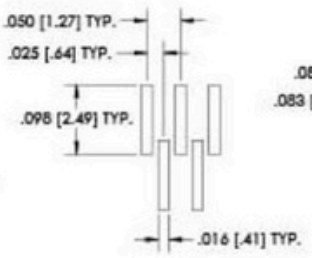


SIZE 51 - VIEW A

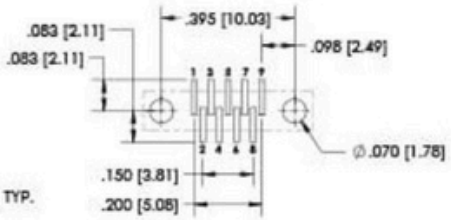
Winchester Interconnect.

PCB – FEMALE

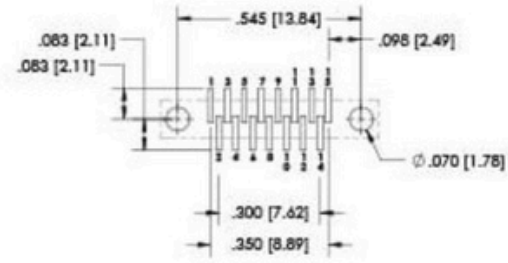




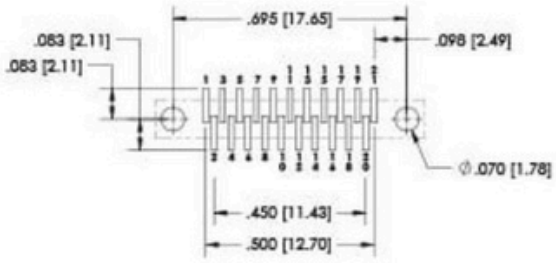
PAD DETAIL



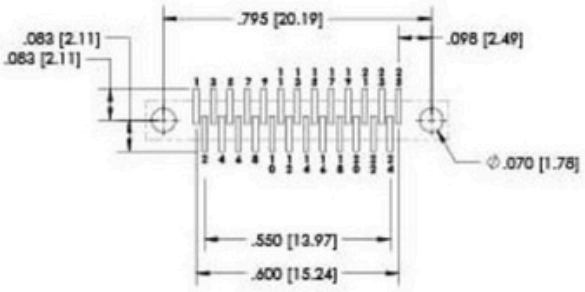
SIZE 9 - VIEW A



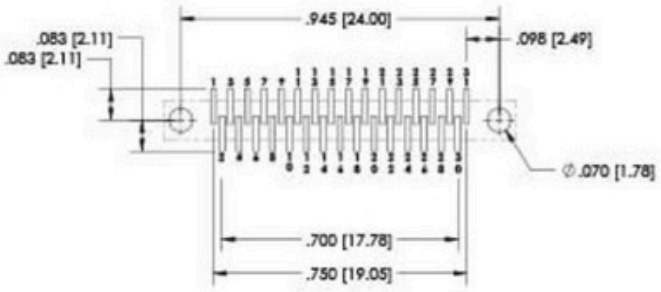
SIZE 15 - VIEW A



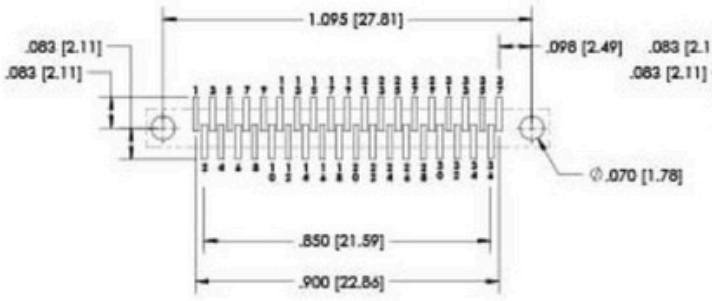
SIZE 21 - VIEW A



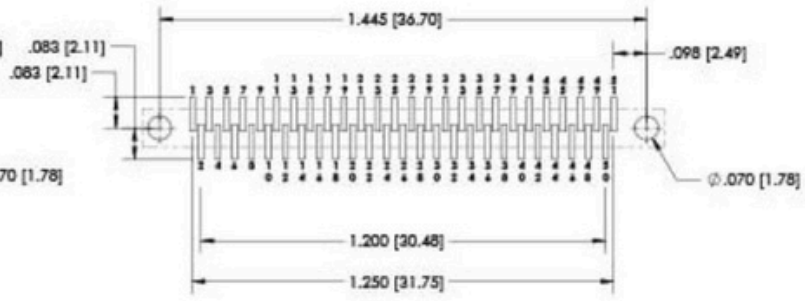
SIZE 25 - VIEW A



SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

HOW TO ORDER

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26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
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02 = Hex Head Jackscrews
03 = Thumb Jackscrew
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07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
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1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
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Board Thickness (Style 4 Only)
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(Consult Factory for Additional Thicknesses)

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Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

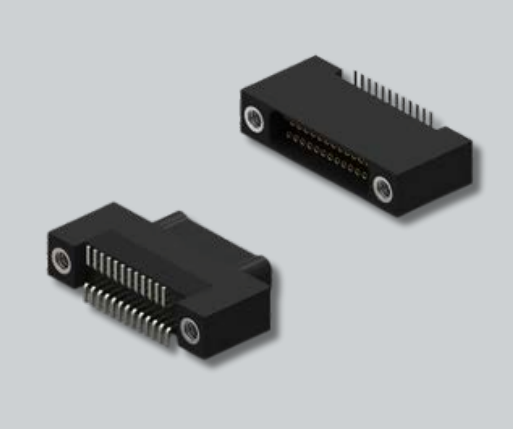
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Dual Row Surface Mount Plastic Shell (Style 26) Connector

Winchester Interconnect Micro offers PCB Vertical Dual Row Surface Mount Plastic Shell (Style 26) Connectors, designed to deliver dependable performance and easy integration in a variety of PCB applications. These connectors feature a 1-piece contact design and a rectangular flat tail that ensures superior soldering results with no lead deformation during assembly. Built for durability and consistent performance, they operate reliably across a −55°C to 125°C temperature range, with high-temperature versions available up to 200°C (add HT) for more demanding environments. Available in 9 to 65 contacts, these connectors are ideal for compact, high-density board layouts.



KEY FEATURES & BENEFITS

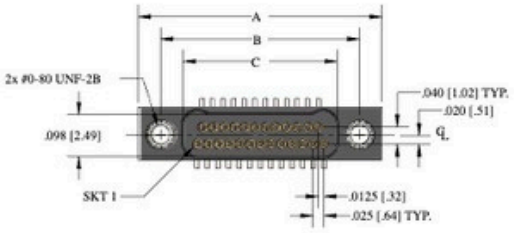
- Durable Plastic Shell Design – Lightweight and reliable for diverse PCB applications.
- Rectangular Flat Tail Configuration – Ensures distortion-free soldering and precise board mounting.
- Wide Temperature Range – Operates from −55°C to 125°C; HT versions extend to 200°C.
- High-Quality Materials –
  - Signal Pin & Socket Contacts: C17410 Beryllium Copper Contact Plating: Gold plating per ASTM
  - B488 PC Tails: C17410 Beryllium Copper per ASTM
  - B768 PC Tail Plating: 60/40 Tin/Lead per SAE-
  - AMS-P- 81728 or Gold per ASTM B488

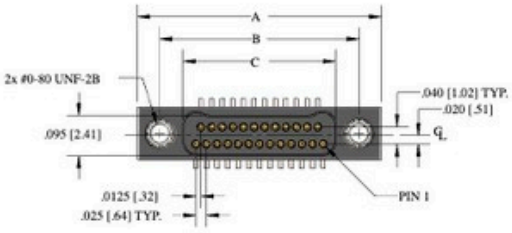
- Available in 9 to 65 Contacts – Suitable for multiple configurations and high-density designs.
- Ideal for Compact and Precision PCB Applications – Perfect for use in aerospace, defense, and instrumentation systems requiring reliable Nano-D connectivity.

Winchester Interconnect

Nano PCB Vertical Dual Row Surface Mount Plastic Shell (Style 26)

DIMENSIONAL



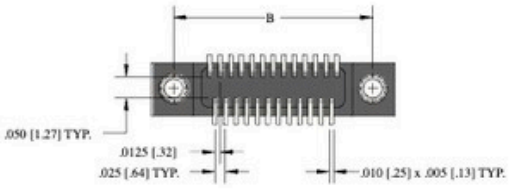


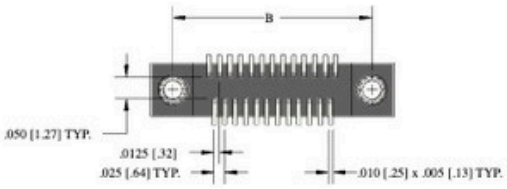


RECEPTACLE (SOCKETS)



PLUG (PINS)





Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

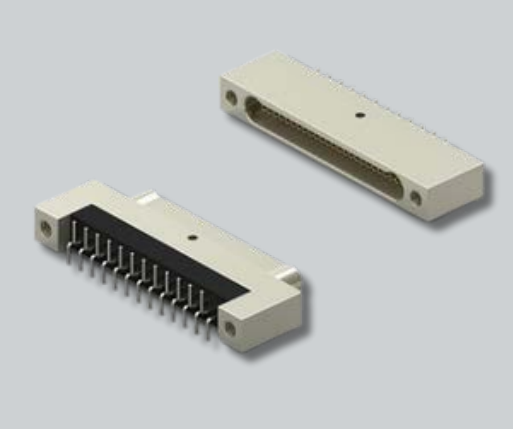
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Single Row Surface Mount (Style 26) Connectors

Winchester Interconnect Micro offers Nano PCB Vertical Single Row Vertical SMT (Style 26) Connectors, designed for precision and durability in compact electronic assemblies. Featuring a metal shell with surface mount .025 x .075 (Style 26) and a 1-piece contact with rectangular flat tail termination, these connectors ensure superior soldering results without lead deformation. Operating from −55°C to 125°C, with high-temperature versions available up to 200°C (add HT), they deliver consistent performance in demanding environments.



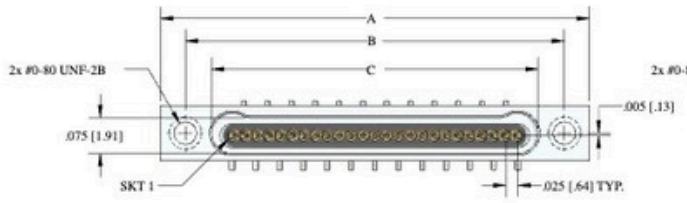
KEY FEATURES & BENEFITS

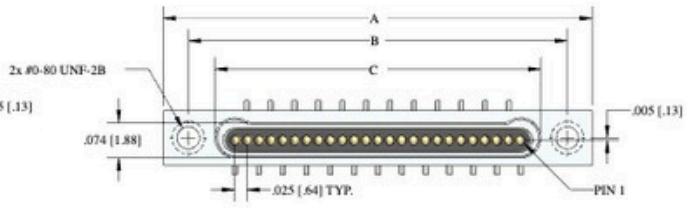
- Metal Shell Construction – Provides durability and EMI protection for critical applications.
- 1-Piece Contact Design – Ensures secure connection and consistent solder performance.
- Wide Temperature Range – Operates reliably from −55°C to 125°C; HT versions up to 200°C.
- High Electrical Performance – 33 mΩ max contact resistance (contact only), 1A max current rating.
- Dielectric Strength – Withstands 250 VAC at sea level and 100 VAC at 70,000 ft with 1mA leakage max.
- Flexible Configurations – Available with 9 to 51 contacts for a variety of PCB layouts.
- Ideal for Compact PCB Applications – Perfect for high-density designs requiring reliability and precision.

Winchester Interconnect

Nano PCB Vertical Single Row SMT (Style 26)

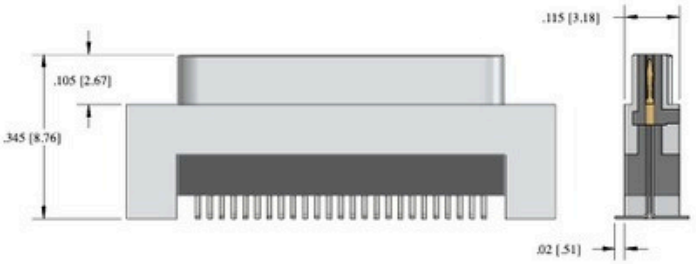
DIMENSIONAL



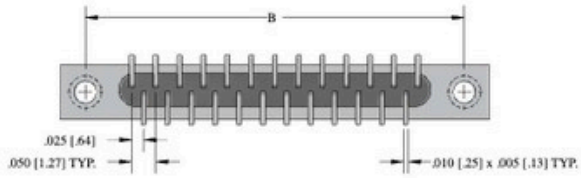


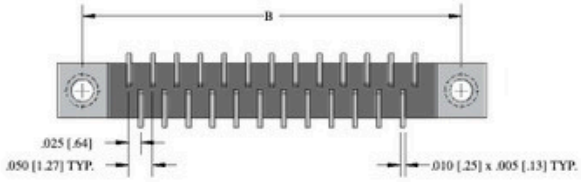


RECEPTACLE (SOCKETS)



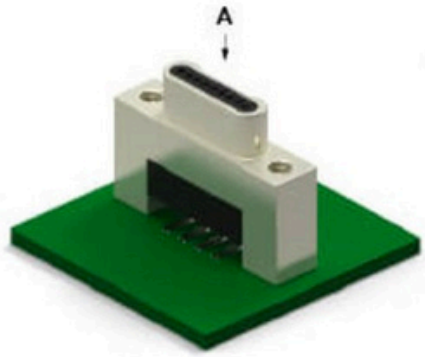
PLUG (PINS)

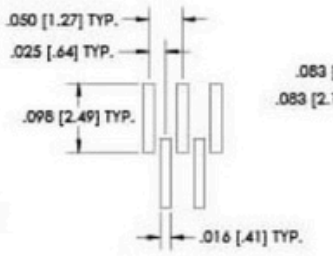




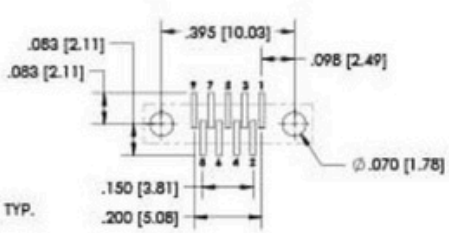
Size	A	B	C		D
			Receptacle	Plug	
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700[17.78]
31	1.050 [26.67]	.945 [24.00]	.834 [21.18]	.835 [21.21]	.850[21.59]
37	1.200 [30.48]	1.095 [27.81]	.984 [24.99]	.985 [25.02]	1.000[25.40]
51	1.550 [39.37]	1.445 [36.70]	1.334 [33.88]	1.335 [33.91]	1.350 [34.29]

PCB – MALE

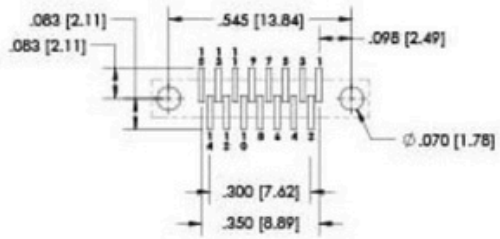




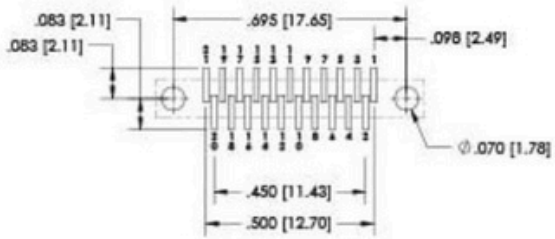
PAD DETAIL



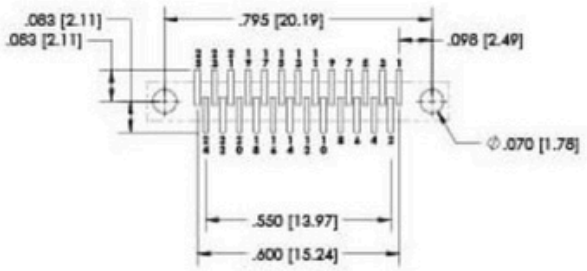
SIZE 9 - VIEW A



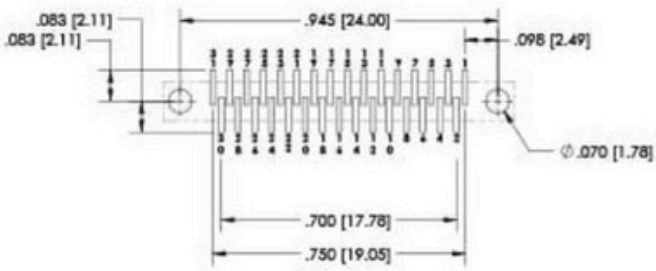
SIZE 15 - VIEW A



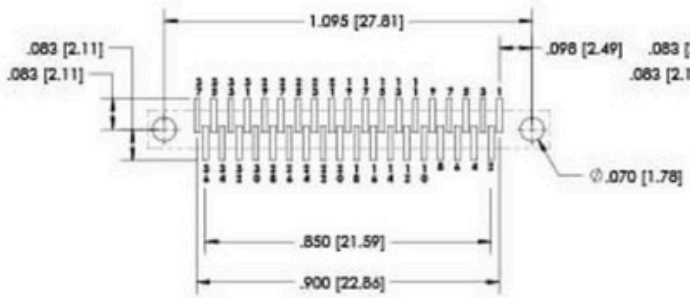
SIZE 21 - VIEW A



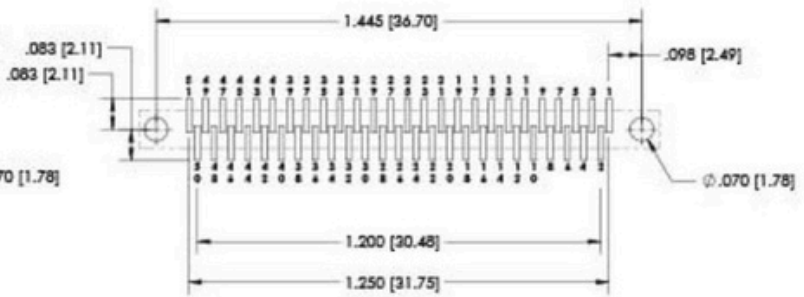
SIZE 25 - VIEW A



SIZE 31 - VIEW A



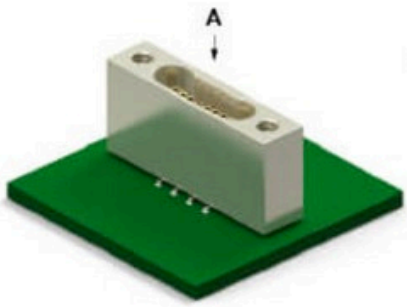
SIZE 37 - VIEW A

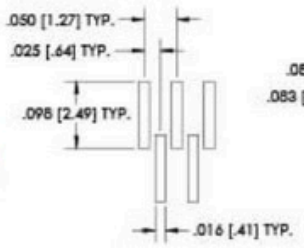


SIZE 51 - VIEW A

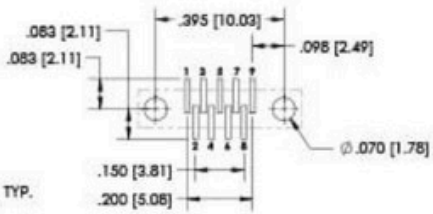
Winchester Interconnect.

PCB – FEMALE

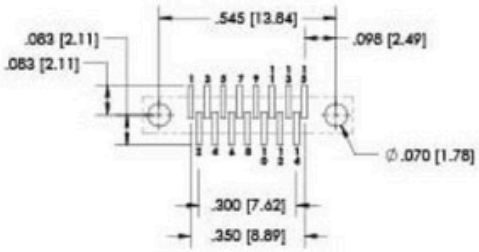




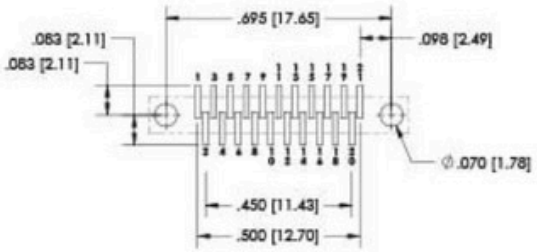
PAD DETAIL



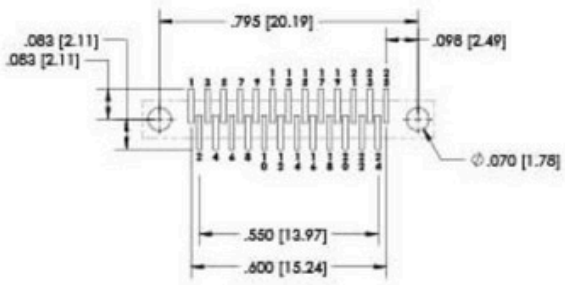
SIZE 9 - VIEW A



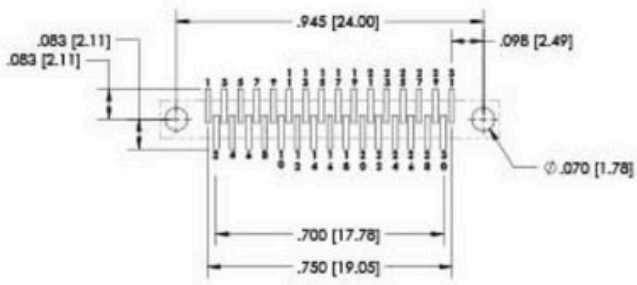
SIZE 15 - VIEW A



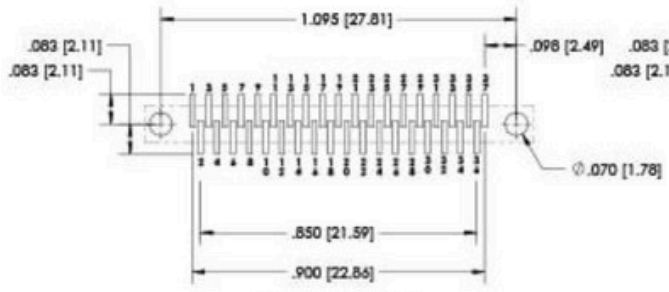
SIZE 21 - VIEW A



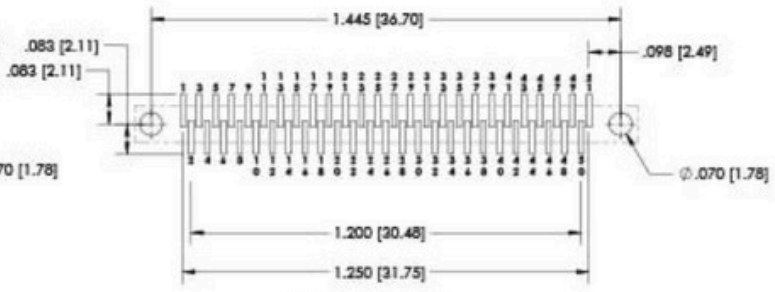
SIZE 25 - VIEW A



SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

Winchester Interconnect

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

Nano PCB Vertical Single Row SMT (Style 26)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Dual Row Surface Mount Metal Shell (Style 28) Connectors

Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers Nano PCB Right Angle Dual Row Surface Mount Metal Shell (Style 28) Connectors, designed for precision, strength, and superior PCB integration. Featuring a Surface Mount .025 x .040 (Style 28) layout and 1-piece contact design with rectangular flat tails, these connectors ensure optimal soldering without lead deformation. Operating from −55°C to 125°C—with high-temperature versions available up to 200°C (add HT)—they are available in 9 to 65 contacts and deliver consistent electrical performance.



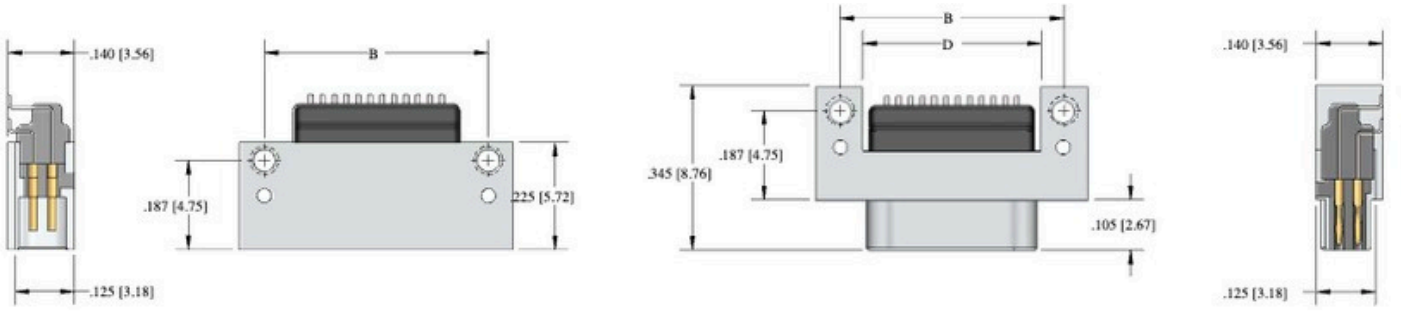
KEY FEATURES & BENEFITS

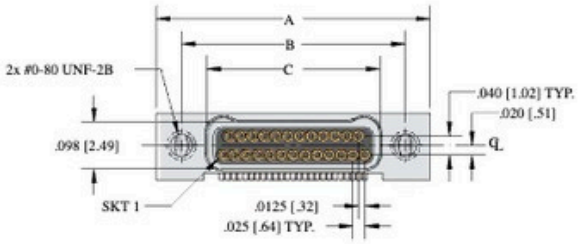
- Durable Metal Shell – Provides robust shielding and mechanical stability in demanding environments.
- Right-Angle Surface Mount Design – Compact form factor ensures secure PCB attachment with efficient use of board space. Rectangular Flat Tails – Enable
- superior soldering performance and prevent lead deformation. Wide Temperature Range – Operates
- reliably from −55°C to 125°C, extendable to 200°C with HT option. Reliable Electrical Performance –
- Offers contact resistance of 33 mΩ max (contact only) and 87 mΩ max with 6" wire @ 1A. Consistent Current Capacity – Supports a current rating of 1A
- max for dependable signal transmission. Multiple Contact Options – Available in 9 to 65 contact
- configurations to meet diverse design requirements.

Winchester Interconnect

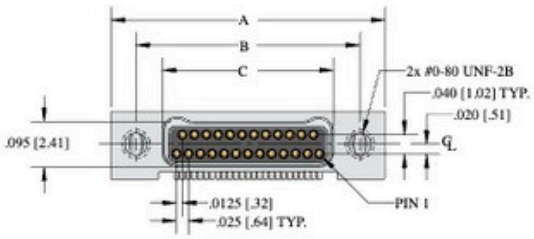
Nano PCB Right Angle Dual Row SMT Metal Shell (Style 28)

DIMENSIONAL

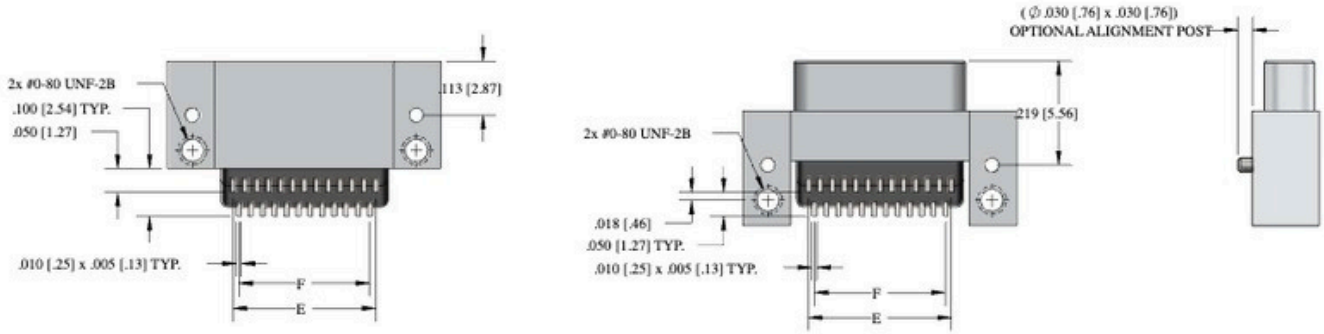




RECEPTACLE (SOCKETS)



PLUG (PINS)



Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle Dual Row SMT Metal Shell (Style 28)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Dual SMT Plastic Shell (Style 28) Connectors

Winchester Interconnect Micro offers Nano PCB Right Angle Dual Row Plated Thru Hole Plastic Shell (Style 8) Connectors, engineered for compact, high-performance interconnect applications. These connectors feature a durable plastic shell with flat tail termination and .025 x .040 (Style 28) spacing for stable PCB mounting. Operating within a temperature range of −55°C to 125°C—with high-temperature versions up to 200°C (add HT)—they are available in 9 to 65 contact configurations. As a QPL-qualified supplier for MIL-DTL-32139 products, Winchester ensures reliability and precision in every connection.

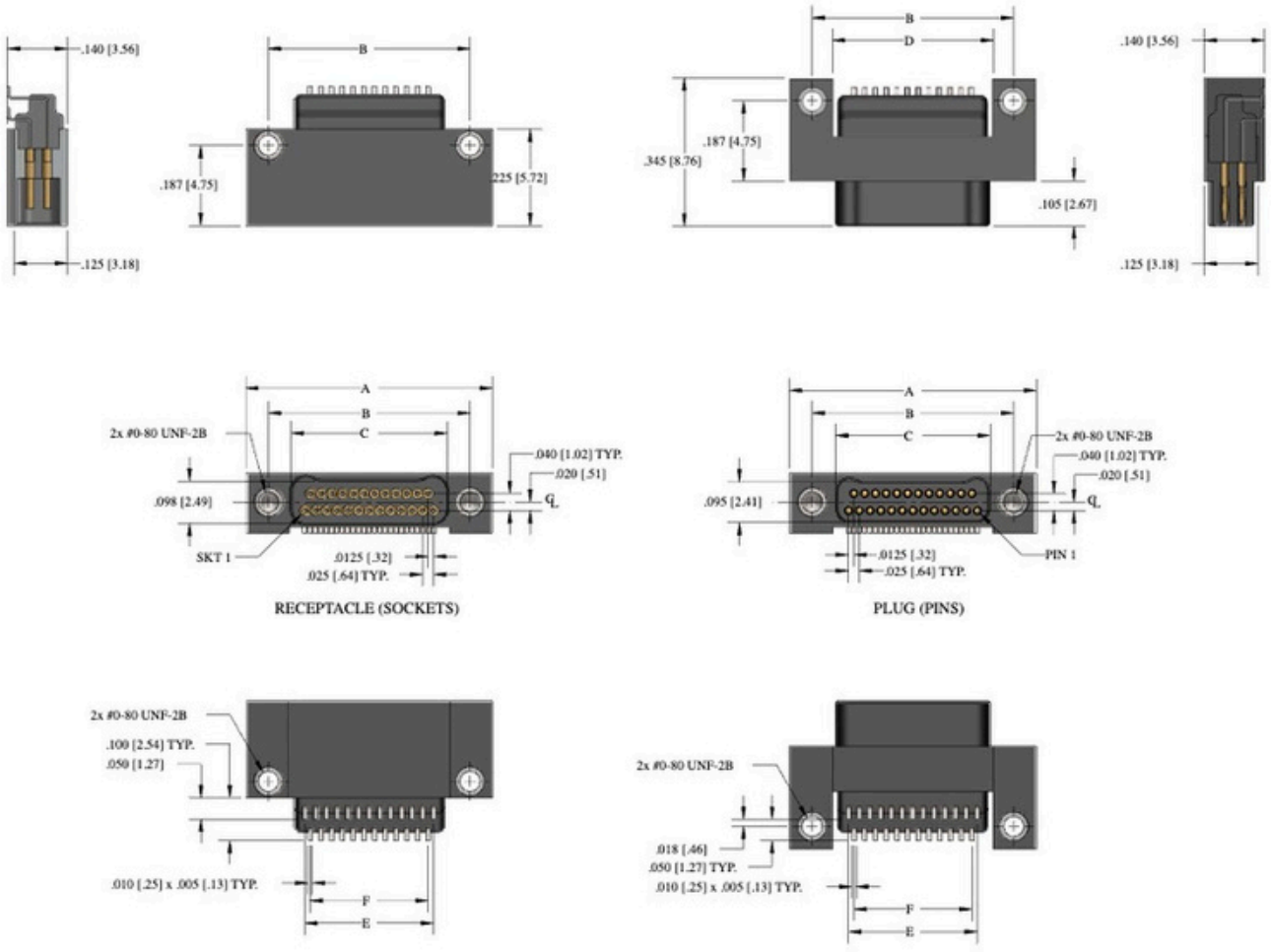


KEY FEATURES & BENEFITS

- Durable Plastic Shell – Provides lightweight protection and insulation for compact designs.
- Right-Angle Plated Thru Hole Design – Enables secure, low-profile PCB integration.
- Wide Temperature Range – Operates from −55°C to 125°C, with optional high-temp versions up to 200°C.
- High-Performance Contacts – Signal pin and socket contacts made from C17410 Beryllium Copper for superior conductivity.
- Gold-Plated Finish – Gold plating per ASTM B488 ensures corrosion resistance and stable signal transmission.
- Versatile PC Tail Options – PC tails in C17410 Beryllium Copper with 60/40 Tin/Lead or Gold plating options.
- Multiple Contact Counts – Available with 9 to 65 contacts to support diverse application requirements.

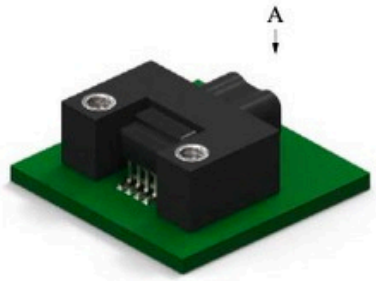
Nano PCB Right Angle Dual SMT Plastic Shell (Style 28) Connectors

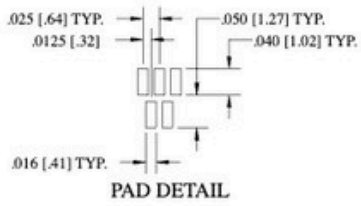
DIMENSIONAL



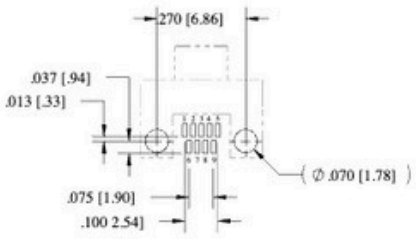
Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

PCB – MALE

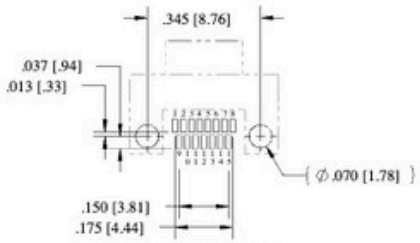




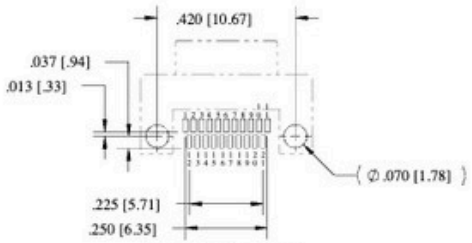
PAD DETAIL



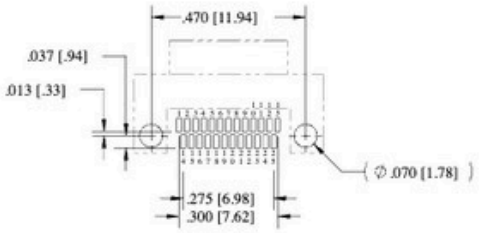
SIZE 9 - VIEW A



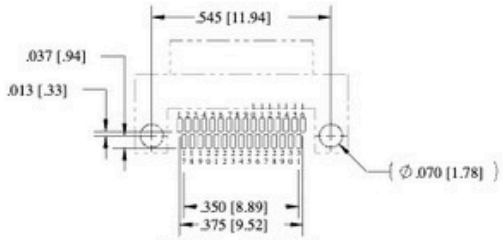
SIZE 15 - VIEW A



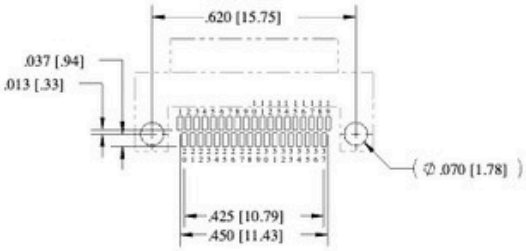
SIZE 21 - VIEW A



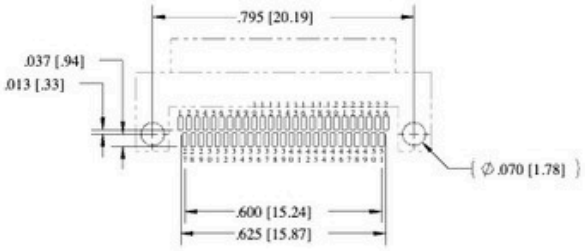
SIZE 25 - VIEW A



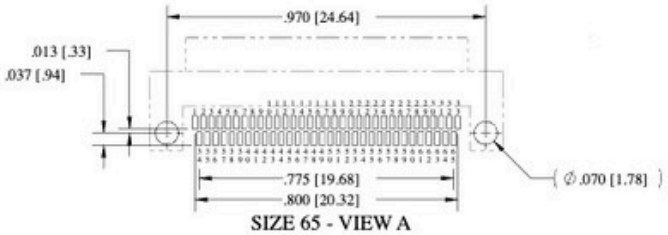
SIZE 31 - VIEW A



SIZE 37 - VIEW A



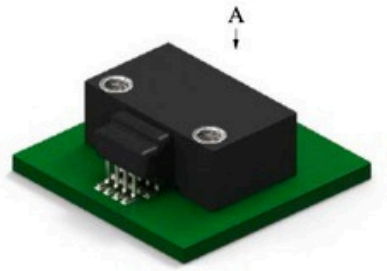
SIZE 51 - VIEW A

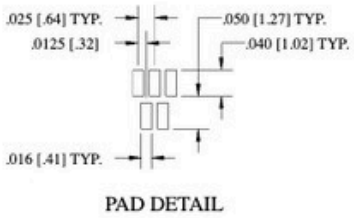


SIZE 65 - VIEW A

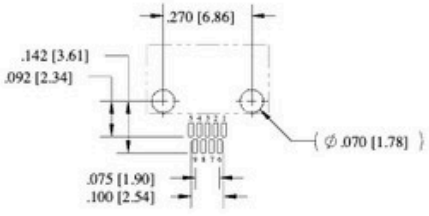
Winchester Interconnect.

PCB – FEMALE

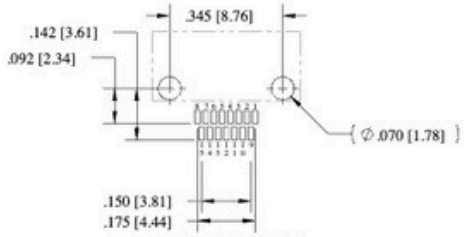




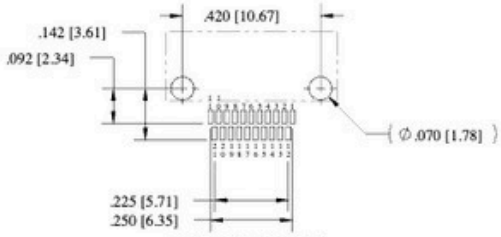
PAD DETAIL



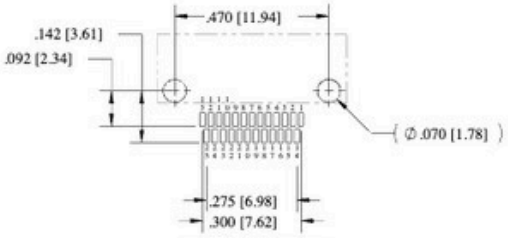
SIZE 9 - VIEW A



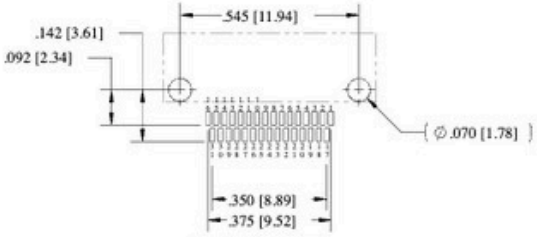
SIZE 15 - VIEW A



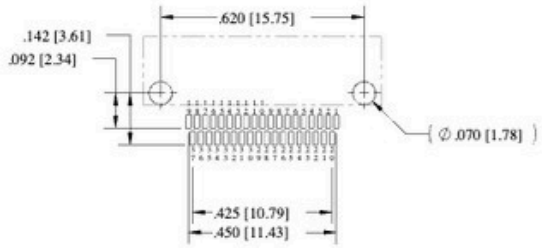
SIZE 21 - VIEW A



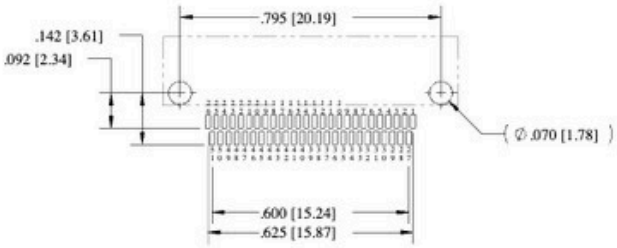
SIZE 25 - VIEW A



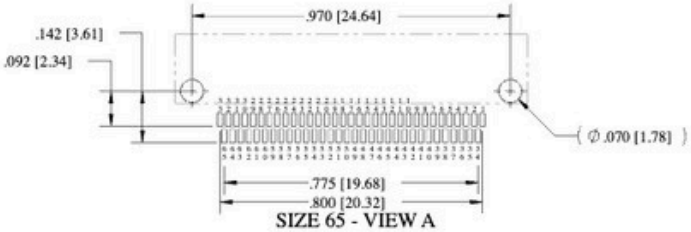
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle Dual SMT Plastic Shell (Style 28) Connectors

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

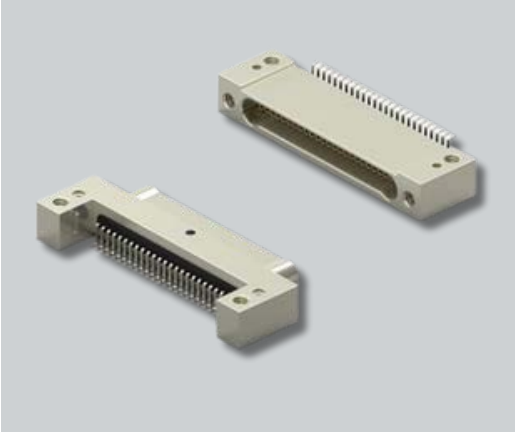
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Single Row SMT Metal Shell (Style 28) Connectors

Winchester Interconnect Micro, formerly known as Ulti-Mate Connector, offers PCB Right Angle Single Row SMT Metal Shell Connectors (Style 28) for high-reliability printed circuit board applications. These metal shell connectors ensure durability and stability across demanding environments, with an operating temperature range from −55°C to 125°C and optional high-temperature versions up to 200°C (add HT). Available in 9 to 51 contacts, they provide strong electrical performance with C17410 Beryllium Copper signal pin and socket contacts plated with Gold per ASTM B488 for superior conductivity and corrosion resistance.

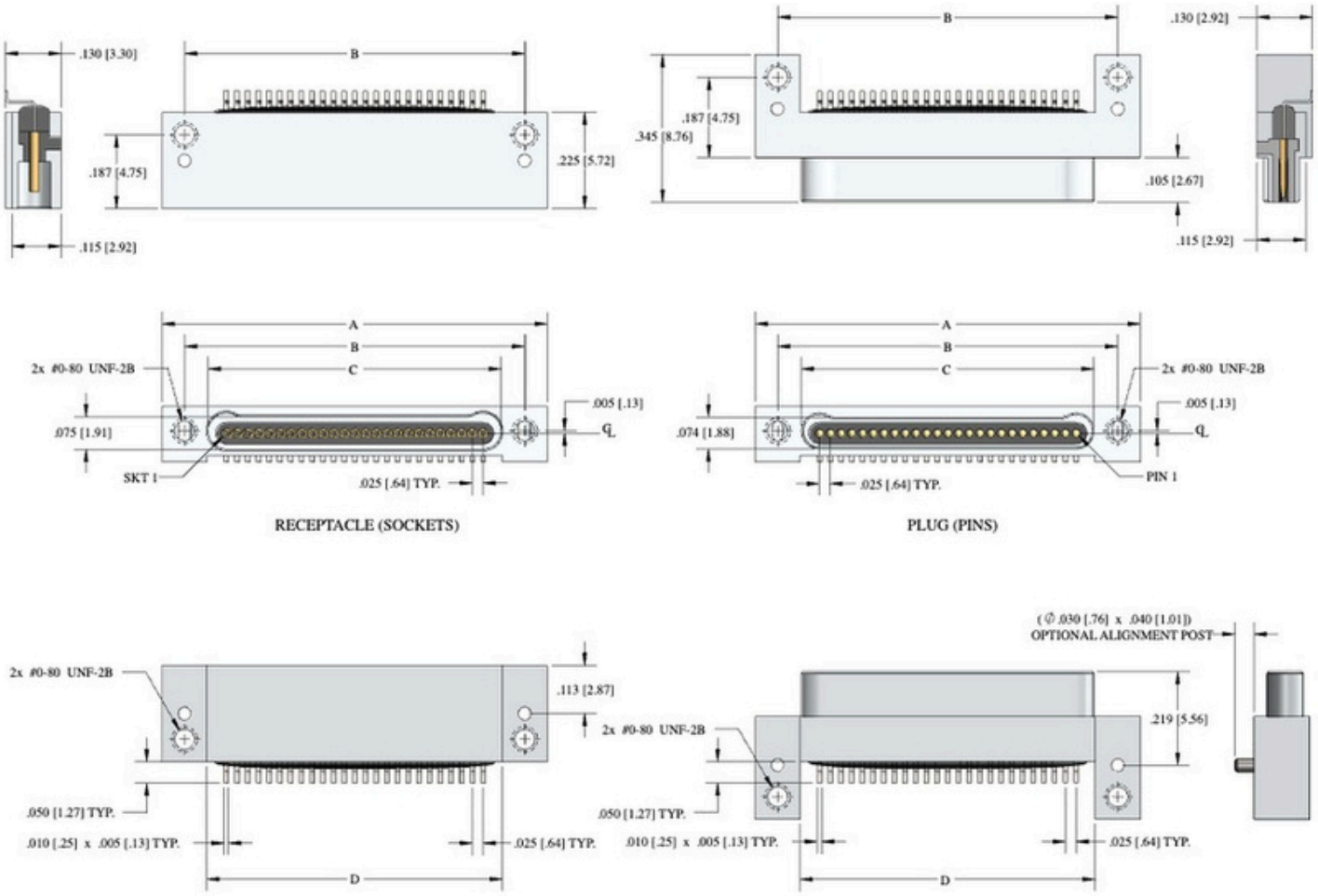


KEY FEATURES & BENEFITS

- Durable Metal Shell Design – Ensures mechanical protection and EMI shielding in rugged environments.
- Right-Angle SMT Configuration – Provides compact, reliable PCB mounting and efficient space utilization.
- Wide Temperature Range – Operates from −55°C to 125°C, extendable to 200°C (HT option).
- High-Performance Contact Material – C17410 Beryllium Copper signal contacts for superior strength and conductivity.
- Gold-Plated Contacts – Gold plating per ASTM B488 enhances corrosion resistance and long-term performance.
- Flexible Contact Options – Available with 9 to 51 contacts for various board configurations.

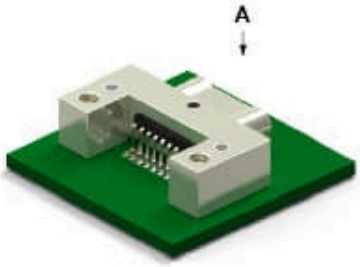
Nano PCB Right Angle Single Row SMT Metal Shell (Style 28)

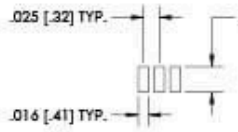
DIMENSIONAL



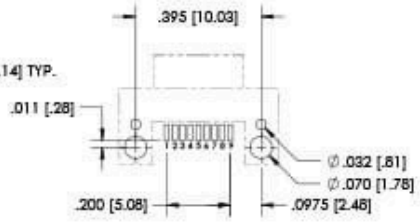
Size	A	B	C		D
			Receptacle	Plug	
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700[17.78]
31	1.050 [26.67]	.945 [24.00]	.834 [21.18]	.835 [21.21]	.850[21.59]
37	1.200 [30.48]	1.095 [27.81]	.984 [24.99]	.985 [25.02]	1.000[25.40]
51	1.550 [39.37]	1.445 [36.70]	1.334 [33.88]	1.335 [33.91]	1.350 [34.29]

PCB – MALE

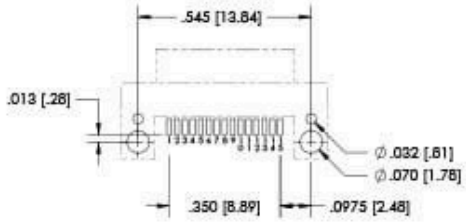




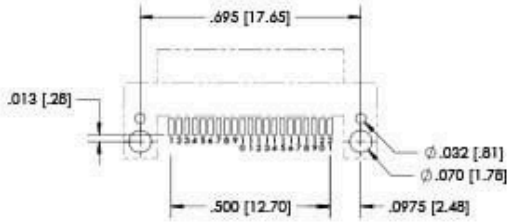
PAD DETAIL



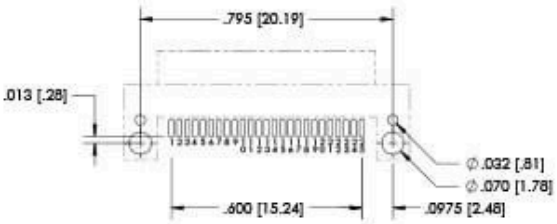
SIZE 9 - VIEW A



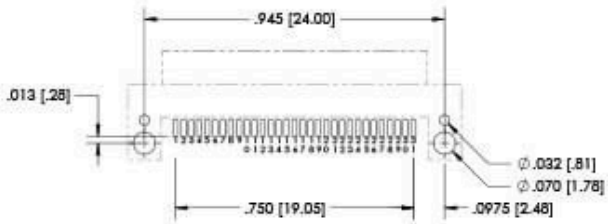
SIZE 15 - VIEW A



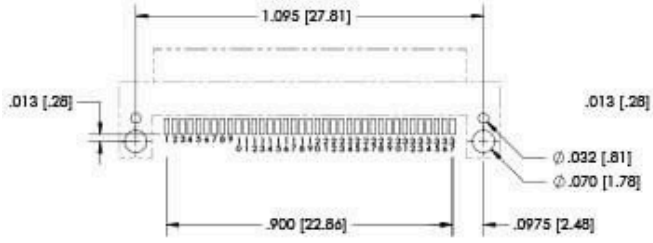
SIZE 21 - VIEW A



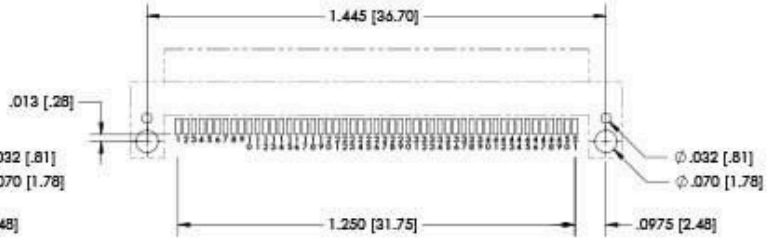
SIZE 25 - VIEW A



SIZE 31 - VIEW A

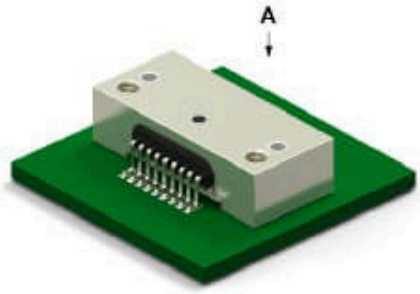


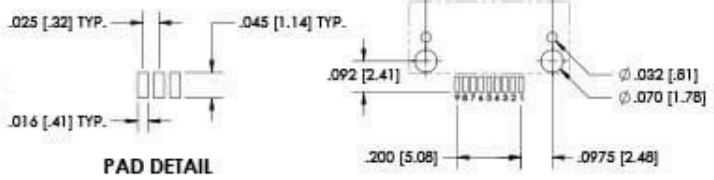
SIZE 37 - VIEW A



SIZE 51 - VIEW A

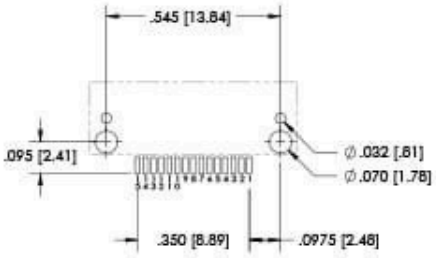
PCB – FEMALE



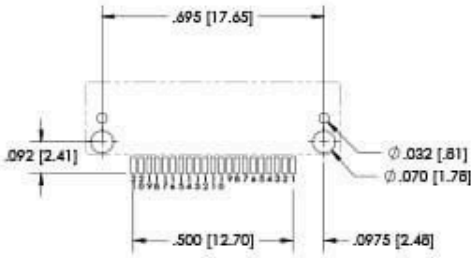


PAD DETAIL

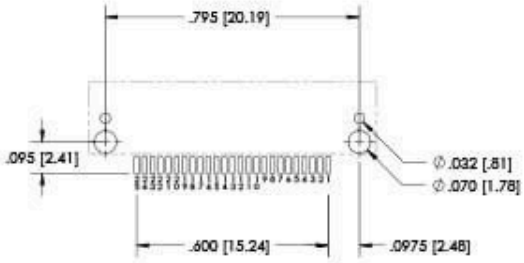
SIZE 9 - VIEW A



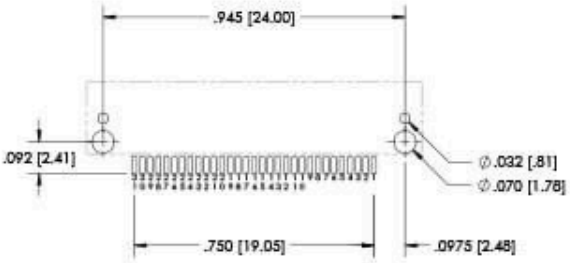
SIZE 15 - VIEW A



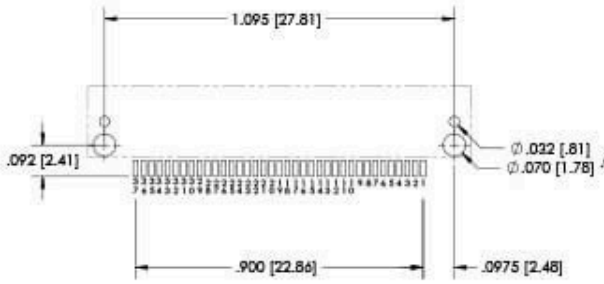
SIZE 21 - VIEW A



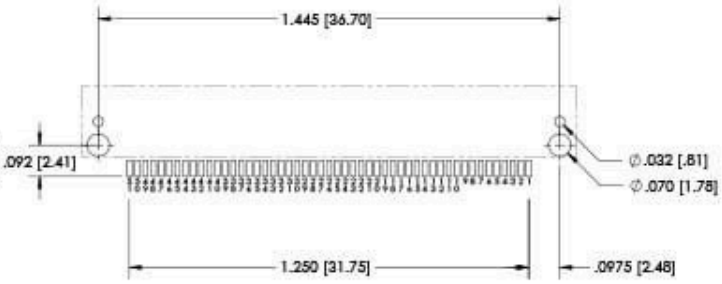
SIZE 25 - VIEW A



SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle Single Row SMT Metal Shell (Style 28)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical Dual Row Surface Mount Metal Shell Low Profile Male Only (Style 36) Connector

Winchester Interconnect Micro offers PCB Vertical Dual Row Surface Mount Metal Shell Low Profile Male Only (Style 36) Connectors, engineered for compact, high-reliability PCB applications. Featuring a .025 x .075 (Style 36) configuration with a 1-piece contact and rectangular flat tail, these connectors deliver superior soldering results with no lead deformation. Built to perform in extreme conditions, they operate from −55°C to 125°C, with high-temperature versions available up to 200°C (add HT). Available in 9 to 65 contacts, they combine durability, precision, and performance in one compact design.

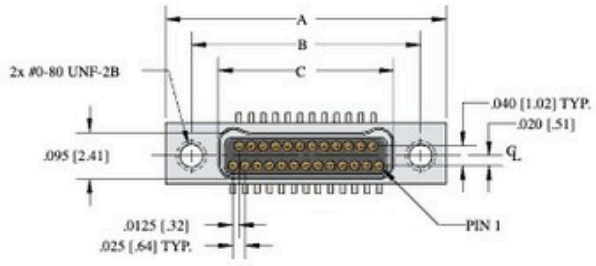


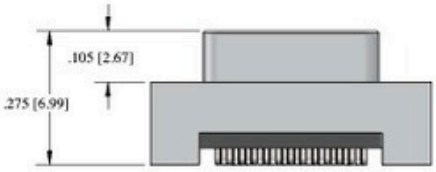
KEY FEATURES & BENEFITS

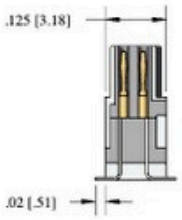
- Low-Profile Metal Shell Design – Ideal for compact and space-limited PCB layouts.
- Rectangular Flat Tail Termination – Ensures clean solder joints and prevents lead deformation.
- Wide Temperature Range – Operates from −55°C to 125°C; HT versions extend to 200°C.
- Reliable Mechanical Performance –
- Engaging Force: 5 oz max
- Separation Force: 0.4 oz min
- Mating/Unmating Force: 7 oz × number of contacts max
- Vibration: EIA-364-28 Condition IV, 1 µs max discontinuity
- Shock: EIA-364-27 Condition G, 1 µs max discontinuity
- Available in 9–65 Contacts – Supports a variety of interconnect configurations.
- Perfect for High-Density PCB Applications – Provides precision connectivity for aerospace, defense, and instrumentation systems.

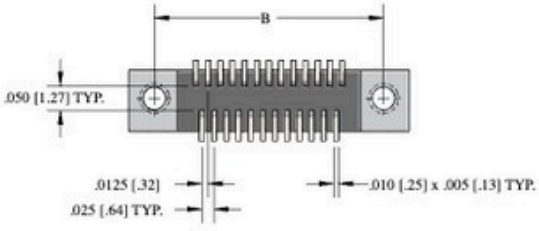
Winchester Interconnect

DIMENSIONAL



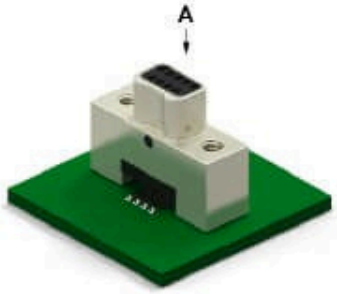


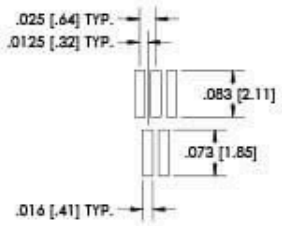




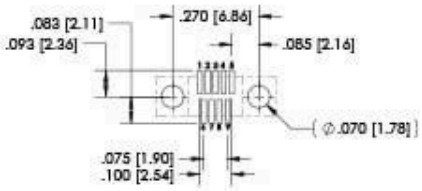
Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

PCB – MALE

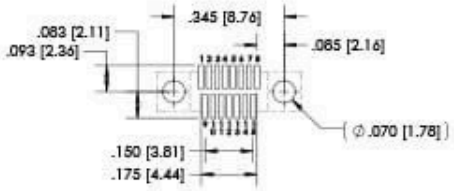




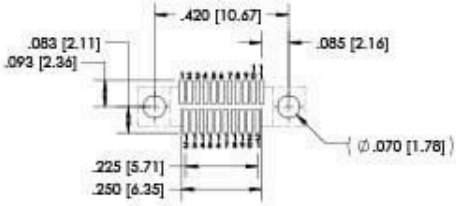
PAD DETAIL



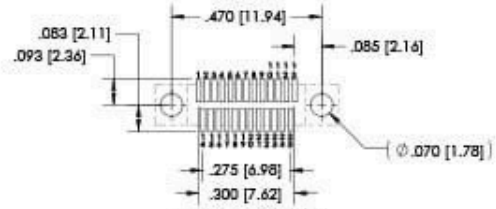
SIZE 9 - VIEW A



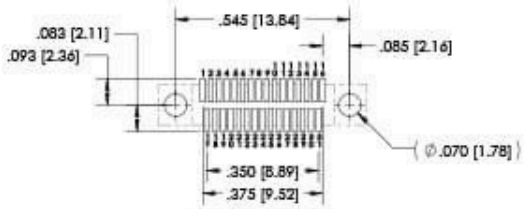
SIZE 15 - VIEW A



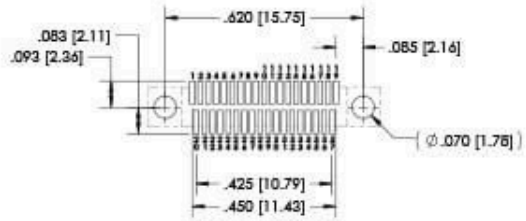
SIZE 21 - VIEW A



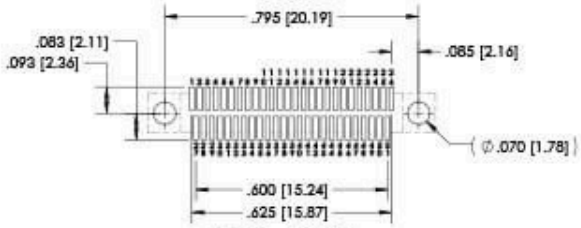
SIZE 25 - VIEW A



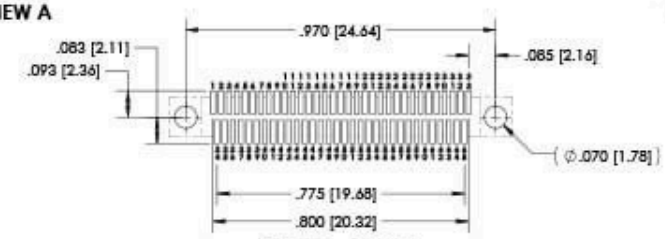
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

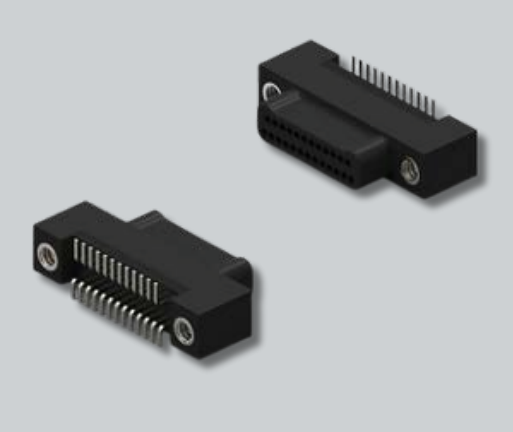
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Vertical SMT Plastic Shell Male Only (Style 36) Connectors

Winchester Interconnect Micro offers PCB Vertical SMT Plastic Shell Male Only (Style 36) Connectors, engineered for precision and durability in surface mount applications. Featuring a rectangular flat tail for superior solder results and no lead deformation, these connectors ensure long-term reliability. They operate across a temperature range of −55°C to 125°C, with high-temperature versions up to 200°C (add HT) for demanding conditions. Available in 9 to 65 contact configurations, they provide flexibility for a wide range of PCB layouts and high-density designs.



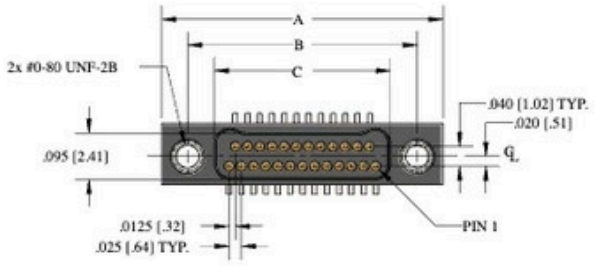
KEY FEATURES & BENEFITS

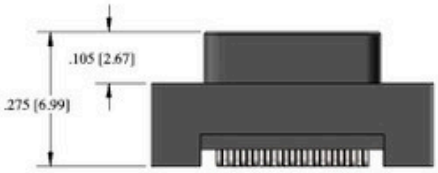
- Plastic Shell Construction – Lightweight and robust, offering reliable mechanical stability.
- Rectangular Flat Tail Termination – Provides consistent solder quality and prevents lead deformation.
- Wide Operating Temperature Range – Performs from −55°C to 125°C; HT versions extend up to 200°C.
- Reliable Electrical Characteristics –
  - Contact Resistance: 33 mΩ max (contact only)
  - 87 mΩ max with 6" wire @ 1A
  - Current Rating: 1A max
- Available in 9–65 Contacts – Supports multiple configurations for design versatility.
- Ideal for High-Density PCB Applications – Ensures dependable signal integrity in compact electronic assemblies.

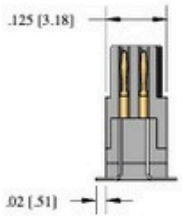
Winchester Interconnect

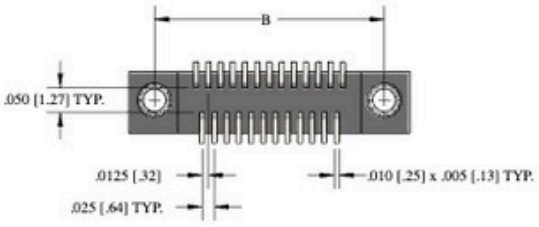
Nano PCB Vertical SMT Plastic Shell Male Only (Style 36) Connectors

DIMENSIONAL



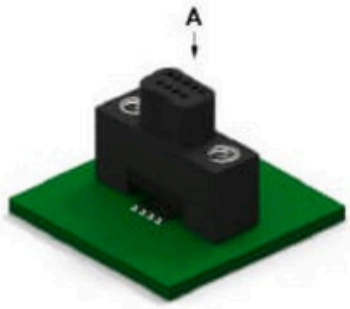


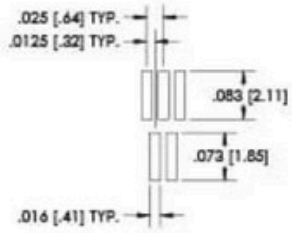




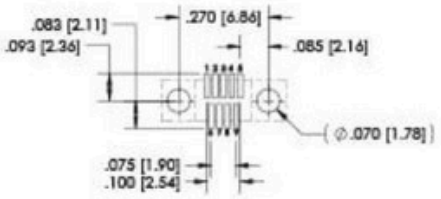
Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

Nano PCB Vertical SMT Plastic Shell Male Only (Style 36) Connectors

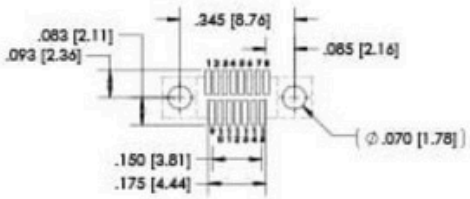




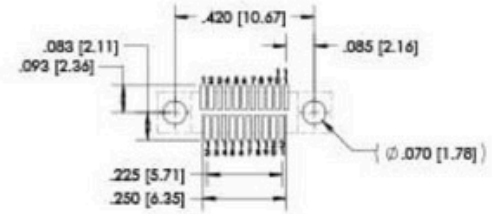
PAD DETAIL



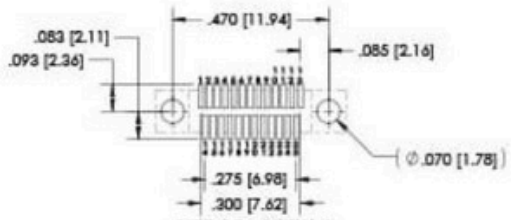
SIZE 9 - VIEW A



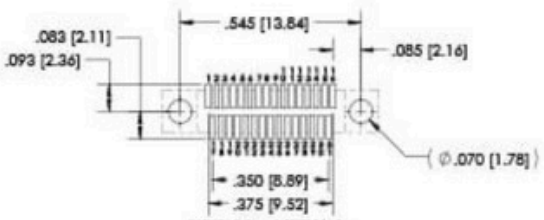
SIZE 15 - VIEW A



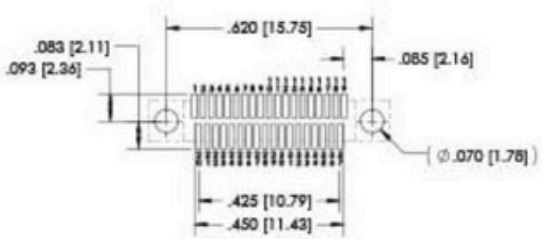
SIZE 21 - VIEW A



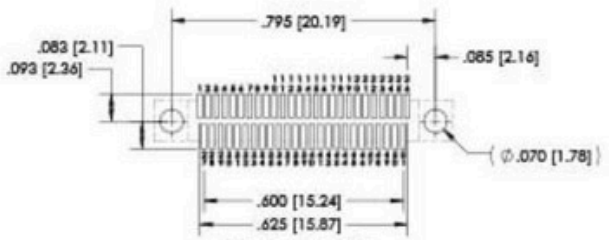
SIZE 25 - VIEW A



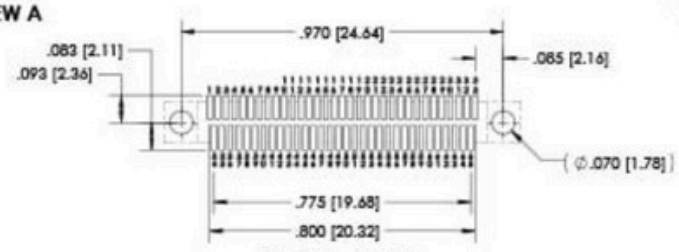
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle SMT Extended Profile Female Only Metal Shell (Style 38) Connectors

Winchester Interconnect Micro offers Nano PCB Right Angle SMT Extended Profile Female Only Metal Shell (Style 38) Connectors, designed for durability, precision, and reliability in high-performance PCB applications. Featuring a Surface Mount .025 x .040 (Style 38) configuration, these connectors include a 1-piece contact and rectangular flat tails that ensure superior soldering results without lead deformation. Operating from −55°C to 125°C—with high-temperature versions available up to 200°C (add HT)—they are ideal for demanding environments requiring robust connectivity.

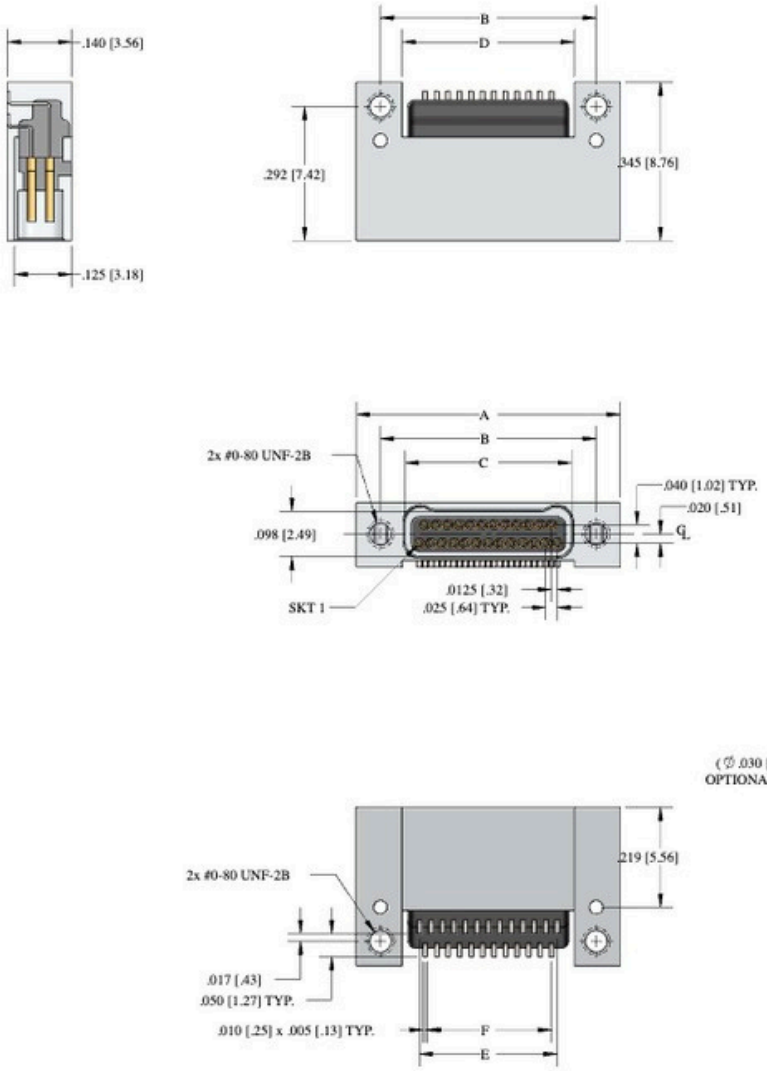


KEY FEATURES & BENEFITS

- Extended Profile Female Design – Optimized for secure and precise mating in compact PCB layouts.
- Rectangular Flat Tails – Provide superior solder integrity and eliminate lead deformation.
- Durable Metal Shell – Enhances shielding and mechanical protection for long-term reliability.
- Wide Operating Range – Performs efficiently from −55°C to 125°C; high-temp option up to 200°C.
- Reliable Mechanical Performance – Engaging force 5 oz max, separation force 0.4 oz min, and mating/unmating force 7 oz × number of contacts max.
- Tested for Harsh Conditions – Meets vibration (EIA-364-28 Condition IV) and shock (EIA-364-27 Condition G) standards with 1 µs max discontinuity.

Nano PCB Right Angle SMT Extended Profile Female Only Metal Shell (Style 38)

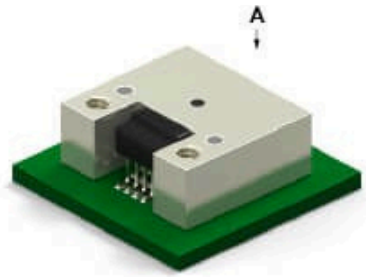
DIMENSIONAL

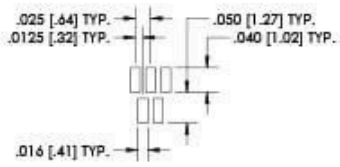


Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

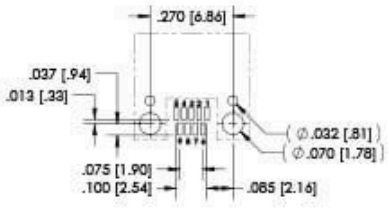
Nano PCB Right Angle SMT Extended Profile Female Only Metal Shell (Style 38)

PCB

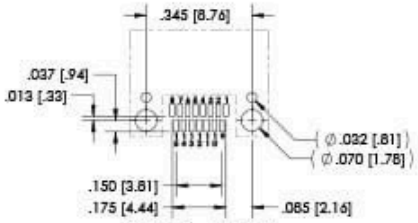




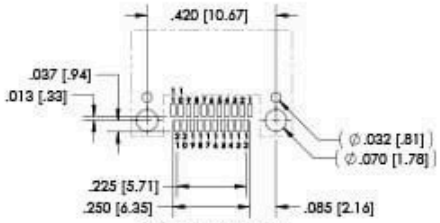
PAD DETAIL



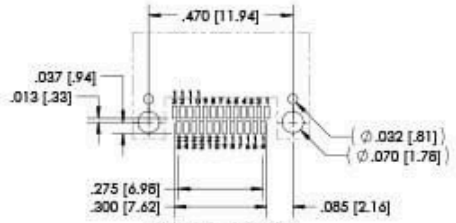
SIZE 9 - VIEW A



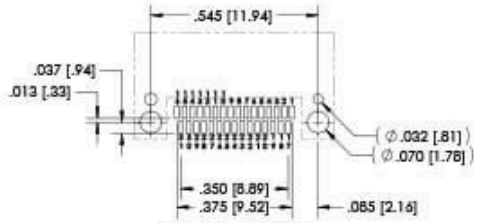
SIZE 15 - VIEW A



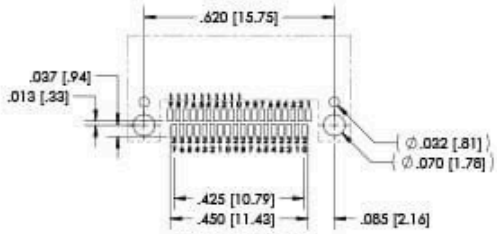
SIZE 21 - VIEW A



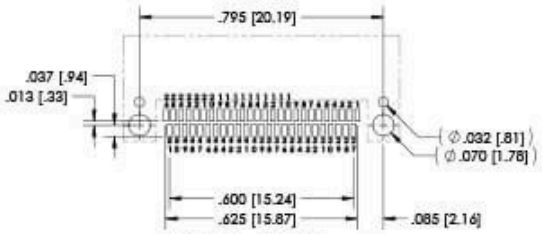
SIZE 25 - VIEW A



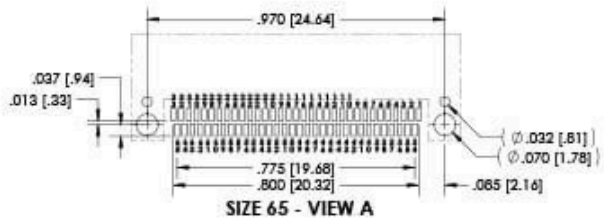
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces
Salt Spray	EIA 364-26 Condition B-48 hours

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle SMT Extended Profile Female Only Metal Shell (Style 38)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

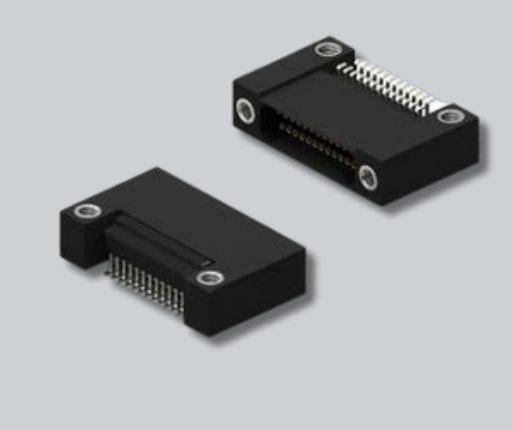
Winchester Interconnect

Ulti-Mate Connectors

Ulti-Mate Nano PCB

Right Angle Dual Row SMT Plastic Shell Female Only Plastic Shell (Style 38) Connectors

Winchester Interconnect Micro offers Nano PCB Right Angle Dual Row SMT Plastic Shell Female Only (Style 38) Connectors, built for precision, durability, and high reliability in compact PCB designs. Featuring a Surface Mount .025 x .040 (Style 38) configuration with a 1-piece contact design and rectangular flat tail, these connectors ensure excellent solder results without lead deformation. Operating across a wide temperature range from −55°C to 125°C, with high-temperature versions available up to 200°C (add HT), they deliver consistent performance in demanding environments.



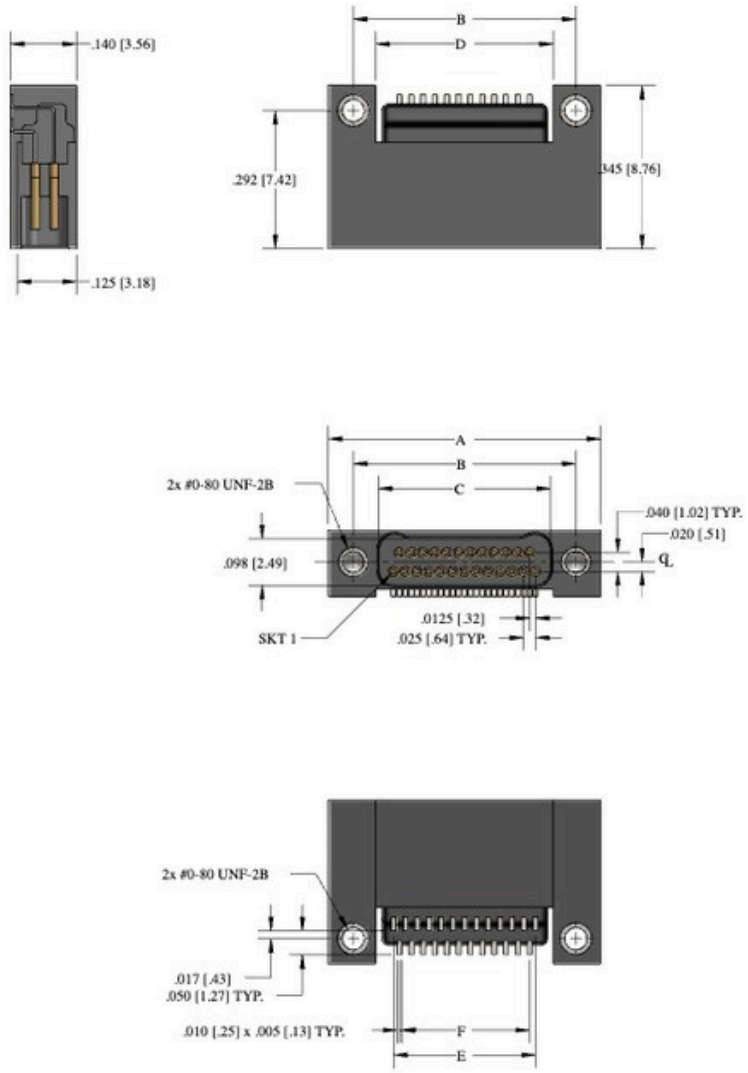
KEY FEATURES & BENEFITS

- Plastic Shell Construction – Lightweight yet durable, ideal for space-limited PCB layouts.
- Rectangular Flat Tail Design – Ensures consistent solder joints and prevents lead deformation.
- Wide Operating Range – Performs reliably from −55°C to 125°C; HT versions rated up to 200°C.
- Versatile Contact Options – Available with 9 to 65 contacts to meet varied design needs.
- High-Quality Materials – Signal pin and socket contacts made from C17410 Beryllium Copper for excellent conductivity.
- Durable Plating – Gold contact plating per ASTM B488; PC tail plating available in 60/40 Tin/Lead (SAE-AMS-P-81728) or Gold (ASTM B488).
- Ideal for High-Density PCB Applications – Provides precision connectivity and dependable performance in compact, mission-critical systems.

Winchester Interconnect

Nano PCB Right Angle SMT Extended Profile Female Only Plastic Shell (Style 38)

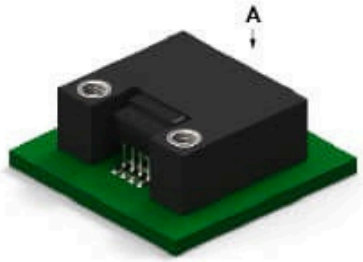
DIMENSIONAL

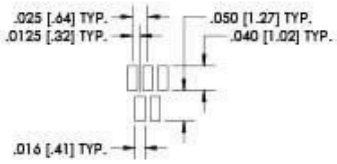


Size	A	B	C		D
			Receptacle	Plug	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
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31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]

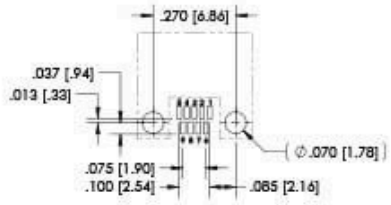
Nano PCB Right Angle SMT Extended Profile Female Only Plastic Shell (Style 38)

PCB

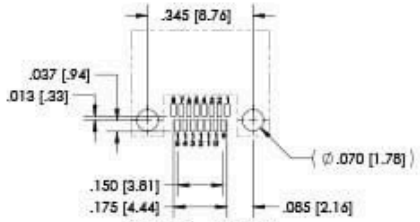




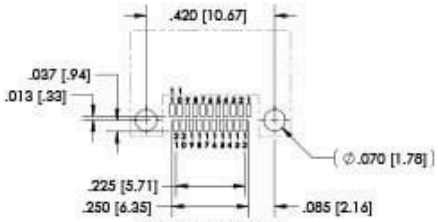
PAD DETAIL



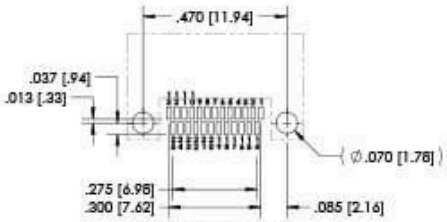
SIZE 9 - VIEW A



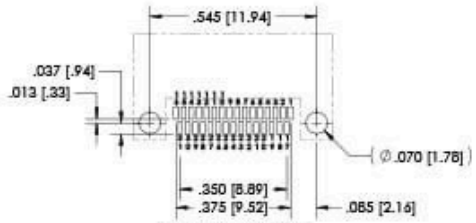
SIZE 15 - VIEW A



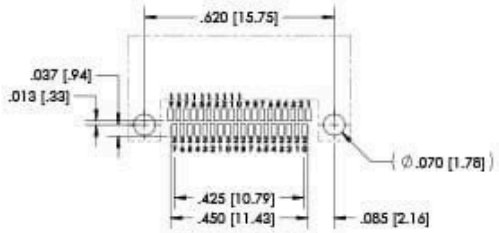
SIZE 21 - VIEW A



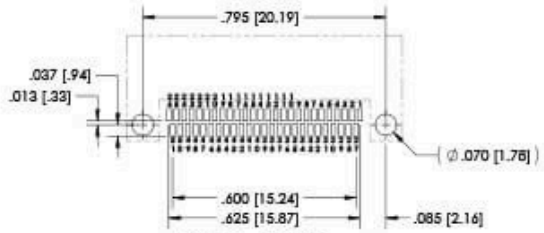
SIZE 25 - VIEW A



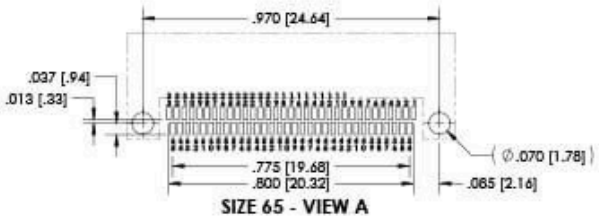
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



SIZE 65 - VIEW A

Winchester Interconnect.

PERFORMANCE

Electrical Properties	
Contact Resistance	33 milliohm max contact only and 87 milliohms max with 6" wire @ 1A
Current Rating	1A max.
Dielectric WithStanding Voltage	250 VAC at sea level, 100 VAC at 70,000 feet. 1mA leakage current max.
Insulation Resistance	100 VDC and 5000 Megohms min.

Mechanical	
Engaging Force	5 oz max.
Separation Force	.4 oz min.
Mating/Unmating Force	7 oz x # of contacts max.
Vibration	EIA-364-28 Condition IV, 1 microsecond max discontinuity
Shock	EIA-364-27 Condition G, 1 microsecond max discontinuity
Durability	EIA-364-09, 200 matings, passes Mating Force, CR, Eng and Sep Forces

MATERIALS

Materials and Finishes	
Signal Pin Contacts	C17410 Beryllium Copper per ASTM B768
Signal Socket Contacts	C17410 Beryllium Copper per ASTM B768
Contact Plating	Gold Plating per ASTM B488
PC Tails	C17410 Beryllium Copper per ASTM B768
PC Tail Plating	60/40 Tin/Lead plating per SAE-AMS-P-81728, or Gold plating per ASTM B488
Shell	6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or 300 Series Stainless Steel per ASTM A582
Shell Plating	Electroless Nickel per SAE-AMS2404, or Cadmium per SAE-AMS-QQ-P-416 or Black Anodize per MIL-A-8625 or Passivated per AMS2700
Insulator Material	LCP(Liquid Crystal Polymer) GLCP-30F or PPS per MIL-M-24519 GST-40F
Hardware	300 Series Stainless Steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

Nano PCB Right Angle SMT Extended Profile Female Only Plastic Shell (Style 38)

HOW TO ORDER

Nano Circuit Series Engineering Number Definitions

CN M 6 L 25 - 2 P 07 1 - 0.140 - S01 - HT - 1 SPL

Nano Circuit Series

Shell Material
M = Metal Shell
P = Plastic Shell

Termination Style
4 = Flex Circuit
6 = Vertical PC tails
8 = Right Angle PC Tails
26 = Vertical SMT
28 = Right Angle SMT
36 = Low Profile Vertical SMT (Male Only)
38 = Extended Profile RA SMT (Female Only)

Insulator Material
L = LCP

Size (No. of Contacts)
09, 15, 21, 25, 31, 37, 51, 65, & 69

Insulator Type
1 = Single Row (Up to size 51)
2 = Dual Row

Contact Type
P = Pin, Integral Flat Tail
S = Socket, Integral Flat Tail

Mating Hardware
0 = No Hardware
01 = Phillips Head Jackscrews
02 = Hex Head Jackscrews
03 = Thumb Jackscrew
05 = Slotted Head Jackscrews
06 = Floating Phillips Head Jackscrews (Female Only)
07 = Threaded Hole
08 = Floating (Retractable) Hex Head Jackscrews (Female Only)
09 = Floating (Retractable) Slotted Head Jackscrews (Female Only)

Lead Plating
1 = Tin/Lead (minimum 3% Lead) plated (Not RoHS Compliant) (Not Available with high temp (HT) connectors)
2 = Gold Plated (RoHS Compliant)

Board Thickness (Style 4 Only)
Blank = .010
Other Panel Thicknesses 0.030 & 0.054
(Consult Factory for Additional Thicknesses)

Lead Length (Style 6 and 8 Only)
Blank = 0.109
Other Lengths = 0.140 & 0.172
(Consult Factory for Additional Lengths)

Shell Plating or Material (Omit for plastic shell or cadmium plating)
Blank = Cadmium
S01 = Electroless Nickel
S02 = Chem Film
S03 = Black Anodized
S04 = Gold
S05 = Titanium
S06 = Olive-Drab Cadmium
S07 = Black Nickel
S08 = Nickel-PTFE
S09 = Stainless Steel, Passivated
S10 = Zinc Nickel

Temperature Rating (Omit for standard Temp, 125°C)
Blank = 125°C
HT = 200°C
LO = 4 Kelvin

PCB Mounting Options (Style 8, 28, & 38 Only)
Blank = Threaded Mounting Holes
1 = Alignment Posts with Threaded Mounting Holes
2 = Clearance Mounting Holes
3 = Alignment Posts with Clearance Mounting Holes
4 = Solder Posts (Style 6, 8, 26, 28, 36, & 38)

Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

Winchester Interconnect



About Winchester Interconnect

Winchester Interconnect is a US-based manufacturer of high-precision connectors, cable assemblies, and cable. Our products are ideal for military and aerospace, industrial, medical, and space applications where expertise and reliability are critical to your success.

Our 30,000+ connectivity solutions include standard and custom RF and microwave interconnects, hermetic connectors and packaging, micro-miniature connectors and assemblies, fiber optic connectors, industrial cable, and undersea cable

We work in the toughest industries where failure is not an option.For connectivity applications requiring high performance in harsh environments, life-saving systems, and the latest connected technologies, our industry-leading knowledge and engineering capabilities will ensure reliable, cutting-edge interconnect solutions that won't fail when it matters most.

Our Industries & Market Solutions


Industrial Automation

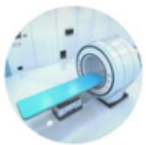

Space


Oil & Gas


Marine Subsea


Aerospace & Defense


Semiconductor


Medical


Custom

Winchester Interconnect

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