

# Ulti-Mate

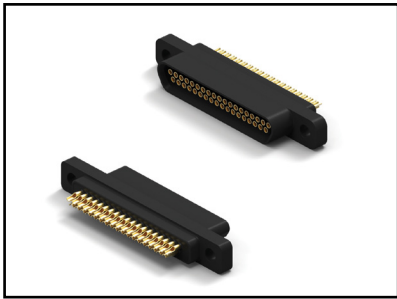
Connector Inc.

MICRO/NANO MINIATURE  
CONNECTORS & CABLE ASSEMBLIES

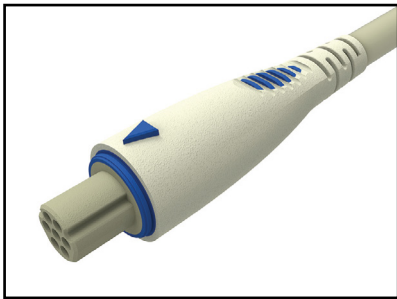


# Ulti-Mate Connector Inc.

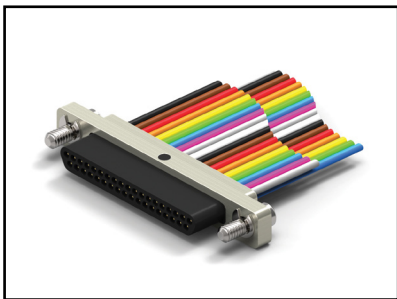
## MICRO AND NANO MINIATURE INTERCONNECT SOLUTIONS



Ulti-Mate Connector, Inc. has been producing world-class Micro and Nano miniature connectors and interconnect solutions since 1978. Our expertise in the design and production of standard and customized solutions to the most demanding customer requirements has made Ulti-Mate a valued supplier to the OEM Marketplace. Providing the broadest range of Micro and Nano miniature connector and cable assembly products, our engineering team is ready to assist you from design through the production implementation of the most cost effective solution to your interconnect needs.



Ulti-Mate specializes in serving the unique interconnect solution needs of military, space, aviation, medical, and geophysical exploration marketplaces. Our reputation for cutting edge design, innovation and quality has placed Ulti-Mate Connectors in many of our country's most advanced avionics, missile systems, manned space and satellite vehicles, and guidance and navigation systems. Our ability to meet the demanding environmental requirements of the geophysical exploration industry has made Ulti-Mate a leading supplier to the largest and most advanced companies in the field. Ulti-Mate has a long history of meeting the rigorous specifications of invasive and noninvasive medical imaging, patient monitoring and the measured drug delivery markets.



Located in Orange, California for over 35 years, Ulti-Mate prides itself on providing the highest levels of customer service and value with its "Made in America" interconnect solutions. Our experienced staff is dedicated to serving your interconnect needs with the latest design tools, state of the art test equipment and a customer support staff ready to assist you in all of your Micro and Nano miniature connector requirements.

<b>TABLE OF CONTENTS</b>	
<b>ABOUT US</b> .....	1
<b>INTERCONNECT SOLUTIONS</b> .....	4
<b>MICRO-D TABLE OF CONTENTS</b> .....	8
<b>WIRED</b>	
STANDARD PROFILE-METAL SHELL .....	10
STANDARD PROFILE-PLASTIC SHELL .....	12
LOW PROFILE-METAL SHELL .....	14
LOW PROFILE-PLASTIC SHELL .....	16
<b>FIELD SOLDERABLE</b>	
STANDARD PROFILE-METAL SHELL-SOLDERCUP .....	18
STANDARD PROFILE-PLASTIC SHELL .....	20
LOW PROFILE-METAL SHELL-SOLDERCUP .....	22
LOW PROFILE-PLASTIC SHELL-SOLDERCUP .....	24
<b>NANO-D TABLE OF CONTENTS</b> .....	26
<b>WIRED</b>	
SINGLE ROW-SINGLE ENDED-METAL SHELL .....	34
SINGLE ROW-DOUBLE ENDED-METAL SHELL .....	36
DUAL ROW-SINGLE ENDED-METAL SHELL .....	38
DUAL ROW-SINGLE ENDED-PLASTIC SHELL .....	40
DUAL ROW-DOUBLE ENDED-METAL SHELL .....	42
DUAL ROW-DOUBLE ENDED-PLASTIC SHELL .....	44
<b>CIRCUIT</b>	
<b>RIGHT ANGLE</b>	
SINGLE ROW-PLATED THRU HOLE-METAL SHELL .....	46
SINGLE ROW-SURFACE MOUNT-METAL SHELL .....	50
DUAL ROW-PLATED THRU HOLE-METAL SHELL .....	54
DUAL ROW-PLATED THRU HOLE-PLASTIC SHELL .....	58
DUAL ROW-SURFACE MOUNT-METAL SHELL .....	62
DUAL ROW-SURFACE MOUNT-PLASTIC SHELL .....	66
DUAL ROW-(EXTEND PROFILE-FEMALE ONLY) SURFACE MOUNT-METAL SHELL .....	70
DUAL ROW-(EXTEND PROFILE-FEMALE ONLY) SURFACE MOUNT-PLASTIC SHELL .....	74
<b>VERTICAL</b>	
SINGLE ROW-PLATED THRU HOLE-METAL SHELL .....	78
SINGLE ROW-SURFACE MOUNT-METAL SHELL .....	82
DUAL ROW-PLATED THRU HOLE-METAL SHELL .....	86
DUAL ROW-PLATED THRU HOLE-PLASTIC SHELL .....	90
DUAL ROW-SURFACE MOUNT-METAL SHELL .....	94
DUAL ROW-SURFACE MOUNT-PLASTIC SHELL .....	96
DUAL ROW-(LOW PROFILE-MALE ONLY) SURFACE MOUNT-METAL SHELL .....	102
DUAL ROW-(LOW PROFILE-MALE ONLY) SURFACE MOUNT-PLASTIC SHELL .....	106
<b>LATCHING</b>	
<b>WIRED</b>	
DUAL ROW-SINGLE ENDED-METAL SHELL .....	110
DUAL ROW-DOUBLE ENDED-METAL SHELL .....	112
<b>CIRCUIT</b>	
DUAL ROW-VERTICAL-PLATED THRU HOLE-METAL SHELL .....	114
DUAL ROW-VERTICAL-SURFACE MOUNT-METAL SHELL .....	118
DUAL ROW-RIGHT ANGLE-PLATED THRU HOLE-METAL SHELL .....	122
DUAL ROW-RIGHT ANGLE-SURFACE MOUNT-METAL SHELL .....	126
DUAL ROW-RIGHT ANGLE-SURFACE MOUNT-(EXTEND PROFILE,FEMALE ONLY)-METAL SHELL .....	130
<b>FIELD ATTACHABLE</b>	
DUAL ROW-METAL SHELL .....	134
DUAL ROW-PLASTIC SHELL .....	136
CIRCULAR INLINE-PLASTIC SHELL .....	138
<b>CIRCULAR</b>	
METAL BREAK AWAY WIRED-INLINE .....	140
PLASTIC WIRED-INLINE .....	142

## INTERCONNECT SOLUTIONS

We offer one of the largest product offerings within the Micro and Nano Miniature interconnect market carefully designed to meet most every Micro and Nano miniature interconnect requirement.

Ulti-Mate Connector, Inc. is a privately-held company whose strengths include ISO 9001/2008 process approval, Mil-Spec approval to Mil-DTL-83513, full-spectrum product lines, fast

“turnaround” on quotes and custom orders, unsurpassed sales and technical support in every major market in the world.

Located in Orange California, our connectors, backshells and interconnect cable assemblies are all made in America. Many interconnect manufacturers are moving their production operations to Mexico, India, China and elsewhere, Ulti-Mate is proud to continue our long-standing tradition of making our products in quality controlled plants here in the USA.

## WHY UMI?

- Superior customer service and focus.
- Extensive stock of raw components to facilitate short lead time and quick turn requirements.
- Wide-ranging expertise in cable assembly design and fabrication.
- We offer all standard Micro miniature connector configurations as well as custom arrangements with little or no tooling expense. We offer all standard Nano miniature connector configurations as well as custom arrangements with little or no tooling expense.
- Largest tooled product offering in the Microminiature/Nano miniature connector industry.
- RoHS COMPLIANT  
Mil Qualified

ISO 9001/2008 Approval



## COMPANY PROFILE

- Company established in 1978
- Located in Orange, California, USA
- Experienced management team with over 90 years in the Microminiature connector industry
- We possess the broadest range of Microminiature/Nanominiature connector products in the industry.
- We are proudly a Woman Owned Small Business
- Markets served are the military, space, commercial airframe, medical, geophysical exploration, telecom, and industrial markets.

## HISTORY

Ulti-Mate Connector Inc. was founded in 1977 by Lou Schmid. Lou and his team had created the first Micro miniature connector product offering at ITT Cannon in 1962. Lou went on to establish this series as a standard offering at several other companies before opening his own company. At Ulti-Mate, Lou proved to be a restless innovator who pushed cutting edge technical solutions, created innovative tooling and spearheaded improvements that have resulted in the creation of standards still in use today.

## HIGHLIGHTS

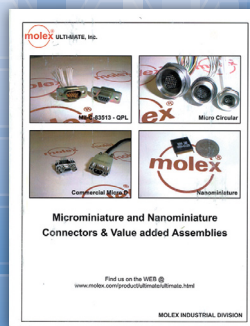
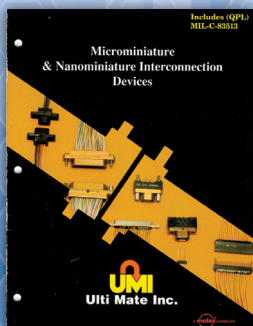
- 1978 Ulti-Mate Inc. was established in Orange, CA
- 1978 Ulti-Mate introduced the Mite-Y-Pin precision formed pin contact.
- 1979 Ulti-Mate Inc established molded in insulators as a standard for creating tighter dimensional tolerance within the shell.
- 1982 Ulti-Mate Inc created the only re-configurable mold tooling allowing Microminiature connectors from 5 to 65 contacts, in odd positions.
- 1983 Ulti-Mate Inc introduces high profile all plastic shells that mate with the standard Metal shell Micro miniature series and Metal shell connectors that mate with the standard low profile plastic shell series.

- 1984 Ulti-Mate Inc tools the first nano precision stamped pin contact and introduces their nano product line.
- 1988 M series and P series products were qualified to MIL-C-83513.
- 1989 Ulti-Mate was acquired by Molex Inc. and was assimilated into the New Ventures and Acquisitions group.
- 1991 Molex Industrial Interfaces and Ulti-Mate were co-located into a new facility in Orange, CA
- 1992 Molex Ulti-Mate established a manufacturing entity in the United Kingdom.
- 1994 A new In Flight Entertainment group was established within Ulti-Mate to address the burgeoning Airframe entertainment systems cable assembly market.
- 1999 Molex Ulti-Mate becomes certified to ISO 9001.
- 2001 Molex re-locates Ulti-Mate to Puerto Rico to lower assembly costs.
- 2003 Ulti-Mate is purchased from Molex Inc. by a management group consisting of current and previous employees. Ulti-Mate Connector Inc. is incorporated in Orange, California.
- 2009 Ulti-Mate Connector Inc. re-introduces an expanded nano miniature product

line including the only single piece contact system for printed circuit board connectors in the industry.

- 2009 Ulti-Mate Connector Inc. moves into a new facility effectively doubling our manufacturing floor.
- 2010 Ulti-Mate Connector Inc. becomes re-certified to ISO 9001.
- 2010 Using Six Sigma principles, Ulti-Mate Connector Inc. creates lean production cells for multiple products.
- 2010 Ulti-Mate Connector Inc. acquires the Molex CIC, formally Industrial Interface, product line of Industrial circular connector solutions.
- 2011 Ulti-Mate Connector Inc. re-qualifies to Mil-DTL-83513
- 2013 Ulti-Mate passes ISO 9001:2008 re-certification audit.

*Ulti-Mate is proud to continue our long-standing tradition of making our products in quality controlled plants here in the USA.*



*Our ability to meet the demanding environmental requirements of the geophysical exploration industry has made Ulti-Mate a leading supplier to the largest and most advanced companies in the field.*

## TECHNOLOGIES

- First Micro-D was introduced in the early 1960's.
- Originally designed to replace D-sub connectors in Military Missile applications.
- The design incorporated the size 24 contact in a reverse gender layout.
- Contact spacing of .050" yields 4 times the density of the D-sub.

## MARKET FACTS

- The leading end use market for micro/nano connectors is the military/aerospace market.
- The second leading market is commercial aviation which includes guidance and navigation, avionics, and cargo loading.
- Computer and peripherals, medical equipment, instrumentation and industrial, "niche" opportunities account for the balance of the market.
- Reduced size and reliable performance in difficult environments drive the use of micro/nano connectors.

## MICRO/NANO CONTACTS

- **Pin** - Precision formed size 24 contact assures dimensional repeatability, superior plating coverage, higher columnar strength, and a cost advantage over the previous twisted pin designs.
- **Socket** - Drawn size 24 and 30 closed tube design assures the highest levels of performance during shock and Vibration.

## WHAT YOU SHOULD KNOW

- MOST STANDARD OPTIONS  
Series M&P for metal, B for plastic  
Wire length: 18", 36" AND 72"  
Nickel plated shell  
Wire type "E", "26 AWG"  
Circuit style 6, 8 or 1





## P/N SMART REFERENCE

- **Using a smart part number ordering**

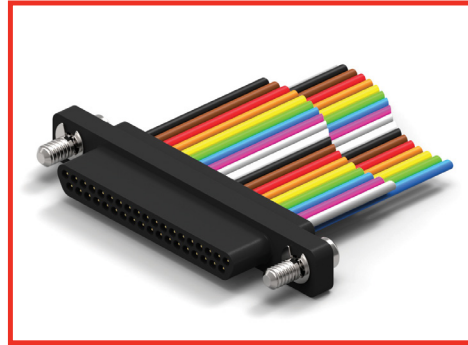
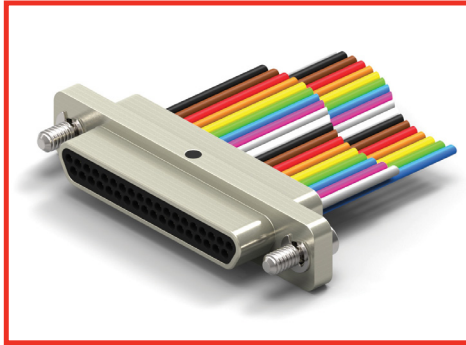
MR (Metal shell for wire or solder cup connector)  
BR (Plastic shell for wire or solder cup connector)  
APR (Low profile metal shell plug)  
AR (Low profile metal shell receptacle)  
PR (Low profile plastic shell)  
CM (Circuit series with metal shell)  
CB (Circuit series with plastic shell)  
SR (Strip series)

Any part number starting with M83513/XXXXXX

- **Customers can also order by their own part number**

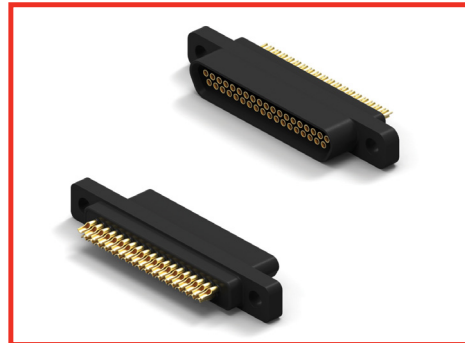


# MICRO-D SERIES



## WIRED

STANDARD PROFILE-METAL SHELL.....	10
STANDARD PROFILE-PLASTIC SHELL.....	12
LOW PROFILE-METAL SHELL.....	14
LOW PROFILE-PLASTIC SHELL.....	16



## SOLDERABLE

STANDARD PROFILE-METAL SHELL-SOLDERCUP.....	18
STANDARD PROFILE-PLASTIC SHELL-SOLDERCUP.....	20
LOW PROFILE-METAL SHELL-SOLDERCUP.....	22
LOW PROFILE-PLASTIC SHELL-SOLDERCUP.....	24



# PERFORMANCE DATA / MATERIALS AND FINISHES

10-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	8 mΩ max. @ 2.5 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	3 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	900 VAC at sea level, 300 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

18-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	8 mΩ max. @ 2.5 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	3 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	600 VAC at sea level, 150 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

10-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	6 oz max. (Contact average is 3 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.5 oz. min.
<b>CONNECTOR MATING FORCE:</b>	10 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	10 oz. x number of contacts min.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-27 Condition E
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

10-M&F	MATERIALS AND FINISHES
Pin Contacts	Beryllium Copper (C17200) per ASTM B194.
Socket Contacts	Copper alloy (C21000) per ASTM B36
Contact Plating	Gold plated per ASTM-B488. 50 microinches min. is the standard thickness.
Metal Shells	Aluminum alloy per SAE-AMS-QQ-A-200/8, type 6061-T6. Finish is cadmium per SAE-AMS-QQ-P-416, TYPE II, CLASS 3, with suitable underplate with yellow chromate, this plating is not RoHS compliant. Or Finish Electroless Nickel plate per SAE AMS2404, class 3 or 4, .0005 minimum thickness.
Insulator Material Shell	Polyphenylene sulfide (PPS) per MIL-M-24519 GST 40F or ASTM D5927. Color Black.
Interfacial Seals	Fluorosilicone elastomer per MIL-R-25988. Standard on "M" Series socket face.
Hardware	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

18-M&F	MATERIALS AND FINISHES
Pin Contacts	Beryllium Copper (C17200) per ASTM B194.
Socket Contacts	Leaded commercial bronze (C314000) per ASTM B140.
Contact Plating	Gold plated per ASTM-B488. 50 microinches min. is the standard thickness.
Metal Shells	Aluminum alloy per SAE-AMS-QQ-A-200/8, type 6061-T6. Finish is cadmium per SAE-AMS-QQ-P-416, TYPE II, CLASS 3, with suitable underplate with yellow chromate, this plating is not RoHS compliant. Or Finish Electroless Nickel plate per SAE AMS2404, class 3 or 4, .0005 minimum thickness.
Insulator Material Shell	Fluorosilicone elastomer per MIL-R-25988. Standard on "M" Series socket face.
Interfacial Seals	Polyphenylene sulfide (PPS) per MIL-M-24519 GST 40F or ASTM D5927. Color Black.
Hardware	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700






# WIRED CONNECTOR

- Standard Profile Metal Shell Connector w/Wire Leads
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 100 Contacts



## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options \*\*\* Leave blank if no hardware required.

M	R	51-3	P	Ø2 -	26	E	6 -	18.0 -	SØ1	
Series	Insulator	Contacts	Contact Gender	Hardware***	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range
M = Metal	R=PPS	Ø9	P=Male/Pin (Plug Side)	*Ø2 (12 for Size 1ØØ) 22 (Swaged)	24	C =Solid Wire, Uninsulated	1 = White	*18.0	Blank= Cadmium	*Blank =125C
		15			25	*E =Stranded w/Teflon Insulation, per NEMA HP3-EX	2 = Yellow	*36.0		HT = 200C
		21	S=Female/Socket (Receptacle Side)	Ø3 (13 for Size 1ØØ)	26*	F =Stranded, w/Teflon Insulation, per NEMA HP3-ET	3 = Tin plated (Solid Wire)		*SØ1 = Nickel	
		25			28	M =Stranded, w/Teflon Insulation, per SAE-AS22759/11	4 = Gold plated (Solid Wire)			
		31		*Ø5 (15 for Size 1ØØ)	3Ø	Y = Stranded w/ Tefzel Insulation, per SAE-AS22759/33	5 = Color Code per MIL-STD-681 (Non-Repeating Colors)		SØ3 = Black Anodize	
		37					*6 =1Ø Solid Colors, Repeating			
				Ø6 (16 for Size 1ØØ)					SØ6 =Olive-Drab Cadmium	
		51-3								
				Ø7 (17 for Size 1ØØ)					SØ7 =Titanium	
		1ØØ								
									SØ9 =Stainless	
										

### ELECTRICAL PERFORMANCE DATA

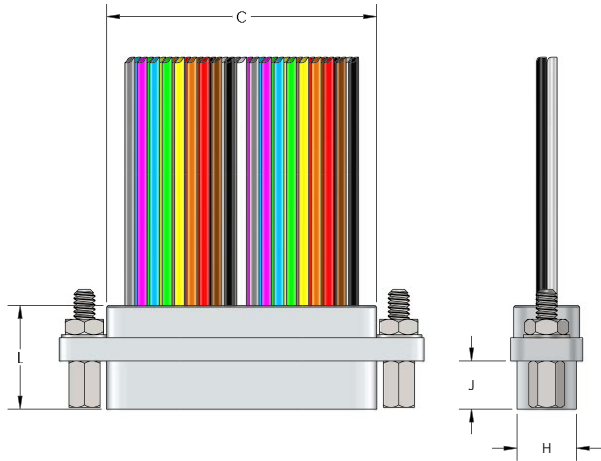
Go to Page 9 See chart 10 E or Click Here for Electrical Performance Data

### MECHANICAL PERFORMANCE DATA

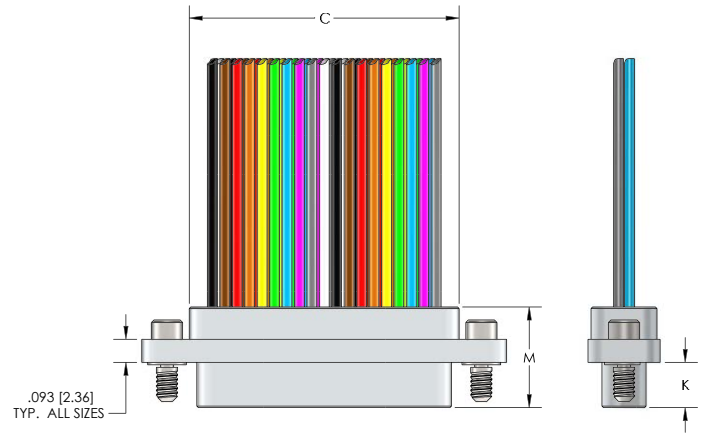
Go to Page 9 See chart 10 M or Click Here for Mechanical Performance Data

### MATERIALS AND FINISHES DATA

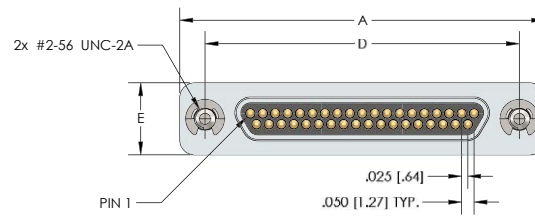
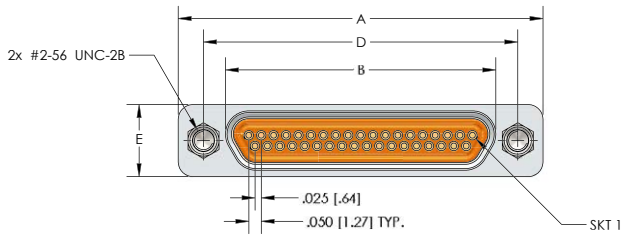
Go to Page 9 See chart 10 M&F or Click Here for Materials and Finishes Data



RECEPTACLE (SOCKETS)



PLUG (PINS)



Size	ALL	M SERIES								
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.402 (10.21)	.393 (9.98)	.565 (14.35)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
15	.935 (23.75)	.552 (14.02)	.543 (13.79)	.715 (18.16)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
21	1.085 (27.56)	.702 (17.83)	.693 (17.60)	.865 (21.47)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
25	1.185 (30.10)	.802 (20.37)	.793 (20.14)	.965 (24.51)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
31	1.335 (33.91)	.952 (24.18)	.943 (23.95)	1.115 (28.32)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
37	1.485 (37.72)	1.102 (27.99)	1.093 (27.76)	1.265 (32.13)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
51	1.435 (36.45)	1.054 (26.77)	1.041 (26.44)	1.215 (30.86)	.297 (7.54)	.351 (8.92)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
100	2.165 (54.99)	1.505 (38.23)	1.442 (36.63)	1.800 (45.72)	.394 (10.00)	.394 (10.00)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)











# WIRED CONNECTOR

- Standard Profile Plastic Shell Connector w/Wire Leads
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 100 Contacts



## HOW TO ORDER

\* Indicates preferred standard \*\*\* Leave blank if no hardware required.

B	R	51-3	P	Ø -	26	E	6 -	18.0	
Series	Insulator	Contacts	Contact Gender	Hardware***	Wire Gauge	Wire Type	Color Code	Length	Temp Range
B=Plastic Shell	R=PPS	09	P=Male/Pin (Plug Side)	*Ø2 (12 for Size 100) 22 (Swaged)	24	C = Solid Wire, Uninsulated	1 = White	*18.0	*Blank =125C
		15			25	*E = Stranded w/Teflon Insulation, per NEMA HP3-EX	2 = Yellow	*36.0	HT = 200C
		21	S=Female/Socket (Receptacle Side)	Ø3 (13 for Size 100)	26*	F = Stranded, w/Teflon Insulation, per NEMA HP3-ET	3 = Tin plated (Solid Wire)		
		25			28	M = Stranded, w/Teflon Insulation, per SAE-AS22759/11	4 = Gold plated (Solid Wire)		
		31		*Ø5 (15 for Size 100)	30	Y = Stranded w/Tefzel Insulation, per SAE-AS22759/33	5 = Color Code per MIL-STD-681 (Non-Repeating Colors)		
		37					*6 = 10 Solid Colors, Repeating		
				Ø6 (16 for Size 100)					
		51-3							
				Ø7 (17 for Size 100)					
		100							
									

### ELECTRICAL PERFORMANCE DATA

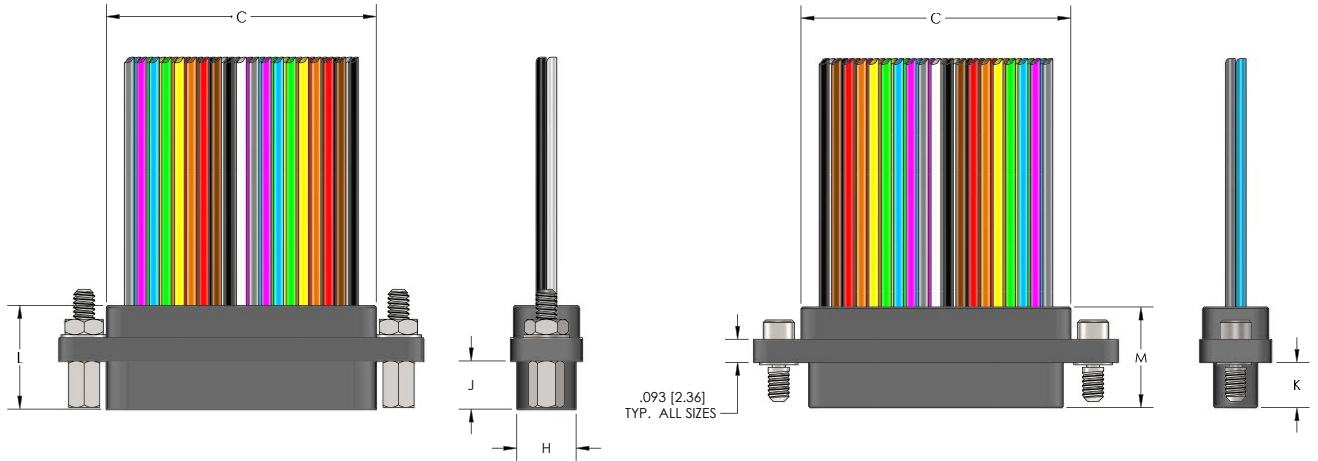
Go to Page 9 See chart 10 E or Click Here for Electrical Performance Data

### MECHANICAL PERFORMANCE DATA

Go to Page 9 See chart 10 M or Click Here for Mechanical Performance Data

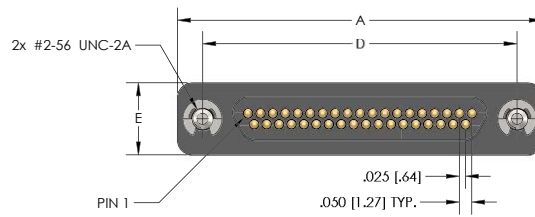
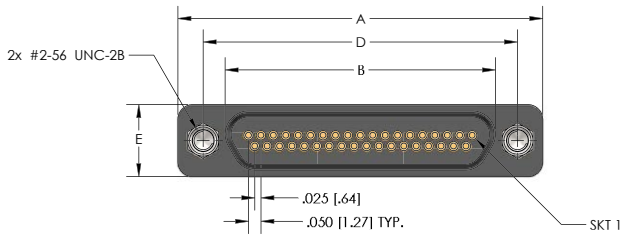
### MATERIALS AND FINISHES DATA

Go to Page 9 See chart 10 M&F or Click Here for Materials and Finishes Data



**RECEPTACLE (SOCKETS)**

**PLUG (PINS)**



Size	ALL		M SERIES							
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.402 (10.21)	.393 (9.98)	.565 (14.35)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
15	.935 (23.75)	.552 (14.02)	.543 (13.79)	.715 (18.16)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
21	1.085 (27.56)	.702 (17.83)	.693 (17.60)	.865 (21.47)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
25	1.185 (30.10)	.802 (20.37)	.793 (20.14)	.965 (24.51)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
31	1.335 (33.91)	.952 (24.18)	.943 (23.95)	1.115 (28.32)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
37	1.485 (37.72)	1.102 (27.99)	1.093 (27.76)	1.265 (32.13)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
51	1.435 (36.45)	1.054 (26.77)	1.041 (26.44)	1.215 (30.86)	.297 (7.54)	.351 (8.92)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
100	2.165 (54.99)	1.505 (38.23)	1.442 (36.63)	1.800 (45.72)	.394 (10.00)	.394 (10.00)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
















# WIRED CONNECTOR

- Standard Profile Metal Shell Connector w/Wire Leads
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts

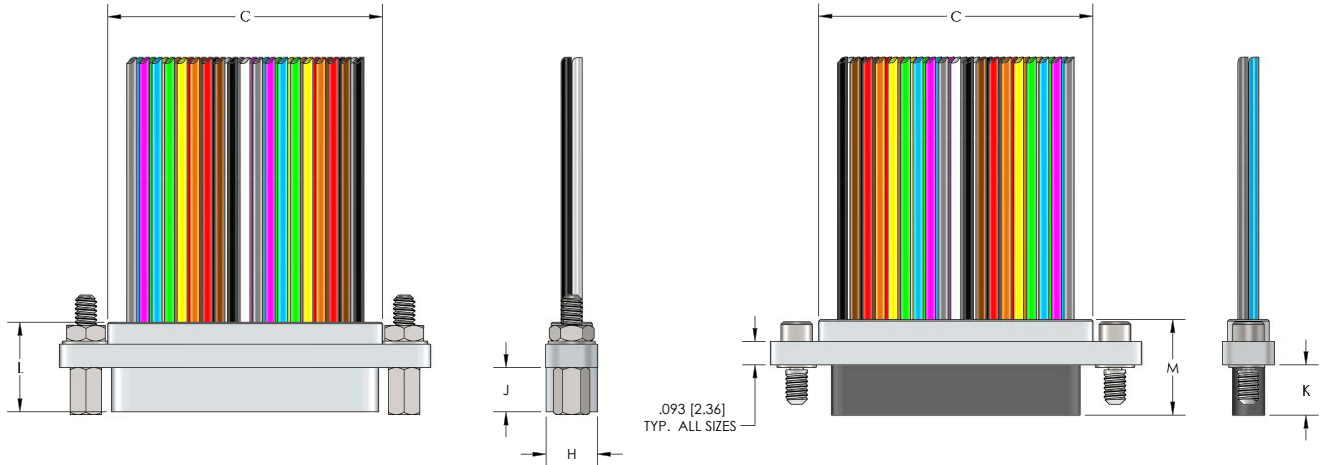


## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options \*\*\* Leave blank if no hardware required.

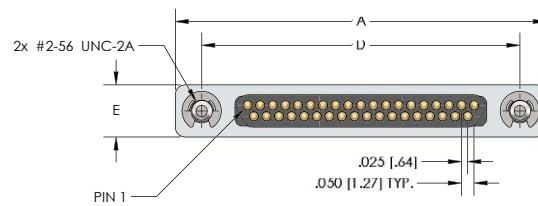
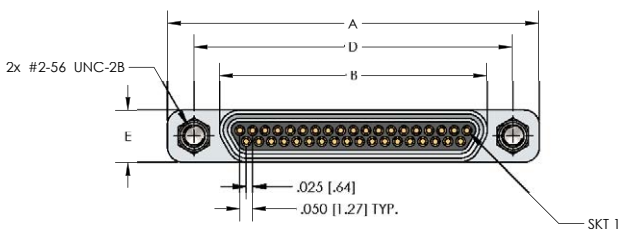
Series	Insulator	Contacts	Contact Gender	Hardware***	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range
A = Metal Shell (Receptacle)	R = PPS	9	P= Male/ Pin (Plug Side)	*Ø2 (12 for Size 1ØØ) 22 (Swaged)	24	C =Solid Wire, Uninsulated	1 = White	*18.Ø	Blank= Cadmium	*Blank =125C
		15			25	*E =Stranded w/Teflon Insulation, per NEMA HP3-EX	2 = Yellow	*36.Ø		HT = 2ØØC
AP = Metal Shell w/Plastic shroud (Plug)		21	S= Female/Socket (Receptacle Side)	Ø3 (13 for Size 1ØØ)	26*	F =Stranded, w/Teflon Insulation, per NEMA HP3-ET	3 = Tin plated (Solid Wire)		*SØ1= Nickel	
		25			28	M =Stranded, w/Teflon Insulation, per SAE-AS22759/11	4 = Gold plated (Solid Wire)			
		31		*Ø5 (15 for Size 1ØØ)	3Ø	Y = Stranded w/ Tefzel Insulation, per SAE-AS22759/33	5 = Color Code per MIL-STD-681 (Non-Repeating Colors)		SØ3 = Black Anodize	
		37					*6 =1Ø Solid Colors, Repeating			
				Ø6 (16 for Size 1ØØ)					SØ6 = Olive-Drab Cadmium	
		51-3								
				Ø7 (17 for Size 1ØØ)					SØ7 =Titanium	
										
								SØ9 =Stainless		
										

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 10 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 10 M or Click Here for Mechanical Performance Data
<b>MATERIALS AND FINISHES DATA</b>	Go to Page 9 See chart 10 M&F or Click Here for Materials and Finishes Data



**RECEPTACLE (SOCKETS)**

**PLUG (PINS)**



Size	ALL		A SERIES								
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	G Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.376 (9.55)	.393 (9.98)	.565 (14.35)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
15	.935 (23.75)	.526 (13.36)	.543 (13.79)	.715 (18.16)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
21	1.085 (27.56)	.693 (17.17)	.693 (17.60)	.865 (21.97)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
25	1.185 (30.10)	.776 (19.71)	.793 (20.14)	.965 (24.51)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
31	1.335 (33.91)	.926 (23.52)	.943 (23.95)	1.115 (28.32)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
37	1.485 (37.72)	1.076 (27.33)	1.093 (27.76)	1.265 (32.13)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
51-3	1.435 (36.45)	1.026 (26.06)	1.041 (26.44)	1.215 (30.86)	.254 (6.45)	.254 (6.45)	.223 (5.66)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)










# WIRED CONNECTOR

- Low Profile Plastic Shell Connector w/Wire Leads
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



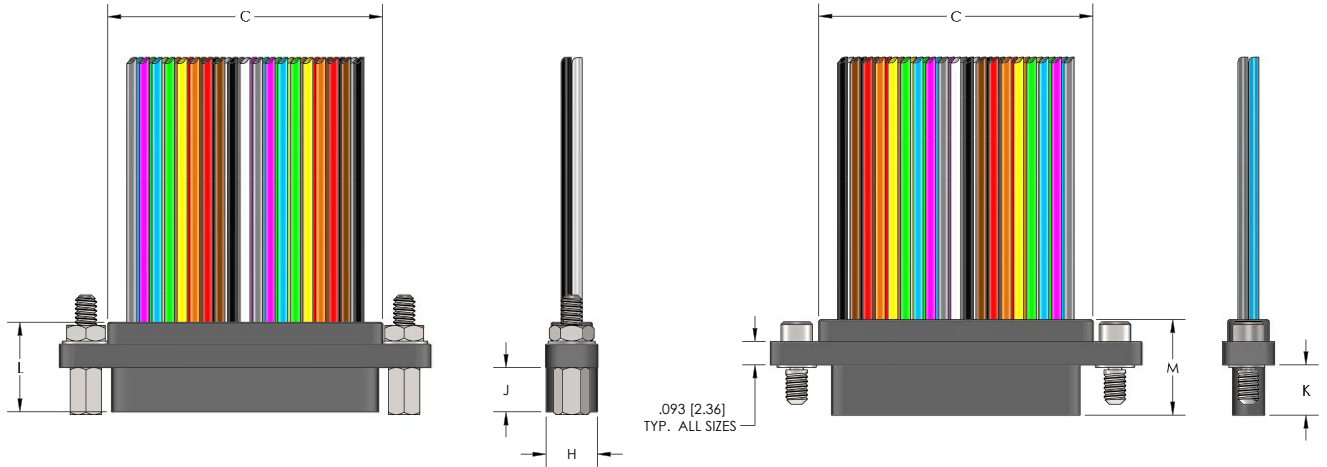
## HOW TO ORDER

\* Indicates preferred standard \*\*\* Leave blank if no hardware required.

Series	Insulator	Contacts	Contact Gender	Hardware***	Wire Gauge	Wire Type	Color Code	Length	Temp Range
B=Plastic Shell	R = PPS	9	P = Male / Pin (Plug Side)	*Ø2	24	C = Solid Wire, Uninsulated	1 = White	*18.Ø	*Blank =125C
		15			25	*E = Stranded w/Teflon Insulation, per NEMA HP3-EX	2 = Yellow	*36.Ø	HT = 2ØØC
		21	T = Female/Socket (Receptacle Side)	Ø3	26*	F = Stranded, w/Teflon Insulation, per NEMA HP3-ET	3 = Tin plated (Solid Wire)		
		25			28	M = Stranded, w/Teflon Insulation, per SAE-AS22759/11	4 = Gold plated (Solid Wire)		
		31		*Ø5	3Ø	Y = Stranded w/Tefzel Insulation, per SAE-AS22759/33	5 = Color Code per MIL-STD-681 (Non-Repeating Colors)		
		37					*6 = 1Ø Solid Colors, Repeating		
				Ø6					
		51-3							
				Ø7					
									

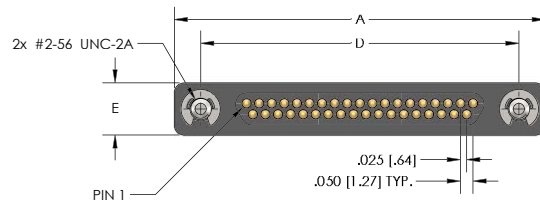
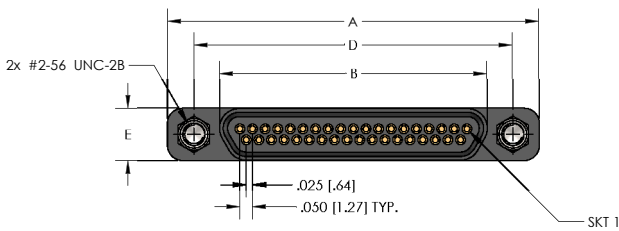
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 10 M or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 10 E or Click Here for Electrical Performance Data
<b>MATERIALS AND FINISHES DATA</b>	Go to Page 9 See chart 10 M&F or Click Here for Materials and Finishes Data





RECEPTACLE (SOCKETS)

PLUG (PINS)



Size	ALL		P SERIES								
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	G Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.376 (9.55)	.393 (9.98)	.565 (14.35)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
15	.935 (23.75)	.526 (13.36)	.543 (13.79)	.715 (18.16)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
21	1.085 (27.56)	.693 (17.17)	.693 (17.60)	.865 (21.97)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
25	1.185 (30.10)	.776 (19.71)	.793 (20.14)	.965 (24.51)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
31	1.335 (33.91)	.926 (23.52)	.943 (23.95)	1.115 (28.32)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
37	1.485 (37.72)	1.076 (27.33)	1.093 (27.76)	1.265 (32.13)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
51-3	1.435 (36.45)	1.026 (26.06)	1.041 (26.44)	1.215 (30.86)	.254 (6.45)	.254 (6.45)	.223 (5.66)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)

















# FIELD SOLDERABLE CONNECTOR

- Standard Profile Metal Shell Connector w/Solder Cup Contacts
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 100 Contacts Accepting 24 AWG Wire

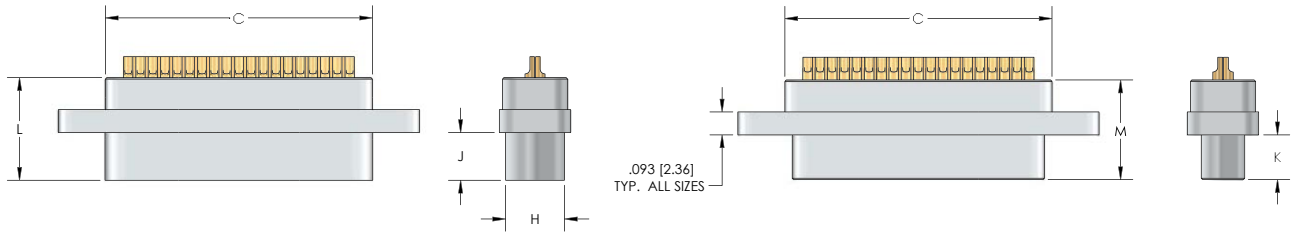


## HOW TO ORDER

\* Indicates preferred standard, \*\* Consult factory for other plating options \*\*\* Leave blank if no hardware required.

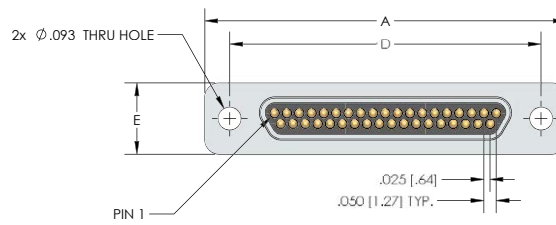
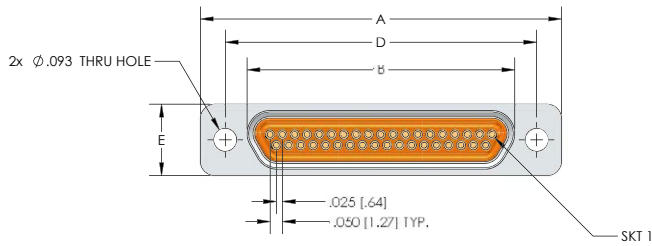
M	R	51-3	N	Ø	- SØ1	
Series	Insulator	Contacts	Contact Gender	Hardware***	Finish**	Temp Range
M=Metal	R=PPS	Ø9	N= Male / Pin (Plug Side)	*Ø2 (12 for Size 1ØØ) 22 (Swaged)	Blank= Cadmium	*Blank =125C
		15				HT = 2ØØC
		21	T = Female/Socket (Receptacle Side)	Ø3 (13 for Size 1ØØ)	*SØ1 = Nickel	
		25				
		31	TT = Female/Socket (Receptacle Side) for 24 AWG wire	*Ø5 (15 for Size 1ØØ)	SØ3 = Black Anodize	
		37				
				Ø6 (16 for Size 1ØØ)	SØ6 = Olive-Drab Cadmium	
		51-3				
				Ø7 (17 for Size 1ØØ)	SØ7 =Titanium	
		1ØØ				
					SØ9=Stainless	
						

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 M or Click Here for Mechanical Performance Data
<b>MATERIALS AND FINISHES DATA</b>	Go to Page 9 See chart 18 M&F or Click Here for Materials and Finishes Data



RECEPTACLE (SOCKETS)

PLUG (PINS)



Size	ALL		M SERIES							
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.402 (10.21)	.393 (9.98)	.565 (14.35)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
15	.935 (23.75)	.552 (14.02)	.543 (13.79)	.715 (18.16)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
21	1.085 (27.56)	.702 (17.83)	.693 (17.60)	.865 (21.47)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
25	1.185 (30.10)	.802 (20.37)	.793 (20.14)	.965 (24.51)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
31	1.335 (33.91)	.952 (24.18)	.943 (23.95)	1.115 (28.32)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
37	1.485 (37.72)	1.102 (27.99)	1.093 (27.76)	1.265 (32.13)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
51	1.435 (36.45)	1.054 (26.77)	1.041 (26.44)	1.215 (30.86)	.297 (7.54)	.351 (8.92)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
100	2.165 (54.99)	1.505 (38.23)	1.442 (36.63)	1.800 (45.72)	.394 (10.00)	.394 (10.00)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)








# FIELD SOLDERABLE CONNECTOR

- Standard Profile Plastic Shell Connector w/Solder Cup Contacts
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 100 Contacts Accepting 24 AWG Wire

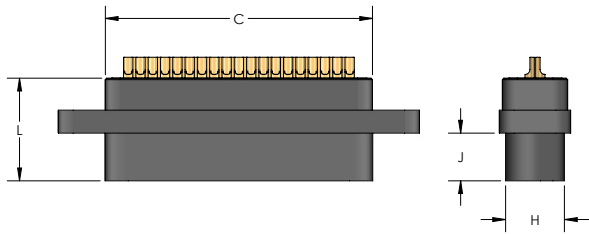


## HOW TO ORDER

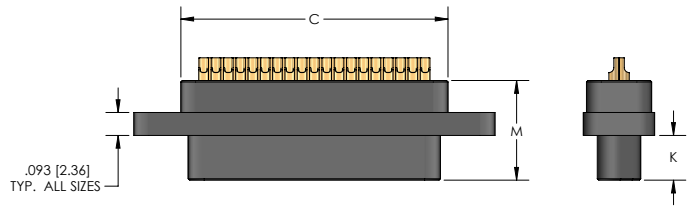
\* Indicates preferred standard \*\*\* Leave blank if no hardware required.

B	R	51-3	N	Ø	
Series	Insulator	Contacts	Contact Gender	Hardware***	Temp Range
B = Plastic Shell	R=PPS	Ø9	N= Male / Pin (Plug Side)	*Ø2 (12 for Size 1ØØ) 22 (Swaged)	*Blank =125C
		15			HT = 200C
		21	T = Female/Socket (Receptacle Side)	Ø3 (13 for Size 1ØØ)	
		25			
		31	TT = Female/Socket (Receptacle Side) for 24 AWG wire	*Ø5 (15 for Size 1ØØ)	
		37			
		51-3		Ø6 (16 for Size 1ØØ)	
		1ØØ			
				Ø7 (17 for Size 1ØØ)	
					

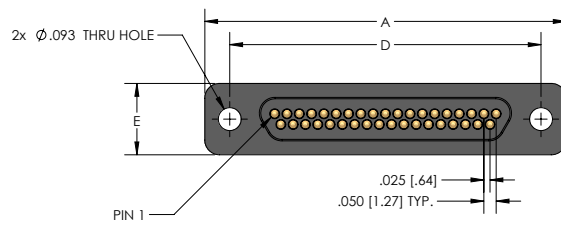
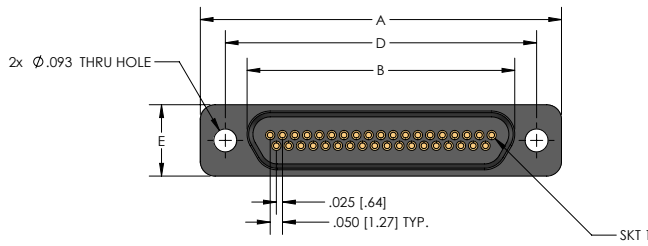
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 M or Click Here for Mechanical Performance Data
<b>MATERIALS AND FINISHES DATA</b>	Go to Page 9 See chart 18 M&F or Click Here for Materials and Finishes Data



RECEPTACLE (SOCKETS)



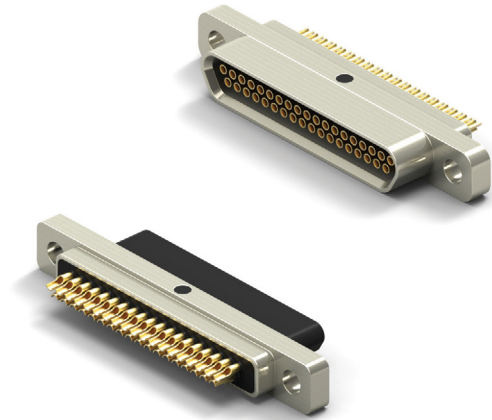
PLUG (PINS)



Size	ALL		B SERIES							
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.402 (10.21)	.393 (9.98)	.565 (14.35)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
15	.935 (23.75)	.552 (14.02)	.543 (13.79)	.715 (18.16)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
21	1.085 (27.56)	.702 (17.83)	.693 (17.60)	.865 (21.47)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
25	1.185 (30.10)	.802 (20.37)	.793 (20.14)	.965 (24.51)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
31	1.335 (33.91)	.952 (24.18)	.943 (23.95)	1.115 (28.32)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
37	1.485 (37.72)	1.102 (27.99)	1.093 (27.76)	1.265 (32.13)	.248 (6.30)	.308 (7.83)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
51	1.435 (36.45)	1.054 (26.77)	1.041 (26.44)	1.215 (30.86)	.297 (7.54)	.351 (8.92)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)
100	2.165 (54.99)	1.505 (38.23)	1.442 (36.63)	1.800 (45.72)	.394 (10.00)	.394 (10.00)	.199 (5.05)	.187 (4.75)	.429 (10.90)	.416 (10.57)

















# FIELD SOLDERABLE CONNECTOR

- Low Profile Metal Shell Connector w/Solder Cup Contacts
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts Accepting 24 AWG Wire

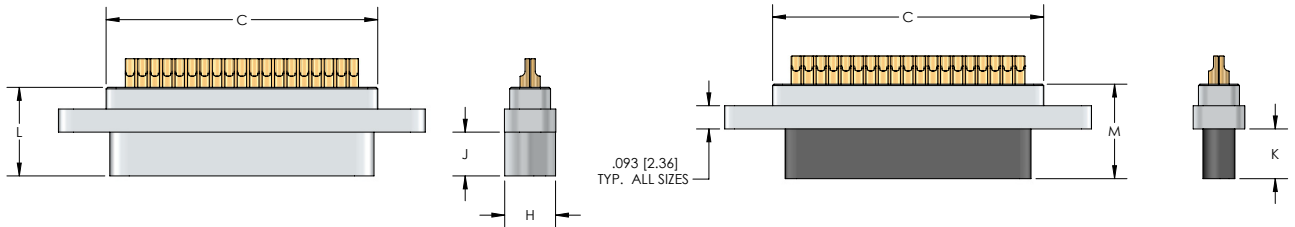


## HOW TO ORDER

\* Indicates preferred standard \*\*\* Leave blank if no hardware required.

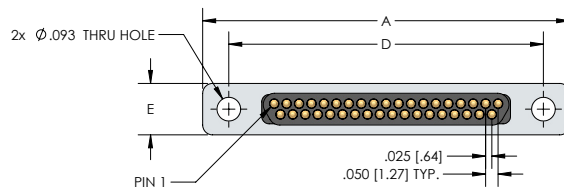
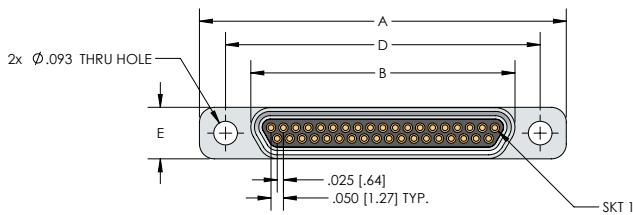
Series	Insulator	Contacts	Contact Gender	Hardware***	Finish**	Temp Range
A = Metal Shell (Receptacle)	R=PPS	09	N= Male / Pin (Plug Side)	*02 (12 for Size 100) 22 (Swaged)	Blank= Cadmium	*Blank =125C
		15				HT = 200C
AP = Metal Shell w/Plastic shroud (Plug)		21	T = Female/Socket (Receptacle Side)	03 (13 for Size 100)	*S01 = Nickel	
		25				
		31	TT = Female/Socket (Receptacle Side) for 24 AWG wire	*05 (15 for Size 100)	S03 = Black Anodize	
		37				
				06 (16 for Size 100)	S06 = Olive-Drab Cadmium	
		51-3				
				07 (17 for Size 100)	S07 = Titanium	
		100				
					S09 = Stainless	
						

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 M or Click Here for Mechanical Performance Data
<b>MATERIALS AND FINSHES DATA</b>	Go to Page 9 See chart 18 M&F or Click Here for Materials and Finishes Data



RECEPTACLE (SOCKETS)

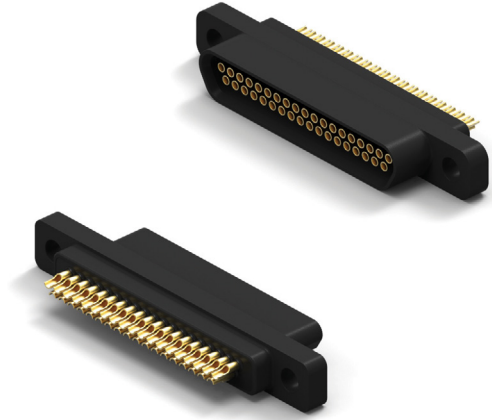
PLUG (PINS)



Size	ALL		A SERIES								
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	G Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.376 (9.55)	.393 (9.98)	.565 (14.35)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
15	.935 (23.75)	.526 (13.36)	.543 (13.79)	.715 (18.16)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
21	1.085 (27.56)	.693 (17.17)	.693 (17.60)	.865 (21.97)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
25	1.185 (30.10)	.776 (19.71)	.793 (20.14)	.965 (24.51)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
31	1.335 (33.91)	.926 (23.52)	.943 (23.95)	1.115 (28.32)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
37	1.485 (37.72)	1.076 (27.33)	1.093 (27.76)	1.265 (32.13)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
51-3	1.435 (36.45)	1.026 (26.06)	1.041 (26.44)	1.215 (30.86)	.254 (6.45)	.254 (6.45)	.223 (5.66)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)








# FIELD SOLDERABLE CONNECTOR

- Low Profile Plastic Shell Connector w/Solder Cup Contacts
- Environmentally Sealed
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts Accepting 24 AWG Wire



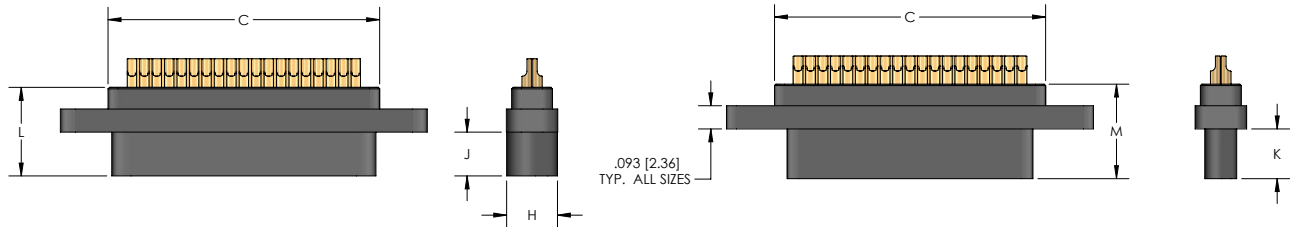
## HOW TO ORDER

\* Indicates preferred standard \*\*\* Leave blank if no hardware required.

P	R	51-3	N	Ø	
Series	Insulator	Contacts	Contact Gender	Hardware***	Temp Range
P = Plastic Shell	R=PPS	Ø9	N= Male / Pin (Plug Side)	*Ø2 (12 for Size 1ØØ) 22 (Swaged)	*Blank =125C
		15			HT = 200C
		21	T = Female/Socket (Receptacle Side)	Ø3 (13 for Size 1ØØ)	
		25			
		31	TT = Female/Socket (Receptacle Side) for 24 AWG wire	*Ø5 (15 for Size 1ØØ)	
		37			
		51-3		Ø6 (16 for Size 1ØØ)	
					
				Ø7 (17 for Size 1ØØ)	
					

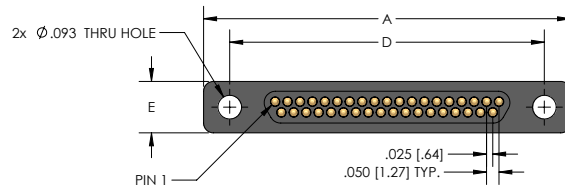
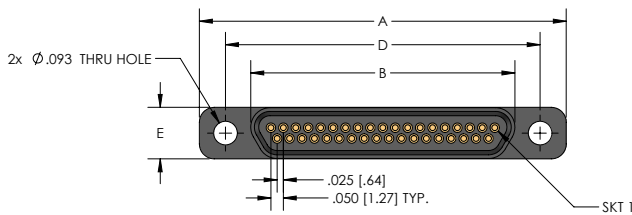
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 9 See chart 18 M or Click Here for Mechanical Performance Data
<b>MATERIALS AND FINISHES DATA</b>	Go to Page 9 See chart 18 M&F or Click Here for Materials and Finishes Data





**RECEPTACLE (SOCKETS)**

**PLUG (PINS)**



Size	ALL		P SERIES								
	A Max.	B Max.	C Max.	D Max.	H Max.	E Max.	G Max.	J Max. (Skt)	K Max. (Pin)	L Max. (Skt)	M Max. (Pin)
9	.785 (19.94)	.376 (9.55)	.393 (9.98)	.565 (14.35)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
15	.935 (23.75)	.526 (13.36)	.543 (13.79)	.715 (18.16)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
21	1.085 (27.56)	.693 (17.17)	.693 (17.60)	.865 (21.97)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
25	1.185 (30.10)	.776 (19.71)	.793 (20.14)	.965 (24.51)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
31	1.335 (33.91)	.926 (23.52)	.943 (23.95)	1.115 (28.32)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
37	1.485 (37.72)	1.076 (27.33)	1.093 (27.76)	1.265 (32.13)	.218 (5.54)	.218 (5.54)	.174 (4.42)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)
51-3	1.435 (36.45)	1.026 (26.06)	1.041 (26.44)	1.215 (30.86)	.254 (6.45)	.254 (6.45)	.223 (5.66)	.182 (4.62)	.209 (5.31)	.375 (9.57)	.395 (10.03)

# NANO-D SERIES

## WIRED

SINGLE ROW-SINGLE ENDED-METAL SHELL .....	34
SINGLE ROW-DOUBLE ENDED-METAL SHELL .....	36
DUAL ROW-SINGLE ENDED-METAL SHELL .....	38
DUAL ROW-SINGLE ENDED-PLASTIC SHELL .....	40
DUAL ROW-DOUBLE ENDED-METAL SHELL .....	42
DUAL ROW-DOUBLE ENDED-PLASTIC SHELL .....	44

NANO D

## PERFORMANCE DATA

123-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	.080 mΩ max.@ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min..

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

## MATERIALS AND FINISHES

123-M&F	MATERIALS AND FINISHES
Pin Contacts	Pins: BeCu alloy strip per ASTM-B-194
Socket Contacts	Sockets: BeCu per ASTM-B-194
Contact Plating	Gold plate per ASTM B488, or SAE AMS 2422
Metal Shells	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
Molded Insulators into Metal housing	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
Hardware	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

126-M&F	MATERIALS AND FINISHES
Pin Contacts	Pins: BeCu alloy strip per ASTM-B-194
Socket Contacts	Sockets: BeCu per ASTM-B-194
Contact Plating	Gold plate per ASTM B488, or SAE AMS 2422
Molded Full plastic housing:	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
Hardware	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

# NANO-D SERIES

## CIRCUIT RIGHT ANGLE

SINGLE ROW-PLATED THRU HOLE-METAL SHELL .....	46
SINGLE ROW-SURFACE MOUNT-METAL SHELL .....	50
DUAL ROW-PLATED THRU HOLE-METAL SHELL.....	54
DUAL ROW-PLATED THRU HOLE-PLASTIC SHELL.....	58
DUAL ROW-SURFACE MOUNT-METAL SHELL.....	62
DUAL ROW-SURFACE MOUNT-PLASTIC SHELL.....	66
DUAL ROW-(EXTEND PROFILE-FEMALE ONLY) SURFACE MOUNT-METAL SHELL.....	70
DUAL ROW-(EXTEND PROFILE-FEMALE ONLY) SURFACE MOUNT-PLASTIC SHELL.....	74

## PERFORMANCE DATA

133-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	0.033 mΩ max.@ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

## MATERIALS AND FINISHES

131-M&F	MATERIALS AND FINISHES
Pin Contacts	Pins: BeCu alloy strip per ASTM-B-194
Socket Contacts	Sockets: BeCu per ASTM-B-194
Contact Plating	Gold plate per ASTM B488, or SAE AMS 2422
Metal Shells	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
Molded Insulators into Metal housing	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
Alignment Post	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

126-M&F	MATERIALS AND FINISHES
Pin Contacts	Pins: BeCu alloy strip per ASTM-B-194
Socket Contacts	Sockets: BeCu per ASTM-B-194
Contact Plating	Gold plate per ASTM B488, or SAE AMS 2422
Molded Full plastic housing:	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
Hardware	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

# NANO-D SERIES

## CIRCUIT

SINGLE ROW-PLATED THRU HOLE-METAL SHELL .....	78
SINGLE ROW-SURFACE MOUNT-METAL SHELL .....	82

## PERFORMANCE DATA

133-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	0.033 mΩ max.@ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

## MATERIALS AND FINISHES

145-M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Metal Shells</b>	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
<b>Molded Insulators into Metal Housing</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass

146-M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Molded Full Plastic Housing:</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
<b>Hardware</b>	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

# NANO-D SERIES

## CIRCUIT

DUAL ROW-PLATED THRU HOLE-METAL SHELL.....	86
DUAL ROW-PLATED THRU HOLE-PLASTIC SHELL.....	90
DUAL ROW-SURFACE MOUNT-METAL SHELL.....	94
DUAL ROW-SURFACE MOUNT-PLASTIC SHELL.....	96
DUAL ROW-(LOW PROFILE-MALE ONLY) SURFACE MOUNT-METAL SHELL.....	102
DUAL ROW-(LOW PROFILE-MALE ONLY) SURFACE MOUNT-PLASTIC SHELL.....	106

## PERFORMANCE DATA

133-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	0.033 mΩ max.@ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

## MATERIALS AND FINISHES

139 -M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Socket Contacts</b>	Sockets: BeCu per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Metal Shells</b>	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
<b>Molded Insulators into Metal Housing</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass

142 144-M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Socket Contacts</b>	Sockets: BeCu per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Molded Full Plastic Housing:</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
<b>Hardware</b>	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

# NANO-D SERIES

## LATCHING

### WIRED

DUAL ROW-SINGLE ENDED-METAL SHELL.....	110
DUAL ROW-DOUBLE ENDED-METAL SHELL.....	112

## PERFORMANCE DATA

123-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	.080 mΩ max.@ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min..

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

## MATERIALS AND FINISHES

149-M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Socket Contacts</b>	Sockets: BeCu per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Metal Shells</b>	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
<b>Molded Insulators into Metal housing</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
<b>Hardware</b>	Polyphenylene Sulfide (PPS), per MIL-M-24519 GST-40F, 40% Glass

# NANO-D SERIES

## LATCHING CIRCUIT

DUAL ROW-VERTICAL-PLATED THRU HOLE-METAL SHELL.....	114
DUAL ROW-VERTICAL-SURFACE MOUNT-METAL SHELL.....	118
DUAL ROW-RIGHT ANGLE-PLATED THRU HOLE-METAL SHELL .....	122
DUAL ROW-RIGHT ANGLE-SURFACE MOUNT-METAL SHELL .....	126
DUAL ROW-RIGHT ANGLE-SURFACE MOUNT-(EXTEND PROFILE,FEMALE ONLY)-METAL SHELL .....	130

## PERFORMANCE DATA

133-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	0.033 mΩ max. @ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

## MATERIALS AND FINISHES

131-M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Socket Contacts</b>	Sockets: BeCu per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Metal Shells</b>	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
<b>Molded Insulators into Metal housing</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
<b>Alignment Post</b>	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

# NANO-D SERIES

## FIELD ATTACHABLE

DUAL ROW-METAL SHELL.....	134
DUAL ROW-PLASTIC SHELL.....	136
CIRCULAR INLINE-PLASTIC SHELL.....	138

### PERFORMANCE DATA

133-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	0.033 mΩ max.@ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level , 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min.

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

### MATERIALS AND FINISHES

126-M&F	MATERIALS AND FINISHES
<b>Pin Contacts</b>	Pins: BeCu alloy strip per ASTM-B-194
<b>Socket Contacts</b>	Sockets: BeCu per ASTM-B-194
<b>Contact Plating</b>	Gold plate per ASTM B488, or SAE AMS 2422
<b>Molded Full plastic housing:</b>	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
<b>Hardware</b>	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700



# NANO-D SERIES

## CIRCULAR WIRED

METAL BREAK AWAY WIRED-INLINE .....	140
PLASTIC WIRED-INLINE.....	142

### PERFORMANCE DATA

123-E	ELECTRICAL
<b>CONTACT RESISTANCE:</b>	.080 mΩ max. @ 1.0 A
<b>CURRENT RATING (SIGNAL CONTACTS):</b>	1.0 A max.
<b>DIELECTRIC WITHSTANDING VOLTAGE:</b>	250 VAC at sea level, 100 VAC at 70,000 ft.
<b>INSULATION RESISTANCE:</b>	5,000 MΩ min..

123-M	MECHANICAL
<b>CONTACT ENGAGING FORCE:</b>	5 oz max. (Contact average is 2 oz.)
<b>CONTACT SEPARATING FORCE:</b>	0.4 oz. min.
<b>CONNECTOR MATING FORCE:</b>	7 oz. x number of contacts max.
<b>CONNECTOR UNMATING FORCE:</b>	7 oz. x number of contacts max.
<b>VIBRATION:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>SHOCK:</b>	No damage or interruption detected (one microsecond sensitivity) EIA-364-28 Condition IV
<b>DURABILITY:</b>	No mechanical or electrical defects after 500 matings.
<b>SALT SPRAY:</b>	No exposure of base metal or loss of performance after 96 hours for both Nickel and Cadmium plating

### MATERIALS AND FINISHES

122-M&F	MATERIALS AND FINISHES
Pin Contacts	Pins: BeCu alloy strip per ASTM-B-194
Socket Contacts	Sockets: BeCu per ASTM-B-194
Contact Plating	Gold plate per ASTM B488, or SAE AMS 2422
Metal Shells	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or electrodeposited cadmium plating per SAE-AMS-QQ-P-416, Type II, class 3, with Yellow Chromate or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582, Titanium Alloy per MIL-T-81556, Unplated
Molded Insulators into Metal housing	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass
Hardware	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M, Passivated per SAE AMS-2700

113-M&F	MATERIALS AND FINISHES
Pin Contacts	Pins: BeCu alloy strip per ASTM-B-194
Socket Contacts	Sockets: BeCu per ASTM-B-194
Contact Plating	Gold plate per ASTM B488, or SAE AMS 2422
Metal Shells	Aluminum alloy per SAE-AMS-QQ-A-200/8, Type 6061-T6, with electroless nickel SAE AMS2404, class 3 or 4 or Anodize per Mil-A-8625, Type III, Class 2, Black, Stainless Steel per ASTM A582 Passivated per SAE AMS-2700
Molded Insulators	Insulating compound per MIL-I-16923. Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass

# WIRED CONNECTOR
















- Metal Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



## HOW TO ORDER

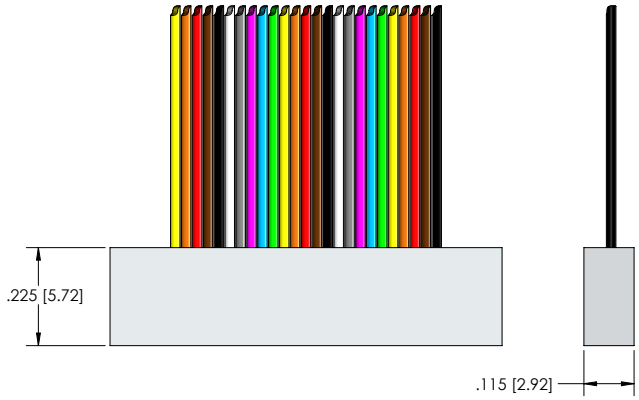
\* Indicates preferred standard \*\* Consult factory for other plating options

**N M L 25 - 1 P Ø2 - 3Ø F 6 - 18.Ø - SØ1**

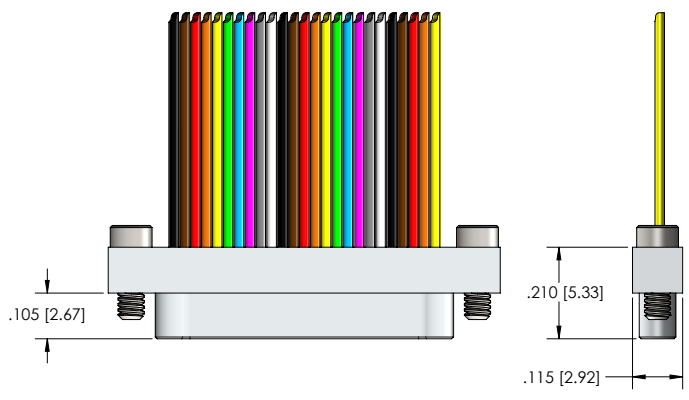
N	M	L	25	1	P	Ø2	3Ø	F	6	18.Ø	SØ1	
Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware***	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range	
N = Nano	M = Metal	L = LCP	Ø9	1 = Single Row	P = Male/Pin (Plug Side)	Ø1 = Phillips Head Jackscrew	3Ø*	C = Solid Wire, uninsulated	1 = White	*18.Ø	Blank = Cadmium	*blank = 125C
			15				32	*F = Stranded, w/Teflon insulation, per NEMA HP3-ET	3 = Tin plated (6Ø/4Ø) (solid wire)	*36.Ø		HT = 2ØØ°C
			21		S = Female/Socket (Receptacle Side)	Ø2 = Allen Head Jackscrew	34	Y = Stranded w/Tefzel insulation, per SAE AS22759/33	4 = Gold plated (RoHS) (solid wire)		*SØ1 = Nickel	
			25					A = Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)	*6 = 10 solid colors, repeating			
			31			Ø5 = Slotted Head Jackscrew		T = Flat Integral Tail			SØ3 = Black Anodize	
			37									
			51			Ø6 = Floating Phillips Head Jackscrew (Female Only)					SØ6 = Olive-Drab Cadmium	
												
						Ø7 = Threaded Hole					SØ7 = Titanium	
												
						Ø8 = Floating Allen Head Jackscrew (Female Only)					SØ9 = Stainless	
												
						Ø9 = Floating Slotted Head Jackscrew (Female Only)						
												

<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 E or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Electrical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 123 M&F or Click Here for Materials and Finishes Data

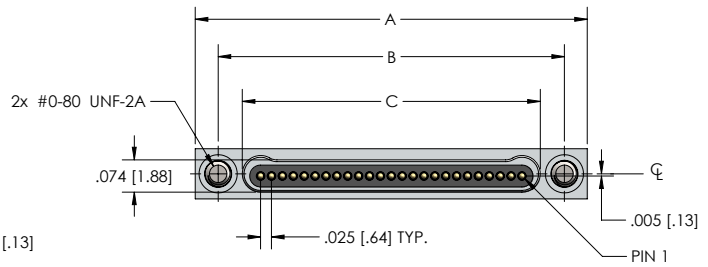
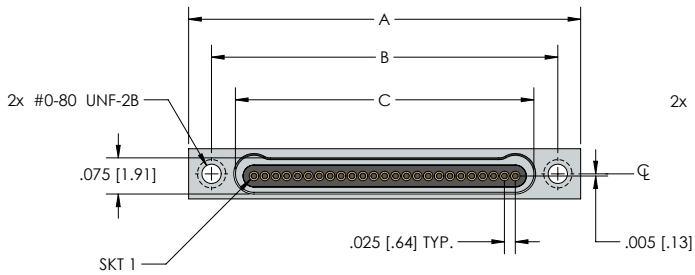
NANO D – PID 123



RECEPTACLE (SOCKETS)



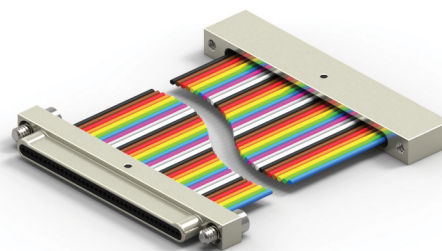
PLUG (PINS)



NM SERIES				
Size	A	B	Plug C	Receptacle
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]

# WIRED CONNECTOR



















- Metal Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



## HOW TO ORDER

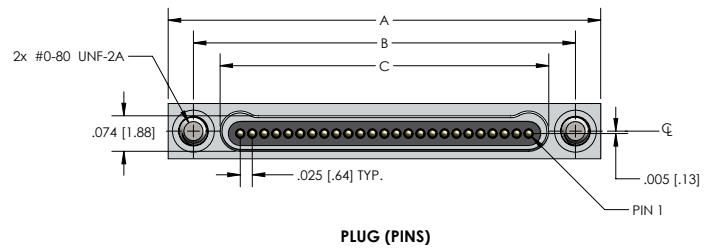
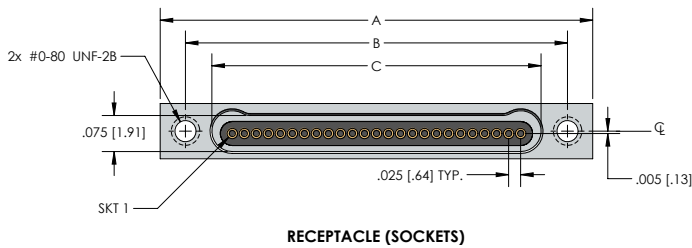
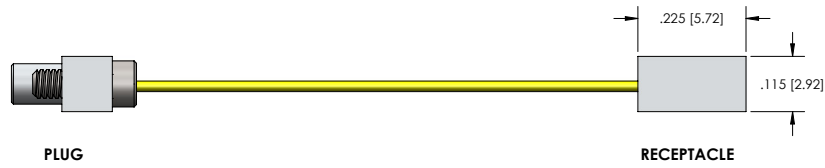
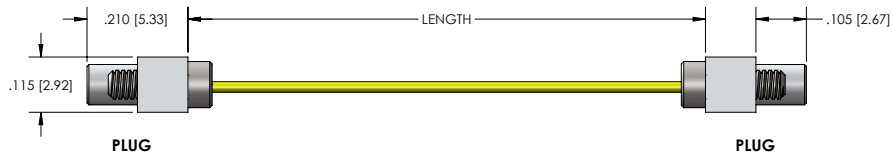
\* Indicates preferred standard \*\* Consult factory for other plating options

NANO D – PID 124

N	M	L	25	-	1	P	Ø2	/NMLX-1XX	-	3Ø	F	6	-	18.Ø	-	SØ1
Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Detail of Other End of the Harness	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range				
N= Nano	M= Metal	L= LCP	Ø9	1= Single Row	P= Male/Pin (Plug Side)	Ø1=Phillips Head Jackscrew	Refer to the left columns for filling out the x	*F=Stranded, w/ Teflon insulation, per NEMA HP3-ET	1=White	*18.Ø	Blank= Cadmium	*blank = 125C				
		15				Ø2=Allen Head Jackscrew		Y=Stranded w/ Tefzel insulation, per SAE AS22759/33	*6 = 10 solid colors, repeating	*36.Ø		HT = 200°C				
		21		S= Female/Socket (Receptacle Side)	Ø2=Allen Head Jackscrew	A=Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)										
		25			Ø5=Slotted Head Jackscrew											
		31			Ø5=Slotted Head Jackscrew											
		37						Ø6=Floating Phillips Head Jackscrew (Female Only)								
		51			Ø6=Floating Phillips Head Jackscrew (Female Only)			Ø7=Threaded Hole								
								Ø8=Floating Allen Head Jackscrew (Female Only)								
					Ø7=Threaded Hole			Ø9=Floating Slotted Head Jackscrew (Female Only)								
																
																

<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 E or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Electrical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 123 M&F or Click Here for Materials and Finishes Data

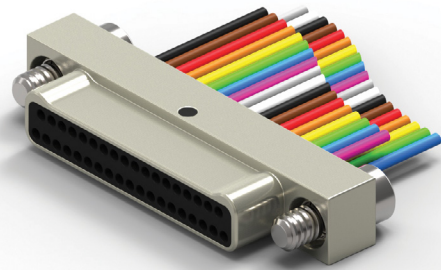
# DIMENSIONS



NM SERIES				
Size	A	B	Plug	C Receptacle
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]

# WIRED CONNECTOR
















- Metal Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



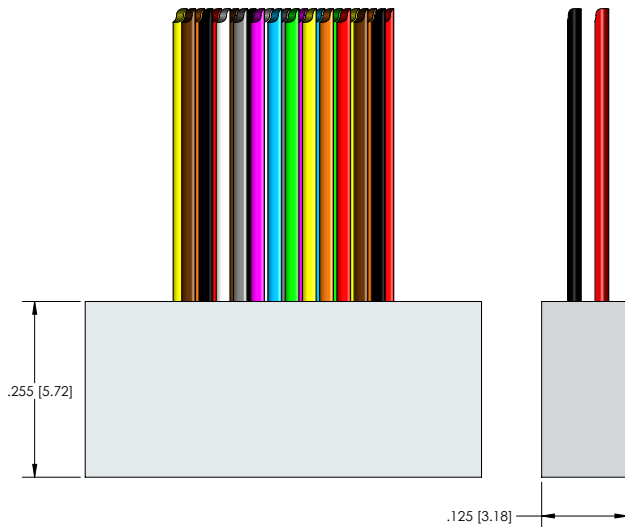
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

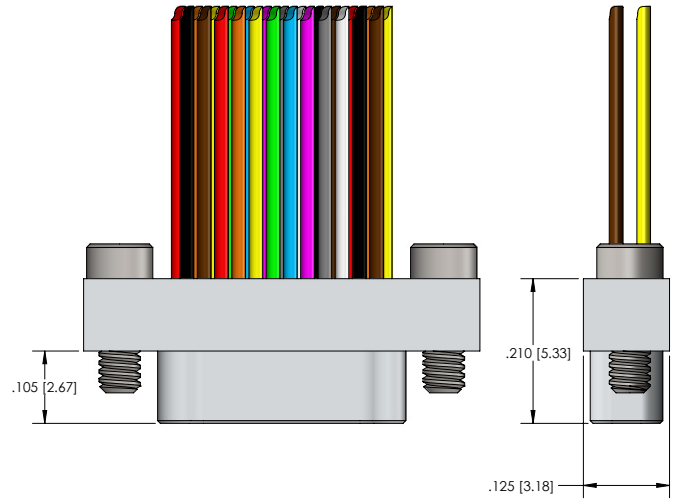
NANO D – PID 125

N	M	L	25	-2	P	Ø2	- 3Ø	F	6	- 18.Ø	- SØ1	
Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range	
N= Nano	M= Metal	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø1=Phillips Head Jackscrew	3Ø*	C=Solid Wire, uninsulated	1=White	*18.Ø	Blank= Cadmium	*blank = 125C
			15				32	*F=Stranded, w/ Teflon insulation, per NEMA HP3-ET	3= Tin plated (6Ø/4Ø) (solid wire)	*36.Ø		HT = 2ØØ°C
			21		S=Female/Socket (Receptacle Side)	Ø2=Allen Head Jackscrew	34	Y=Stranded w/Tefzel insulation, per SAE AS22759/33	4=Gold plated (RoHS) (solid wire)		*SØ1 = Nickel	
			25					A=Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)	*6 = 10 solid colors, repeating			
			31			Ø5=Slotted Head Jackscrew		T=Flat Integral Tail			SØ3 = Black Anodize	
			37									
			51			Ø6=Floating Phillips Head Jackscrew (Female Only)					SØ6 = Olive-Drab Cadmium	
			65									
						Ø7=Threaded Hole					SØ7 = Titanium	
												
						Ø8=Floating Allen Head Jackscrew (Female Only)					SØ9 = Stainless	
												
						Ø9=Floating Slotted Head Jackscrew (Female Only)						
												

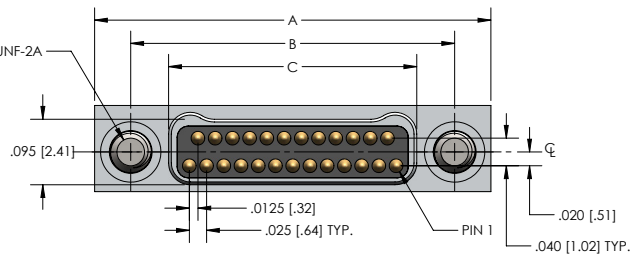
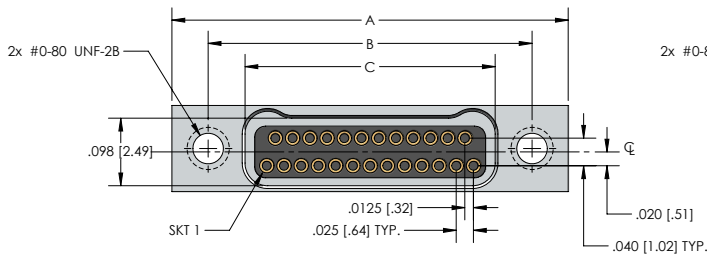
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 E or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Electrical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 123 M&F or Click Here for Materials and Finishes Data



RECEPTACLE (SOCKETS)



PLUG (PINS)



NM SERIES					
Size	A	B	Plug	C	Receptacle
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]

# WIRED CONNECTOR










- Plastic Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



## HOW TO ORDER

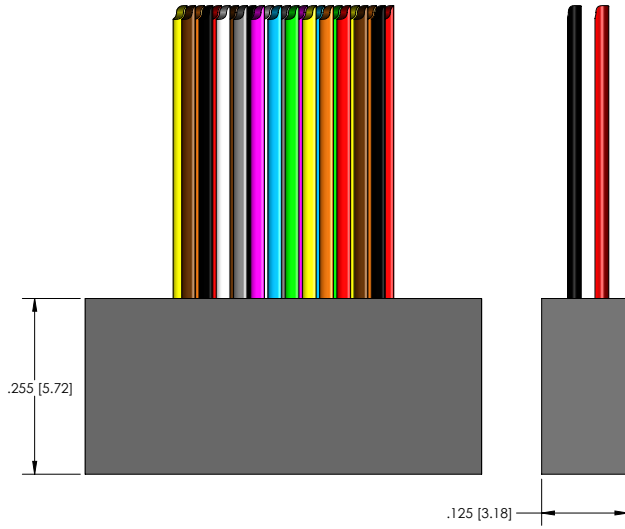
\* Indicates preferred standard

NANO D – PID 126

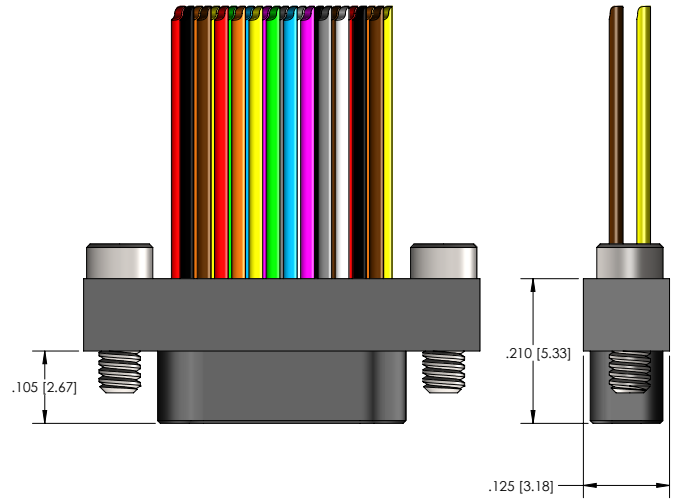
N	P	L	25	-	2	P	Ø2	-	3Ø	F	6	-	18.Ø
Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Wire Gauge	Wire Type	Color Code	Length	Temp Range			
N= Nano	P= Plastic	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø1=Phillips Head Jackscrew	3Ø*	C=Solid Wire, uninsulated	1=White	*18.Ø	*blank = 125C		
			15				32	*F=Stranded, w/Teflon insulation, per NEMA HP3-ET	3=Tin plated (6Ø/4Ø) (Solid Wire)	*36.Ø	HT = 2ØØ°C		
			21		S=Female/Socket (Receptacle Side)	Ø2=Allen Head Jackscrew	34	Y=Stranded w/Tefzel insulation, per SAE AS22759/33	4=Gold plated (RoHS) (Solid Wire)				
			25					A=Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)	*6 = 10 solid colors, repeating				
			31			Ø5=Slotted Head Jackscrew		"T=Flat Integral Tail					
			37										
			51			Ø6=Floating Phillips Head Jackscrew (Female Only)							
			65										
						Ø7=Threaded Hole							
													
						Ø8=Floating Allen Head Jackscrew (Female Only)							
													
						Ø9=Floating Slotted Head Jackscrew (Female Only)							
													

<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 E or Click Here for Electrical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 126 M&F or Click Here for Materials and Finishes Data

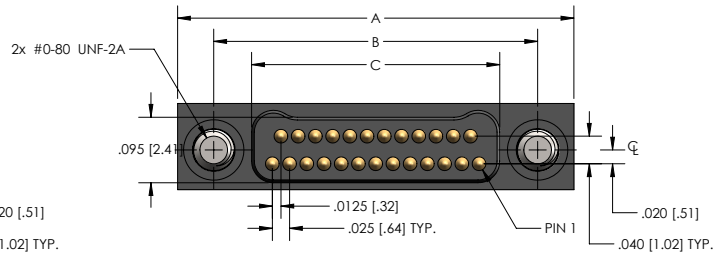
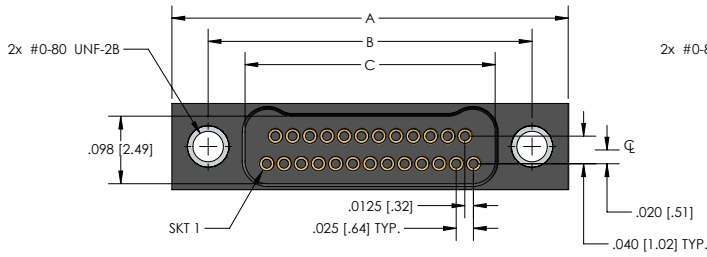




RECEPTACLE (SOCKETS)



PLUG (PINS)



Size	P SERIES			
	A	B	Plug	C Receptacle
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]

# WIRED CONNECTOR





















- Metal Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

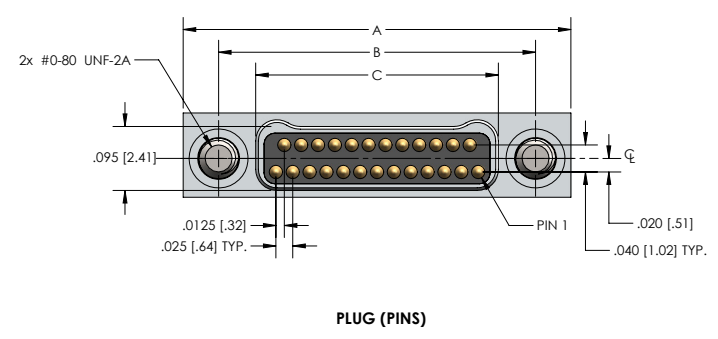
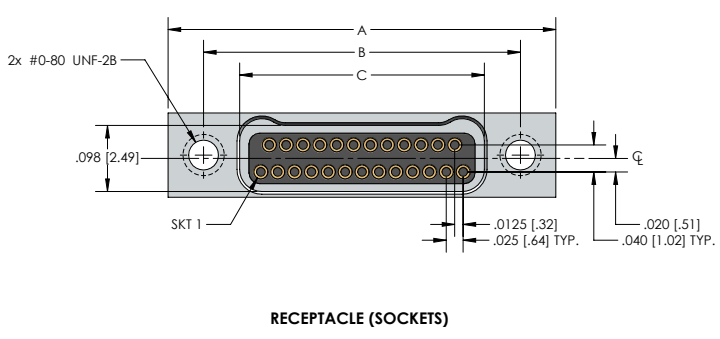
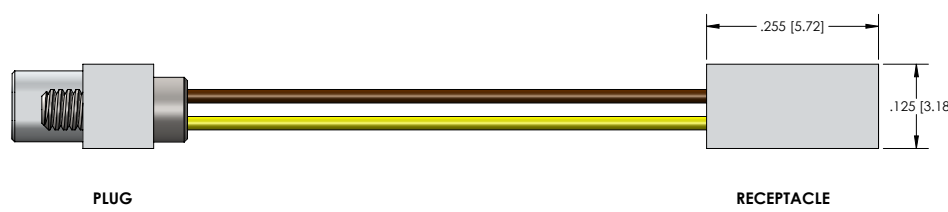
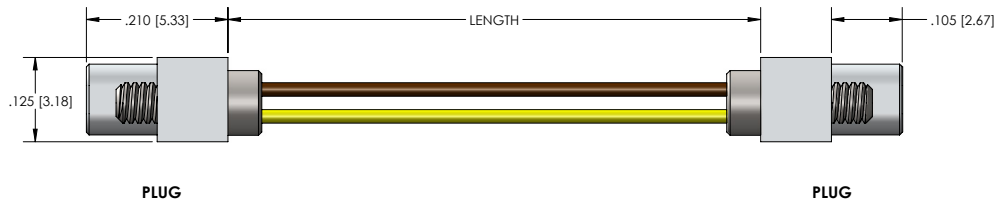
**N M L 25 - 2 P Ø2 /NMLX-2XX - 3Ø F 6 - 18.0 - SØ1**

	Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Detail of Other End of the Harness	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range	
N= Nano	M= Metal	L= LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø1=Phillips Head Jackscrew	Refer to the left columns for filling out the x	3Ø*	*F=Stranded, w/ Teflon insulation, per NEMA HP3-ET	1=White	*18.0	Blank= Cadmium	*blank = 125C	
			15					32	Y=Stranded w/ Tefzel insulation, per SAE AS22759/33	*6 = 10 solid colors, repeating	*36.0		HT = 200°C	
			21		S=Female/Socket (Receptacle Side)	Ø2=Allen Head Jackscrew		34	A=Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)				*SØ1 = Nickel	
			25											SØ3 = Black Anodize
			31			Ø5=Slotted Head Jackscrew								SØ6 = Olive-Drab Cadmium
			37											SØ7 = Titanium
			51			Ø6=Floating Phillips Head Jackscrew (Female Only)								SØ9 = Stainless
			65											
						Ø7=Threaded Hole								
														
						Ø8=Floating Allen Head Jackscrew (Female Only)								
														
						Ø9=Floating Slotted Head Jackscrew (Female Only)								
														
														

<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 E or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Electrical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 123 M&F or Click Here for Materials and Finishes Data

NANO D - PID 127

# DIMENSIONS



Size	M SERIES				
	A	B	Plug	C	Receptacle
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]










# WIRED CONNECTOR

- Plastic Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



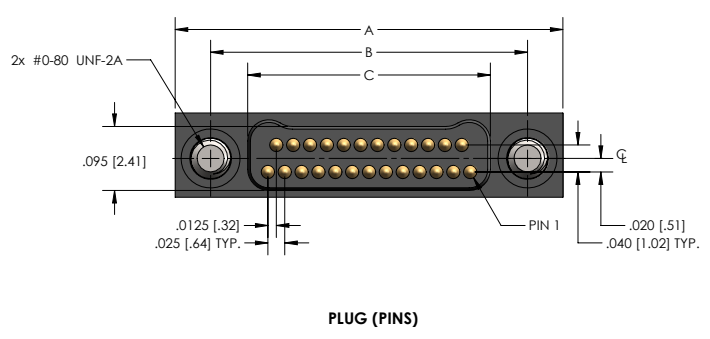
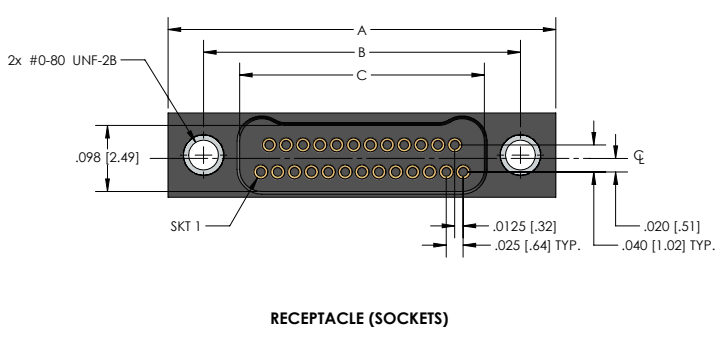
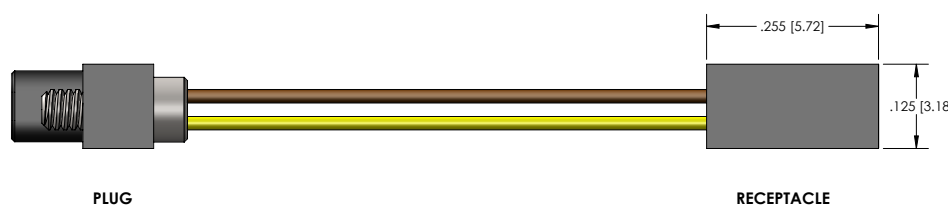
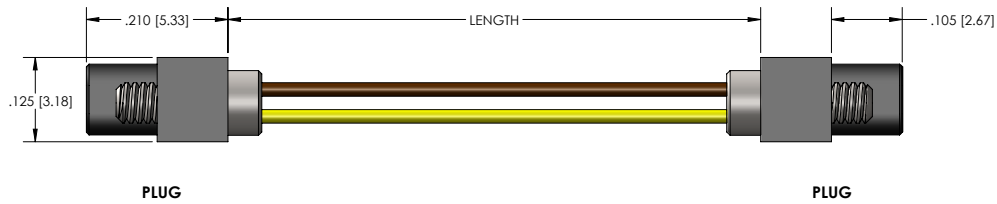
## HOW TO ORDER

\* Indicates preferred standard

N	P	L	25	- 2	P	Ø2	/NPLX-2XX - 3Ø	F	6 -	18.Ø		
Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Detail of Other End of the Harness	Wire Gauge	Wire Type	Color Code	Length	Temp Range	
N = Nano	P = Plastic	L = LCP	Ø9	2 = Dual Row	P = Male/ Pin (Plug Side)	Ø1 = Phillips Head Jackscrew	Refer to the left columns for filling out the x	*F = Stranded, w/Teflon insulation, per NEMA HP3-ET	1 = White	*18.Ø	*blank = 125C	
		15				32		Y = Stranded w/Tefzel insulation, per SAE AS22759/33	*6 = 10 solid colors, repeating	*36.Ø	HT = 200°C	
		21		S = Female/ Socket (Receptacle Side)	Ø2 = Allen Head Jackscrew		34	A = Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)				
		25										
		31			Ø5 = Slotted Head Jackscrew							
		37										
		51			Ø6 = Floating Phillips Head Jackscrew (Female Only)							
		65										
					Ø7 = Threaded Hole							
												
					Ø8 = Floating Allen Head Jackscrew (Female Only)							
												
					Ø9 = Floating Slotted Head Jackscrew (Female Only)							
												

<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 E or Click Here for Electrical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 126 M&F or Click Here for Materials and Finishes Data

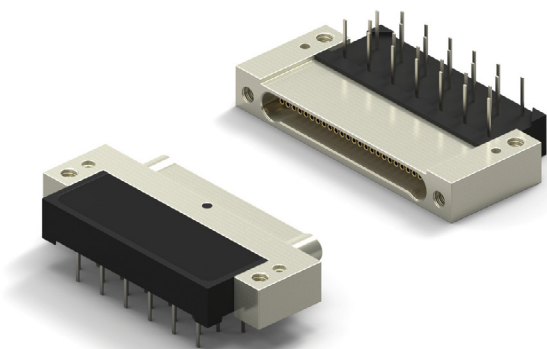
# DIMENSIONS



Size	NP SERIES				
	A	B	Plug	C	Receptacle
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]














# CIRCUIT CONNECTOR RIGHT ANGLE

- Metal Shell Connector
- Plated Thru Hole .050 x .050 (Style 8)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



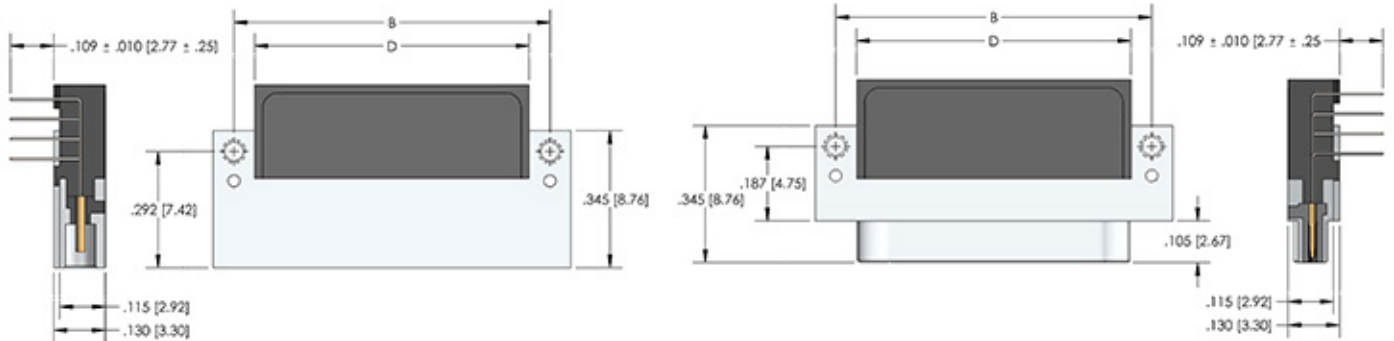
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	8	L	25	-1	P	Ø7	1	-SØ1	Temp Range	Mounting Option
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	Mounting Option	
CN=Nano	M= Metal Shell	Style=8	L=LCP	Ø9	1= Single Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2=Gold plated (RoHS)		HT = 200°C	
				21		S=Female/Socket (Receptacle Side)"			*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes
				25							
				31					SØ3 = Black Anodize		2= Clearance Mounting Holes
				37							
				51					SØ6 = Olive-Drab Cadmium		3=Solder Alignment Posts with Clearance Mounting Holes
											
									SØ7 =Titanium		
											
									SØ9=Stainless		
											

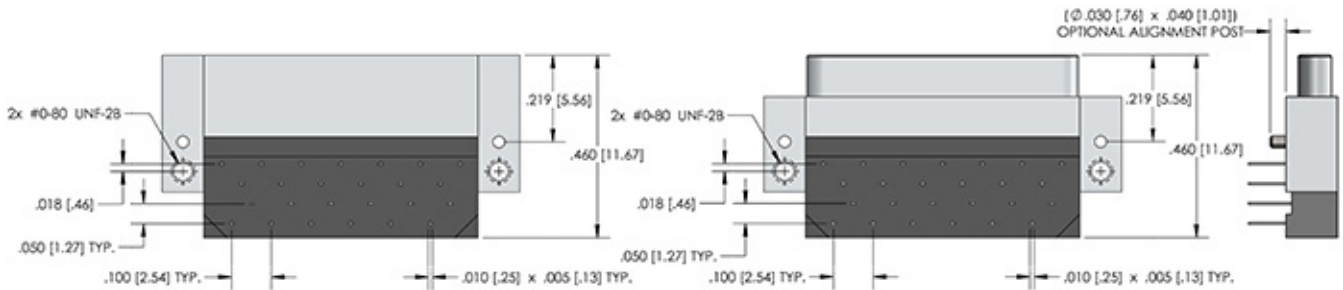
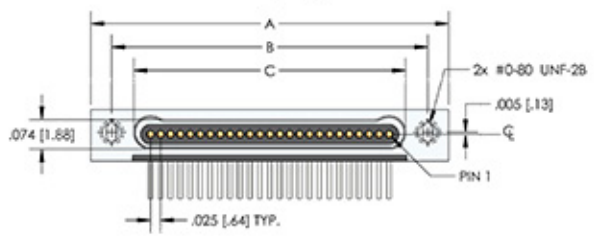
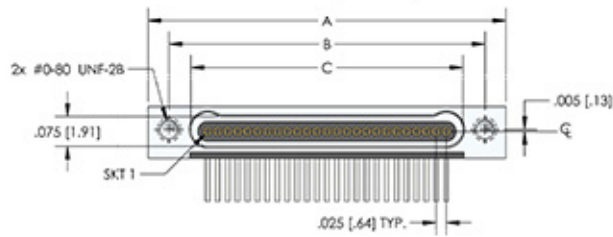
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 131 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS



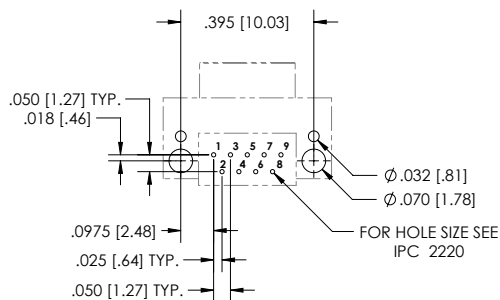
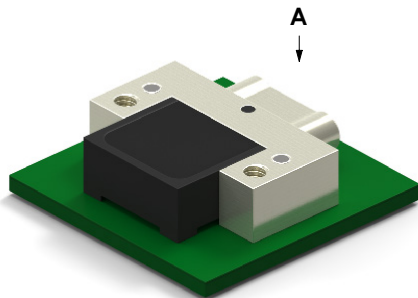
RECEPTACLE (SOCKETS)

PLUG (PINS)

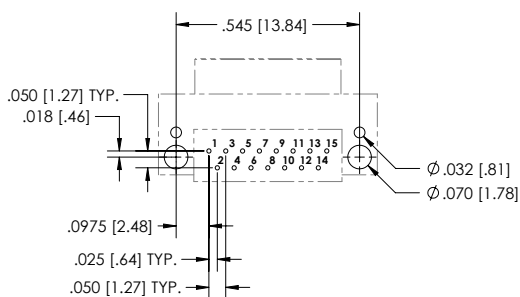


Size	CNM SERIES				
	A	B	Plug C	Receptacle	D
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700 [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]

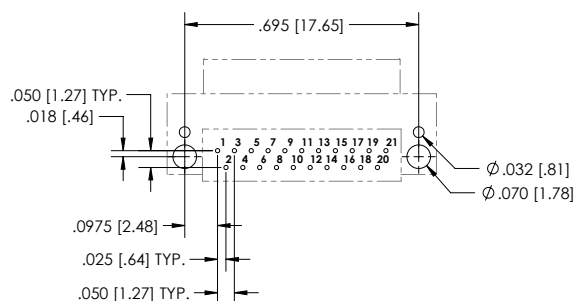
# CIRCUIT CONNECTOR RIGHT ANGLE



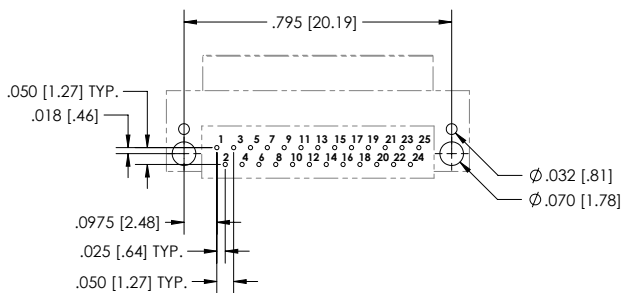
SIZE 9 - VIEW A



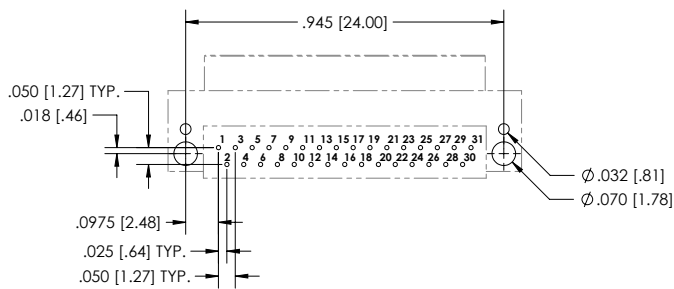
SIZE 15 - VIEW A



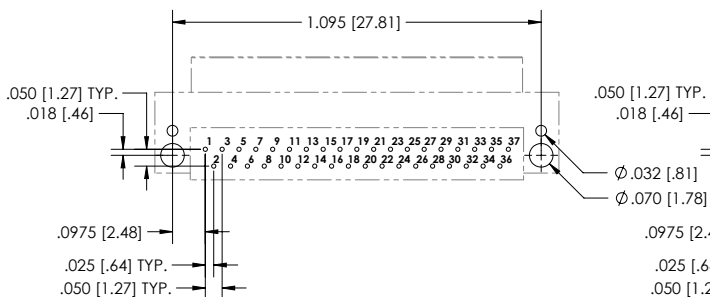
SIZE 21 - VIEW A



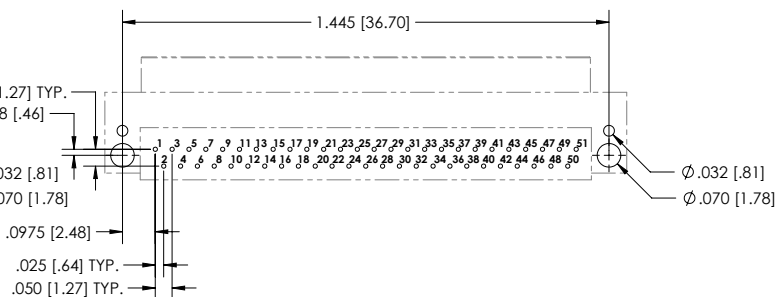
SIZE 25 - VIEW A



SIZE 31 - VIEW A



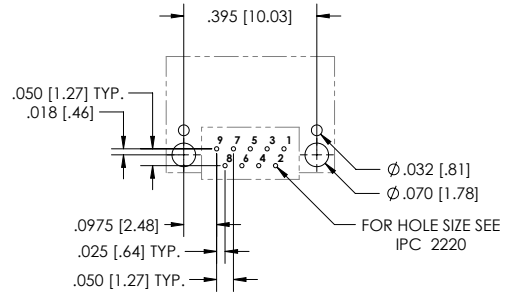
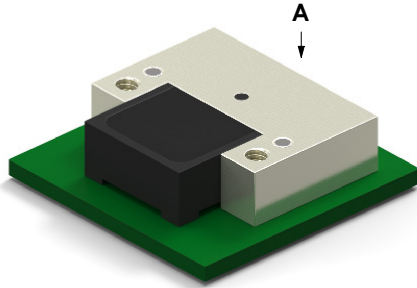
SIZE 37 - VIEW A



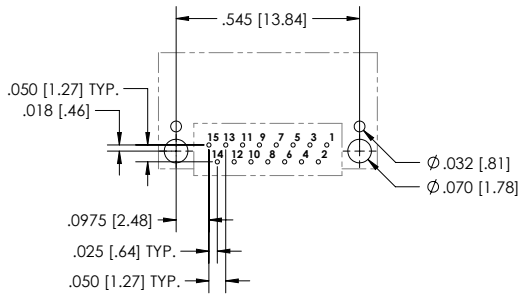
SIZE 51 - VIEW A



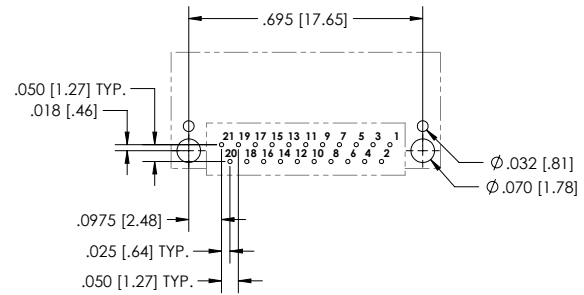
# CIRCUIT CONNECTOR RIGHT ANGLE



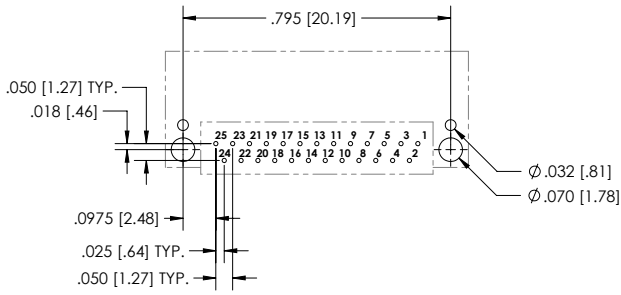
**SIZE 9 - VIEW A**



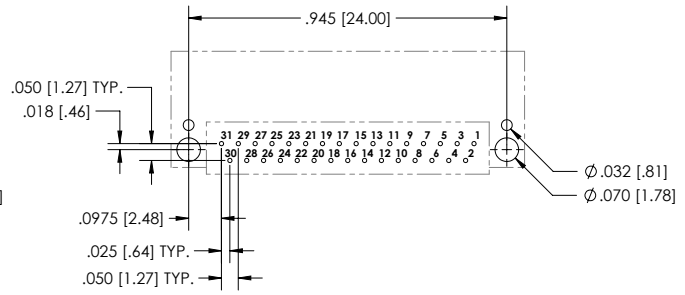
**SIZE 15 - VIEW A**



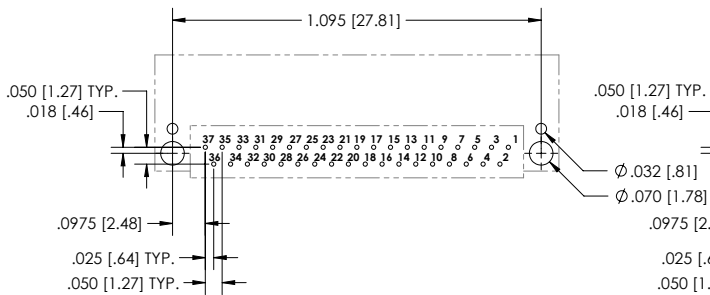
**SIZE 21 - VIEW A**



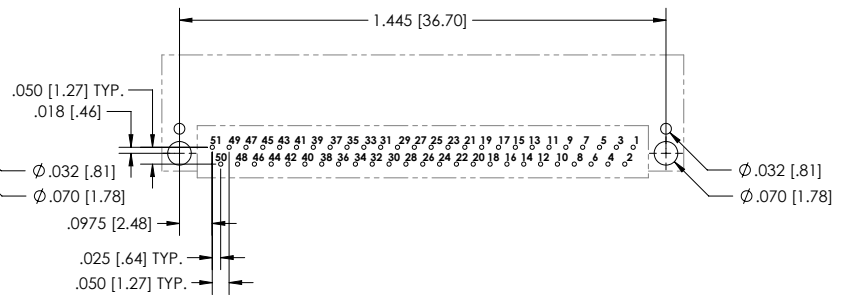
**SIZE 25 - VIEW A**



**SIZE 31 - VIEW A**



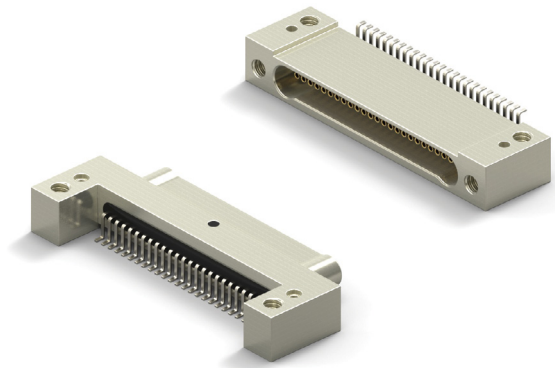
**SIZE 37 - VIEW A**



**SIZE 51 - VIEW A**

# CIRCUIT CONNECTOR RIGHT ANGLE














- Metal Shell Connector
- Surface Mount .025 (Style 28)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



NANO D – PID 132

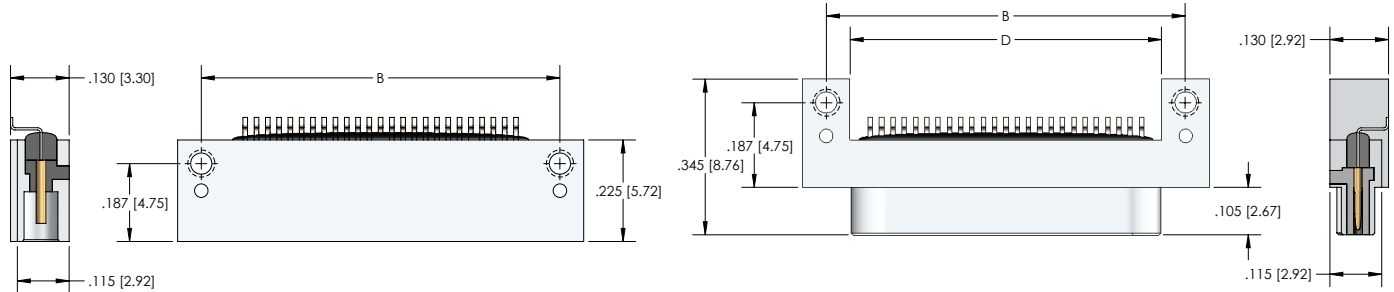
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

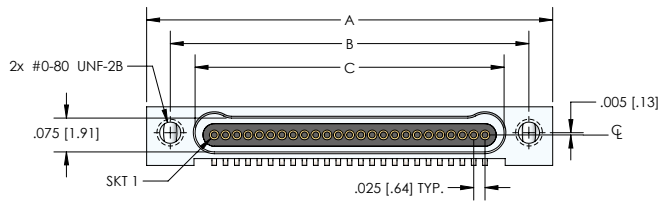
CN	M	28	L	25	-1	P	Ø7	1	-SØ1	Temp Range	Mounting Option
CN=Nano	M= Metal Shell	Style=28	L=LCP	Ø9	1= Single Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2=Gold plated (RoHS)		HT = 200°C	
				21		S=Female/Socket (Receptacle Side)			*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes
				25							
				31					SØ3 = Black Anodize		2= Clearance Mounting Holes
				37							
				51					SØ6 = Olive-Drab Cadmium		3=Solder Alignment Posts with Clearance Mounting Holes
											
									SØ7 =Titanium		
											
									SØ9=Stainless		
											

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 131 M&F or Click Here for Materials and Finishes Data

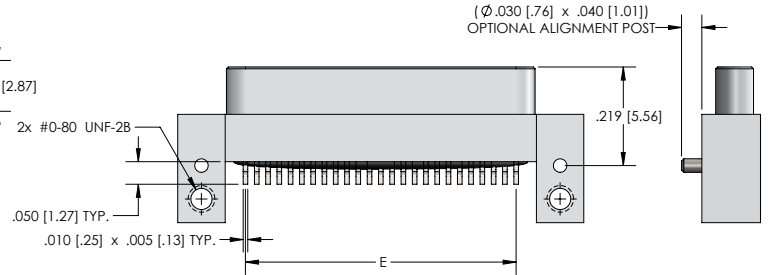
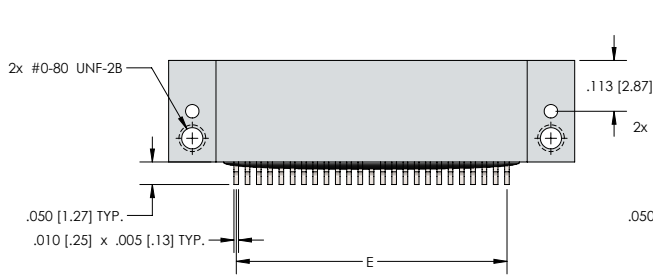
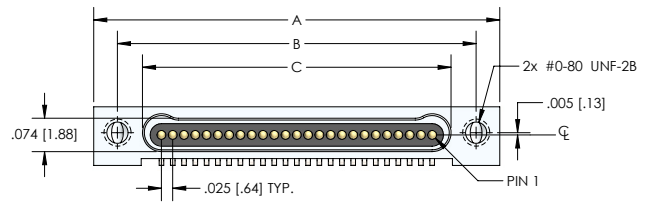
# DIMENSIONS



### RECEPTACLE (SOCKETS)

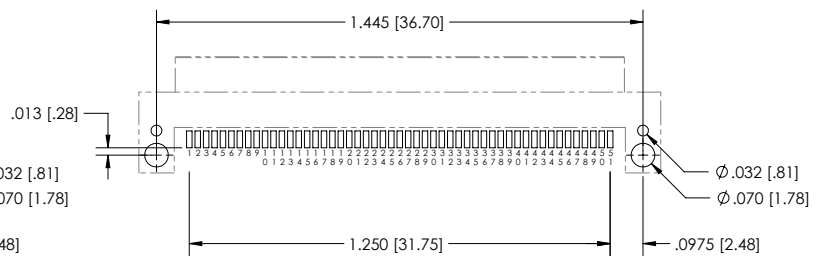
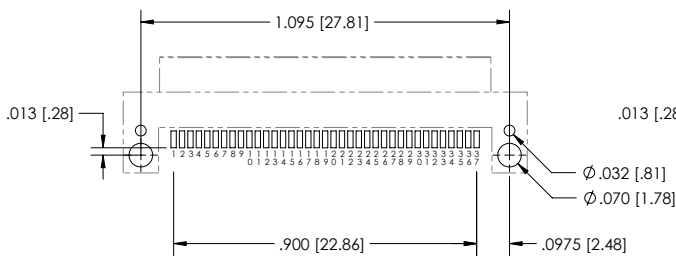
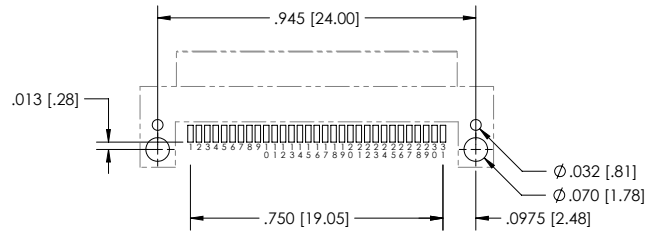
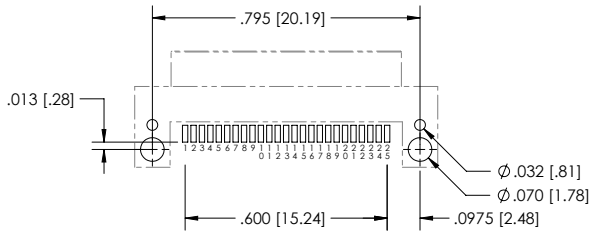
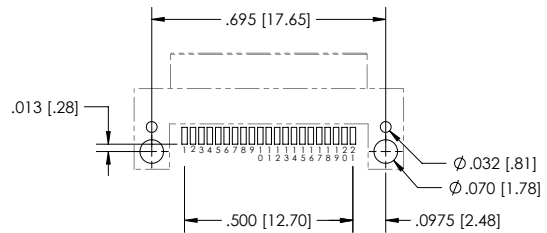
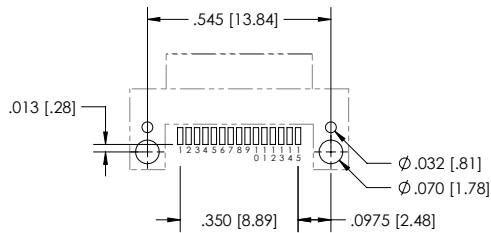
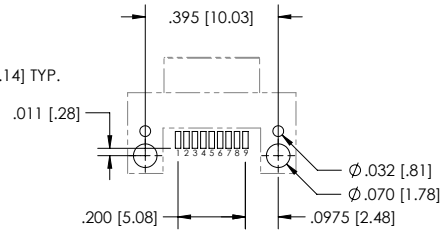
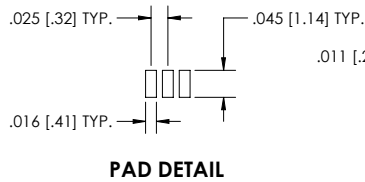
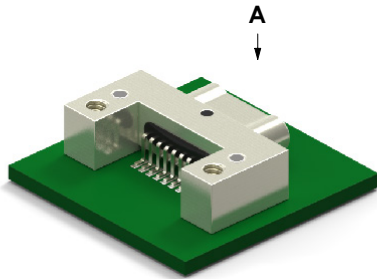


### PLUG (PINS)

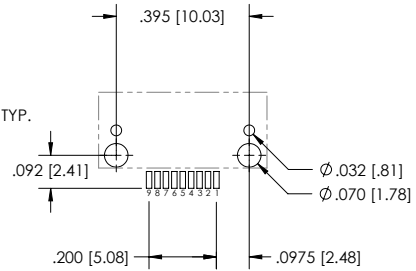
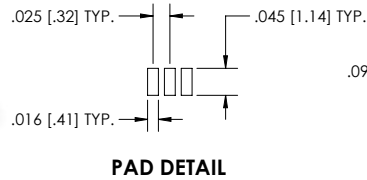
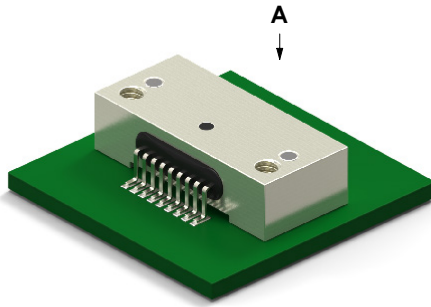


Size	CNM SERIES				
	A	B	Plug C	Receptacle	D
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700 [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]

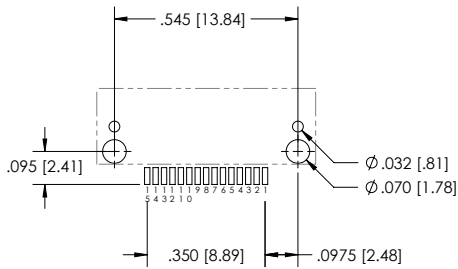
# CIRCUIT CONNECTOR RIGHT ANGLE



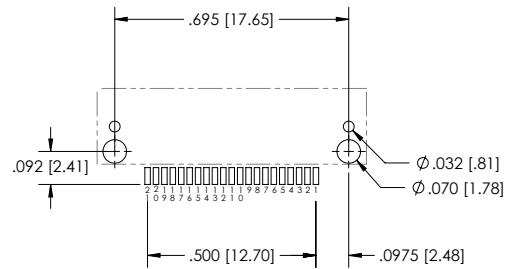
# CIRCUIT CONNECTOR RIGHT ANGLE



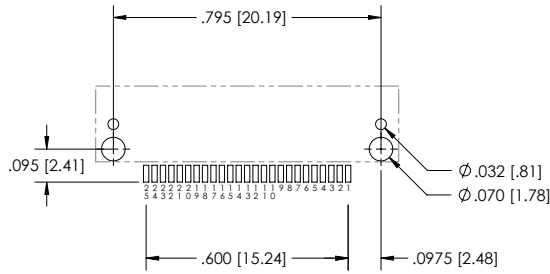
**SIZE 9 - VIEW A**



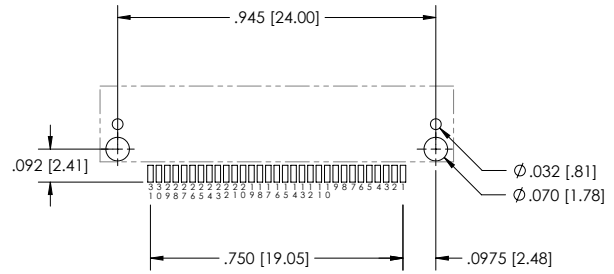
**SIZE 15 - VIEW A**



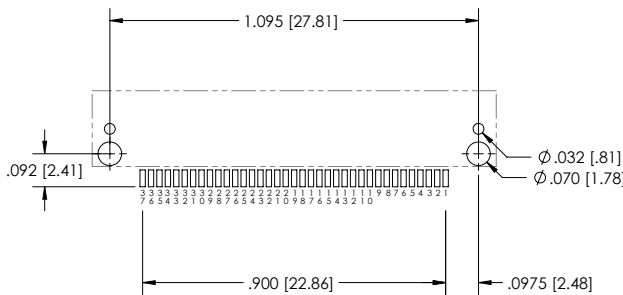
**SIZE 21 - VIEW A**



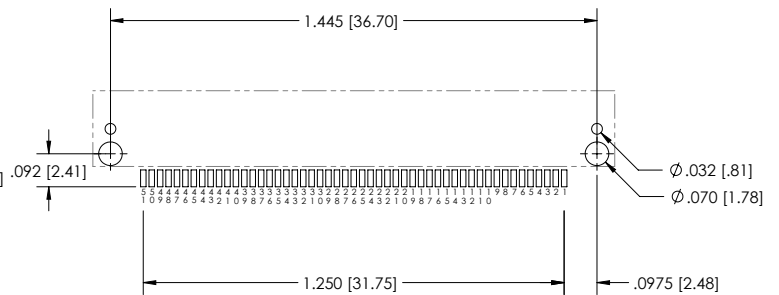
**SIZE 25 - VIEW A**



**SIZE 31 - VIEW A**



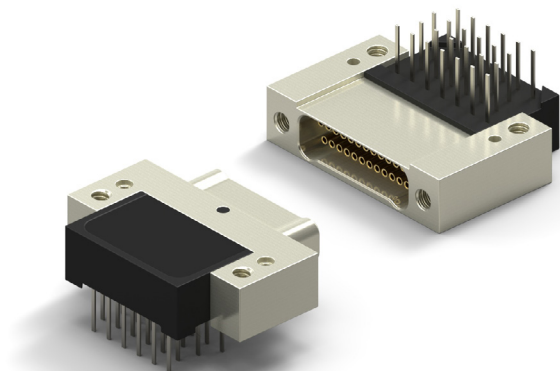
**SIZE 37 - VIEW A**



**SIZE 51 - VIEW A**

# CIRCUIT CONNECTOR RIGHT ANGLE














- Metal Shell Connector
- Plated Thru Hole .050 x .050 (Style 8)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



## HOW TO ORDER

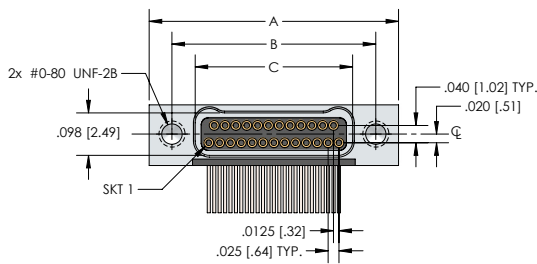
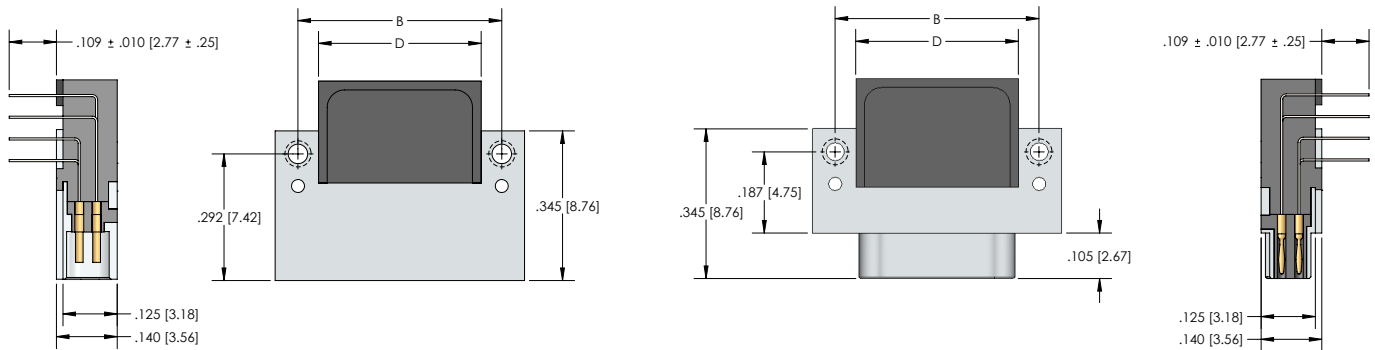
\* Indicates preferred standard \*\* Consult factory for other plating options

**CN M 8 L 25 - 2 P Ø7 1 - SØ1**

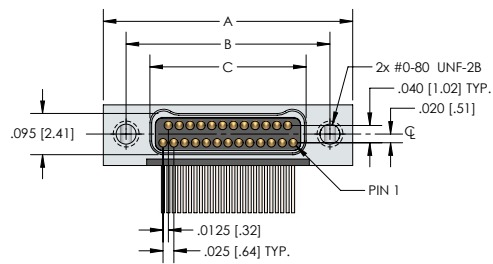
CN	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	Mounting Option
CN=Nano	M= Metal Shell	Style=8	L=LCP	Ø9	2= Single Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2= Gold plated (RoHS)		HT = 200°C	
				21		S=Female/Socket (Receptacle Side)			*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes
				25							
				31					SØ3 = Black Anodize		2= Clearance Mounting Holes
				37							
				51					SØ6 = Olive-Drab Cadmium		3=Solder Alignment Posts with Clearance Mounting Holes
				65							
									SØ7 = Titanium		
											
									SØ9 = Stainless		
											

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 131 M&F or Click Here for Materials and Finishes Data

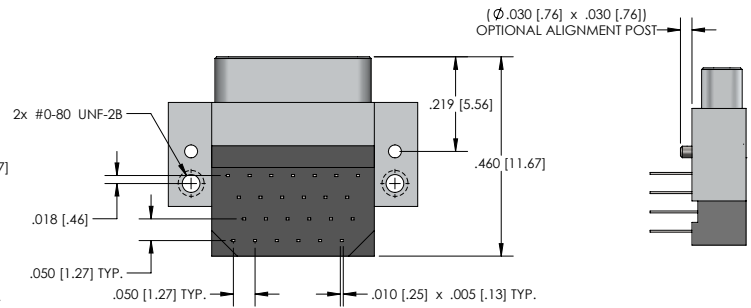
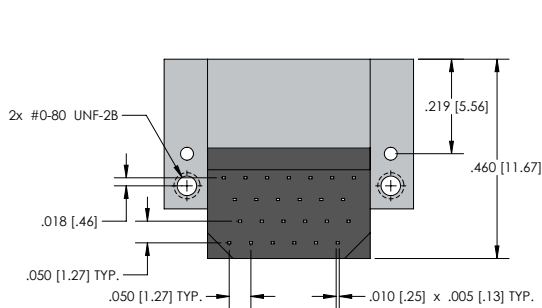
# DIMENSIONS



RECEPTACLE (SOCKETS)

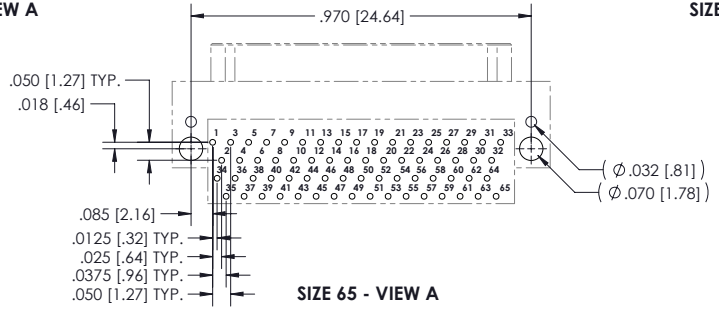
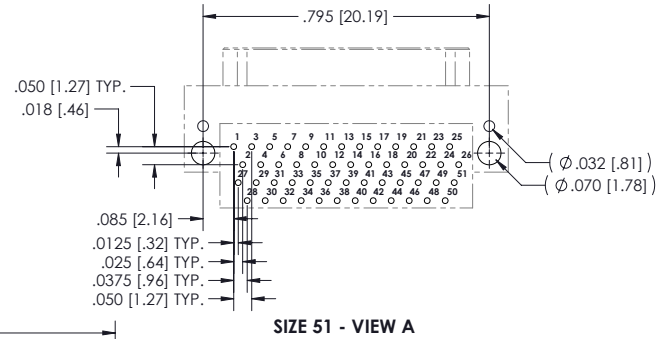
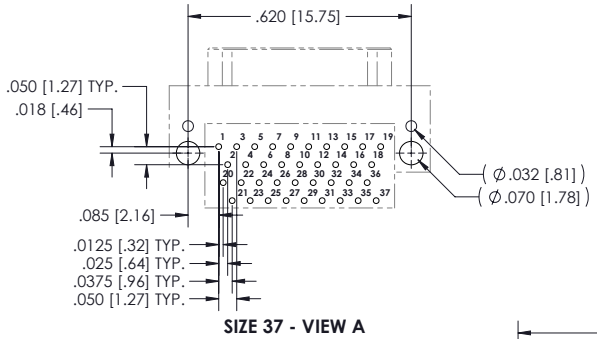
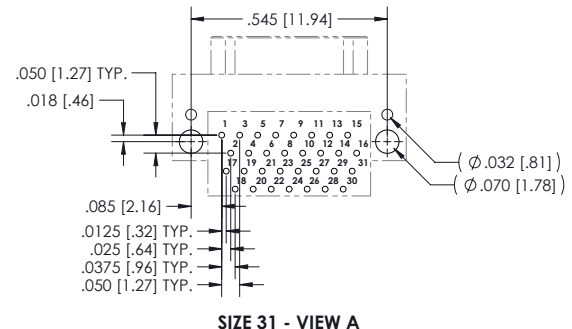
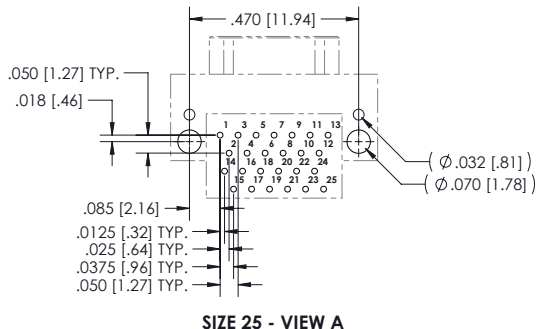
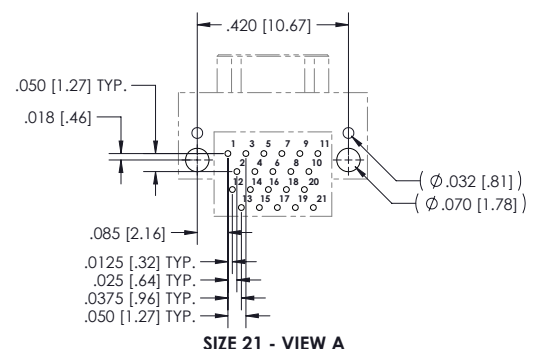
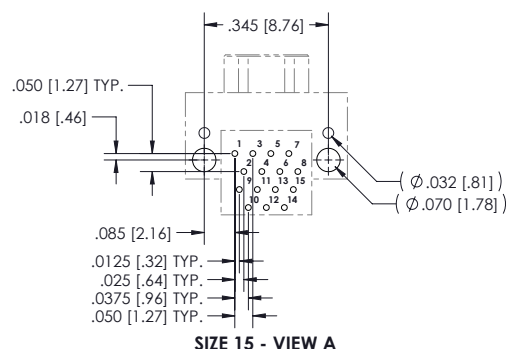
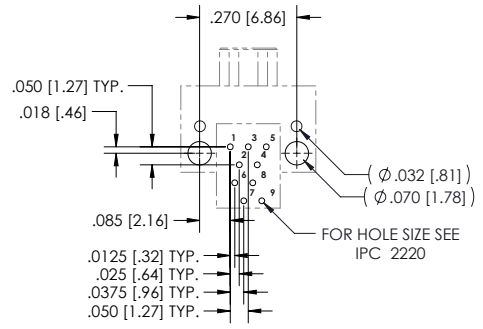
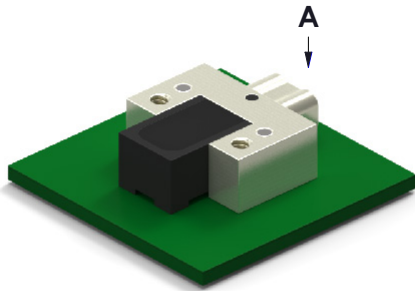


PLUG (PINS)



Size	CNM SERIES				
	A	B	Plug C	Receptacle	D
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]

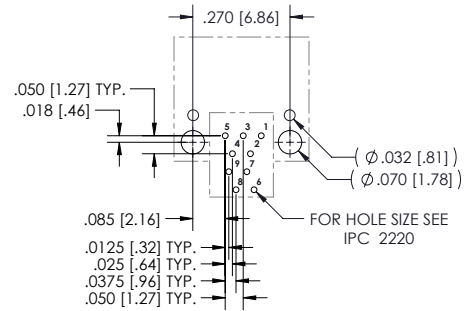
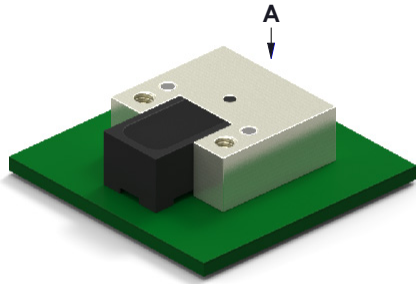
# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT



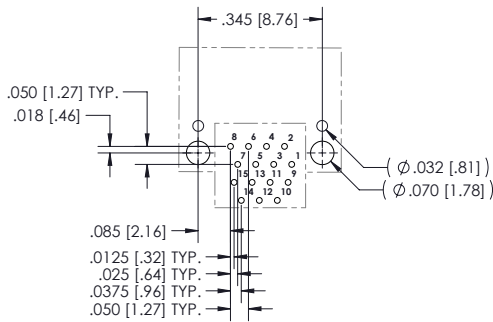
NANO D – PID 133



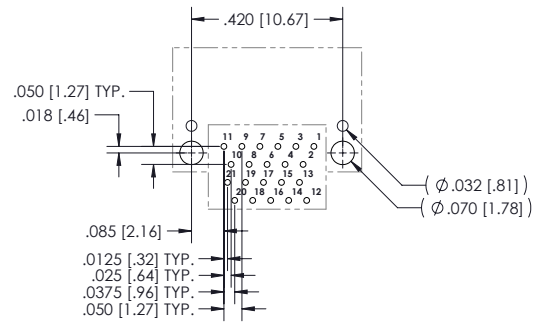
# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT



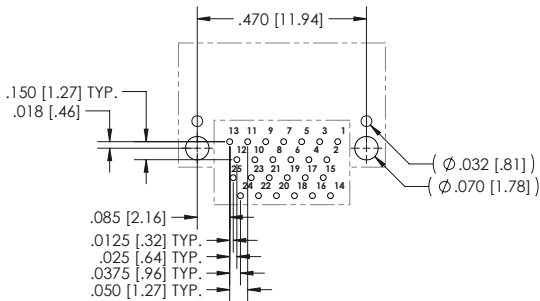
**SIZE 9 - VIEW A**



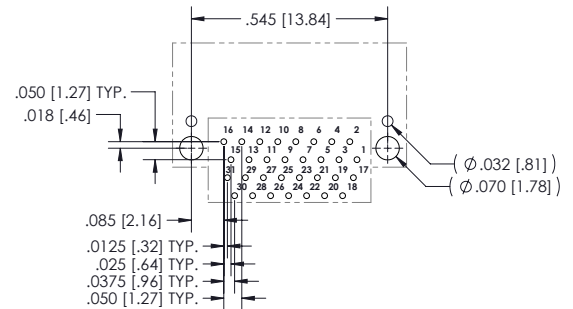
**SIZE 15 - VIEW A**



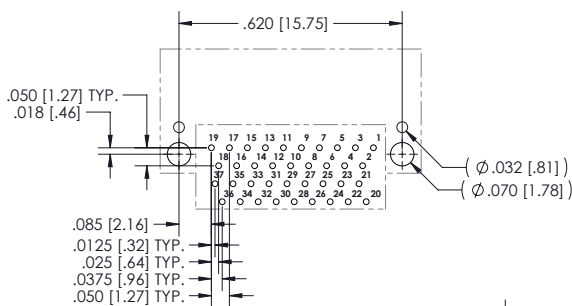
**SIZE 21 - VIEW A**



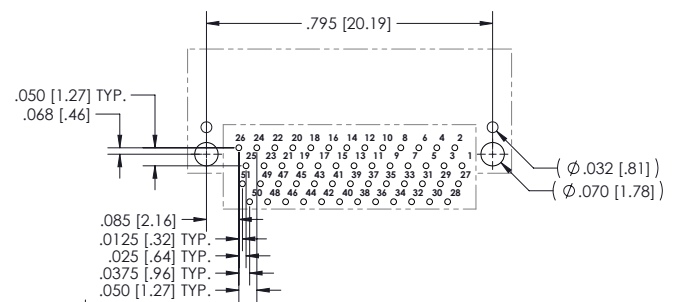
**SIZE 25 - VIEW A**



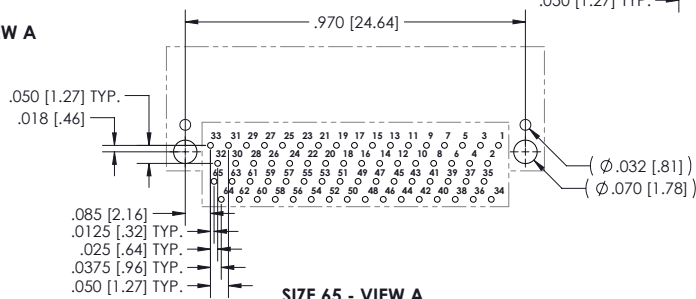
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



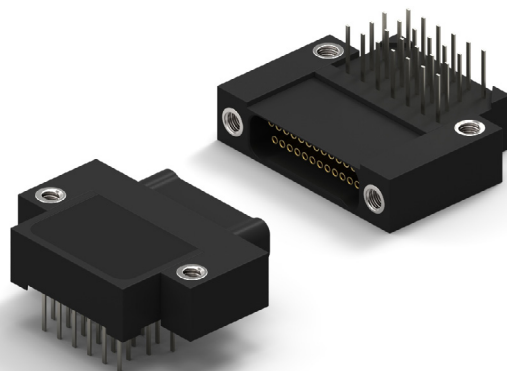
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR RIGHT ANGLE





- Plastic Shell Connector
- Plated Thru Hole .050 x .050 (Style 8)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



NANO D – PID 134

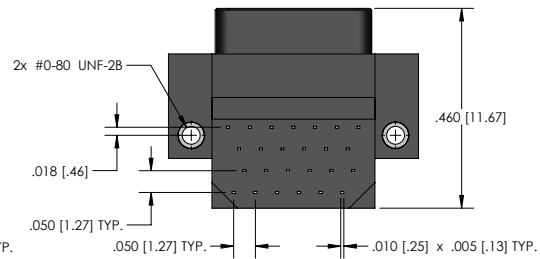
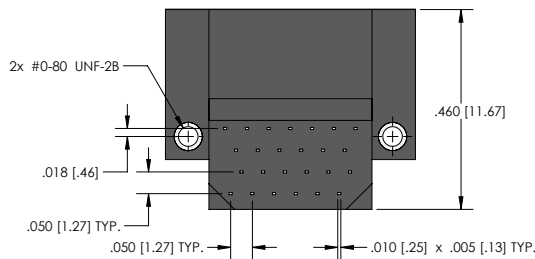
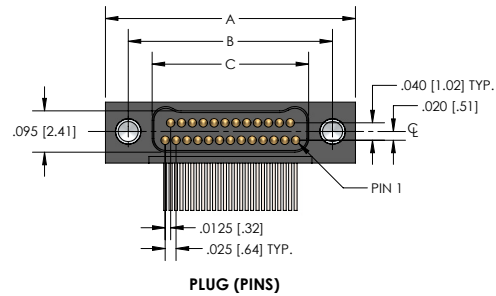
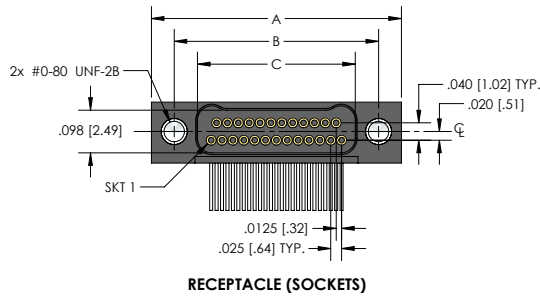
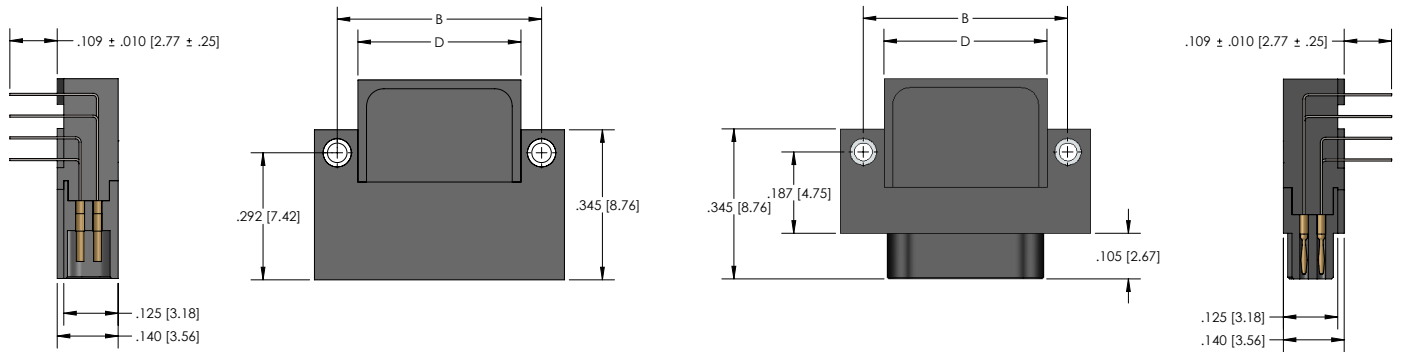
## HOW TO ORDER

\* Indicates preferred standard

CN	P	8	L	25	- 2	P	Ø7	1		
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Temp Range	Mounting Option	
CN=Nano	P=Plastic Shell	Style=8	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2= Gold plated (RoHS)	HT = 200°C	
				21		S=Female/Socket (Receptacle Side)				
				25						
				31						
				37						
				51						
				65						

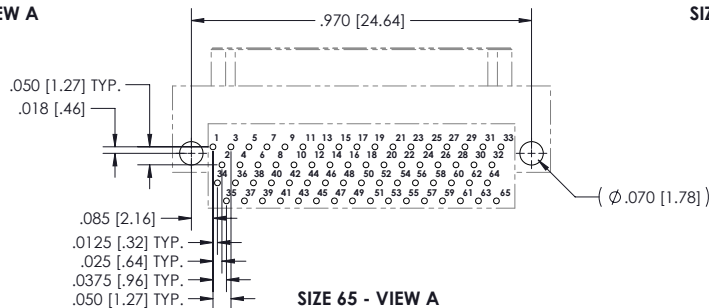
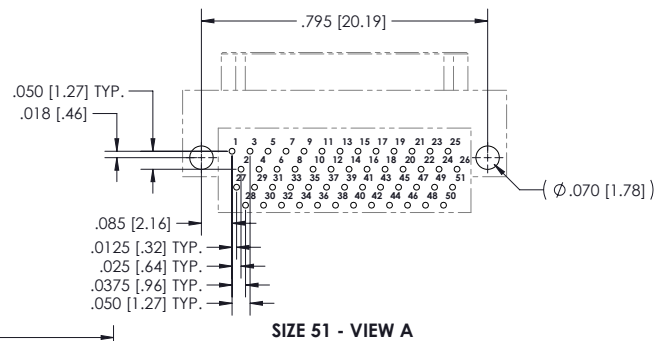
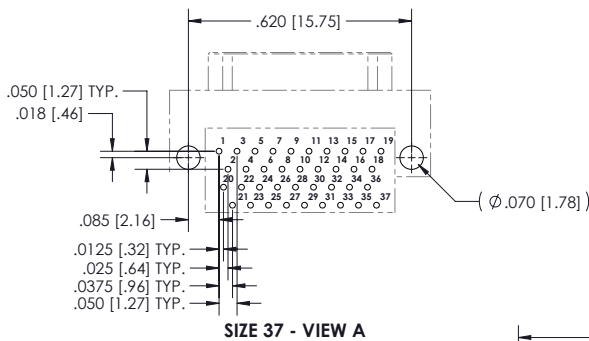
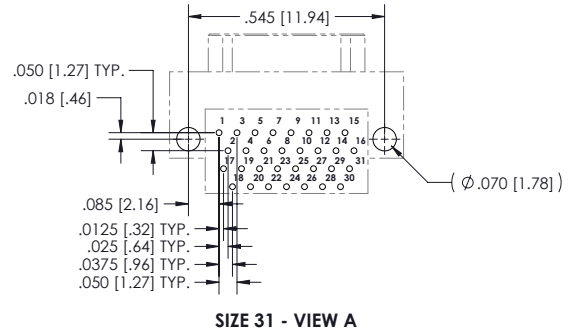
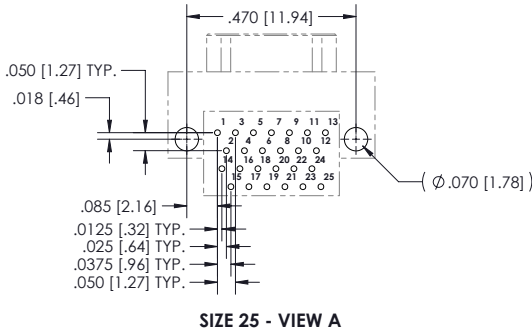
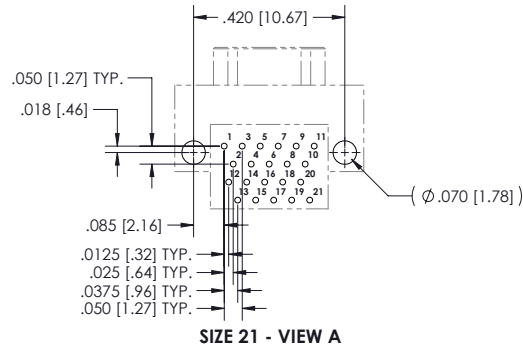
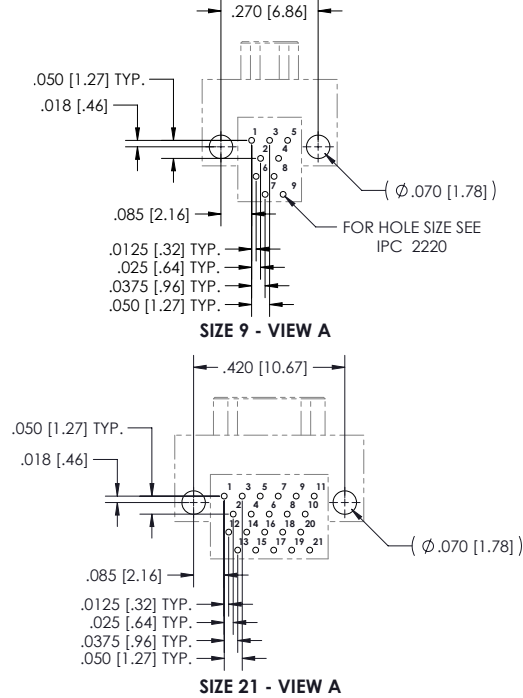
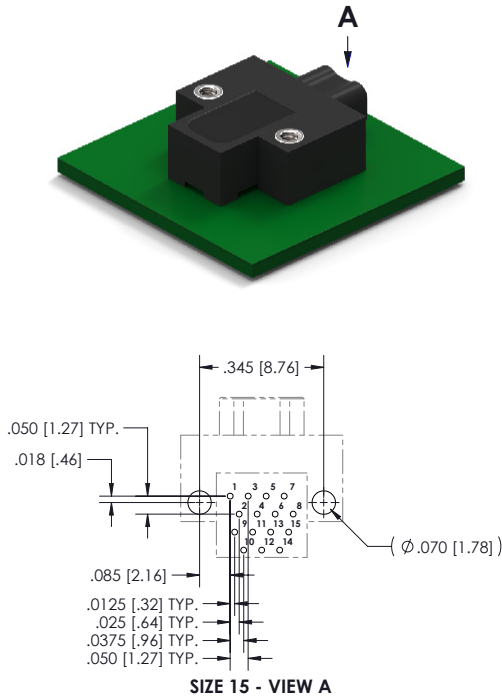
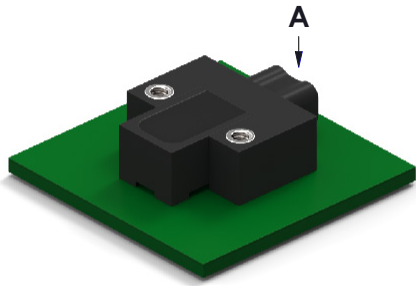
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 126 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS

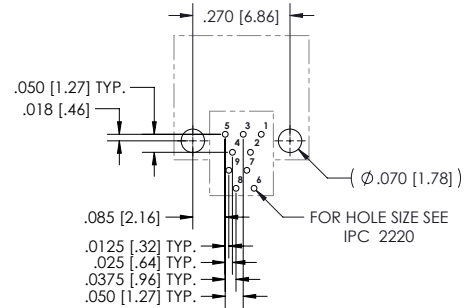
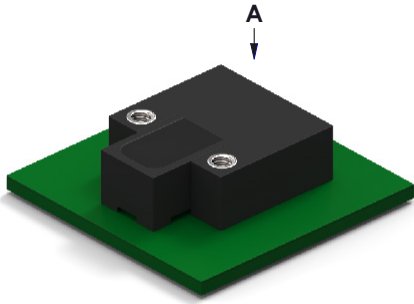


Size	CNP SERIES				
	A	B	Plug C	Receptacle	D
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
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]

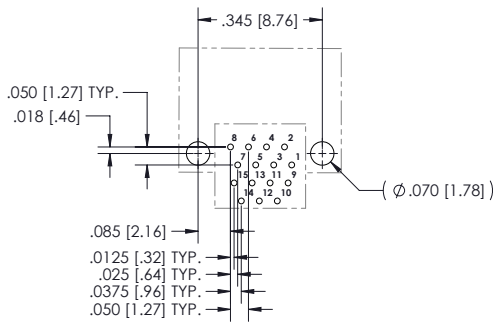
# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT



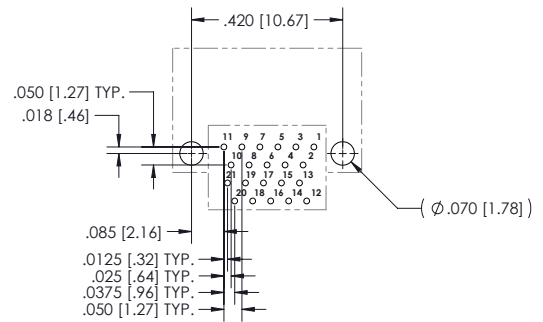
# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT



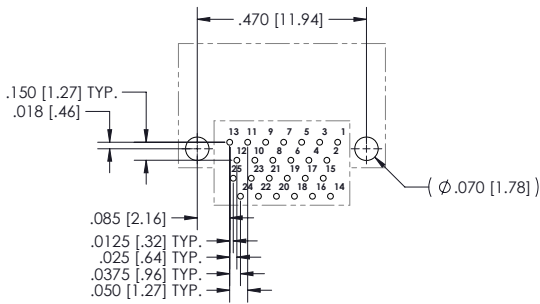
**SIZE 9 - VIEW A**



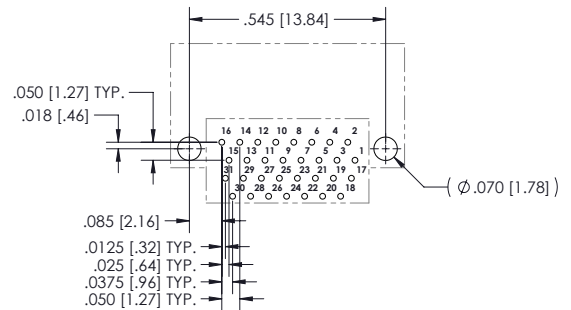
**SIZE 15 - VIEW A**



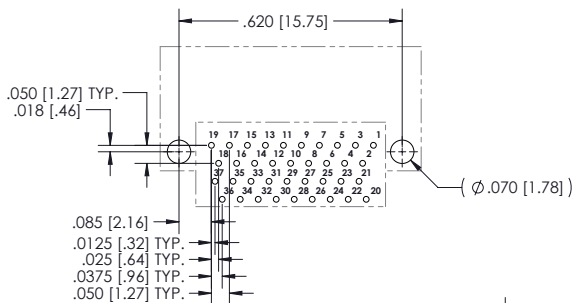
**SIZE 21 - VIEW A**



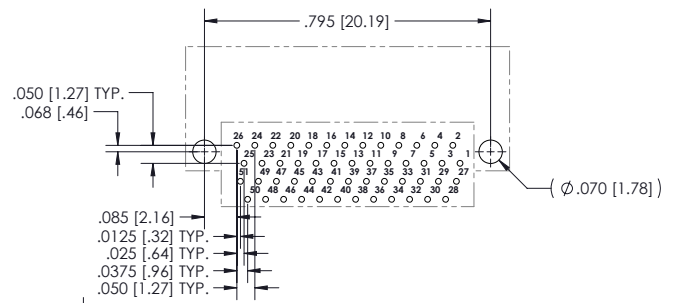
**SIZE 25 - VIEW A**



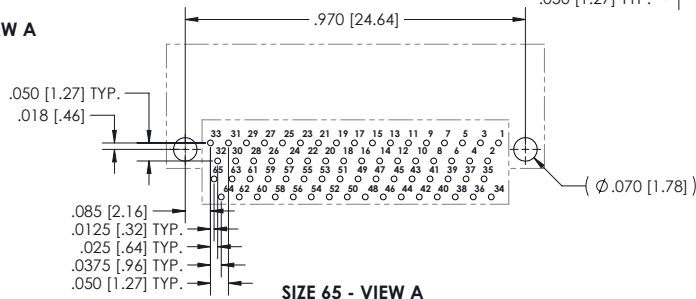
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



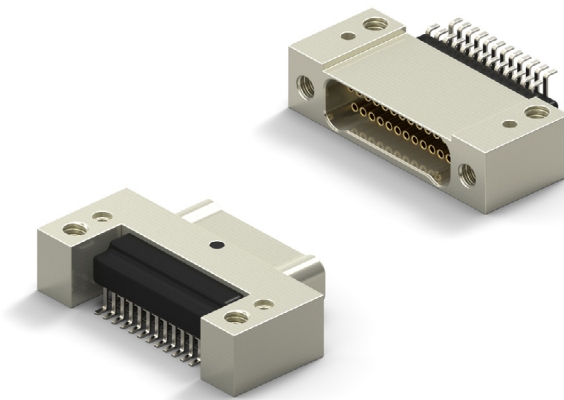
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR RIGHT ANGLE

- Metal Shell Connector
- Surface Mount .025 x .040 (Style 28)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts
















NANO D – PID 135

## HOW TO ORDER

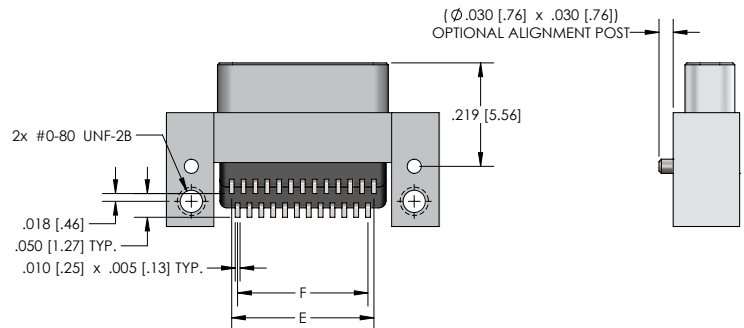
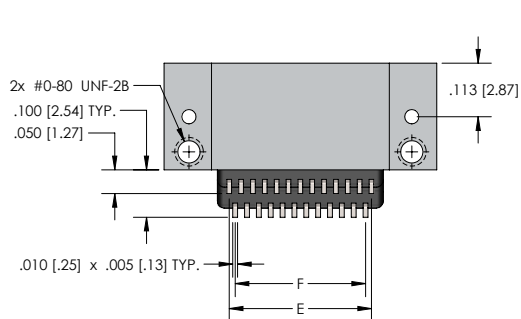
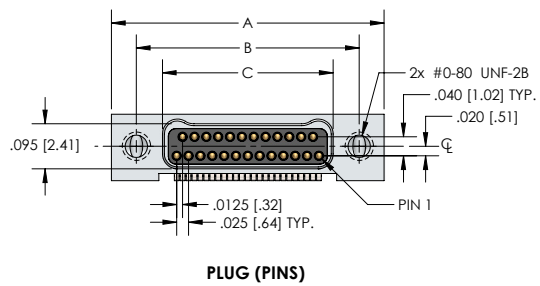
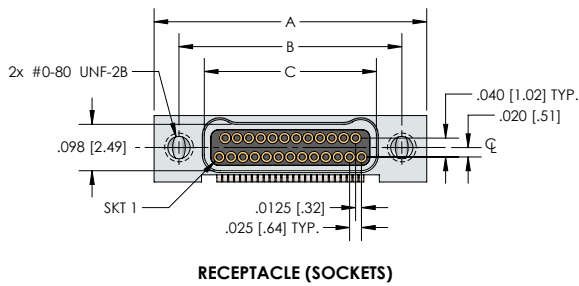
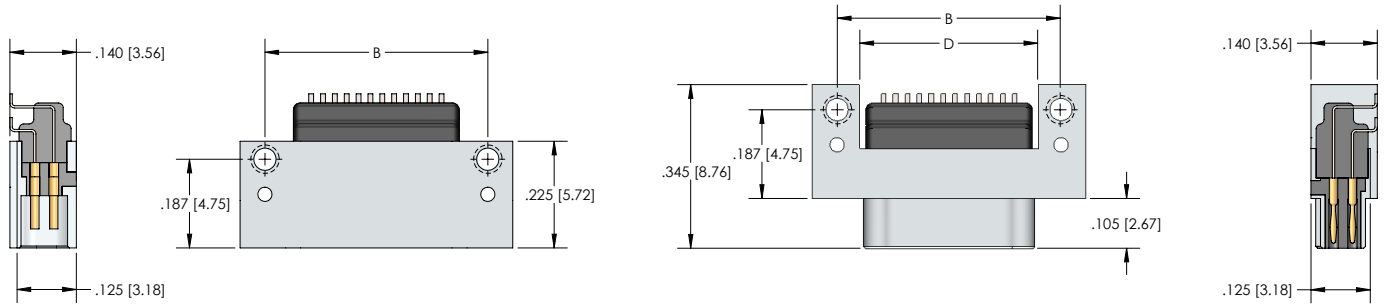
\* Indicates preferred standard \*\* Consult factory for other plating options

**CN M 28 L 25 – 2 P Ø7 1 – SØ1**

CN	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	Mounting Option
CN=Nano	M= Metal Shell	Style=28	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2= Gold plated (RoHS)		HT = 200°C	
				21		S=Female/Socket (Receptacle Side)			*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes
				25							
				31					SØ3 = Black Anodize		2=Clearance Mounting Holes
				37							
				51					SØ6 = Olive-Drab Cadmium		3=Solder Alignment Posts with Clearance Mounting Holes
				65							
									SØ7 =Titanium		
											
									SØ9=Stainless		
											

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 131 M&F or Click Here for Materials and Finishes Data

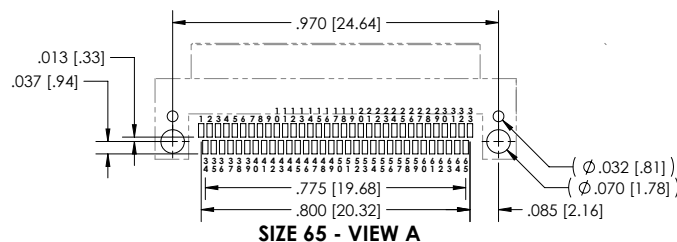
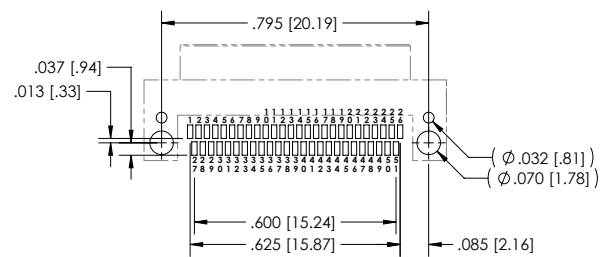
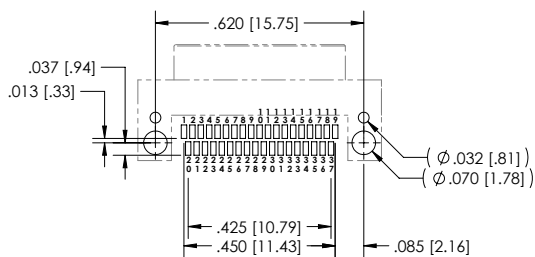
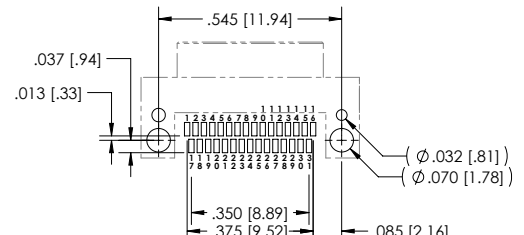
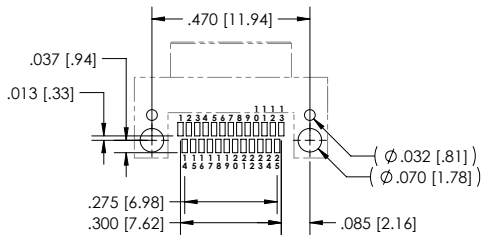
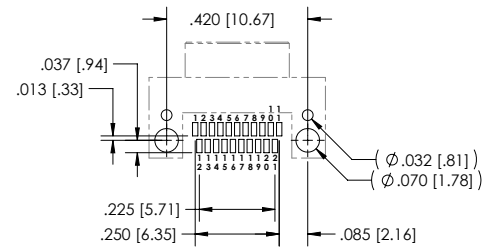
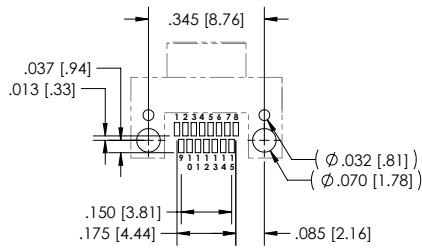
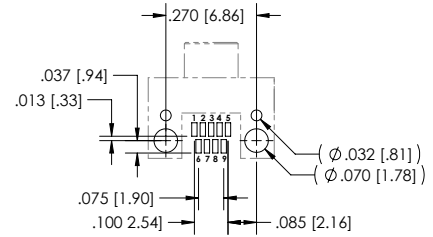
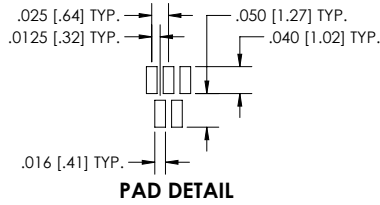
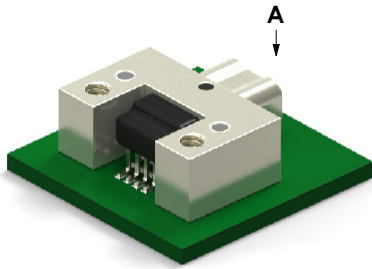
# DIMENSIONS



Size	CNM SERIES							
	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

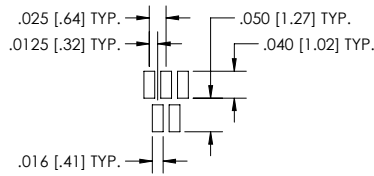
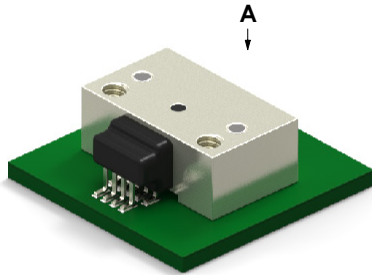
# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT

NANO D – PID 135

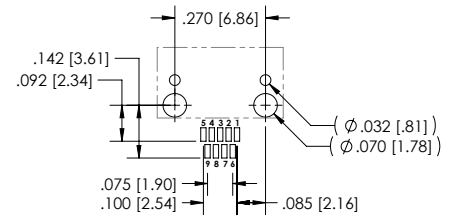




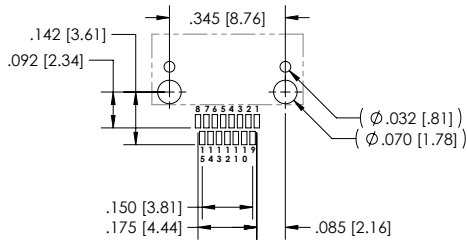
# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT



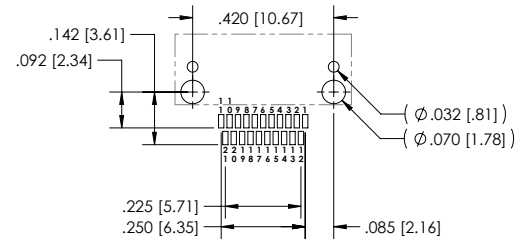
**PAD DETAIL**



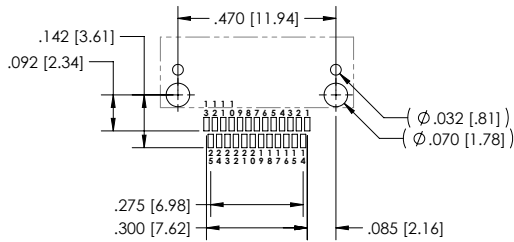
**SIZE 9 - VIEW A**



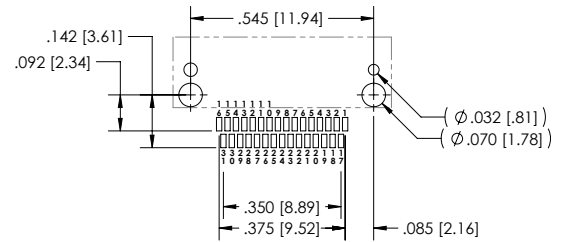
**SIZE 15 - VIEW A**



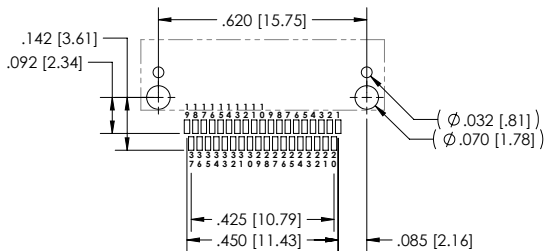
**SIZE 21 - VIEW A**



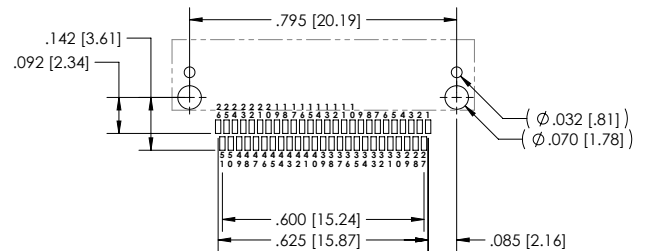
**SIZE 25 - VIEW A**



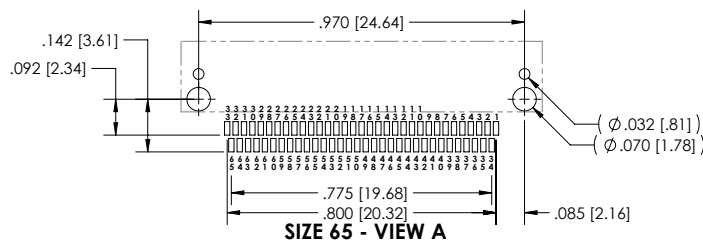
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



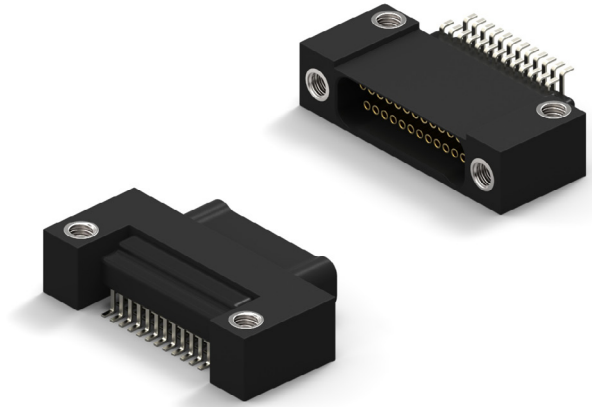
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR RIGHT ANGLE





- Plastic Shell Connector
- Surface Mount .025 x .040 (Style 28)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



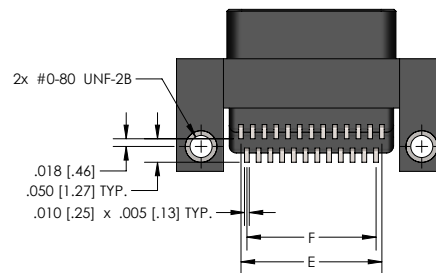
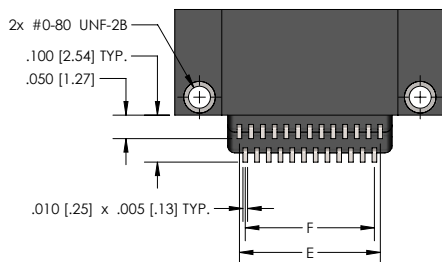
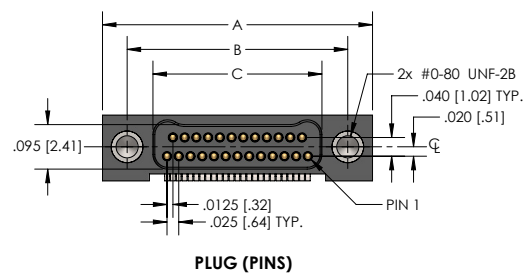
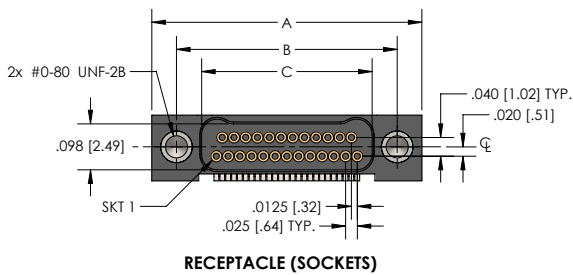
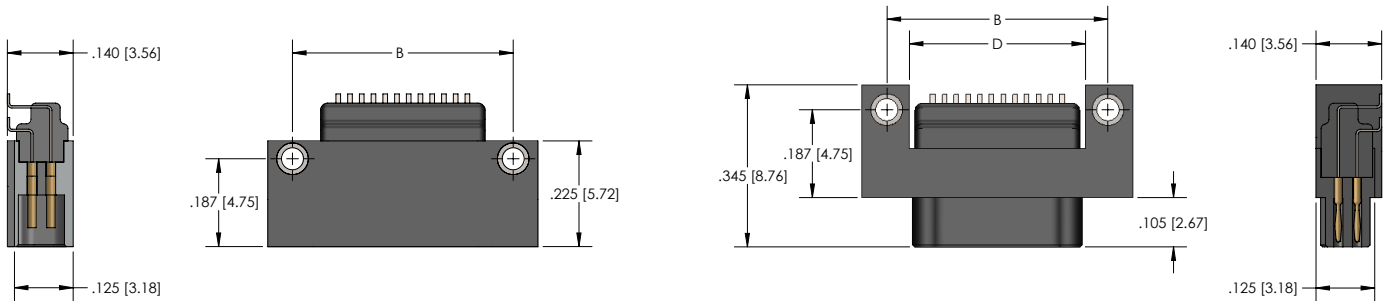
NANO D – PID 136

## HOW TO ORDER

\* Indicates preferred standard

CN	P	28	L	25 – 2	P	Ø7	1		
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Temp Range	Mounting Option
CN= Nano	P= Plastic Shell	Style=28	L=LCP	Ø9	2= Dual Row	P= Male/ Pin (Plug Side)	Ø7= Threaded Hole	1= Tin plated (6Ø/4Ø)	*Blank= Threaded Mounting Holes
				15				2= Gold plated (RoHS)	HT = 200°C 
				21		S= Female/ Socket (Receptacle Side)			
				25					
				31					
				37					
				51					
				65					

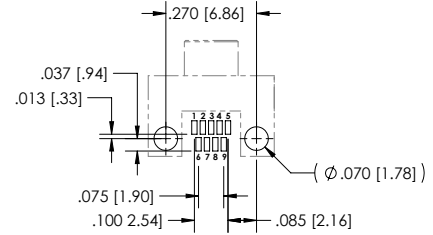
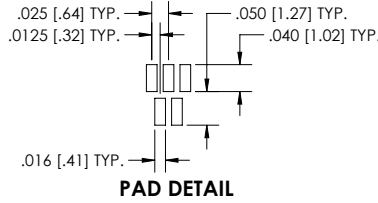
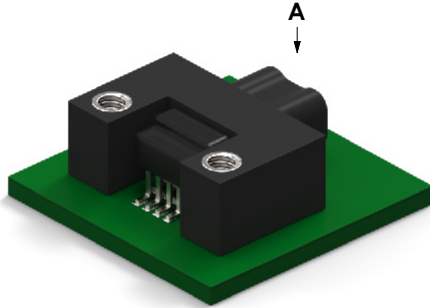
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 126 M&F or Click Here for Materials and Finishes Data



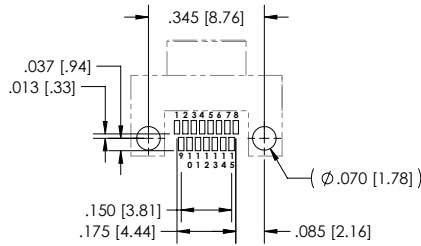
CNP SERIES								
Size	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT

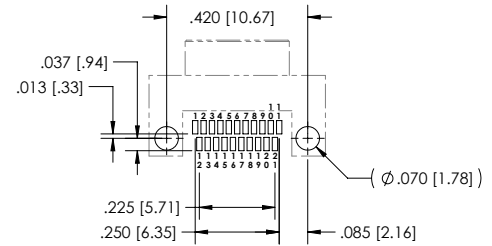
NANO D – PID 136



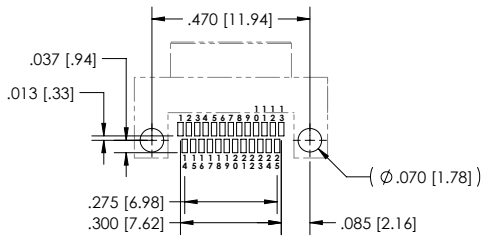
**SIZE 9 - VIEW A**



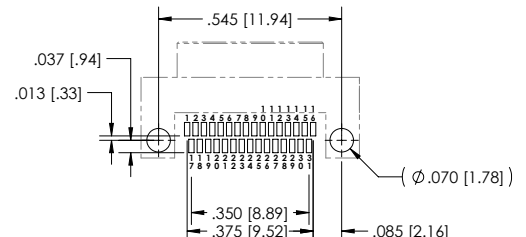
**SIZE 15 - VIEW A**



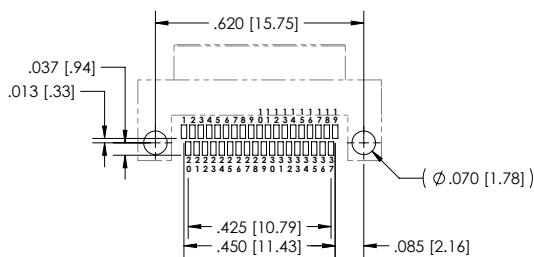
**SIZE 21 - VIEW A**



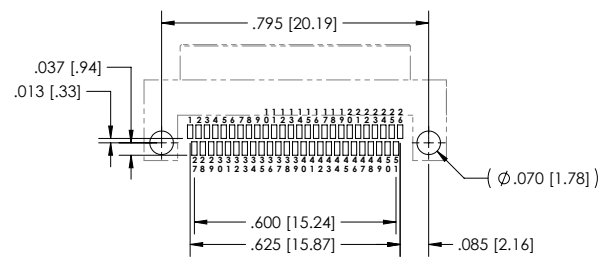
**SIZE 25 - VIEW A**



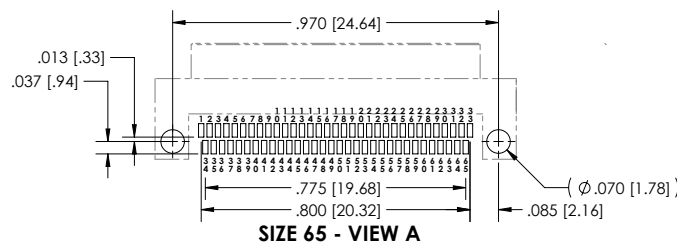
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**

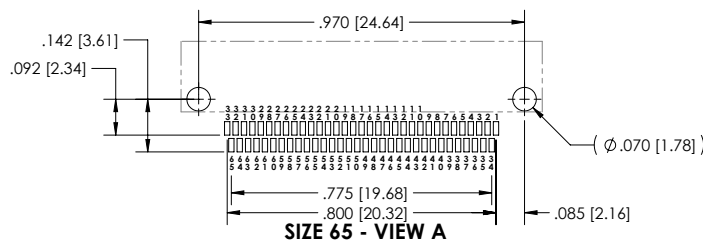
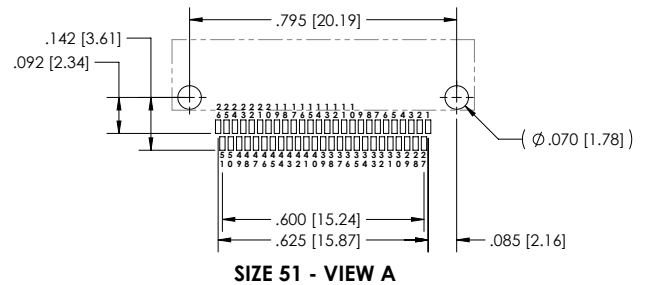
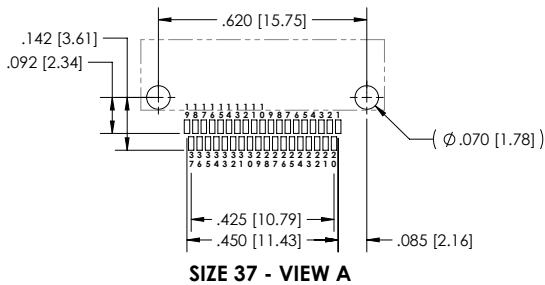
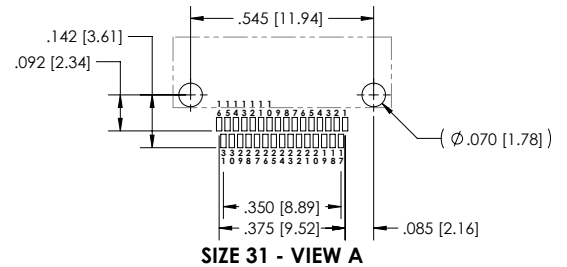
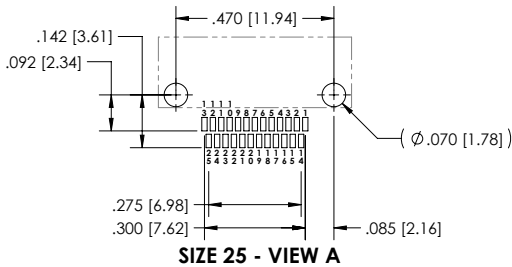
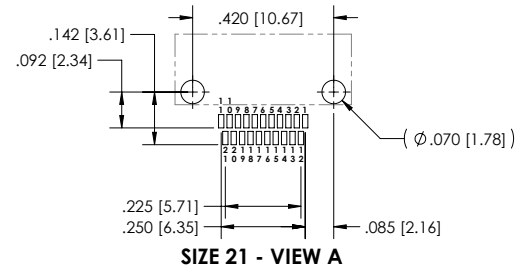
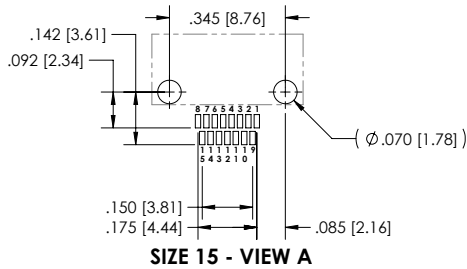
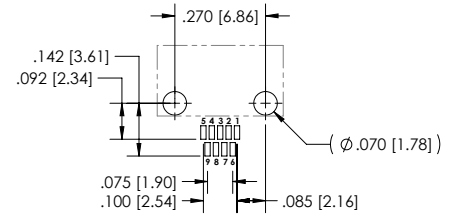
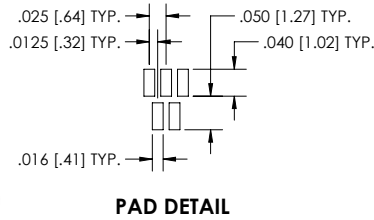
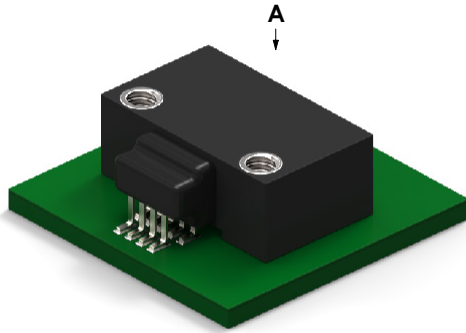


**SIZE 51 - VIEW A**



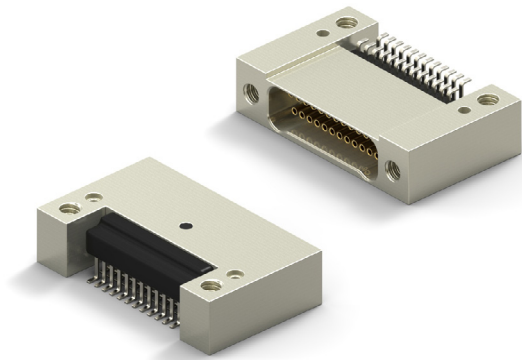
**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT



# CIRCUIT CONNECTOR RIGHT ANGLE

- Metal Shell Connector
- Surface Mount .025 x .040 (Style 38)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts















NANO D – PID 137

## HOW TO ORDER

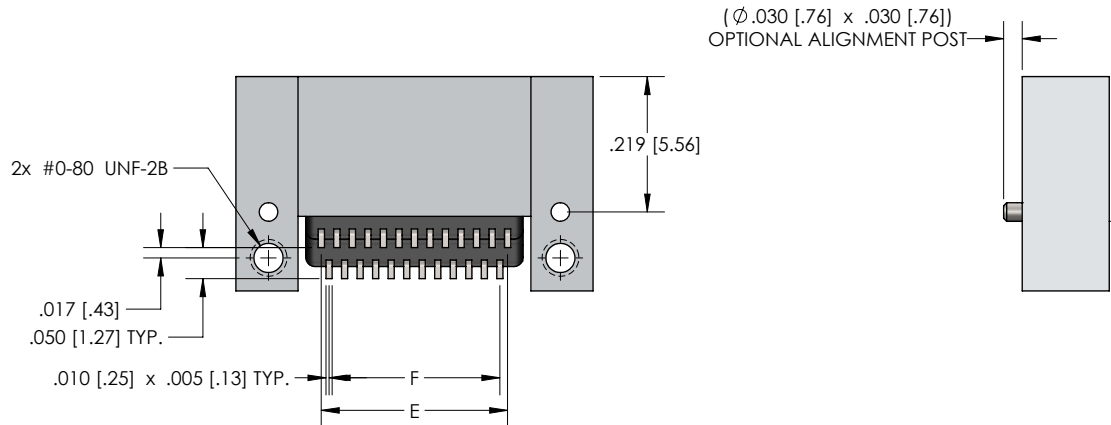
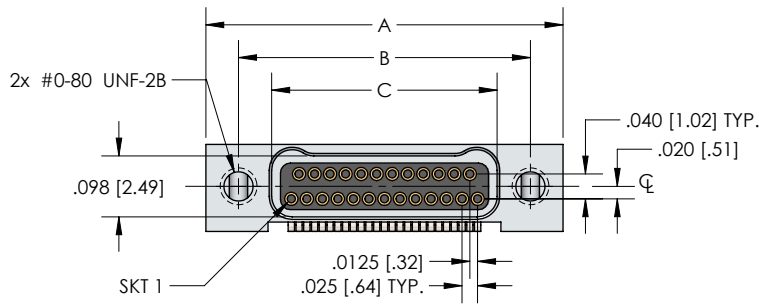
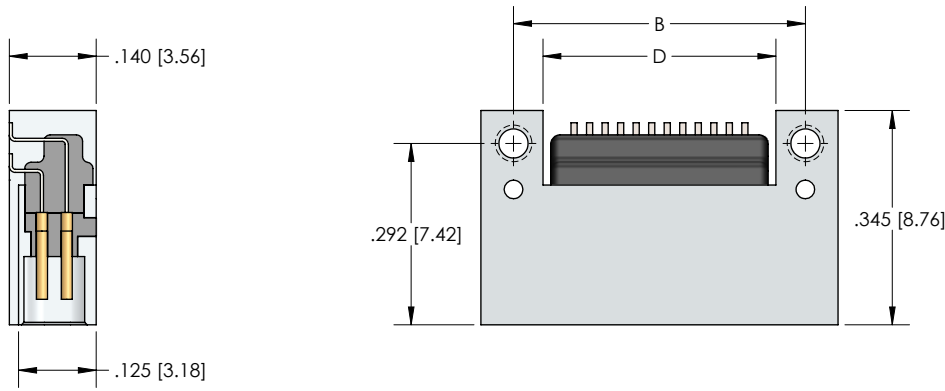
\* Indicates preferred standard \*\* Consult factory for other plating options

**CN M 38 L 25 – 2 P Ø7 1 – SØ1**

CN	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	Mounting Option
CN=Nano	M= Metal Shell	STYLE=38	L=LCP	Ø9	2= Dual Row	S= Female/Socket (Receptacle Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2= Gold plated (RoHS)		HT = 2ØØC	
				21					*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes
				25							
				31					SØ3 = Black Anodize		2= Clearance Mounting Holes
				37							
				51					SØ6 = Olive-Drab Cadmium		3=Solder Alignment Posts with Clearance Mounting Holes
				65							
									SØ7 =Titanium		
											
									SØ9=Stainless		
											

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 131 M&F or Click Here for Materials and Finishes Data

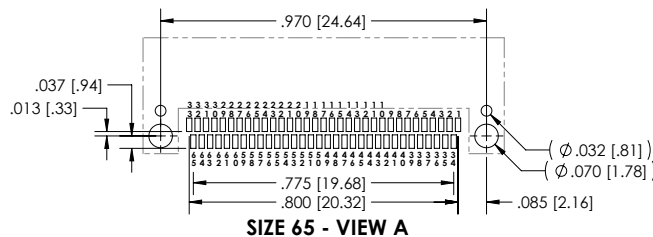
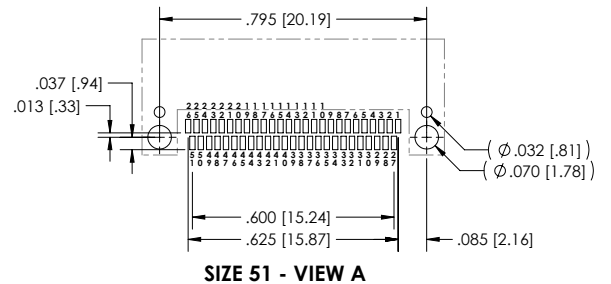
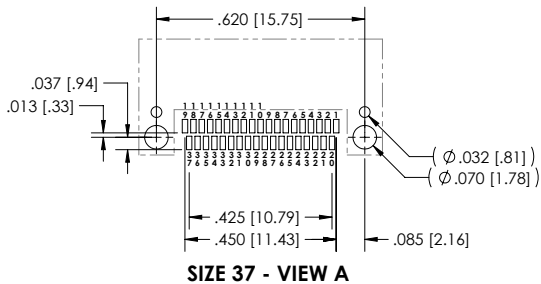
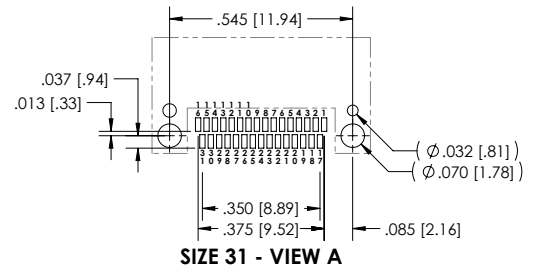
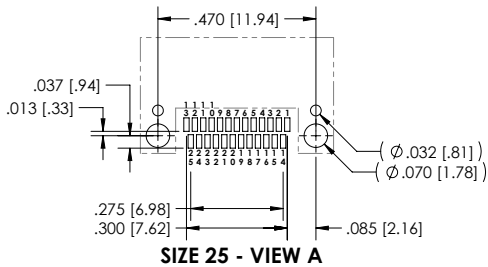
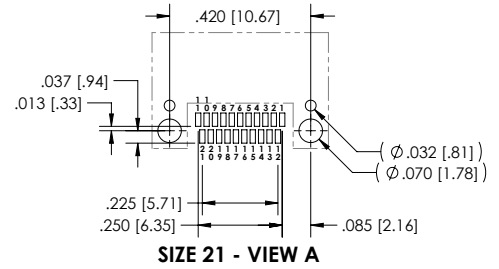
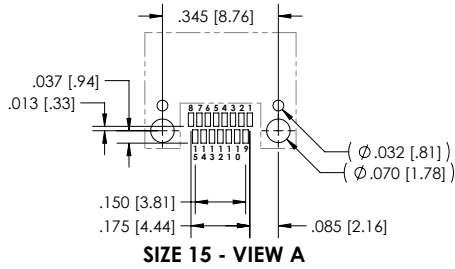
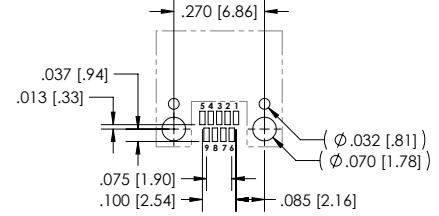
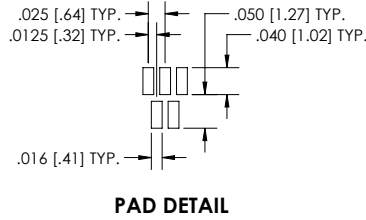
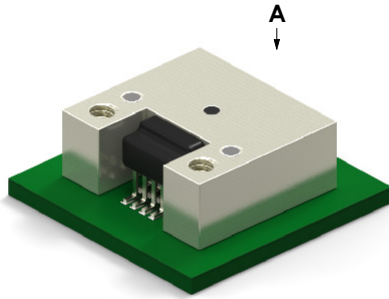
# DIMENSIONS



Size	CNM SERIES							
	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]	
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]	
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]	
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]	
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]	
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]	
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]	
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]	

# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT

NANO D – PID 137



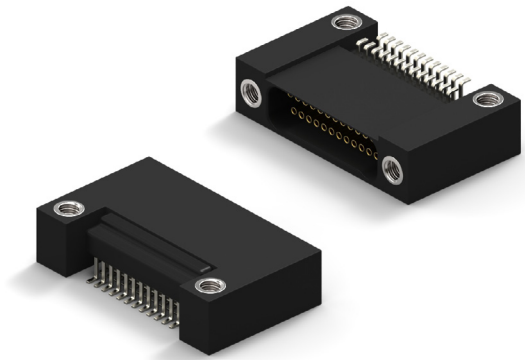


# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT

THIS PAGE LEFT  
INTENTIONALLY BLANK

# CIRCUIT CONNECTOR RIGHT ANGLE




- Plastic Shell Connector
- Surface Mount .025 x .040 (Style 38)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



NANO D – PID 138

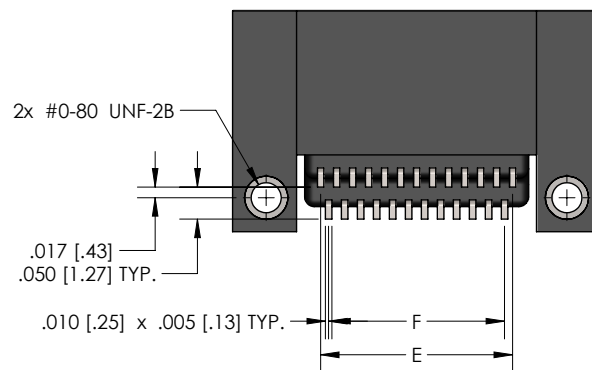
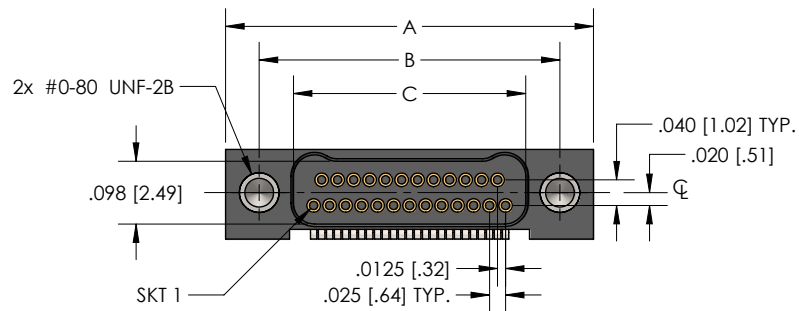
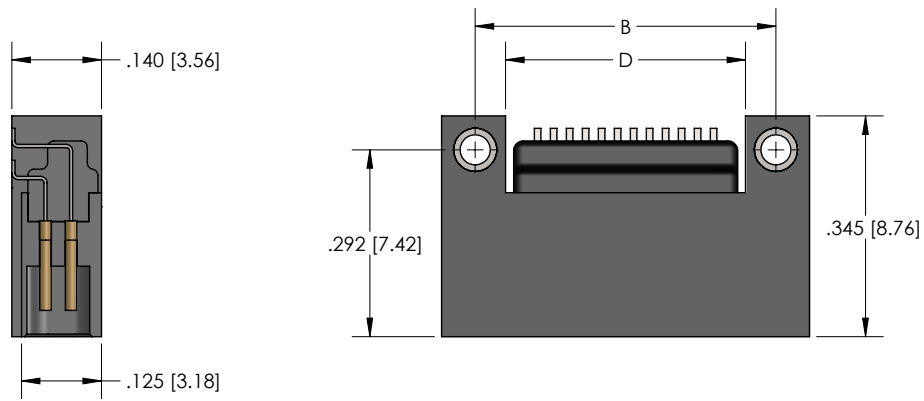
## HOW TO ORDER

\* Indicates preferred standard

CN	P	38	L	25	- 2	S	Ø7	1		
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Temp Range	Mounting Option	
CN=Nano	P=Plastic	Style=38	L=LCP	Ø9	2= Dual Row	S=Female/Socket (Receptacle Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2= Gold plated (RoHS)	HT = 200C	
				21						
				25						
				31						
				37						
				51						
				65						

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 26 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 26 See chart 126 M&F or Click Here for Materials and Finishes Data

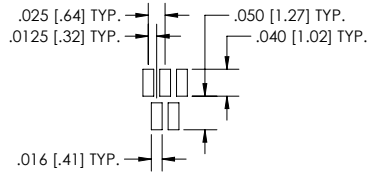
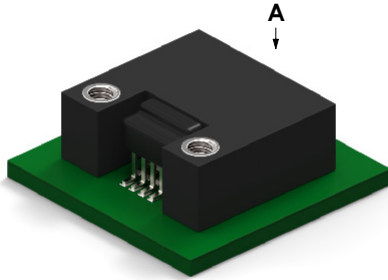
# DIMENSIONS



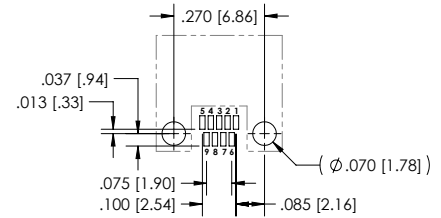
CNP SERIES								
Size	A	B	Plug C	Receptacle	D	E	F	
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]	
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]	
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]	
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]	
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]	
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]	
51	.900 [22.86]	.795 [20.19]	.685 [17.40]	.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]	
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]	.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]	

# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT

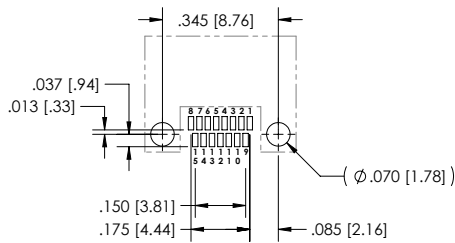
NANO D – PID 138



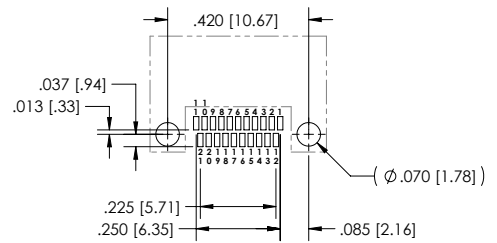
PAD DETAIL



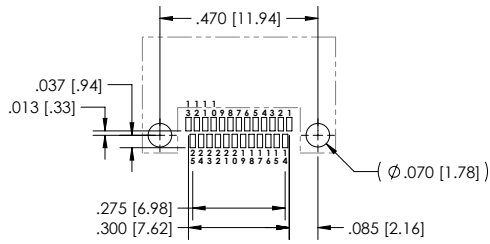
SIZE 9 - VIEW A



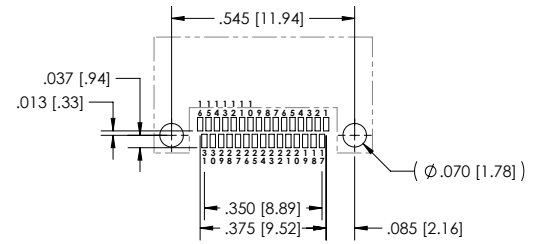
SIZE 15 - VIEW A



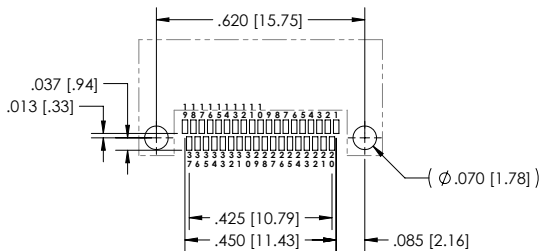
SIZE 21 - VIEW A



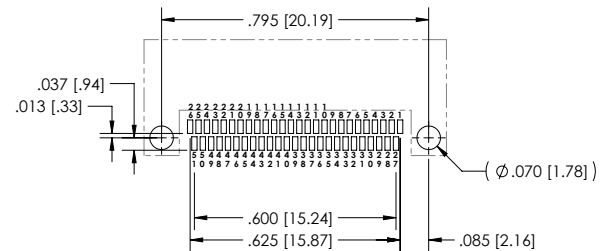
SIZE 25 - VIEW A



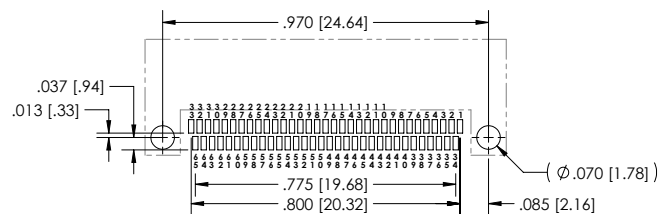
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A



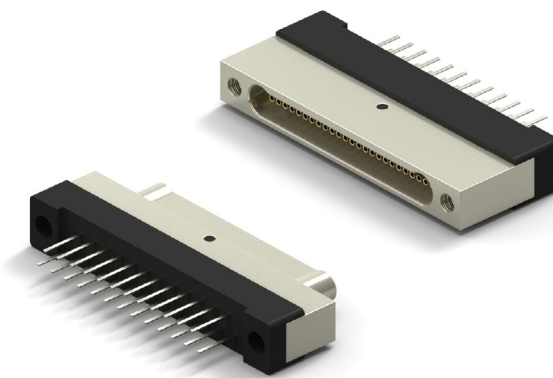
SIZE 65 - VIEW A

# CIRCUIT CONNECTOR RIGHT ANGLE PCB LAYOUT

THIS PAGE LEFT  
INTENTIONALLY BLANK

# CIRCUIT CONNECTOR VERTICAL










- Metal Shell Connector
- Plated Thru Hole .050 x .050 (Style 6)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



NANO D – PID 139

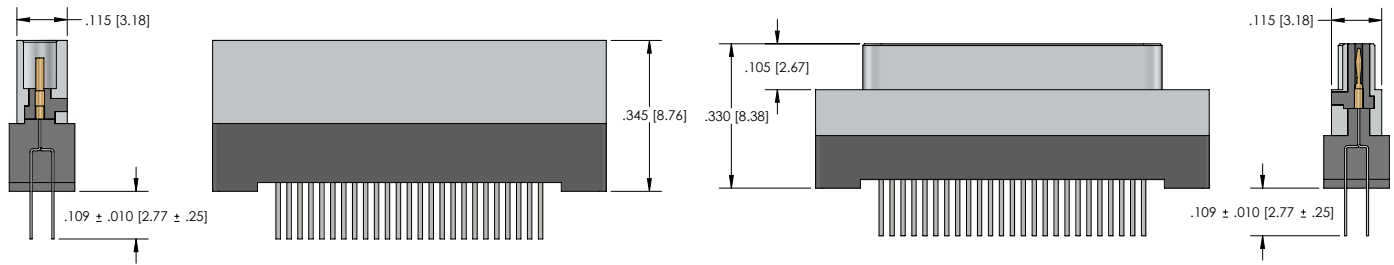
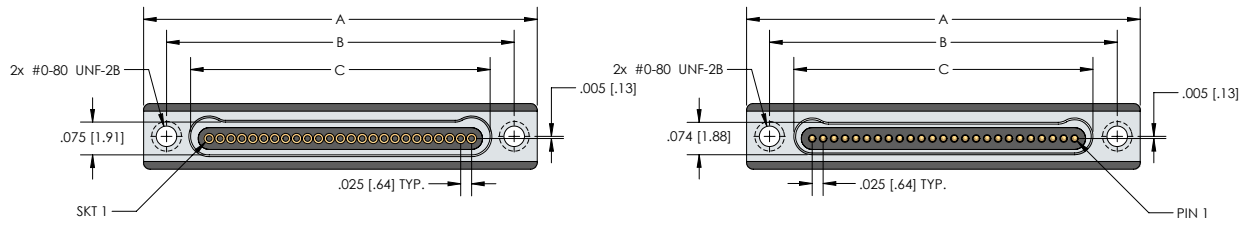
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	6	L	25	-1	P	Ø7	1	-SØ1	
	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range
CN=Nano	M= Metal Shell	Style=6	L=LCP	Ø9	1= Single Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C
				15				2= Gold plated (RoHS)		HT = 200C
				21		S=Female/Socket (Receptacle Side)			*SØ1= Nickel	
				25						
				31					SØ3 = Black Anodize	
				37						
				51					SØ6 = Olive-Drab Cadmium	
										
									SØ7 =Titanium	
										
									SØ9=Stainless	
										

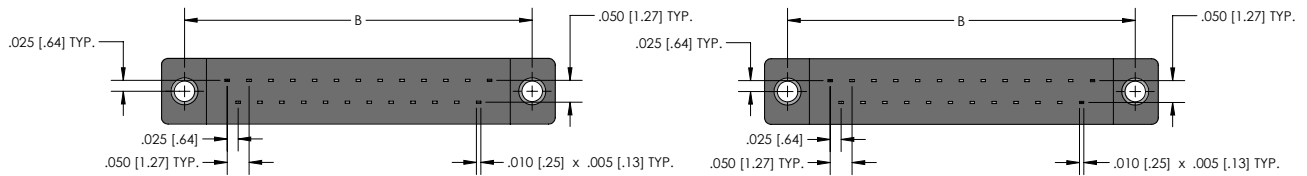
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 28 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 28 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 28 See chart 139 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS



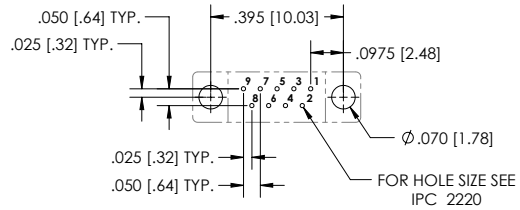
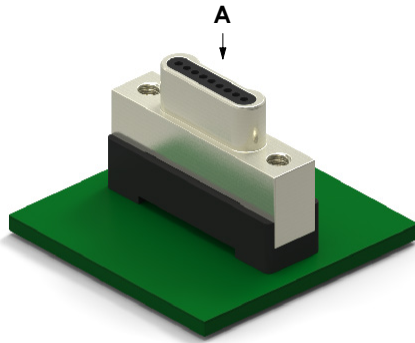
RECEPTACLE (SOCKETS)

PLUG (PINS)

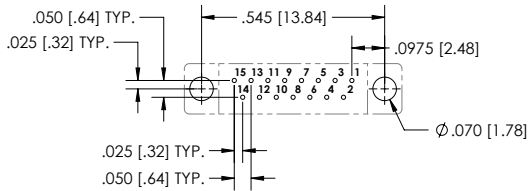


CNM SERIES					
Size	A	B	Plug C	Receptacle	D
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700 [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]

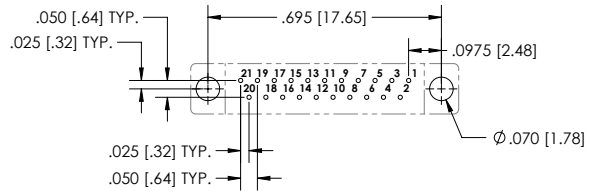
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



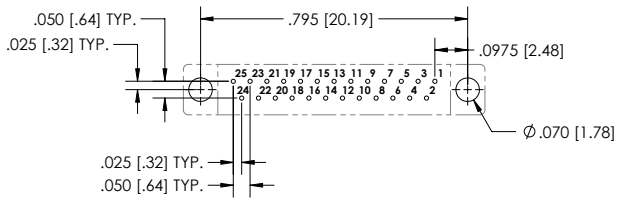
SIZE 9 - VIEW A



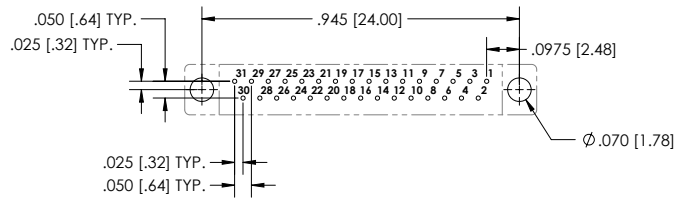
SIZE 15 - VIEW A



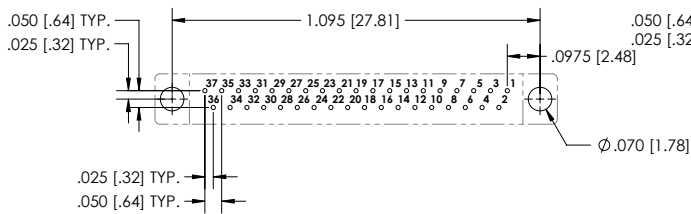
SIZE 21 - VIEW A



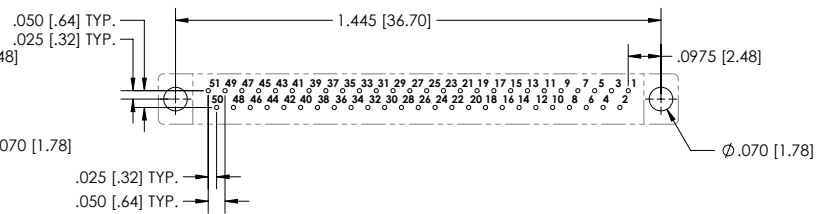
SIZE 25 - VIEW A



SIZE 31 - VIEW A



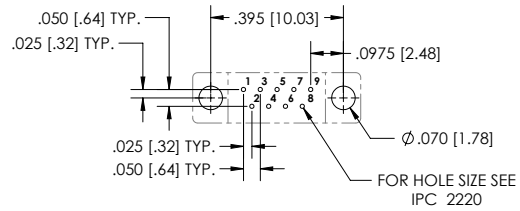
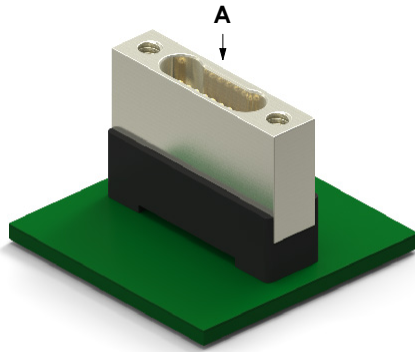
SIZE 37 - VIEW A



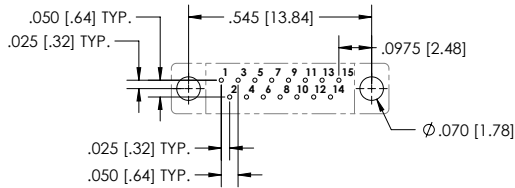
SIZE 51 - VIEW A



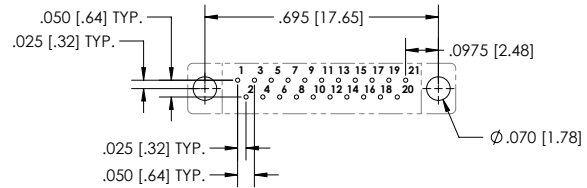
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



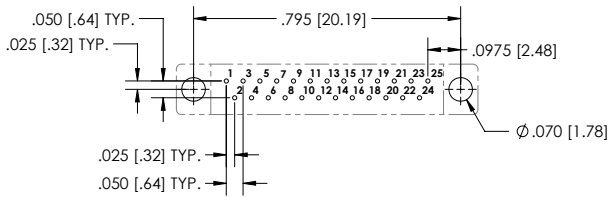
**SIZE 9 - VIEW A**



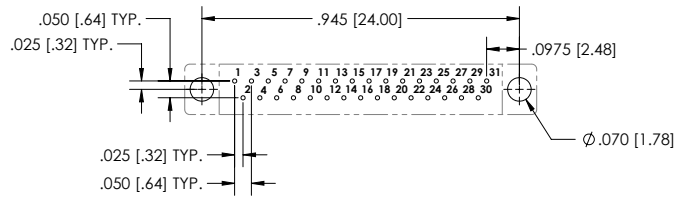
**SIZE 15 - VIEW A**



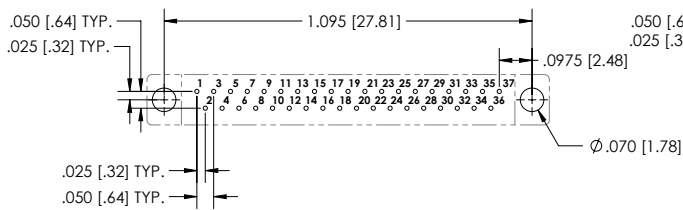
**SIZE 21 - VIEW A**



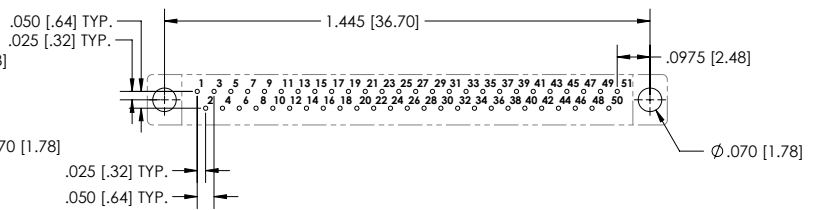
**SIZE 25 - VIEW A**



**SIZE 31 - VIEW A**



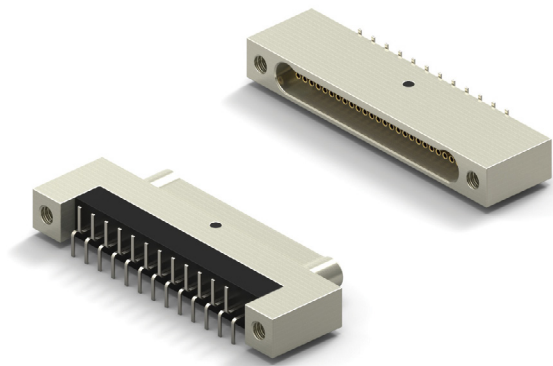
**SIZE 37 - VIEW A**



**SIZE 51 - VIEW A**

# CIRCUIT CONNECTOR VERTICAL










- Metal Shell Connector
- Surface Mount .025 x .075 (Style 26)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 51 Contacts



NANO D – PID 140

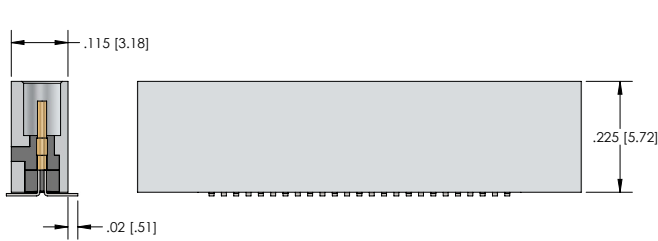
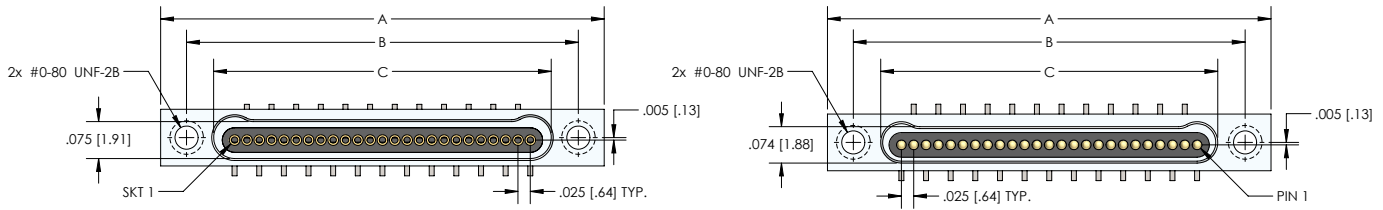
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

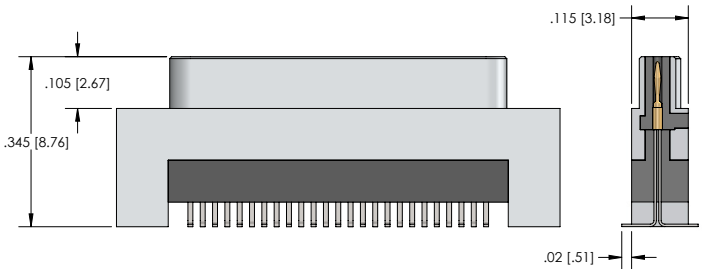
CN	M	26	L	25	-1	P	Ø7	1	-SØ1	
	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range
CN=Nano	M= Metal Shell	Style=26	L=LCP	Ø9	1= Single Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C
				15				2= Gold plated (RoHS)		HT = 200C
				21		S=Female/Socket (Receptacle Side)			*SØ1= Nickel	
				25						
				31					SØ3 = Black Anodize	
				37						
				51					SØ6 = Olive-Drab Cadmium	
										
									SØ7 =Titanium	
										
									SØ9=Stainless	
										

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 28 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 28 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 28 See chart 139 M&F or Click Here for Materials and Finishes Data

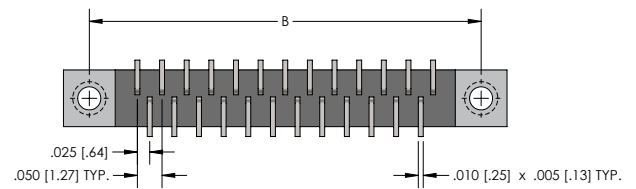
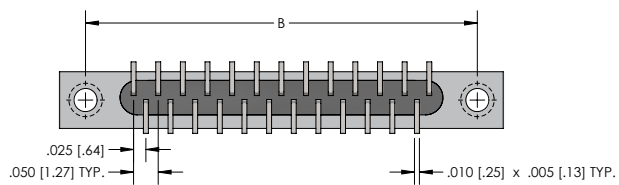
# DIMENSIONS



RECEPTACLE (SOCKETS)

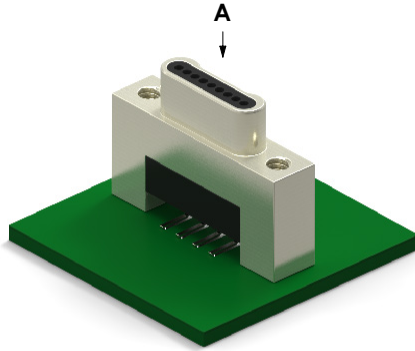


PLUG (PINS)

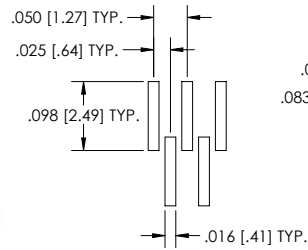


Size	CNM SERIES				
	A	B	Plug C	Receptacle	D
9	.500 [12.70]	.395 [10.03]	.284 [7.21]	.285 [7.24]	.300 [7.62]
15	.650 [16.51]	.545 [13.84]	.434 [11.02]	.435 [11.05]	.450 [11.43]
21	.800 [20.32]	.695 [17.65]	.584 [14.83]	.585 [14.86]	.600 [15.24]
25	.900 [22.86]	.795 [20.19]	.684 [17.37]	.685 [17.40]	.700 [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]

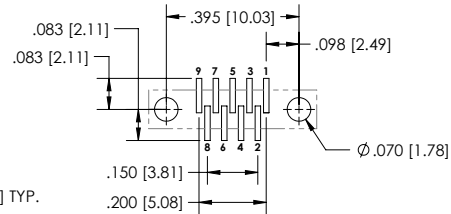
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



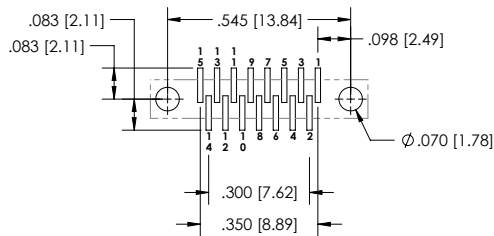
NANO D – PID 140



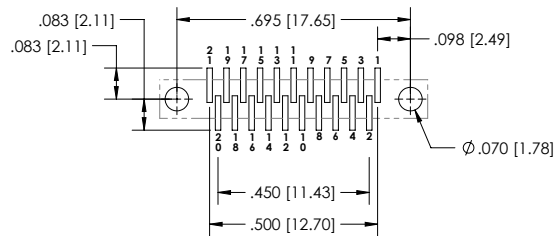
PAD DETAIL



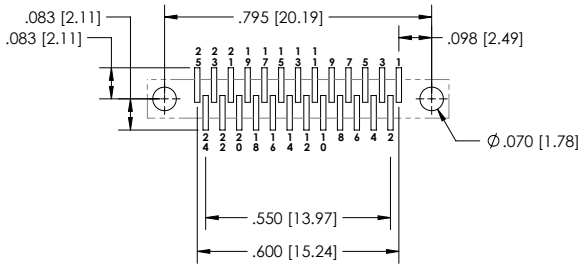
SIZE 9 - VIEW A



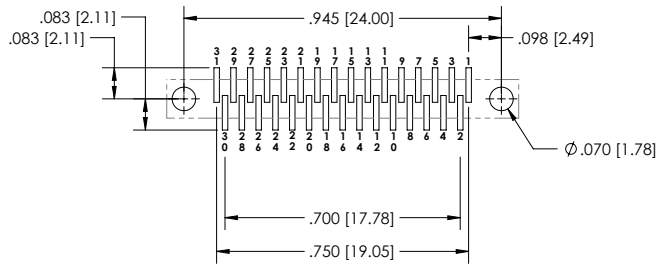
SIZE 15 - VIEW A



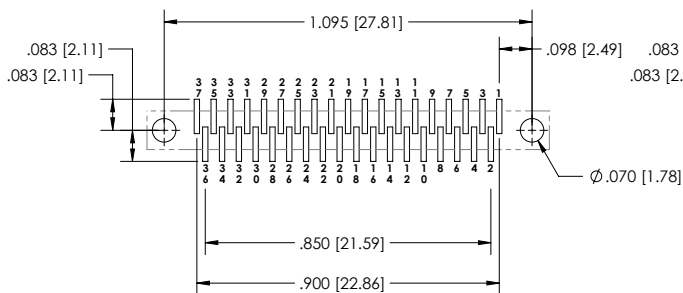
SIZE 21 - VIEW A



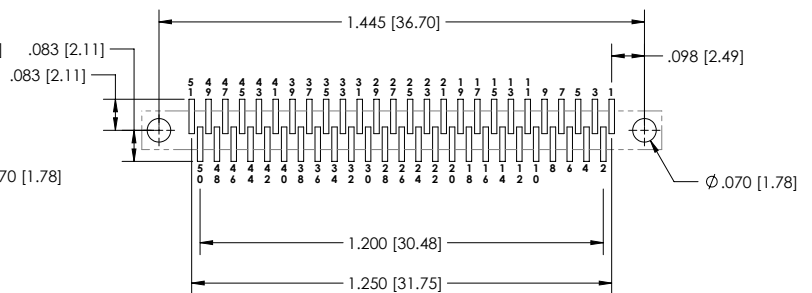
SIZE 25 - VIEW A



SIZE 31 - VIEW A

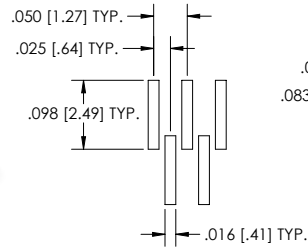
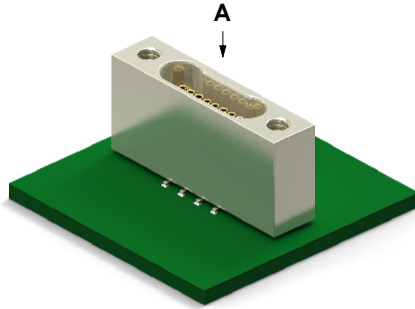


SIZE 37 - VIEW A

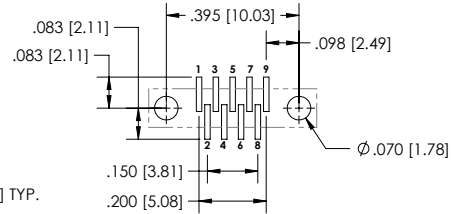


SIZE 51 - VIEW A

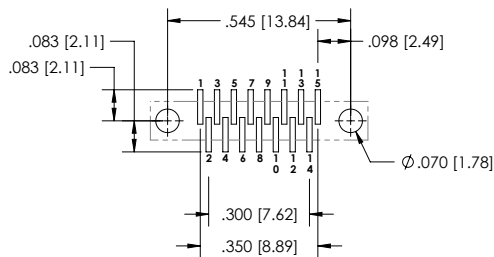
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



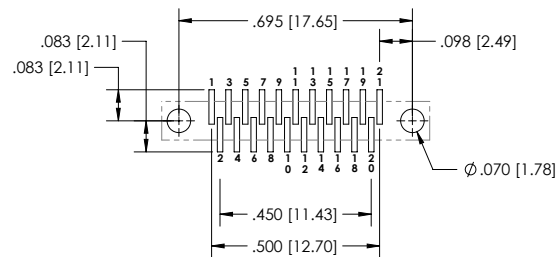
**PAD DETAIL**



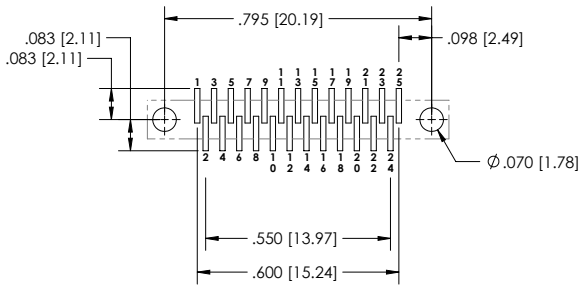
**SIZE 9 - VIEW A**



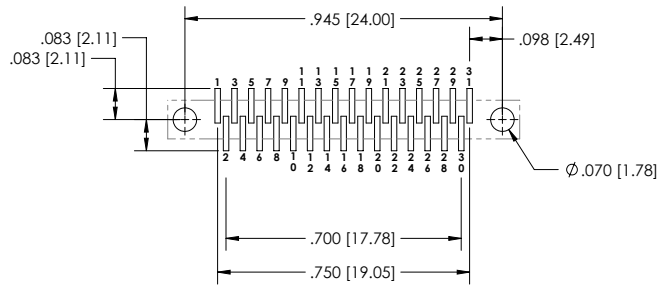
**SIZE 15 - VIEW A**



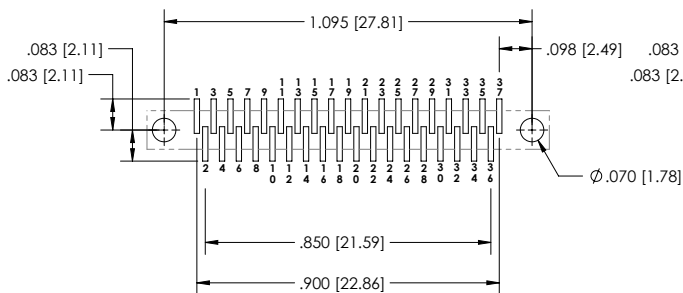
**SIZE 21 - VIEW A**



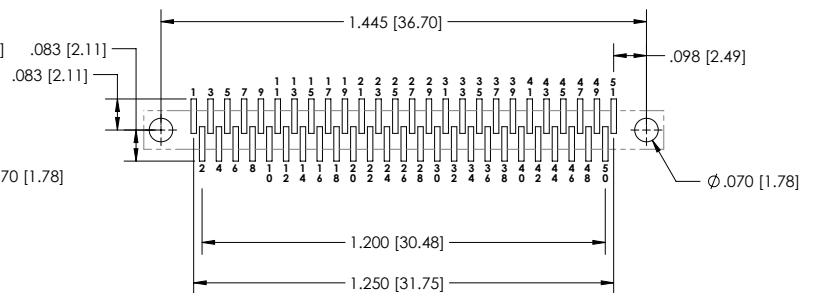
**SIZE 25 - VIEW A**



**SIZE 31 - VIEW A**



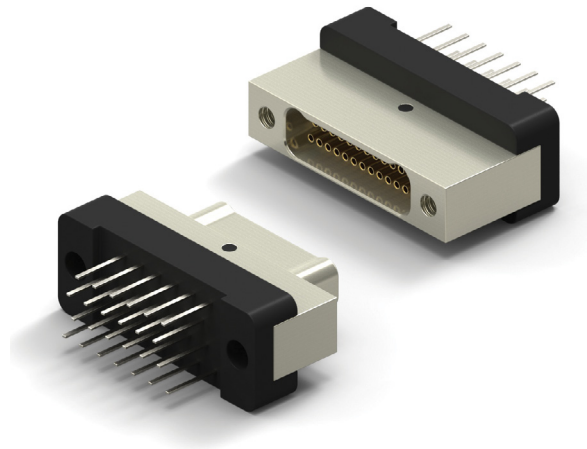
**SIZE 37 - VIEW A**



**SIZE 51 - VIEW A**










# CIRCUIT CONNECTOR VERTICAL

- Metal Shell Connector
- Plated Thru Hole .050 x .050 (Style 6)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts

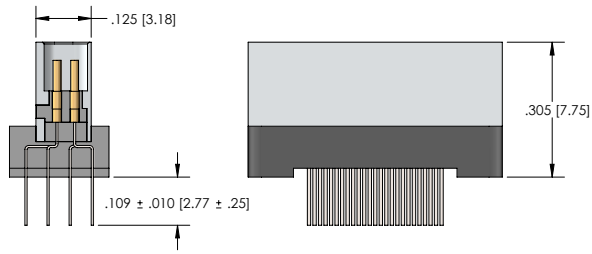
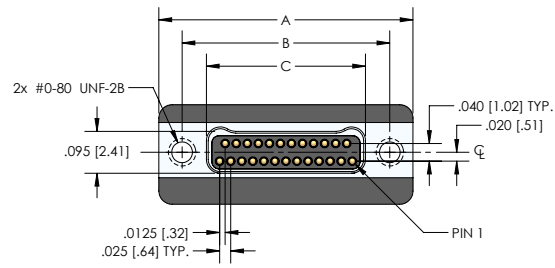
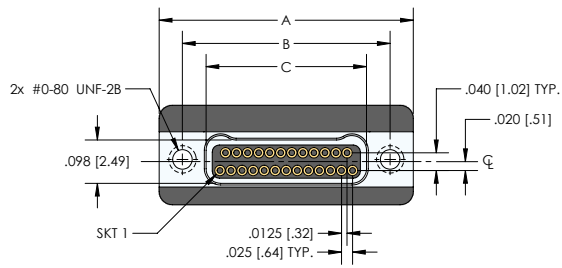


## HOW TO ORDER

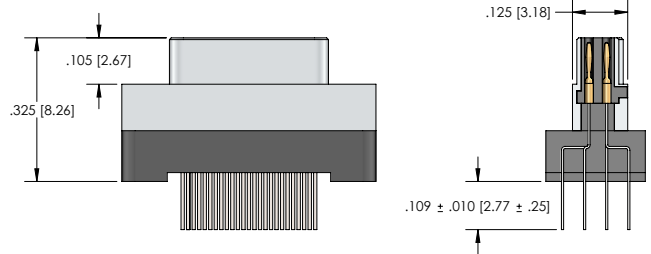
\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	6	L	25	-2	P	Ø7	1	-SØ1	
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	
CN= Nano	M= Metal Shell	Style=6	L=LCP	Ø9	2= Dual Row	P= Male/Pin (Plug Side)	Ø7= Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C
			15				2= Gold plated (RoHS)		HT = 200C	
			21		S= Female/Socket (Receptacle Side)			*SØ1= Nickel		
			25							
			31					SØ3 = Black Anodize		
			37							
			51					SØ6 = Olive-Drab Cadmium		
			65							
								SØ7 = Titanium		
										
								SØ9 = Stainless		
										

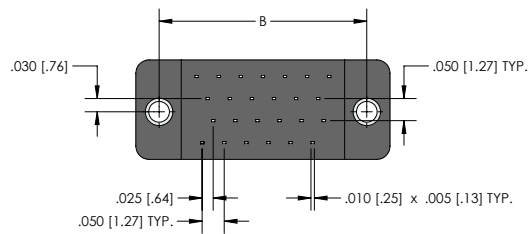
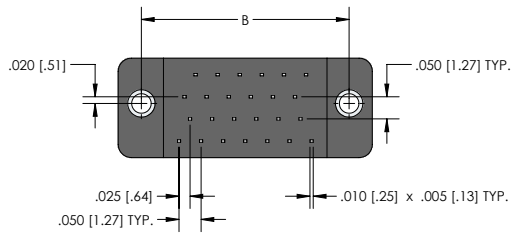
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 29 See chart 139 M&F or Click Here for Materials and Finishes Data



**RECEPTACLE (SOCKETS)**

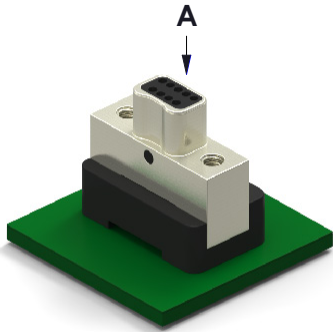


**PLUG (PINS)**

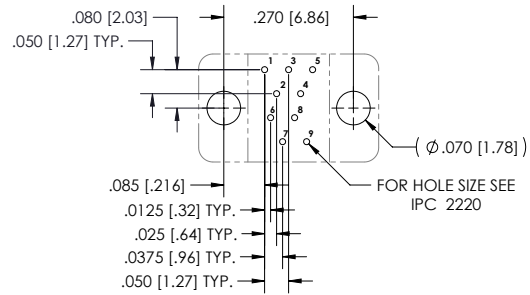


CNM6 SERIES					
Size	A	B	Plug C	Receptacle	D
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
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]

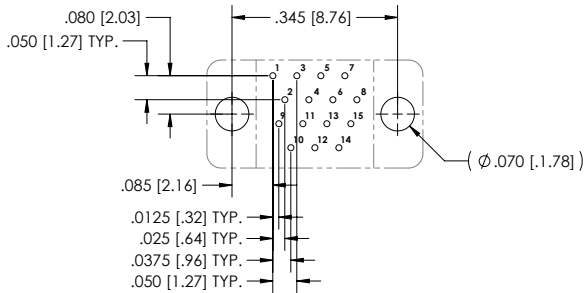
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



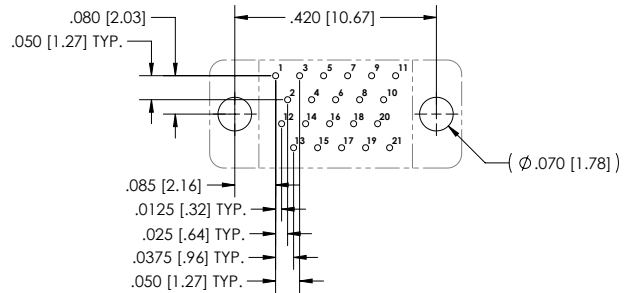
NANO D – PID 1.41



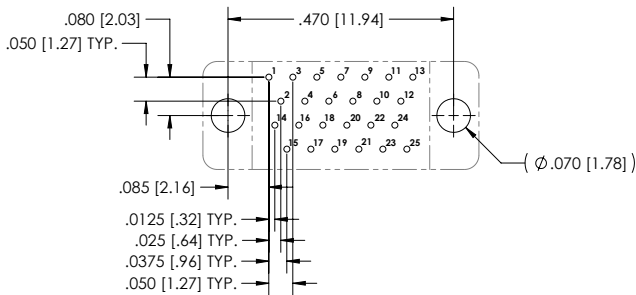
SIZE 9 - VIEW A



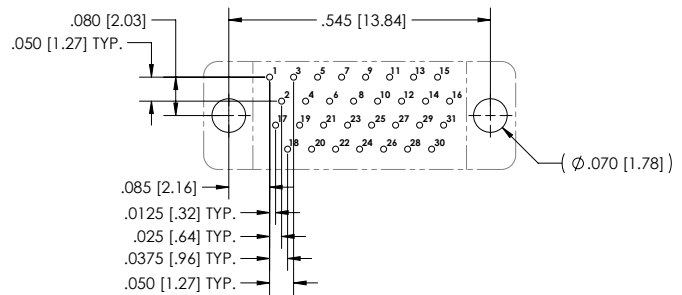
SIZE 15 - VIEW A



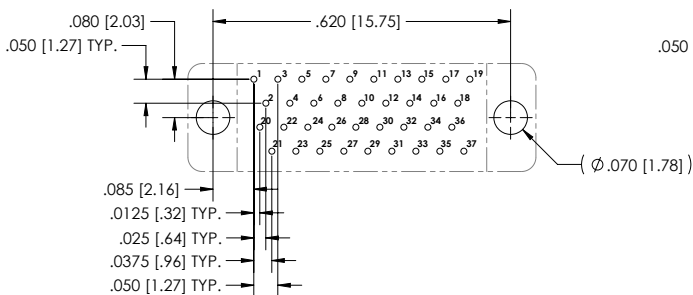
SIZE 21 - VIEW A



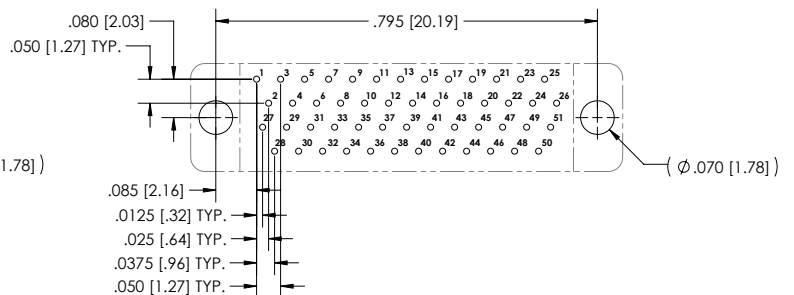
SIZE 25 - VIEW A



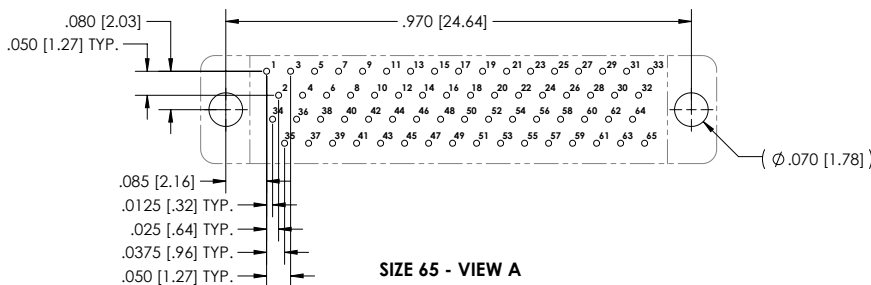
SIZE 31 - VIEW A



SIZE 37 - VIEW A



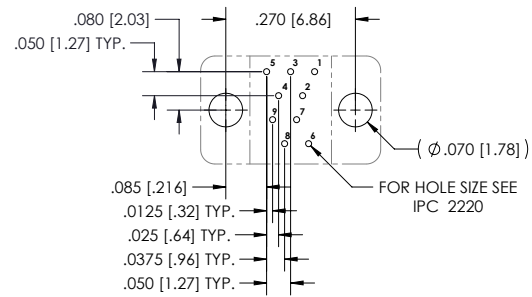
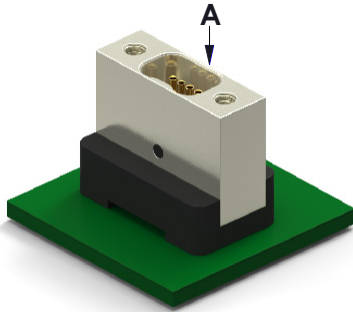
SIZE 51 - VIEW A



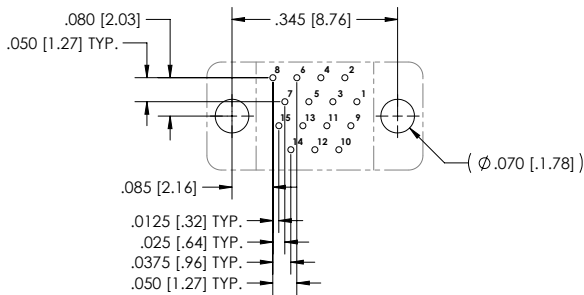
SIZE 65 - VIEW A



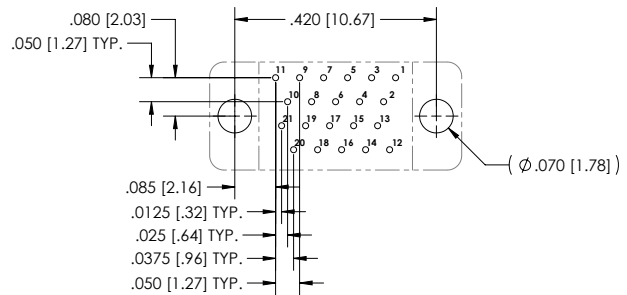
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



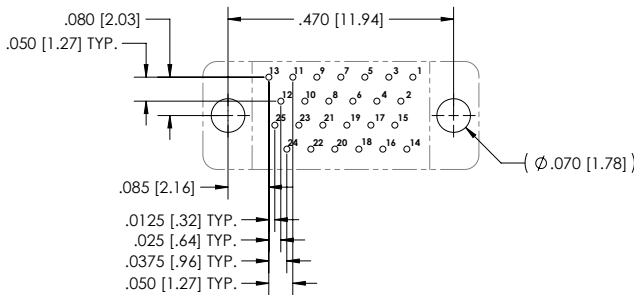
**SIZE 9 - VIEW A**



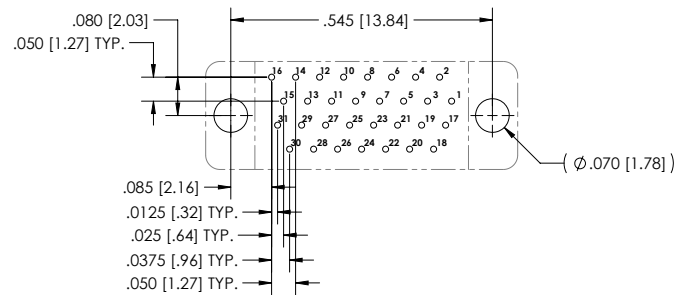
**SIZE 15 - VIEW A**



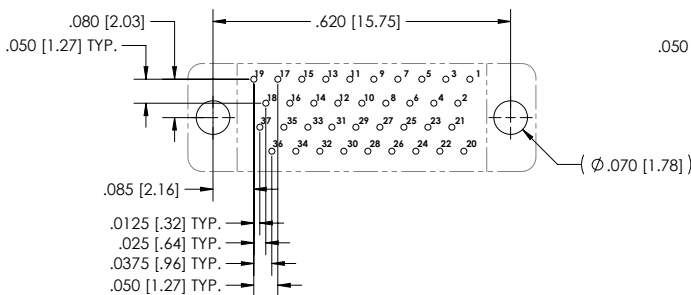
**SIZE 21 - VIEW A**



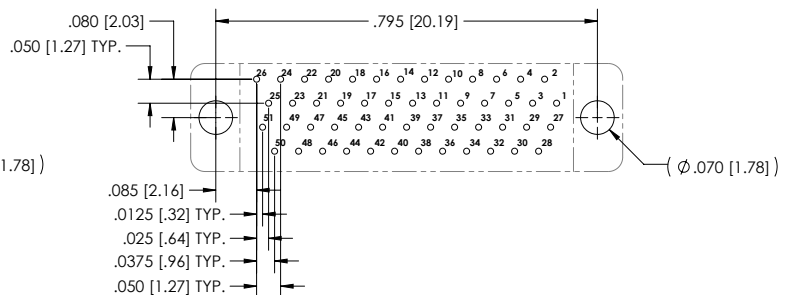
**SIZE 25 - VIEW A**



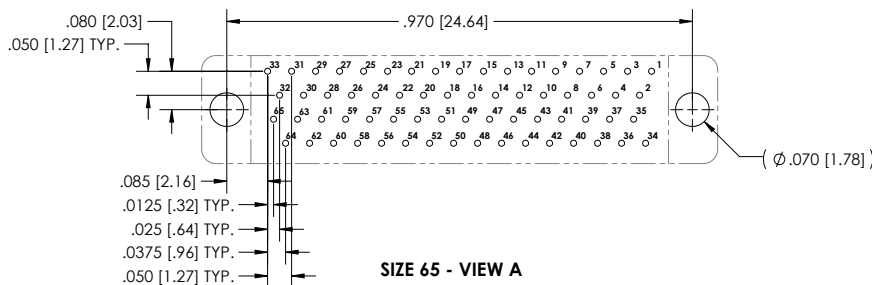
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



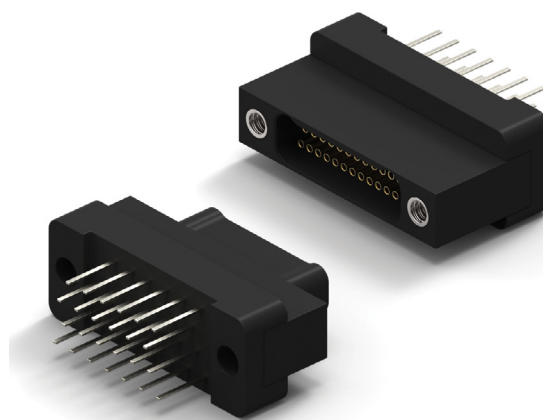
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR VERTICAL




- Plastic Shell Connector
- Plated Thru Hole .050 x .050 (Style 6)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



NANO D – PID 142

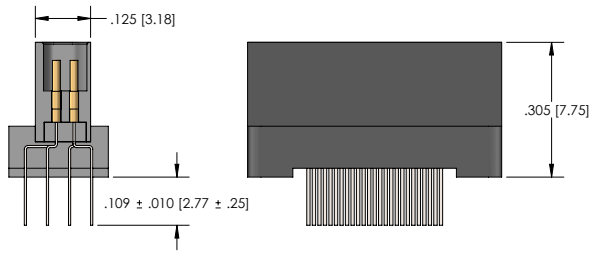
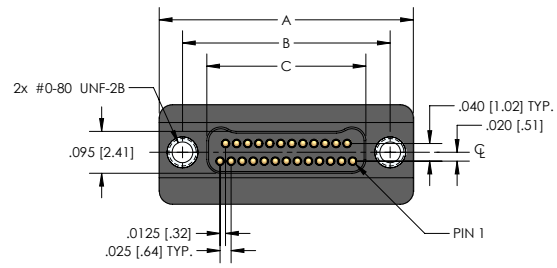
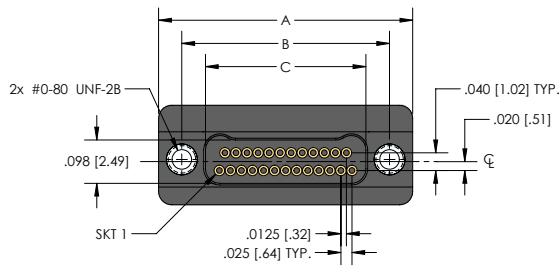
## HOW TO ORDER

\* Indicates preferred standard

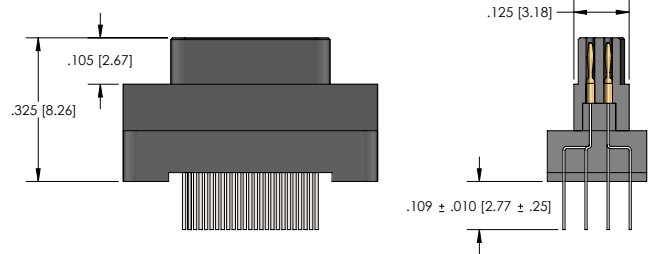
CN	P	6	L	25	-2	P	Ø7	1	
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Temp Range	
CN=Nano	P=Plastic	Style=6	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	*blank = 125C
				15				2= Gold plated (RoHS)	HT = 200C
				21		S=Female/Socket (Receptacle Side)			
				25					
				31					
				37					
				51					
				65					

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 29 See chart 142 M&F or Click Here for Materials and Finishes Data

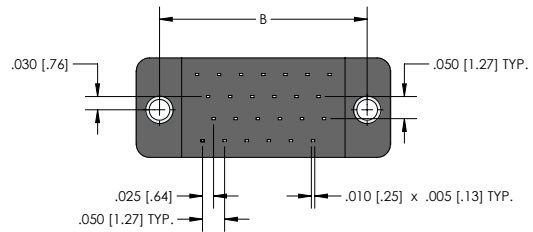
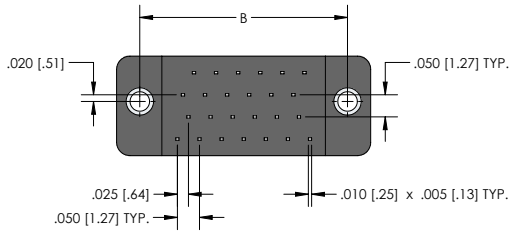
# DIMENSIONS



**RECEPTACLE (SOCKETS)**

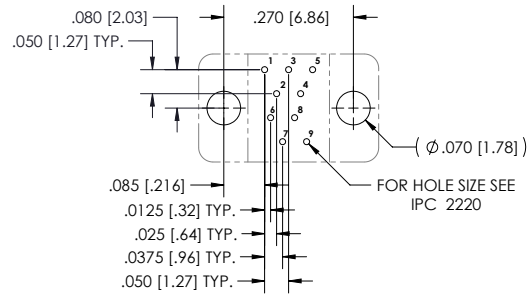
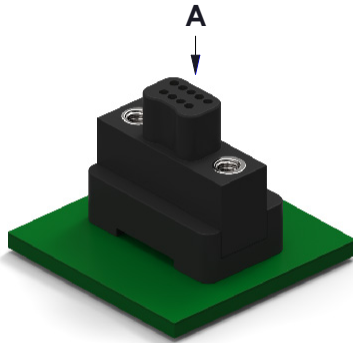


**PLUG (PINS)**

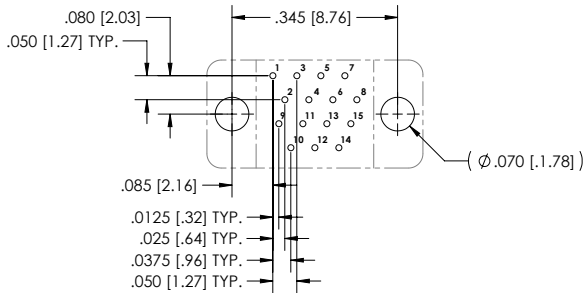


Size	CNP6 SERIES				
	A	B	Plug C	Receptacle	D
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
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]

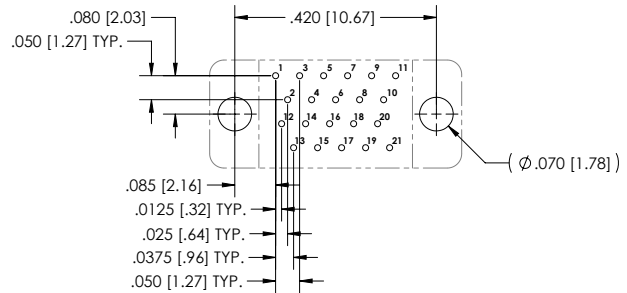
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



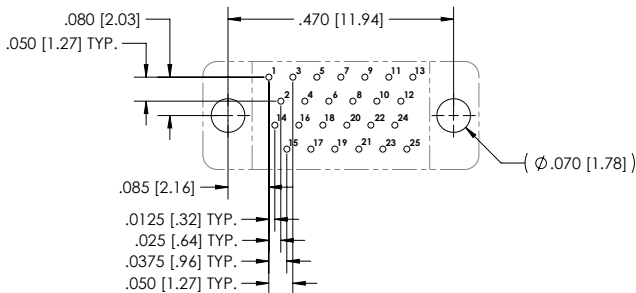
SIZE 9 - VIEW A



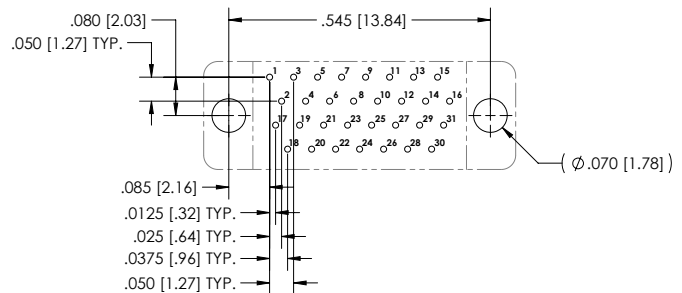
SIZE 15 - VIEW A



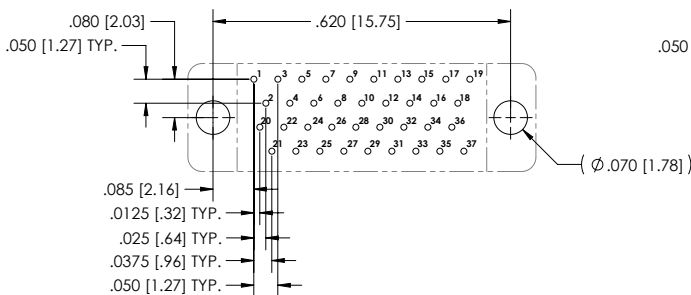
SIZE 21 - VIEW A



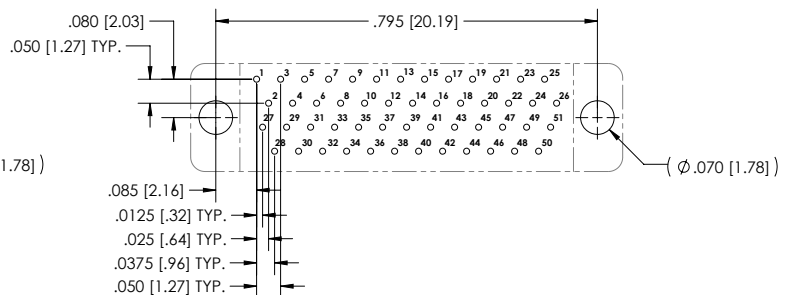
SIZE 25 - VIEW A



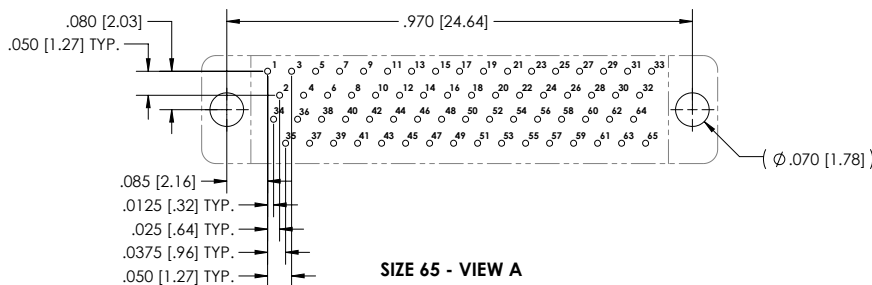
SIZE 31 - VIEW A



SIZE 37 - VIEW A

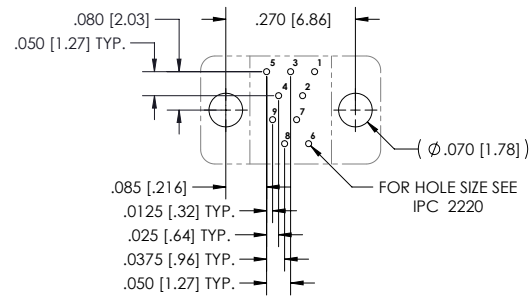
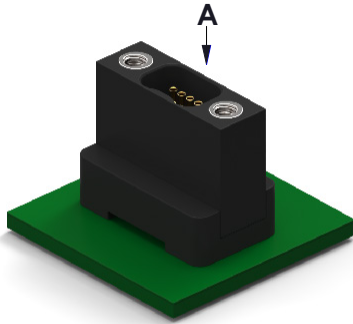


SIZE 51 - VIEW A

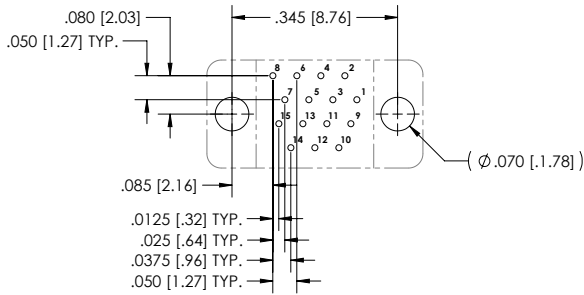


SIZE 65 - VIEW A

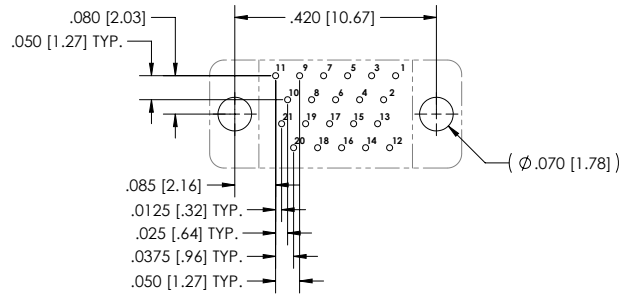
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



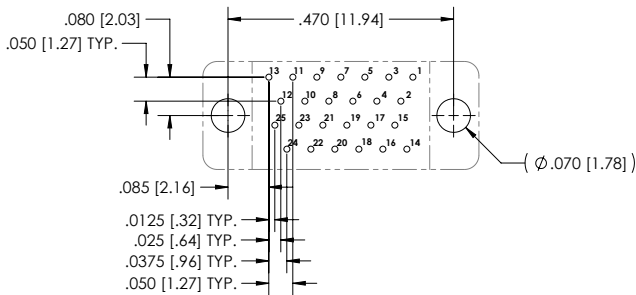
**SIZE 9 - VIEW A**



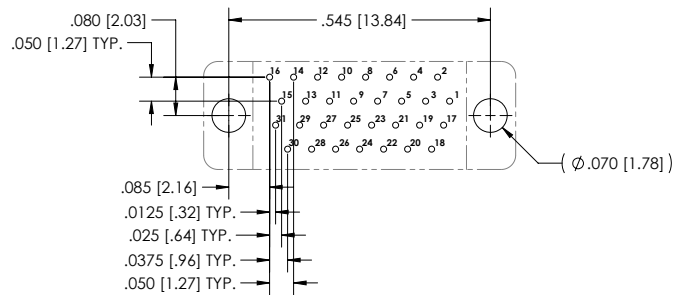
**SIZE 15 - VIEW A**



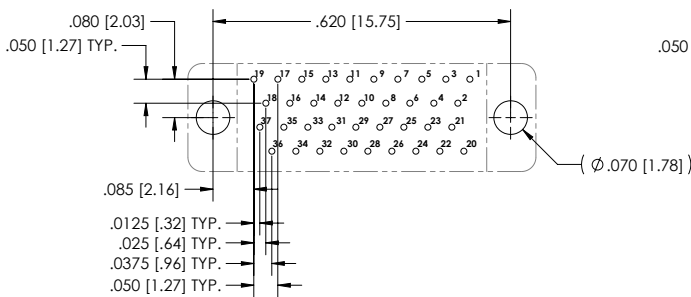
**SIZE 21 - VIEW A**



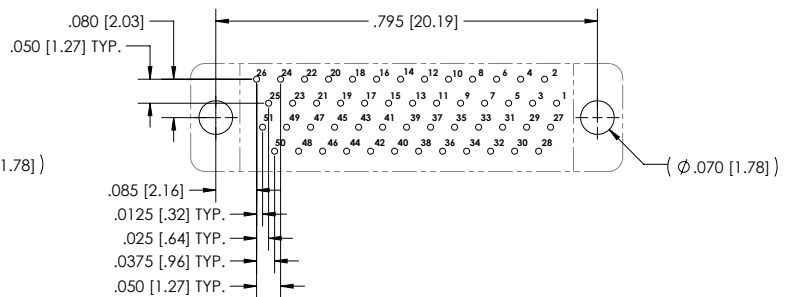
**SIZE 25 - VIEW A**



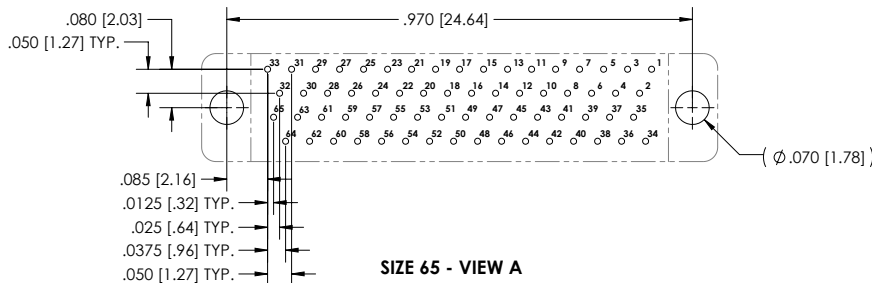
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



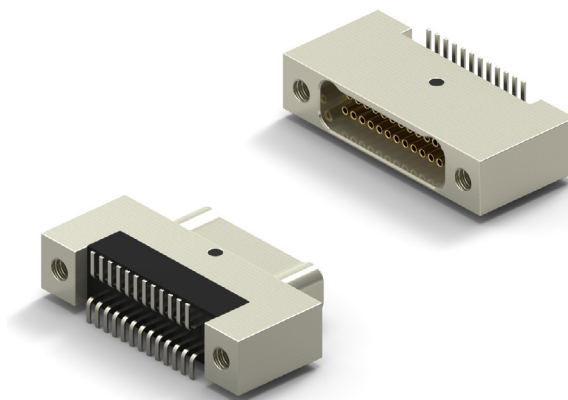
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**










# CIRCUIT CONNECTOR VERTICAL

- Metal Shell Connector
- Surface Mount .025 x .075 (Style 26)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



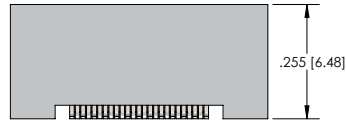
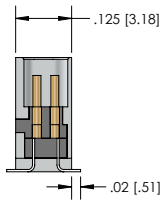
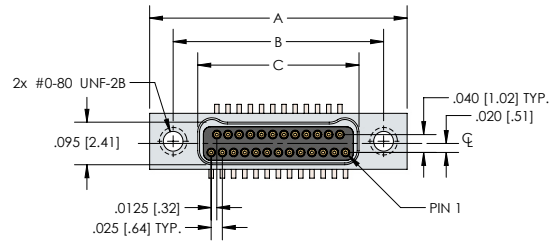
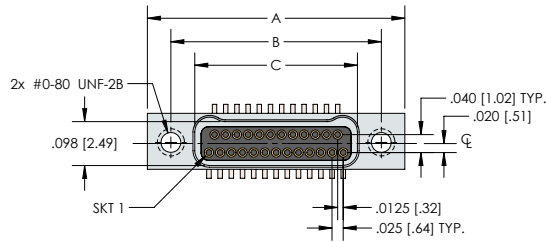
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

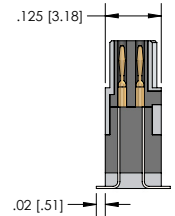
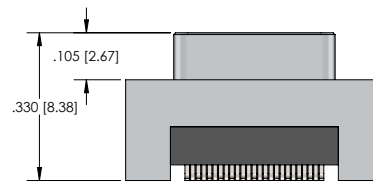
CN	M	26	L	25	-2	P	Ø7	1	-SØ1	Temp Range
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**		
CN=Nano	M= Metal Shell	STYLE=26	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (60/40)	Blank= Cadmium	*blank = 125C
				15				2= Gold plated (RoHS)		HT = 200C
				21		S=Female/Socket (Receptacle Side)			*SØ1= Nickel	
				25						
				31					SØ3 = Black Anodize	
				37						
				51					SØ6 = Olive-Drab Cadmium	
				65						
									SØ7 = Titanium	
										
									SØ9 = Stainless	
										

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 29 See chart 139 M&F or Click Here for Materials and Finishes Data

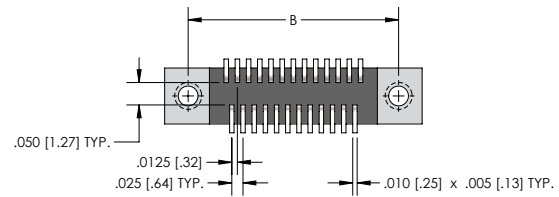
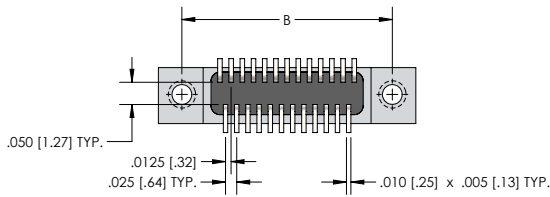
# DIMENSIONS



RECEPTACLE (SOCKETS)



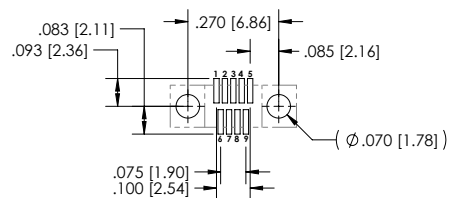
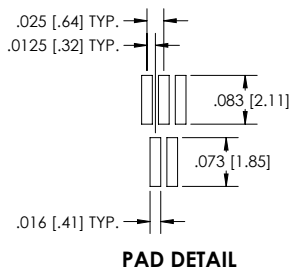
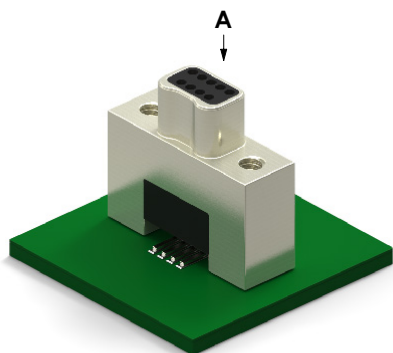
PLUG (PINS)



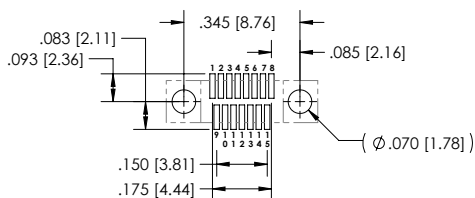
Size	CNM26 SERIES							
	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT

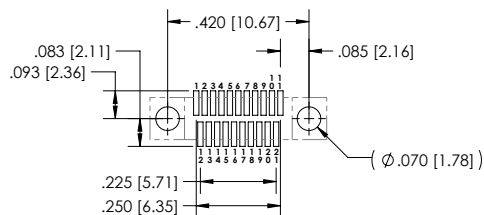
NANO D – PID 143



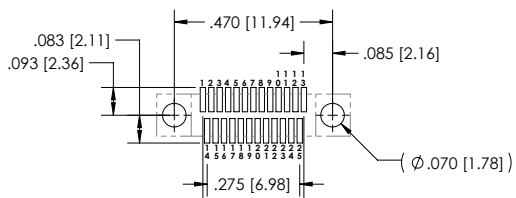
**SIZE 9 - VIEW A**



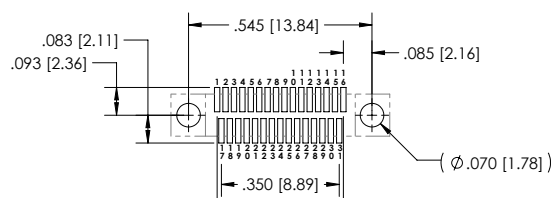
**SIZE 15 - VIEW A**



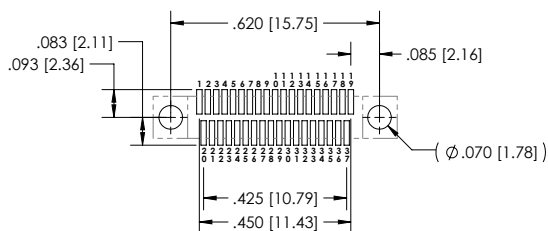
**SIZE 21 - VIEW A**



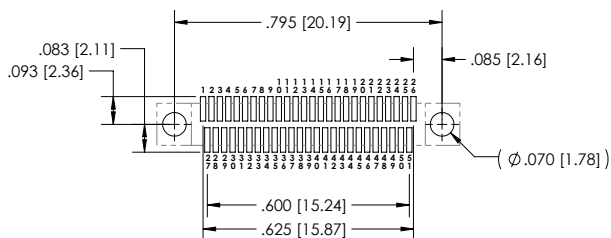
**SIZE 25 - VIEW A**



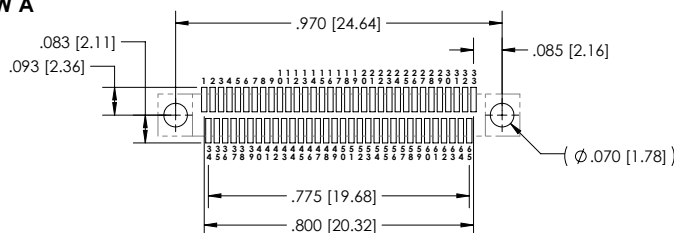
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



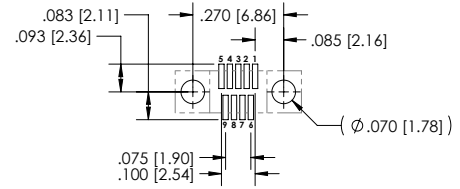
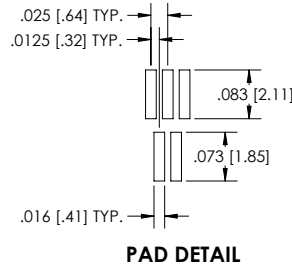
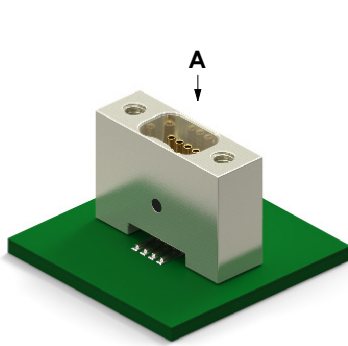
**SIZE 51 - VIEW A**



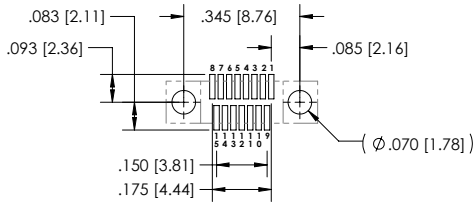
**SIZE 65 - VIEW A**



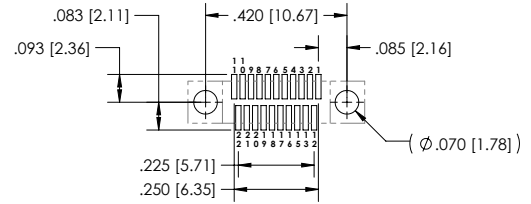
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



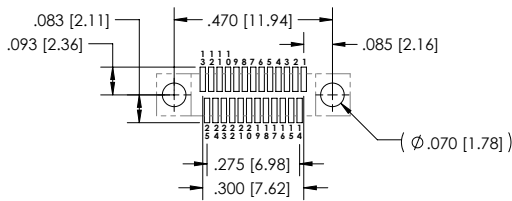
**SIZE 9 - VIEW A**



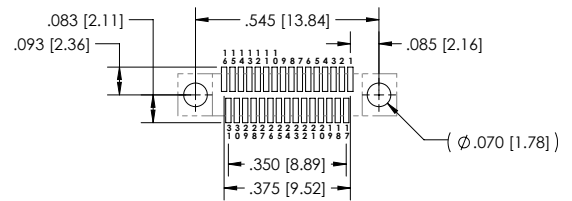
**SIZE 15 - VIEW A**



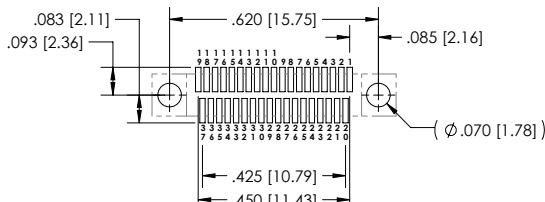
**SIZE 21 - VIEW A**



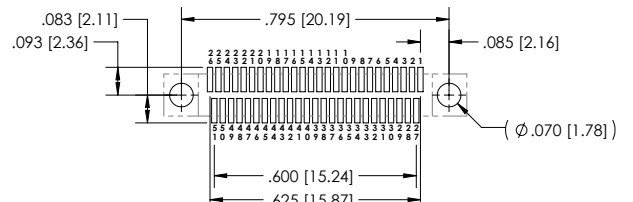
**SIZE 25 - VIEW A**



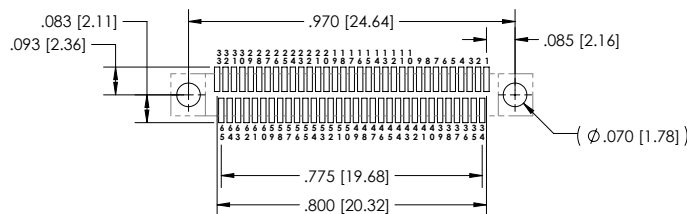
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



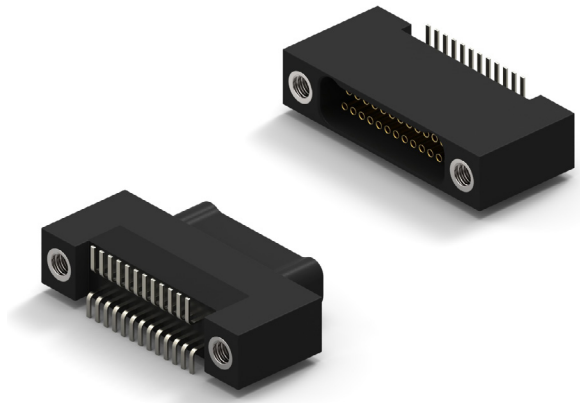
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR VERTICAL




- Plastic Shell Connector
- Surface Mount .025 x .075 (Style 26)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



NANO D – PID 144

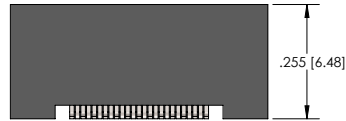
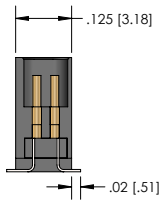
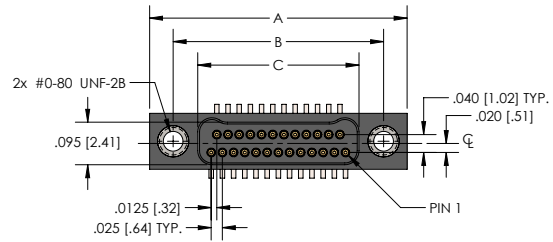
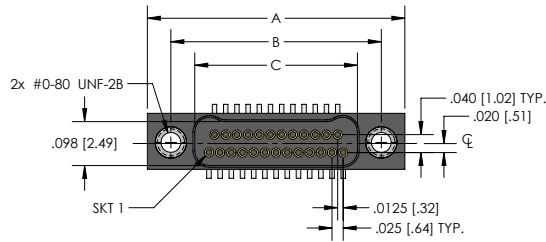
## HOW TO ORDER

\* Indicates preferred standard

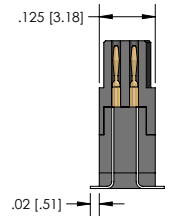
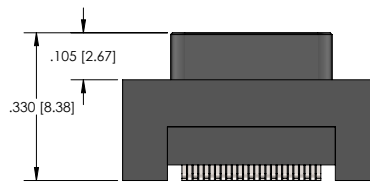
CN	P	26	L	25	-2	P	Ø7	1	
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Temp Range	
CN=Nano	P=Plastic	Style=26	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	*blank = 125C
				15				2= Gold plated (RoHS)	HT = 200C
				21		S=Female/Socket (Receptacle Side)			
				25					
				31					
				37					
				51					
				65					

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 29 See chart 142 M&F or Click Here for Materials and Finishes Data

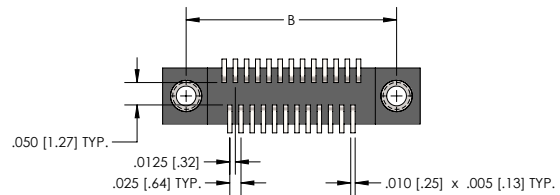
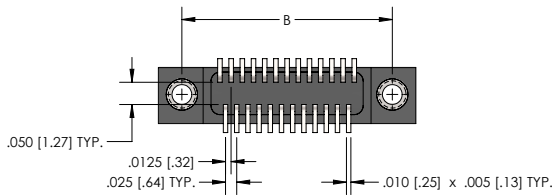
# DIMENSIONS



**RECEPTACLE (SOCKETS)**

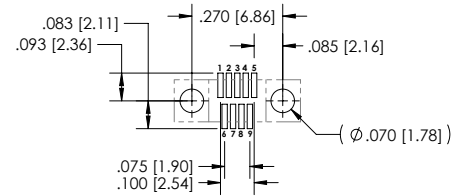
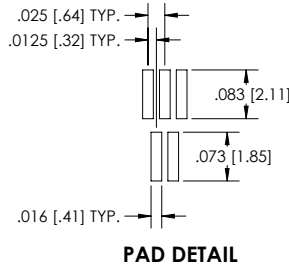
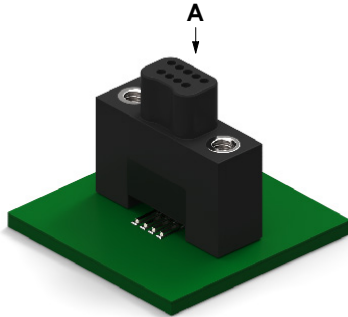


**PLUG (PINS)**

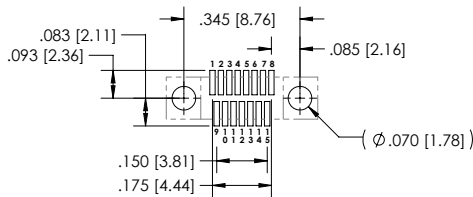


Size	CNP26 SERIES							
	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

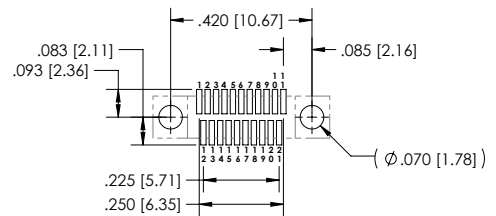
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



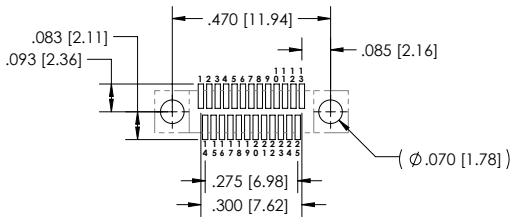
**SIZE 9 - VIEW A**



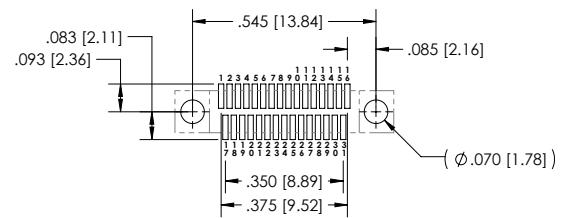
**SIZE 15 - VIEW A**



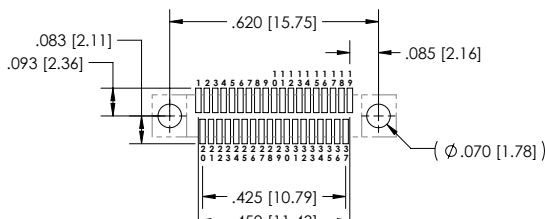
**SIZE 21 - VIEW A**



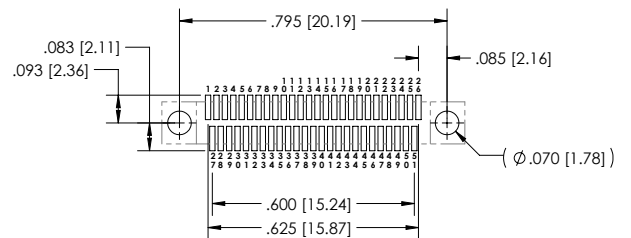
**SIZE 25 - VIEW A**



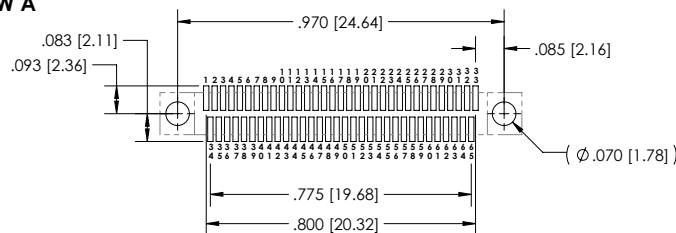
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**

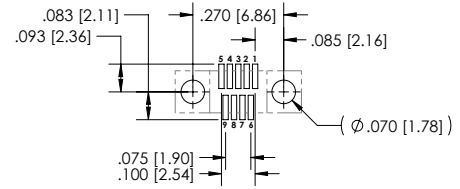
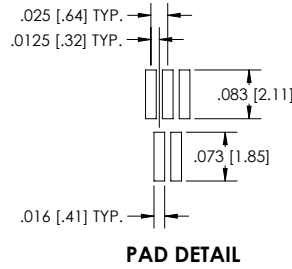
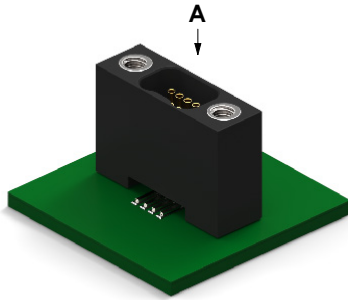


**SIZE 51 - VIEW A**

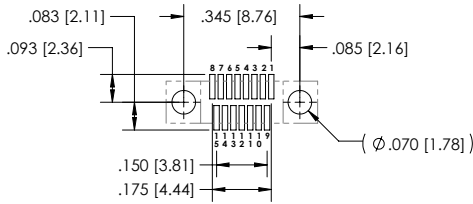


**SIZE 65 - VIEW A**

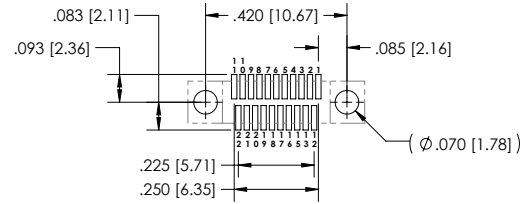
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



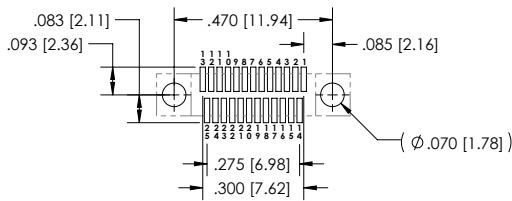
**SIZE 9 - VIEW A**



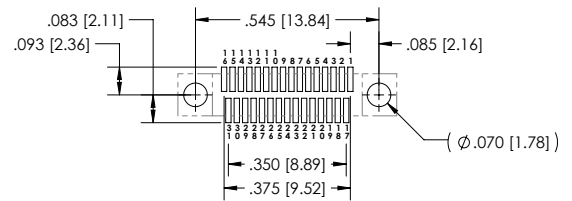
**SIZE 15 - VIEW A**



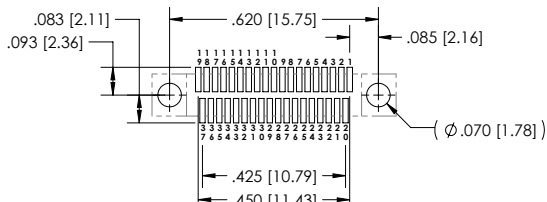
**SIZE 21 - VIEW A**



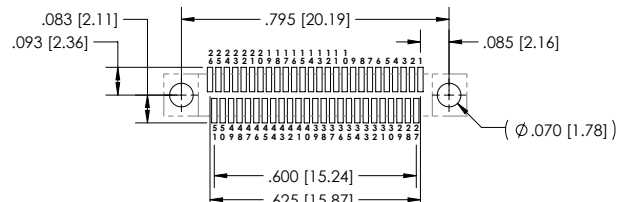
**SIZE 25 - VIEW A**



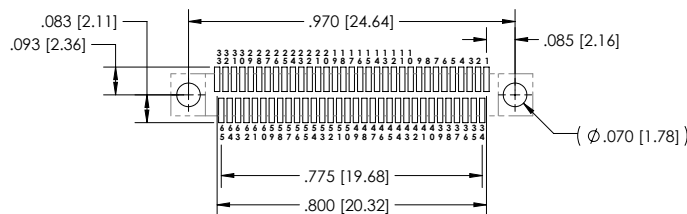
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



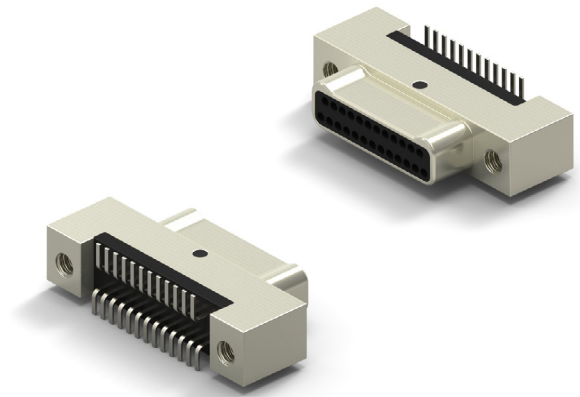
**SIZE 51 - VIEW A**



**SIZE 65 - VIEW A**

# CIRCUIT CONNECTOR VERTICAL









- Metal Shell Low Profile Male Connector
- Surface Mount .025 x .075 (Style 36)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



NANO D – PID 145

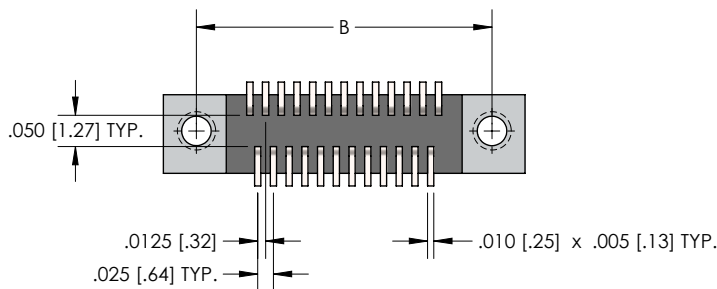
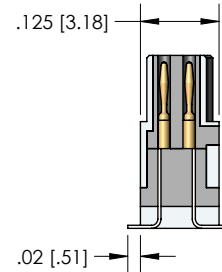
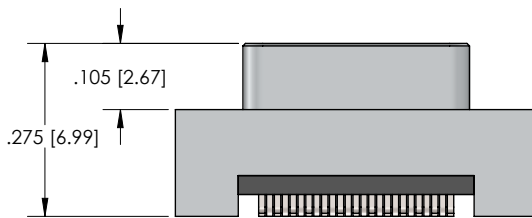
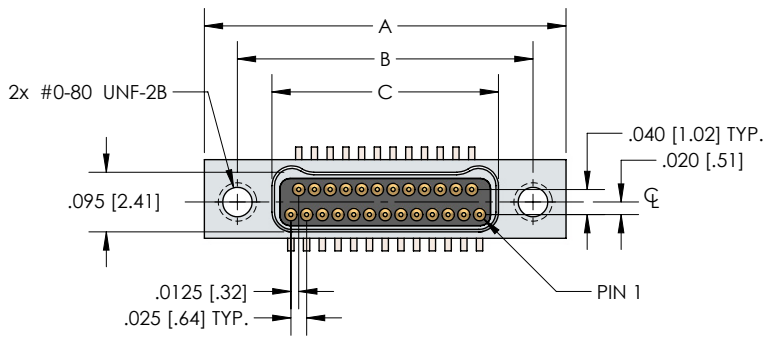
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	36	L	25	-2	P	Ø7	1	-SØ1	Temp Range
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**		
CN=Nano	M= Metal Shell	STYLE=36	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C
				15				2= Gold plated (RoHS)		HT = 200C
				21					*SØ1= Nickel	
				25						
				31					SØ3 = Black Anodize	
				37						
				51					SØ6 = Olive-Drab Cadmium	
				65						
									SØ7 = Titanium	
										
									SØ9=Stainless	
										

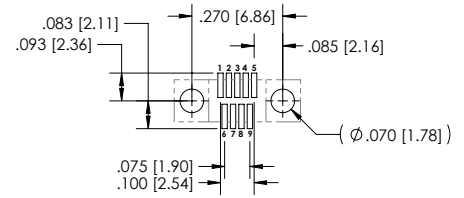
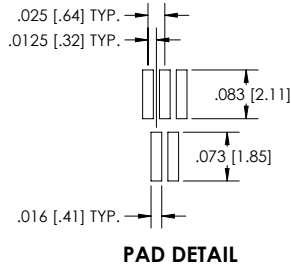
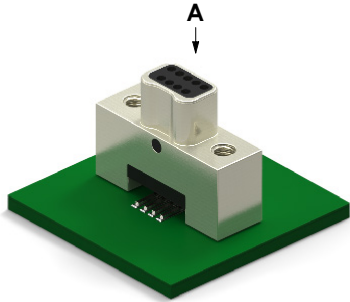
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 29 See chart 145 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS

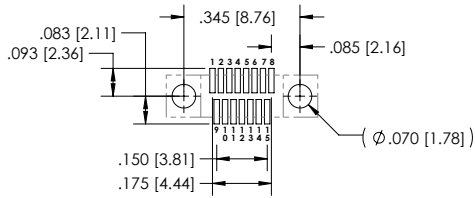


CNM36 SERIES								
Size	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

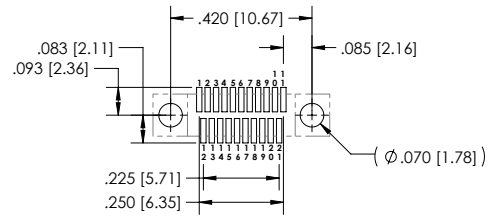
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



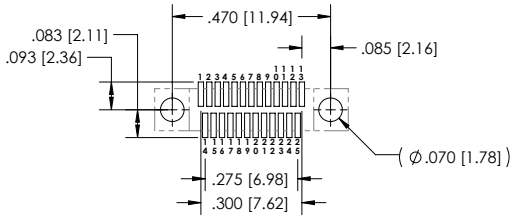
**SIZE 9 - VIEW A**



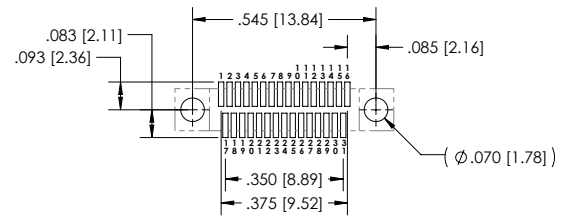
**SIZE 15 - VIEW A**



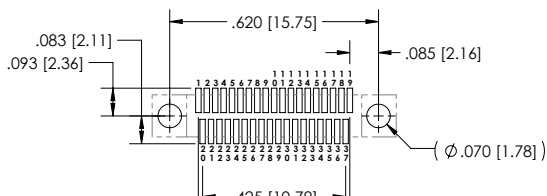
**SIZE 21 - VIEW A**



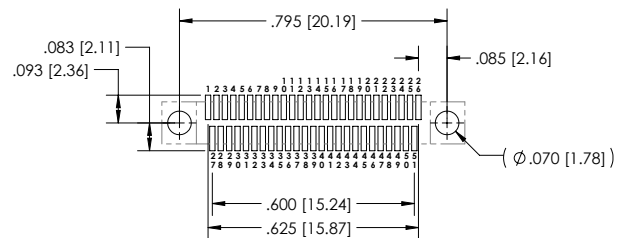
**SIZE 25 - VIEW A**



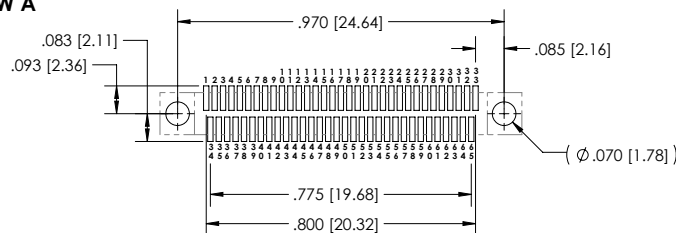
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



**SIZE 51 - VIEW A**



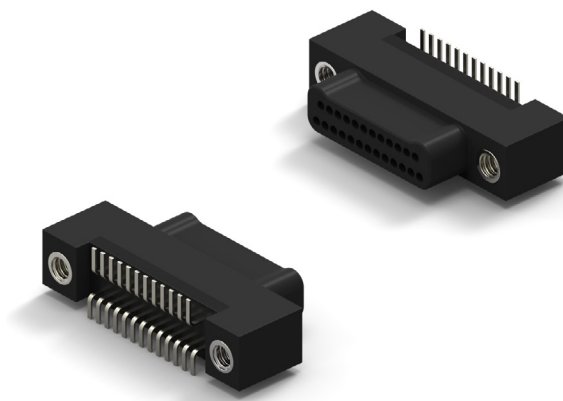
**SIZE 65 - VIEW A**



THIS PAGE LEFT  
INTENTIONALLY BLANK

# CIRCUIT CONNECTOR VERTICAL



- Plastic Shell Low Profile Male Connector
- Surface Mount .025 x .075 (Style 36)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



NANO D – PID 146

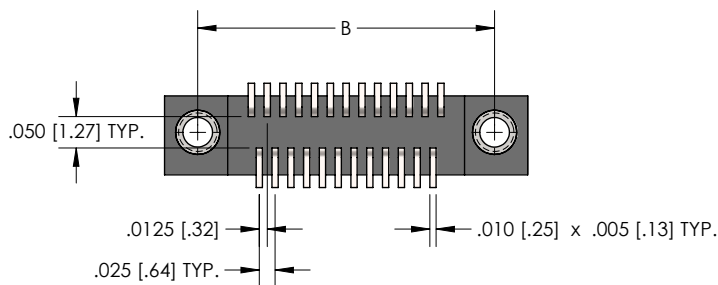
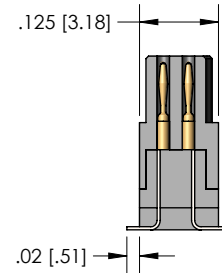
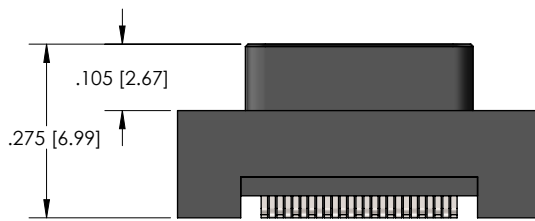
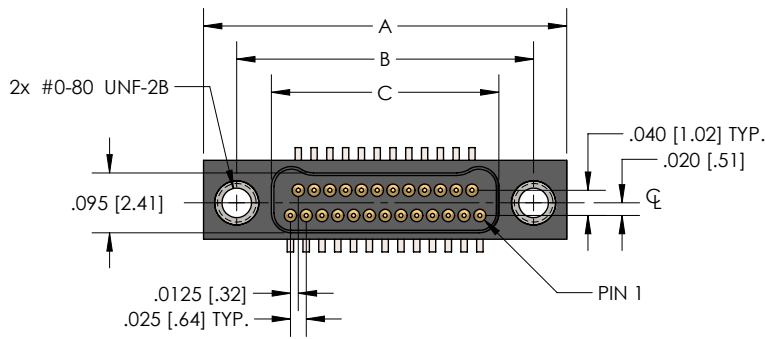
## HOW TO ORDER

\* Indicates preferred standard

CN	P	36	L	25	-2	P	Ø7	1	
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Temp Range	
CN=Nano	P=Plastic	Style=36	L=LCP	Ø9	2= Dual Row	P=Male/Pin (Plug Side)	Ø7=Threaded Hole	1= Tin plated (6Ø/4Ø)	*blank = 125C
				15				2= Gold plated (RoHS)	HT = 200C
				21					
				25					
				31					
				37					
				51					
				65					

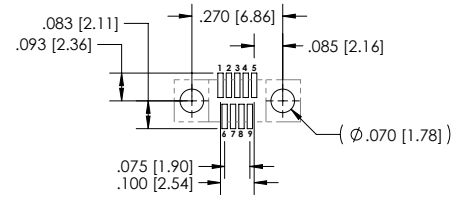
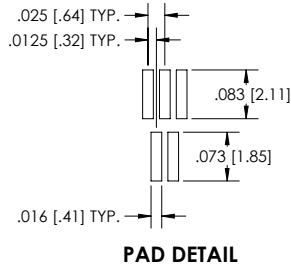
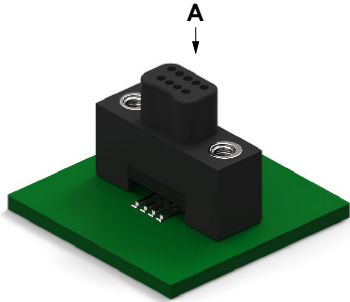
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 29 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 29 See chart 146 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS

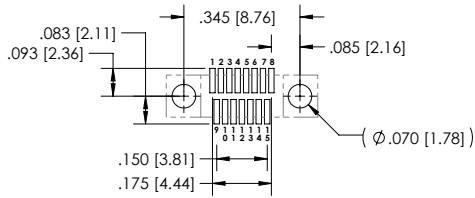


CNP36 SERIES								
Size	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.795 [20.19]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.970 [24.64]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

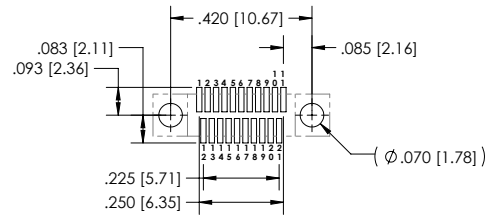
# CIRCUIT CONNECTOR VERTICAL PCB LAYOUT



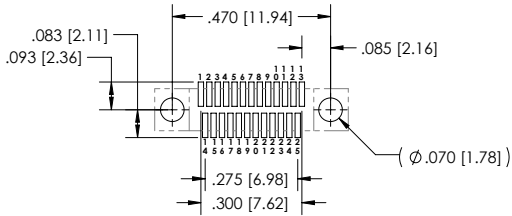
**SIZE 9 - VIEW A**



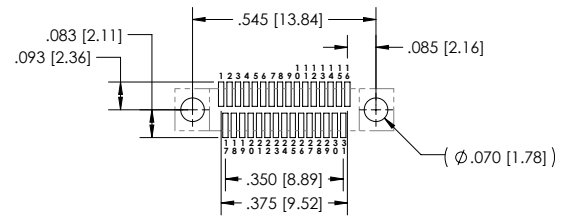
**SIZE 15 - VIEW A**



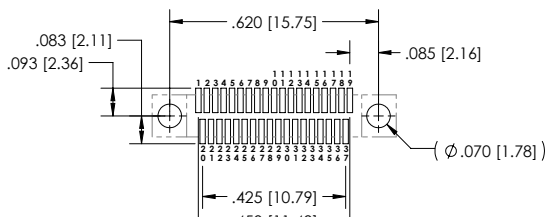
**SIZE 21 - VIEW A**



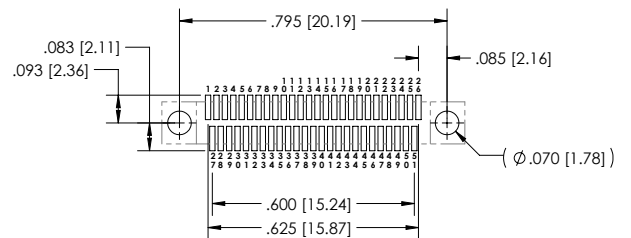
**SIZE 25 - VIEW A**



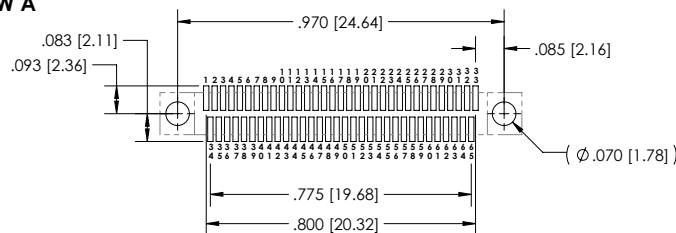
**SIZE 31 - VIEW A**



**SIZE 37 - VIEW A**



**SIZE 51 - VIEW A**

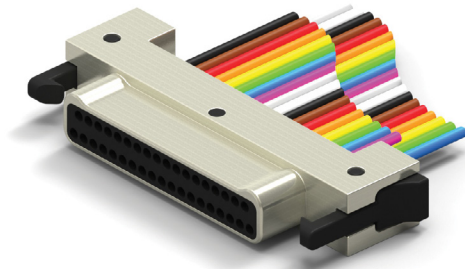


**SIZE 65 - VIEW A**

THIS PAGE LEFT  
INTENTIONALLY BLANK

# LATCHING WIRED CONNECTOR


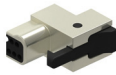







- Metal Shell Connector w/Wire Leads
- Quick Disconnect Latch Mechanism
- Operating Temperature -50° C to 200° C
- 9 to 37 Contacts



## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

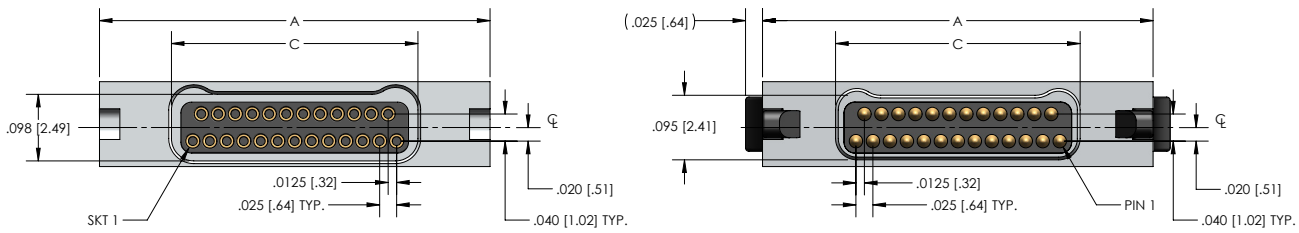
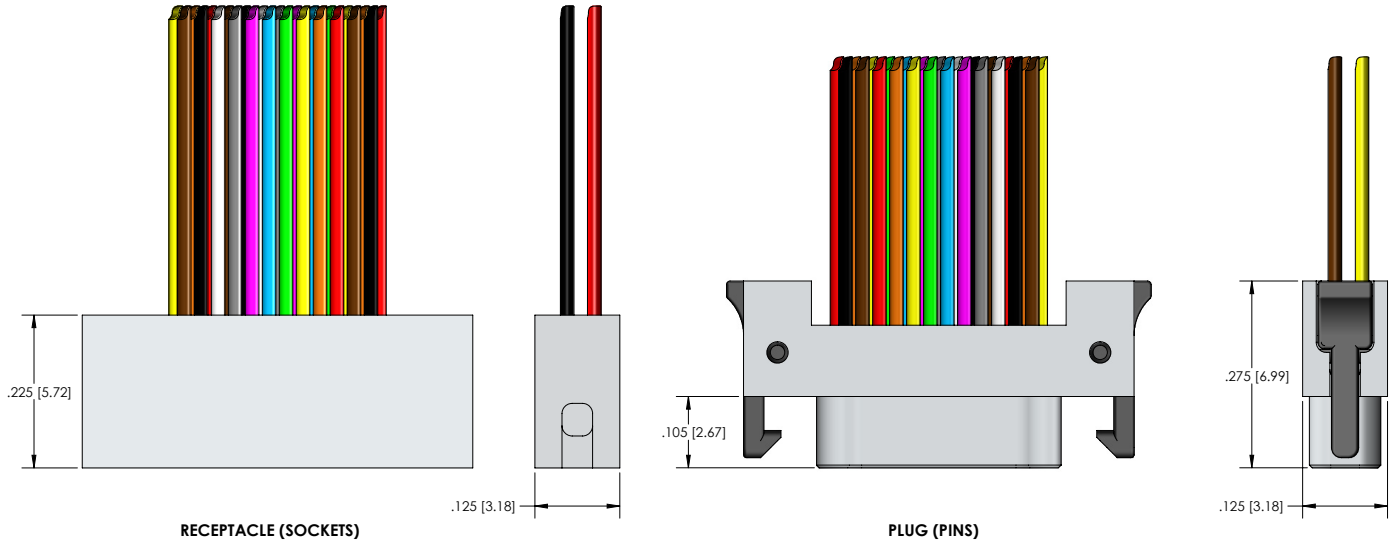
**N M L 25 - 2 P Ø4 - 30 F 6 - 18 - SØ1**

	Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range
N= Nano	M= Metal	L= LCP	Ø9	2= Dual Row	P= Male/Pin (Plug Side)	Ø4= Latch	3Ø*	C= Solid Wire, uninsulated	1= White	*18.Ø	Blank= Cadmium	*blank = 125C
			15				32	*F= Stranded, w/ Teflon insulation, per NEMA HP3-ET	3= Tin plated (6Ø/4Ø) (solid wire)	*36.Ø		HT = 2ØØC
			21		S= Female/Socket (Receptacle Side)		34	Y= Stranded w/ Tefzel insulation, per SAE AS22759/33	4= Gold plated (RoHS) (solid wire)		*SØ1 = Nickel	
			25					X= Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)	*6 = 10 solid colors, repeating			
			31					T= Flat Integral Tail			SØ3 = Black Anodize	
			37									
											SØ6 = Olive-Drab Cadmium	
												SØ7 = Titanium
												SØ9 = Stainless
												

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 30 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 30 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 30 See chart 149 M&F or Click Here for Materials and Finishes Data

NANO D – PID 149

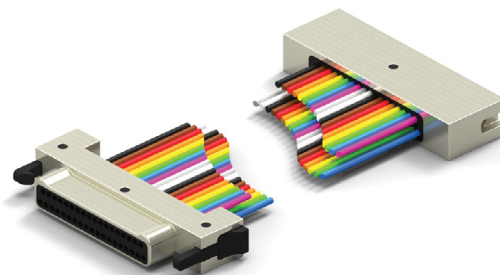
# DIMENSIONS



Size	NM SERIES		
	A	Plug C	Receptacle
9	.375 [9.52]	.160 [4.06]	.163 [4.14]
15	.450 [11.43]	.235 [5.97]	.238 [6.04]
21	.525 [13.33]	.310 [7.87]	.313 [7.95]
25	.575 [14.60]	.360 [9.14]	.363 [9.22]
31	.650 [16.51]	.435 [11.05]	.438 [11.12]
37	.725 [18.41]	.510 [12.95]	.513 [13.03]

# LATCHING WIRED CONNECTOR


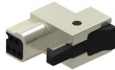



- Metal Shell Connector w/Wire Leads
- Quick Disconnect Latch Mechanism
- Operating Temperature -50° C to 200° C
- 9 to 37 Contacts



## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

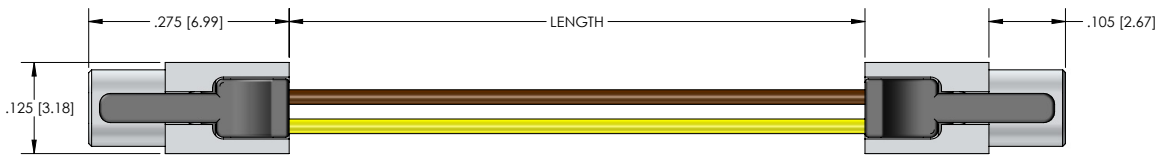
**N M L 25 - 2 P Ø2 /NMLX-2XX - 3Ø F 6 - 18.Ø - SØ1**

Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Detail of Other End of the Harness	Wire Gauge	Wire Type	Color Code	Length	Finish**	Temp Range	
N= Nano	M= Metal L= LCP	Ø9	2= Dual Row	P= Male/Pin (Plug Side)	Ø4=Latch	Refer to the left columns for filling out the x	3Ø*	*F=Stranded, w/ Teflon insulation, per NEMA HP3-ET	1=White	*18.Ø	Blank= Cadmium	*blank = 125C	
		15					32	Y=Stranded w/ Tefzel insulation, per SAE AS22759/33	*6 = 10 solid colors, repeating	*36.Ø		HT = 200°C	
		21		S=Female/Socket (Receptacle Side)			34	X=Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)				*SØ1= Nickel	
		25											
		31										SØ3 = Black Anodize	
		37										SØ6 = Olive-Drab Cadmium	
											SØ7 = Titanium		
											SØ9 = Stainless		

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 30 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 30 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 30 See chart 149 M&F or Click Here for Materials and Finishes Data



# DIMENSIONS



PLUG

PLUG



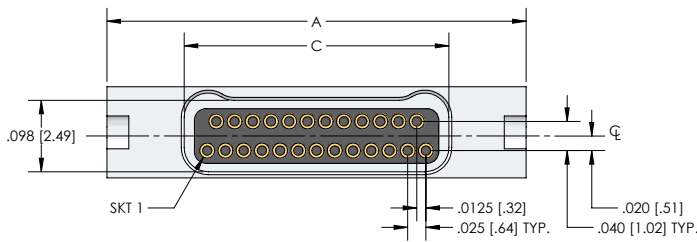
PLUG

RECEPTACLE

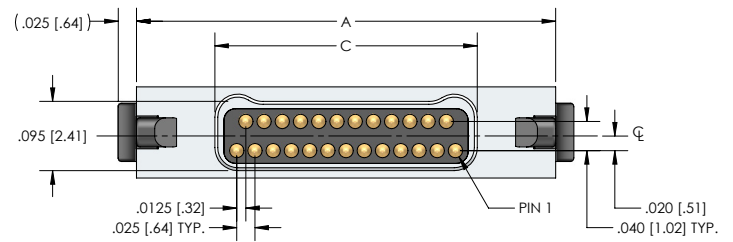


RECEPTACLE

RECEPTACLE



RECEPTACLE (SOCKETS)



PLUG (PINS)

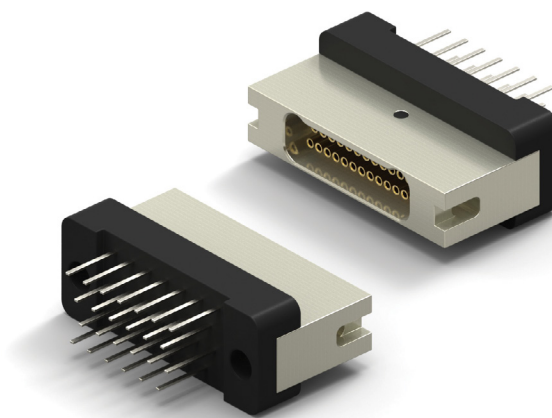
Size	NM SERIES		
	A	Plug C	Receptacle
9	.375 [9.52]	.160 [4.06]	.163 [4.14]
15	.450 [11.43]	.235 [5.97]	.238 [6.04]
21	.525 [13.33]	.310 [7.87]	.313 [7.95]
25	.575 [14.60]	.360 [9.14]	.363 [9.22]
31	.650 [16.51]	.435 [11.05]	.438 [11.12]
37	.725 [18.41]	.510 [12.95]	.513 [13.03]

# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR









- Metal Shell Connector
- Plated Thru Hole .050 x .050 (Style 6)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts

## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

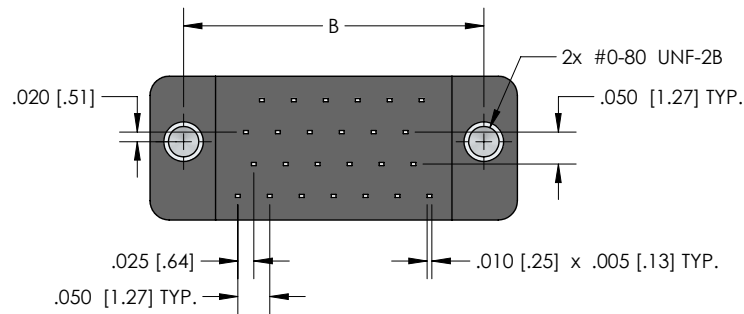
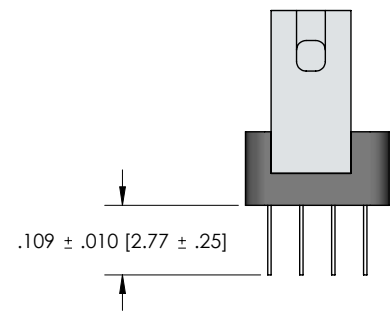
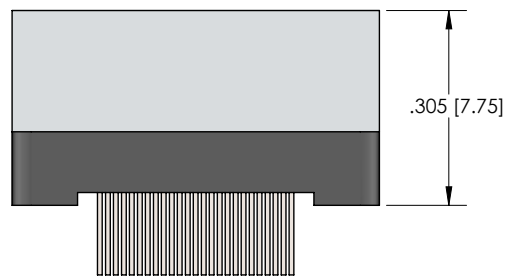
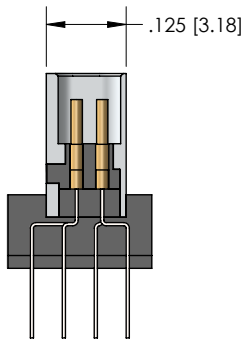
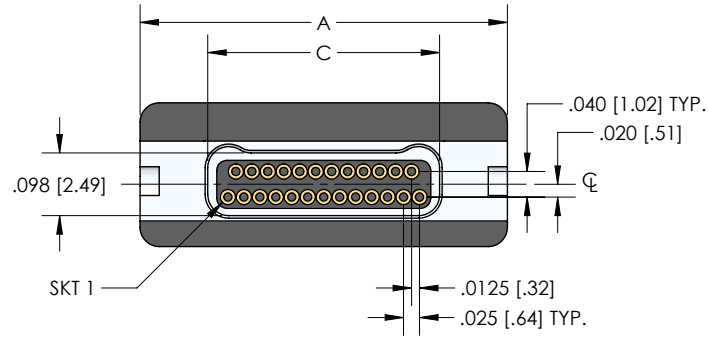


NANO D – PID 151

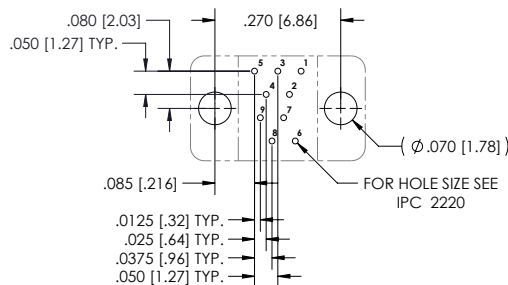
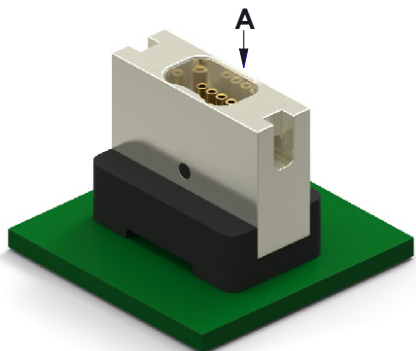
CN	M	6	L	25	-2	S	Ø4	1	-SØ1	Temp Range
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**		
CN=Nano	M= Metal Shell	Style=6	L=LCP	Ø9	2= Dual Row	S=Female/Socket (Receptacle Side)	Ø4=Latch	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C
				15				2= Gold plated (RoHS)		HT = 200C
				21					*SØ1= Nickel	
				25						
				31					SØ3 = Black Anodize	
				37						
				51					SØ6 = Olive-Drab Cadmium	
				65						
									SØ7 =Titanium	
										
									SØ9=Stainless	
										

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 31 See chart 131 M&F or Click Here for Materials and Finishes Data

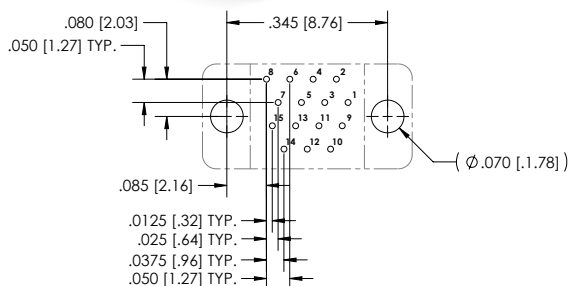
# DIMENSIONS



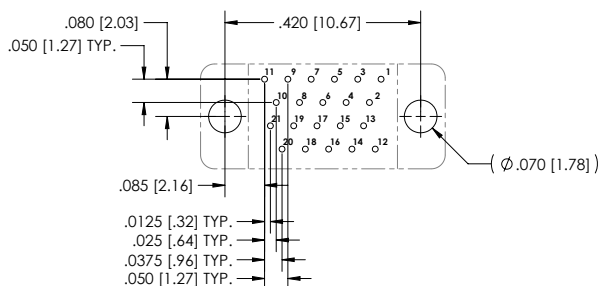
M SERIES					
Size	A	Plug	C	Receptacle	D
9	.375 [9.52]	.160 [4.06]		.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.235 [5.97]		.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.310 [7.87]		.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.360 [9.14]		.363 [9.22]	.375 [9.52]
31	.650 [16.51]	.435 [11.05]		.438 [11.12]	.450 [11.43]
37	.725 [18.41]	.510 [12.95]		.513 [13.03]	.525 [13.33]
51	.900 [22.86]	.685 [17.40]		.688 [17.47]	.700 [17.78]
65	1.075 [27.30]	.860 [21.84]		.863 [21.92]	.875 [22.22]



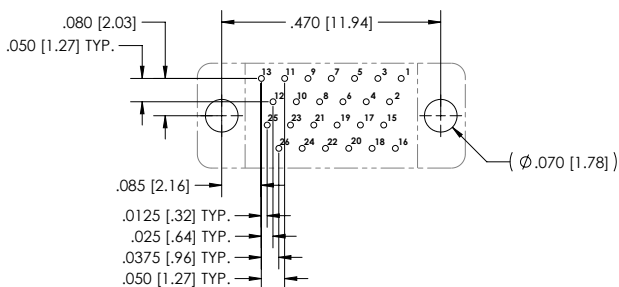
SIZE 9 - VIEW A



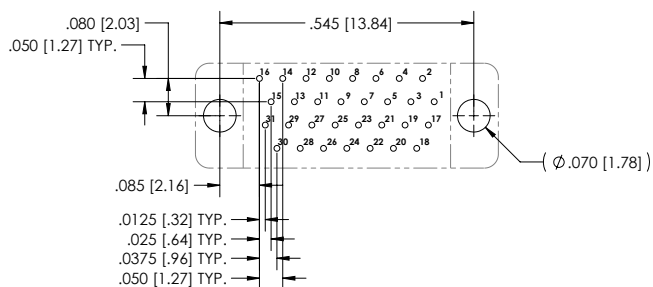
SIZE 15 - VIEW A



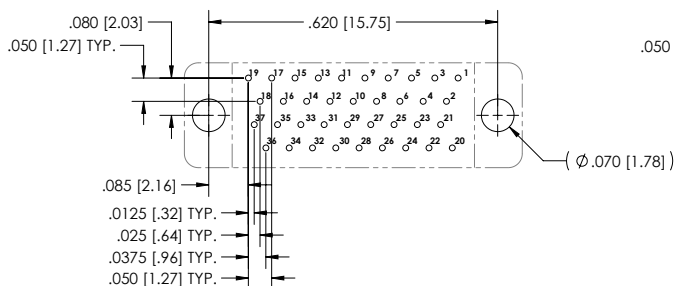
SIZE 21 - VIEW A



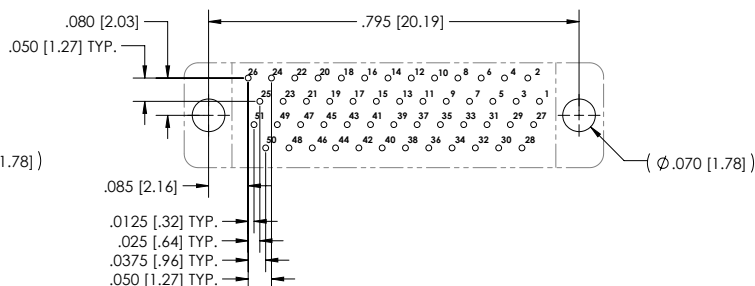
SIZE 25 - VIEW A



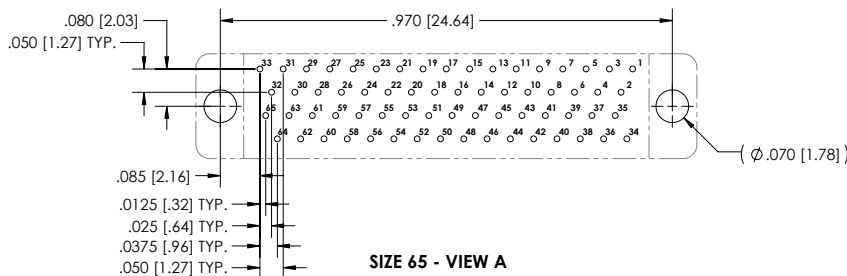
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

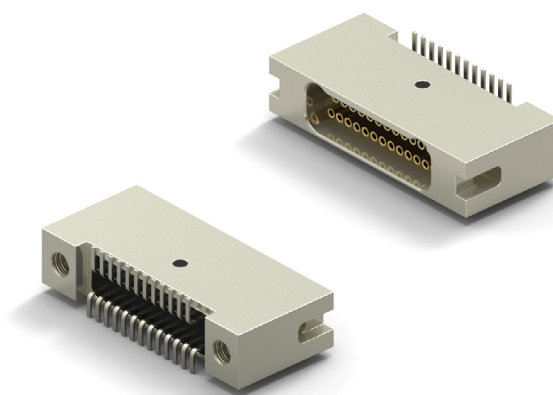


SIZE 65 - VIEW A

THIS PAGE LEFT  
INTENTIONALLY BLANK

# LATCHING CIRCUIT VERTICAL CONNECTOR









- Metal Shell Connector
- Surface Mount .025 x .075 (Style 26)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 65 Contacts



## HOW TO ORDER

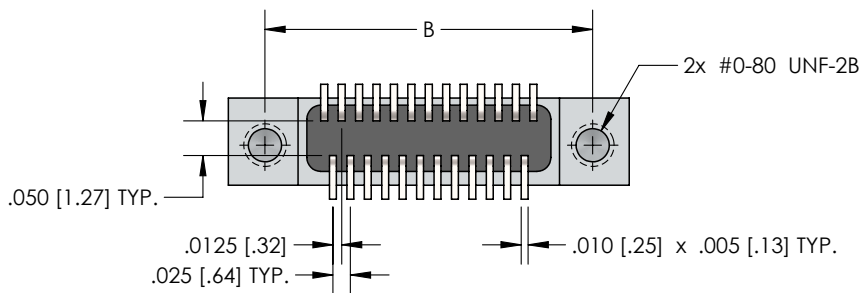
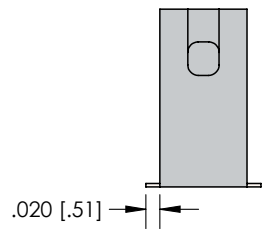
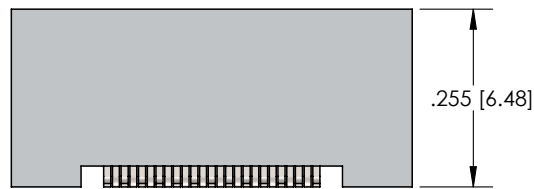
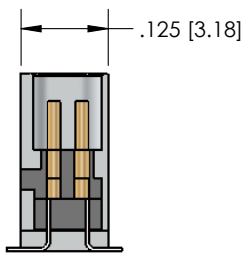
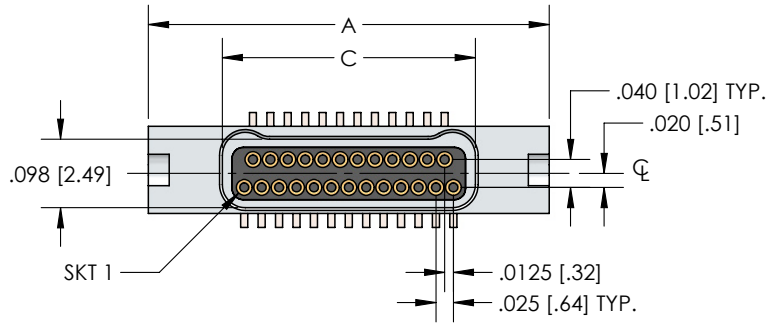
\* Indicates preferred standard \*\* Consult factory for other plating options

**CN M 26 L 25 - 2 S 04 1 - S01**

CN	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range
CN=Nano	M= Metal Shell	Style=26	L=LCP	09	2= Dual Row	S=Female/Socket (Receptacle Side)	Ø4=Latch	1= Tin plated (60/40)	Blank= Cadmium	*blank = 125C
				15				2= Gold plated (RoHS)		HT = 200C
				21					*S01= Nickel	
				25						
				31					S03 = Black Anodize	
				37						
				51					S06 = Olive-Drab Cadmium	
				65						
									S07 = Titanium	
										
									S09 = Stainless	
										

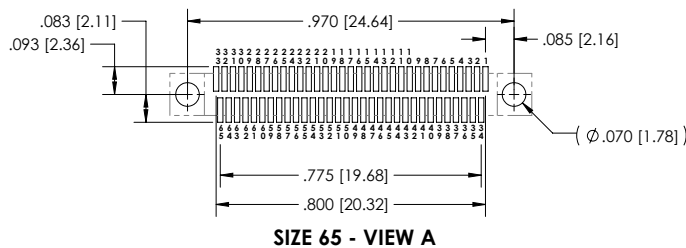
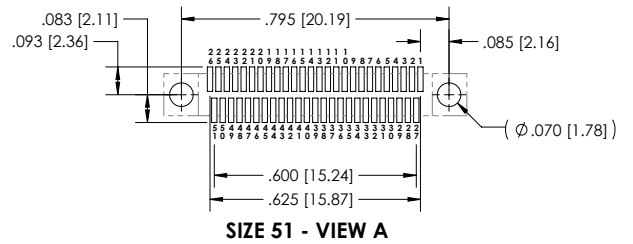
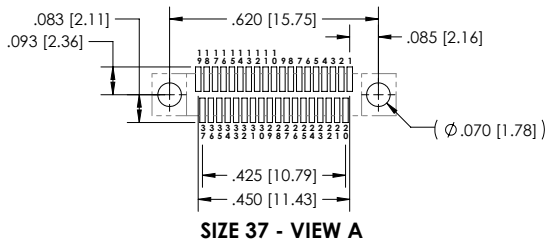
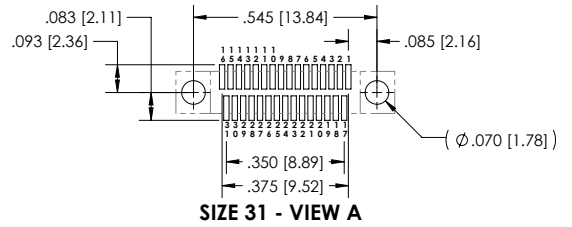
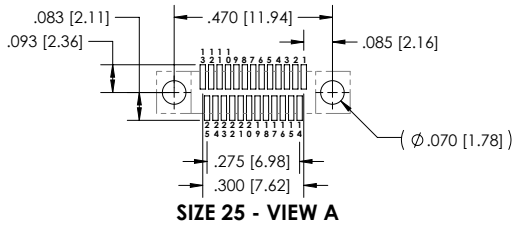
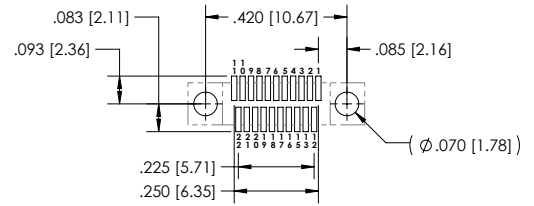
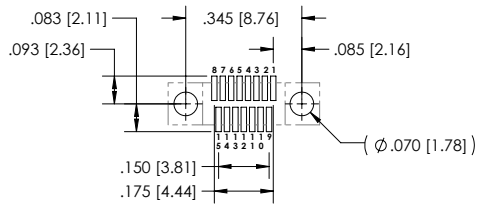
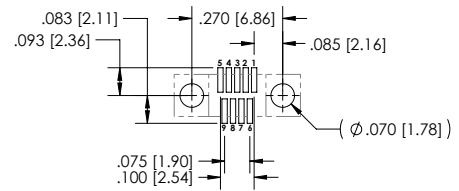
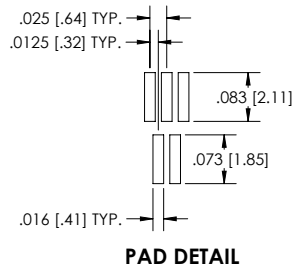
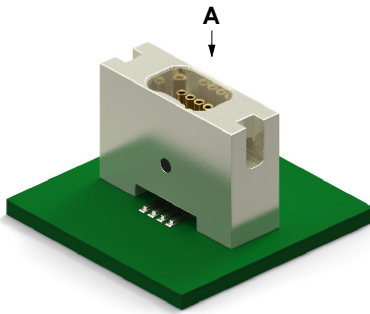
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 31 See chart 131 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS



CNM SERIES							
Size	A	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.160 [4.06]		.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.235 [5.97]		.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.310 [7.87]		.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.360 [9.14]		.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.435 [11.05]		.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.510 [12.95]		.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]
51	.900 [22.86]	.685 [17.40]		.688 [17.47]	.700 [17.78]	.625 [15.87]	.600 [15.24]
65	1.075 [27.30]	.860 [21.84]		.863 [21.92]	.875 [22.22]	.800 [20.32]	.775 [19.68]

# LATCHING CIRCUIT VERTICAL CONNECTOR

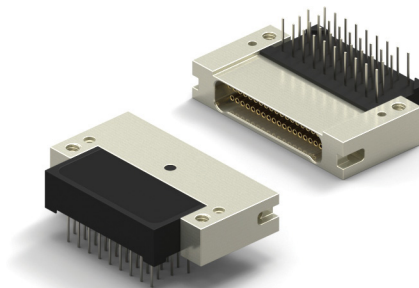




THIS PAGE LEFT  
INTENTIONALLY BLANK











# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR

- Metal Shell Connector
- Quick Disconnect Latch Mechanism
- Plated Thru Hole .050 x .050 (Style 8)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 37 Contacts



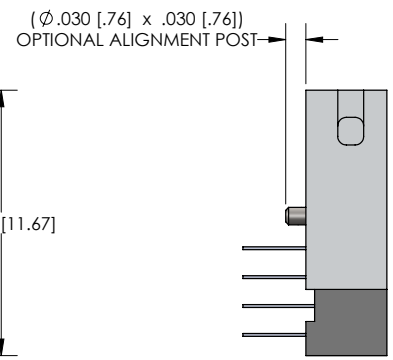
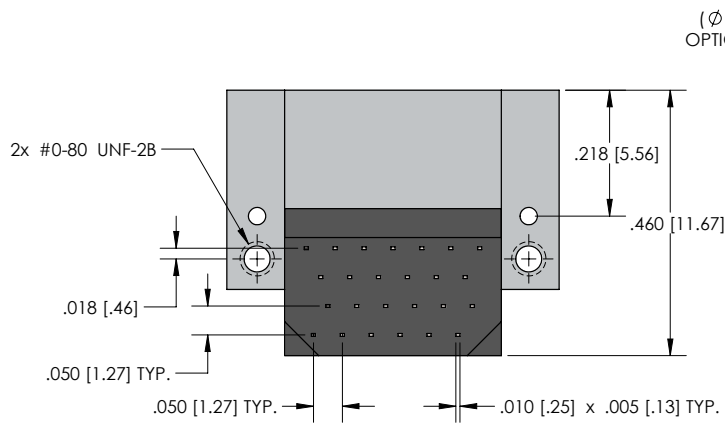
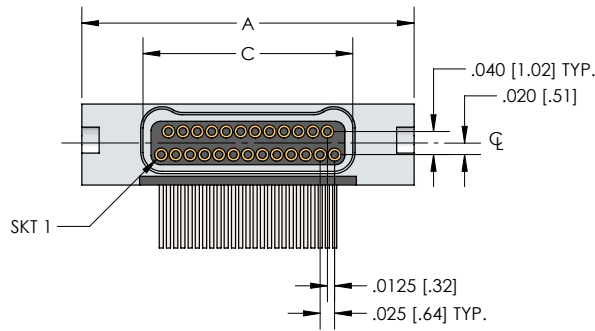
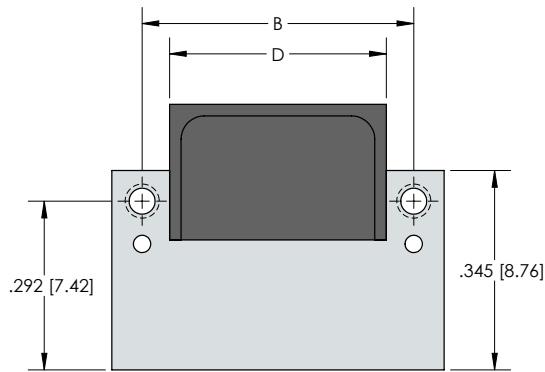
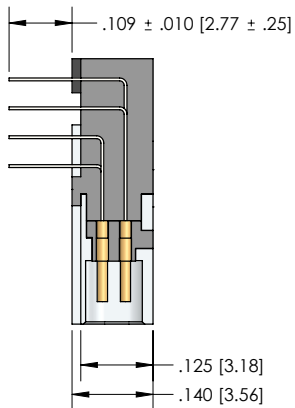
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	8	L	25	-	2	S	Ø4	1	-	SØ1	
	Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	Mounting Option	
CN=Nano	M= Metal Shell	Style=8	L=LCP	Ø9	2= Dual Row	S=Female/Socket (Receptacle Side)	Ø4=Latch	1= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes	
				15				2= Gold plated (RoHS)		HT = 200°C		
				21					*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes	
				25								
				31					SØ3 = Black Anodize			
				37								
									SØ6 = Olive-Drab Cadmium			
												
									SØ7 = Titanium			
												
									SØ9=Stainless			
												

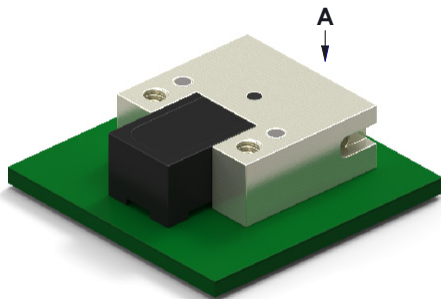
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 31 See chart 131 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS

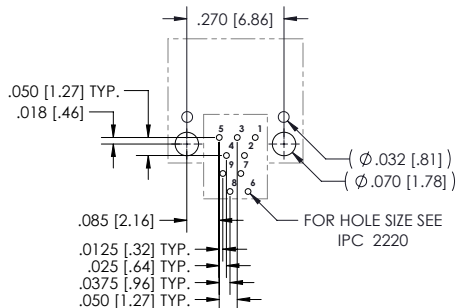


Size	CNM SERIES				
	A	B	Plug	Receptacle	D
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]
31	.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]

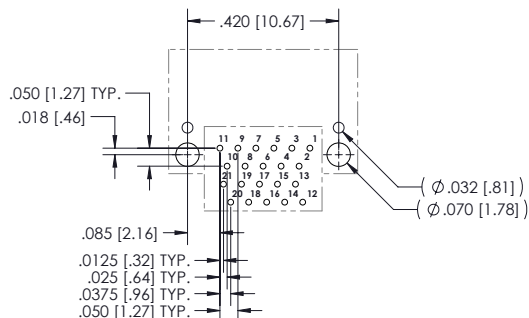
# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR PCB LAYOUT



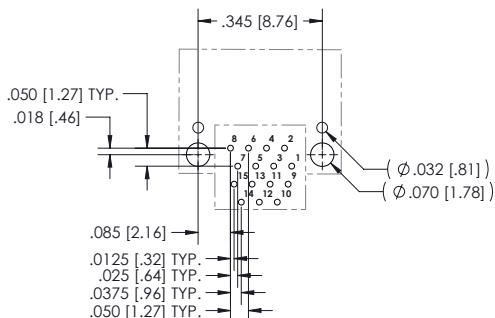
NANO D - PID 154



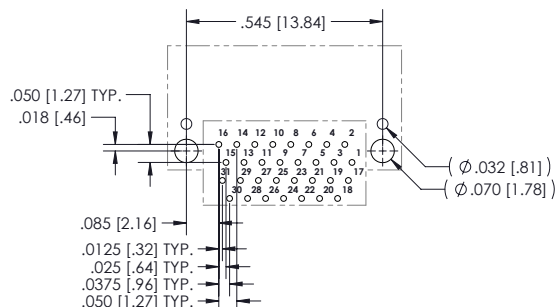
SIZE 9 - VIEW A



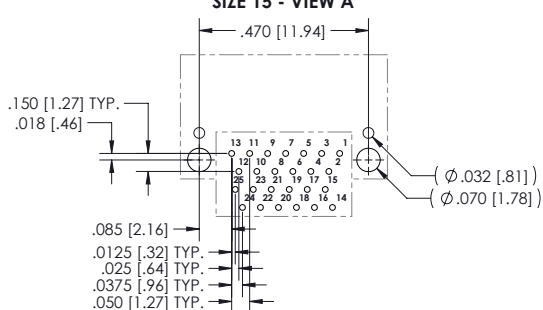
SIZE 21 - VIEW A



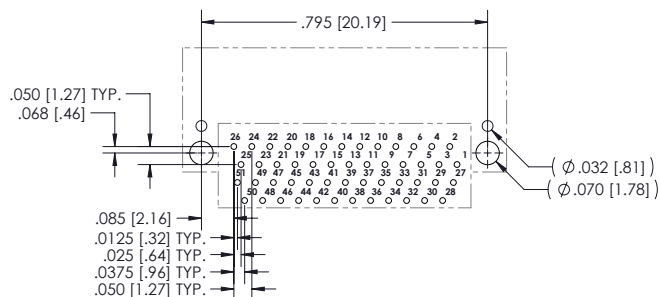
SIZE 15 - VIEW A



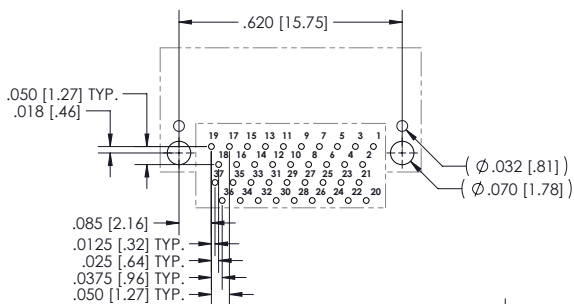
SIZE 31 - VIEW A



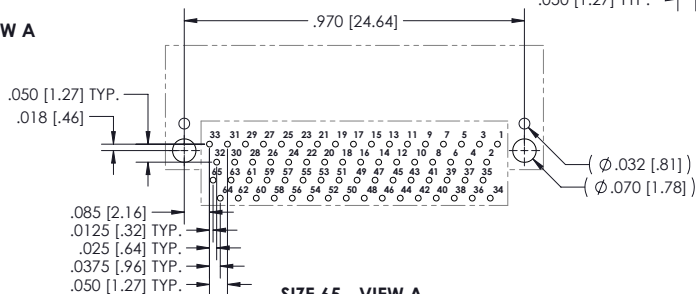
SIZE 25 - VIEW A



SIZE 51 - VIEW A



SIZE 37 - VIEW A

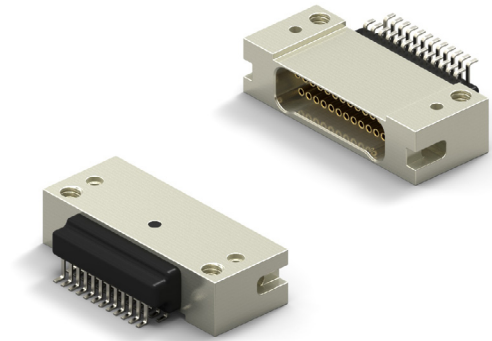


SIZE 65 - VIEW A

THIS PAGE LEFT  
INTENTIONALLY BLANK











# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR

- Metal Shell Connector
- Quick Disconnect Latch Mechanism
- Surface Mount .025 x .040 (Style 28)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 37 Contacts



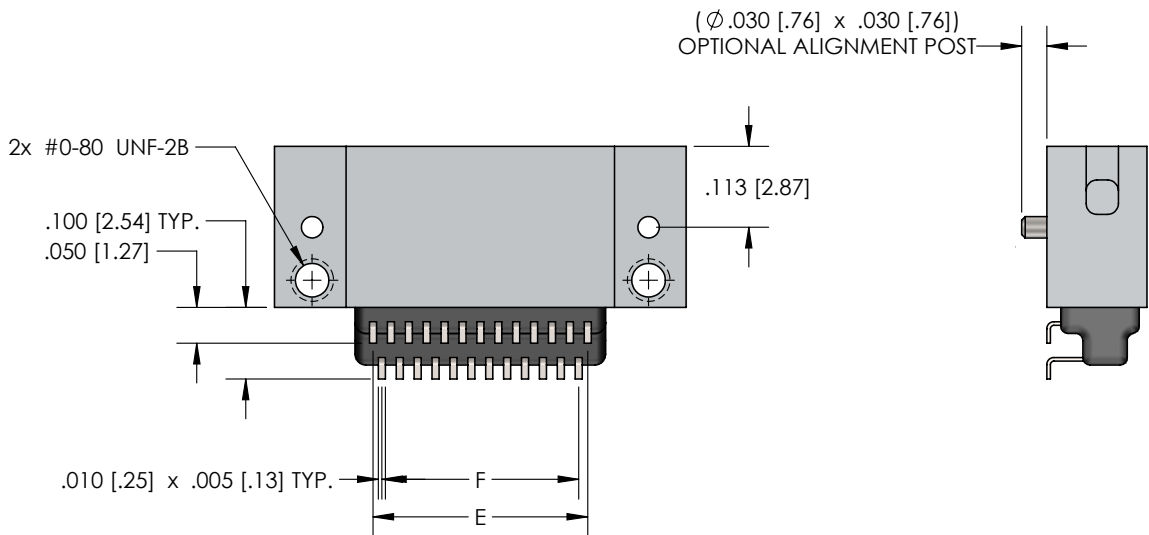
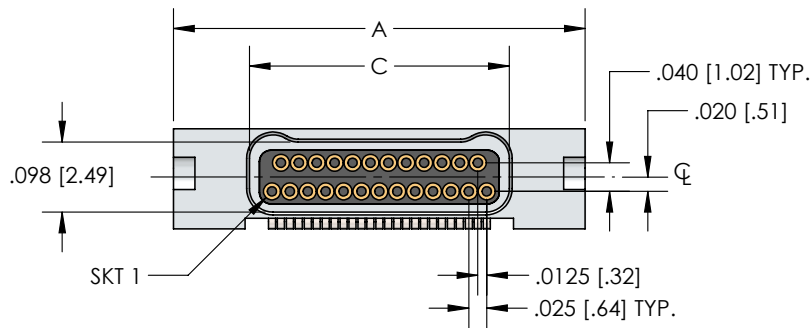
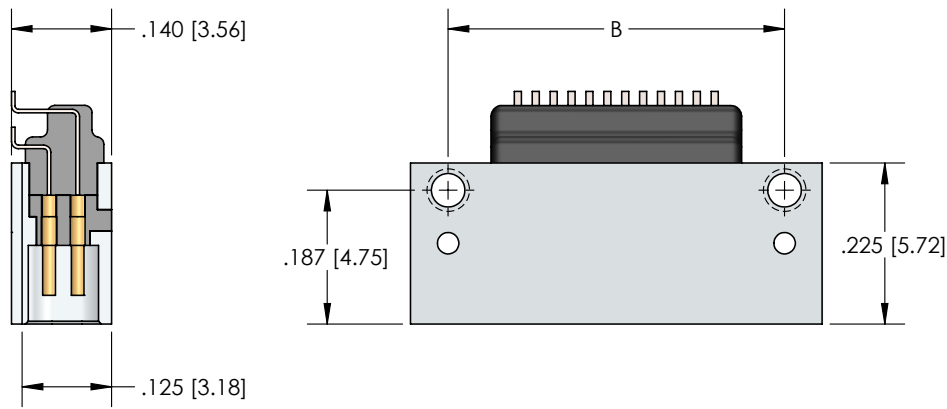
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	28	L	25	2	S	Ø4	1	- SØ1	Temp Range	Mounting Option
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**			
CN=Nano	M= Metal Shell	Style=28	L=LCP	Ø9	2= Dual Row	S=Female/Socket (Receptacle Side)	Ø4=Latch	1= Tin plated (60/40)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes
				15				2=Gold plated (RoHS)		HT = 200°C	
				21					*SØ1 = Nickel		1=Solder Alignment Posts with Threaded Mounting Holes
				25							
				31					SØ3 = Black Anodize		
				37							
									SØ6 = Olive-Drab Cadmium		
											
									SØ7 = Titanium		
											
									SØ9=Stainless		
											

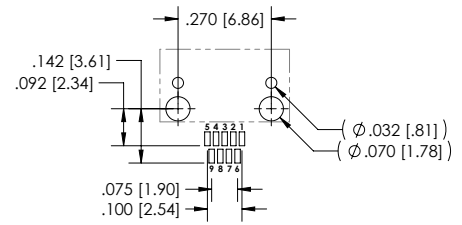
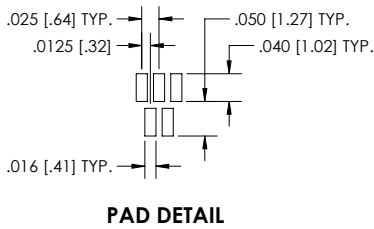
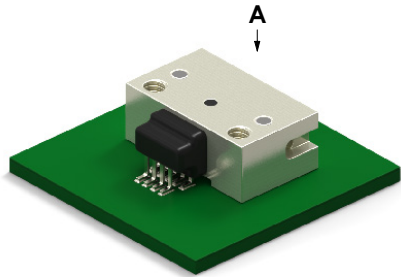
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 31 See chart 131 M&F or Click Here for Materials and Finishes Data

# DIMENSIONS

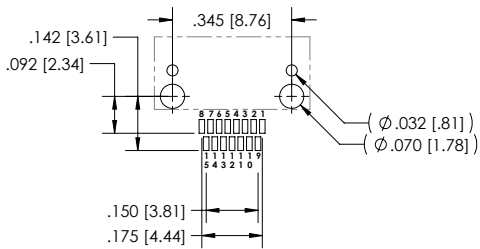


CNM SERIES							
Size	A	B	Plug C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]

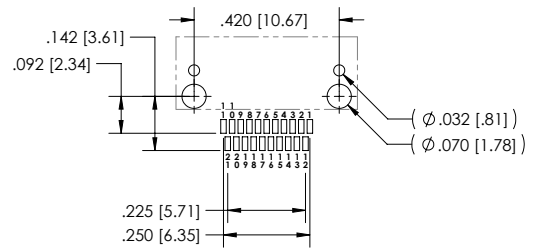
# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR PCB LAYOUT



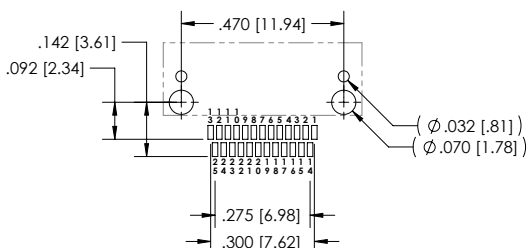
**SIZE 9 - VIEW A**



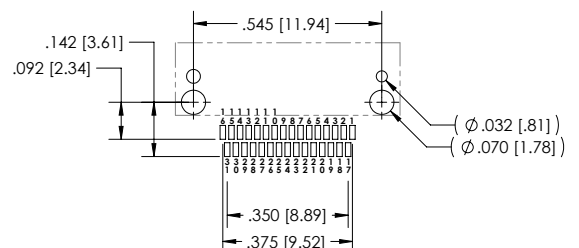
**SIZE 15 - VIEW A**



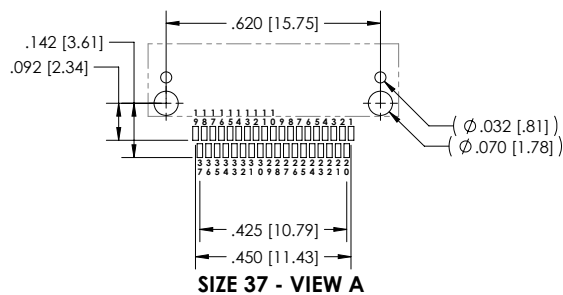
**SIZE 21 - VIEW A**



**SIZE 25 - VIEW A**



**SIZE 31 - VIEW A**



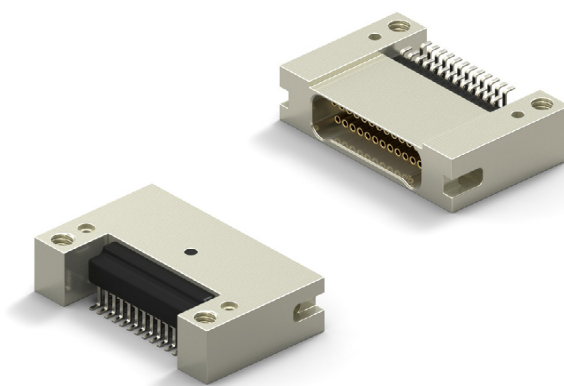
**SIZE 37 - VIEW A**



THIS PAGE LEFT  
INTENTIONALLY BLANK

# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR











- Metal Shell Connector
- Quick Disconnect Latch Mechanism
- Surface Mount .025 x .040 (Style 38)
- 1 Piece Contact
- Flat Tail Termination
- Operating Temperature -50° C to 200° C
- 9 to 37 Contacts



NANO D – PID 156

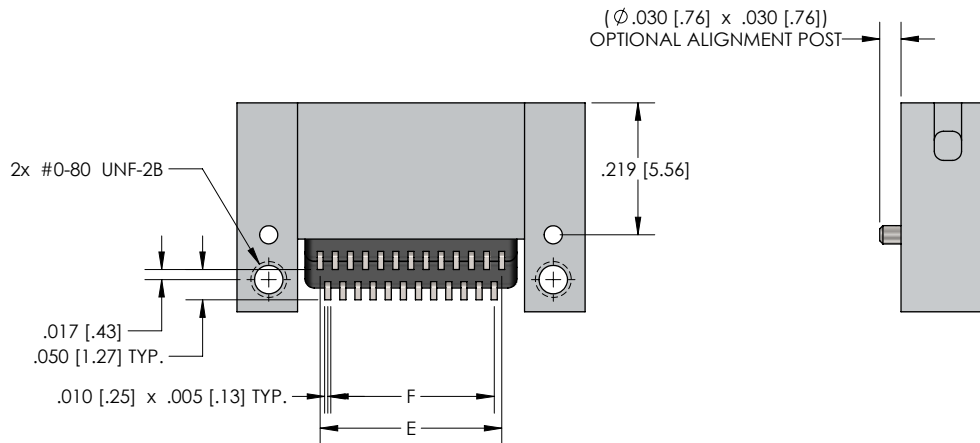
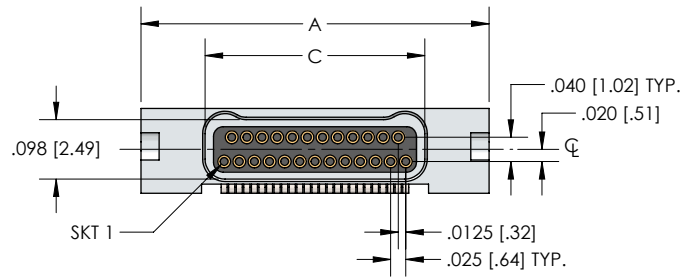
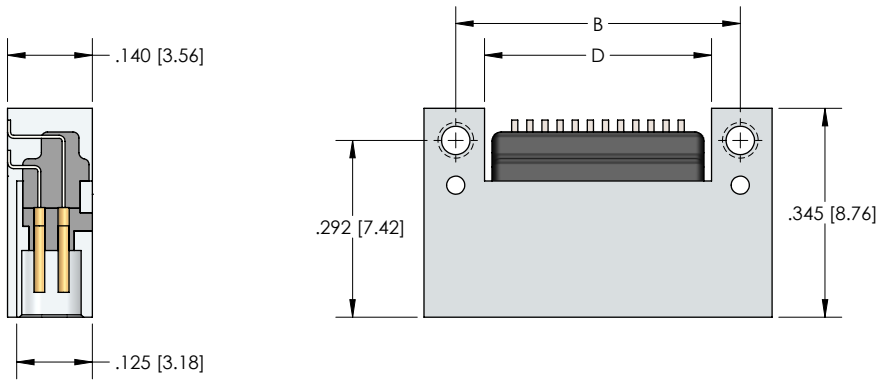
## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

CN	M	38	L	25	-	2	S	Ø4	1	-	SØ1	
Series	Style	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**	Temp Range	Mounting Option		
CN=Nano	M= Metal Shell	Style=38	L=LCP	Ø9	2= Dual Row	S=Female/Socket (Receptacle Side)	Ø4=Latch	1= Tin plated (60/40)	Blank= Cadmium	*blank = 125C	*Blank=Threaded Mounting Holes	
				15				2= Gold plated (RoHS)		HT = 200°C		
				21					*SØ1= Nickel		1=Solder Alignment Posts with Threaded Mounting Holes	
				25								
				31					SØ3 = Black Anodize			
				37								
									SØ6 = Olive-Drab Cadmium			
												
									SØ7 = Titanium			
												
									SØ9=Stainless			
												

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 31 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 31 See chart 131 M&F or Click Here for Materials and Finishes Data

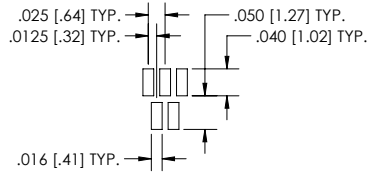
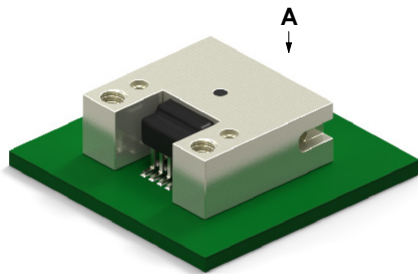
# DIMENSIONS



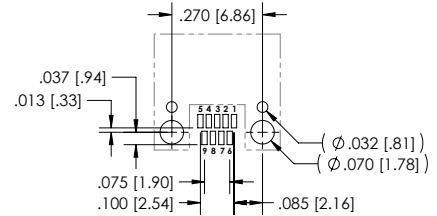
CNM SERIES								
Size	A	B	Plug	C	Receptacle	D	E	F
9	.375 [9.52]	.270 [6.86]	.160 [4.06]	.163 [4.14]	.163 [4.14]	.175 [4.44]	.100 [2.54]	.075 [1.90]
15	.450 [11.43]	.345 [8.76]	.235 [5.97]	.238 [6.04]	.238 [6.04]	.250 [6.35]	.175 [4.44]	.150 [3.81]
21	.525 [13.33]	.420 [10.67]	.310 [7.87]	.313 [7.95]	.313 [7.95]	.325 [8.25]	.250 [6.35]	.225 [5.71]
25	.575 [14.60]	.470 [11.94]	.360 [9.14]	.363 [9.22]	.363 [9.22]	.375 [9.52]	.300 [7.62]	.275 [6.98]
31	.650 [16.51]	.545 [13.84]	.435 [11.05]	.438 [11.12]	.438 [11.12]	.450 [11.43]	.375 [9.52]	.350 [8.89]
37	.725 [18.41]	.620 [15.75]	.510 [12.95]	.513 [13.03]	.513 [13.03]	.525 [13.33]	.450 [11.43]	.425 [10.79]

# LATCHING CIRCUIT RIGHT ANGLE CONNECTOR PCB LAYOUT

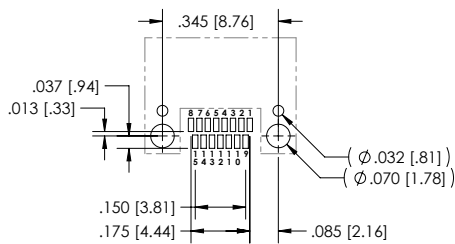
NANO D – PID 156



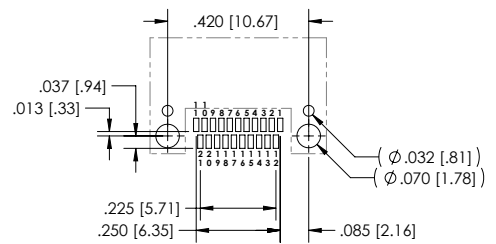
PAD DETAIL



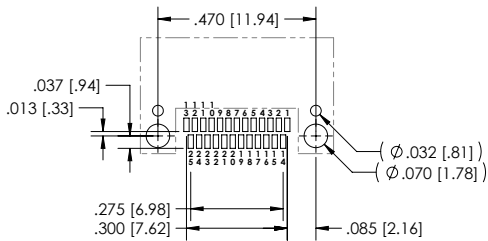
SIZE 9 - VIEW A



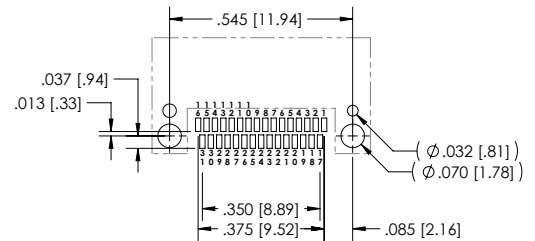
SIZE 15 - VIEW A



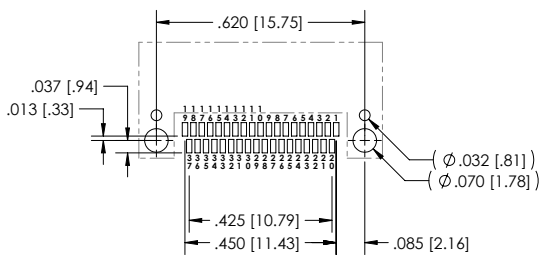
SIZE 21 - VIEW A



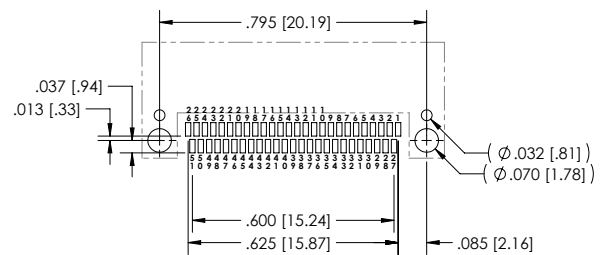
SIZE 25 - VIEW A



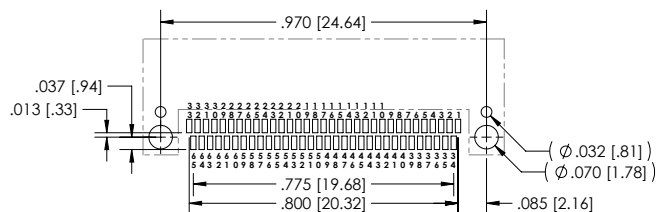
SIZE 31 - VIEW A



SIZE 37 - VIEW A



SIZE 51 - VIEW A

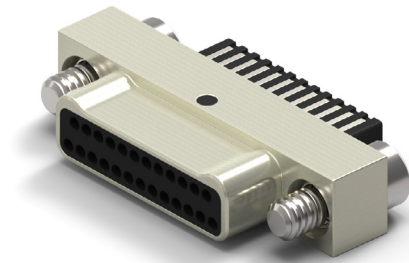


SIZE 65 - VIEW A

THIS PAGE LEFT  
INTENTIONALLY BLANK
















# FIELD SOLDERABLE CONNECTOR

- Metal Shell Connector w/Flat Leads
- Operating Temperature -50° C to 200°C
- 9 to 65 Contacts



## HOW TO ORDER

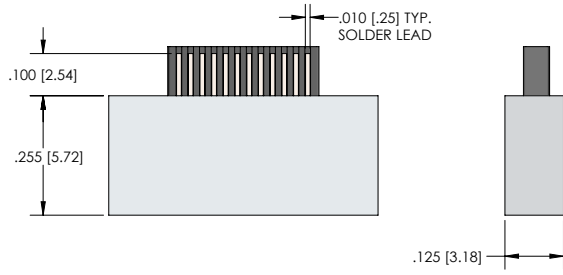
\* Indicates preferred standard \*\* Consult factory for other plating options

N	M	L	25	-	2	N	Ø2	3	-	SØ1	Temp Range
Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Color Code	Finish**				
N=Nano	M=Metal	L=LCP	Ø9	2= Dual Row	N=Male/Pin (Plug Side)	Ø1=Phillips Head Jackscrew	3= Tin plated (6Ø/4Ø)	Blank= Cadmium	*blank = 125C		
		15					4= Gold plated (RoHS)		HT = 200°C		
		21			T=Female/Socket (Receptacle Side)	Ø2=Allen Head Jackscrew		*SØ1= Nickel			
		25									
		31				Ø5=Slotted Head Jackscrew		SØ3 = Black Anodize			
		37									
		51				Ø6= Floating Phillips Head Jackscrew (Female Only)		SØ6 = Olive-Drab Cadmium			
		65									
						Ø7=Threaded Hole		SØ7 =Titanium			
											
						Ø8= Floating Allen Head Jackscrew (Female Only)		SØ9 =Stainless			
											
						Ø9= Floating Slotted Head Jackscrew (Female Only)					
											

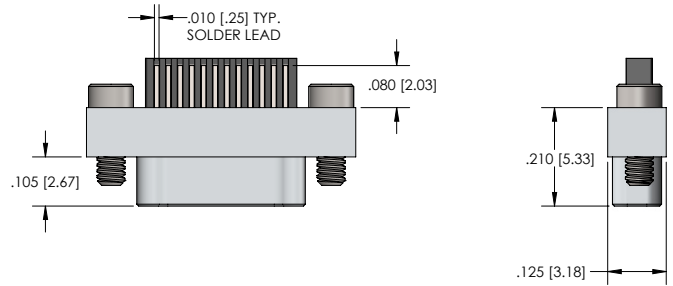
<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 32 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 32 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 32 See chart 126 M&F or Click Here for Materials and Finishes Data

NANO D – PID 158

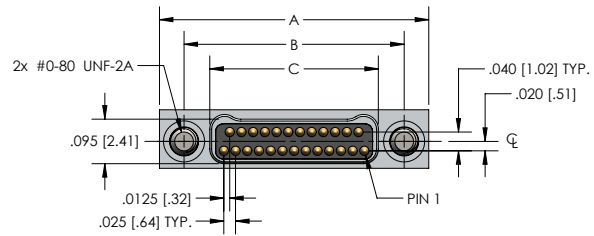
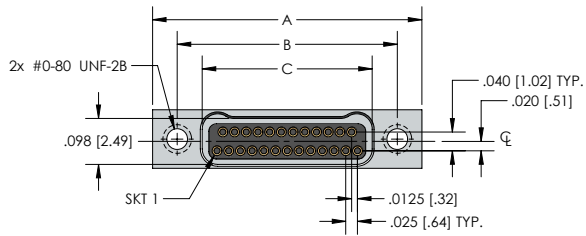
# DIMENSIONS



RECEPTACLE (SOCKETS)



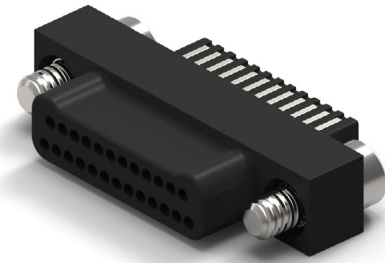
PLUG (PINS)



Size	NM SERIES			
	A	B	Plug C	Receptacle
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]










# FIELD SOLDERABLE CONNECTOR

- Plastic Shell Connector w/Flat Leads
- Operating Temperature -50° C to 200°C
- 9 to 65 Contacts



## HOW TO ORDER

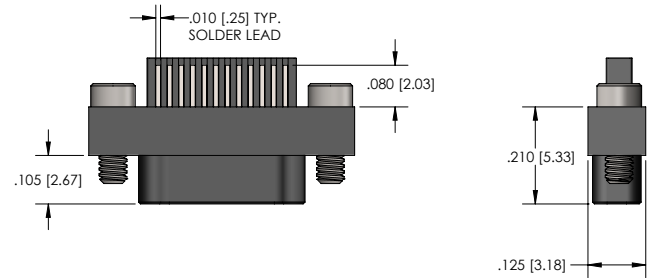
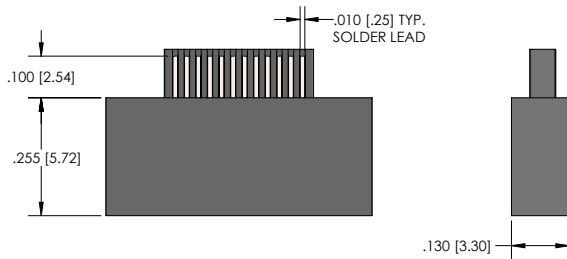
\* Indicates preferred standard

N	P	L	25	- 2	N	Ø2	- 3	
	Series	Insulator	Contacts	Insulator Type	Contact Gender	Hardware	Lead Finish	Temp Range
N=Nano	P=Plastic	L=LCP	Ø9	2= Dual Row	N=Male/Pin (Plug Side)	Ø1=Phillips Head Jackscrew	*3= Tin plated (6Ø/4Ø)	*blank = 125C
			15				4=Gold plated (RoHS)	HT = 200°C
			21		T=Female/Socket (Receptacle Side)	Ø2=Allen Head Jackscrew		
			25					
			31			Ø5=Slotted Head Jackscrew		
			37					
			51			Ø6=Floating Phillips Head Jackscrew (Female Only)		
			65					
						Ø7=Threaded Hole		
								
						Ø8=Floating Allen Head Jackscrew (Female Only)		
								
						Ø9=Floating Slotted Head Jackscrew (Female Only)		
								

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 32 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 32 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 32 See chart 126 M&F or Click Here for Materials and Finishes Data

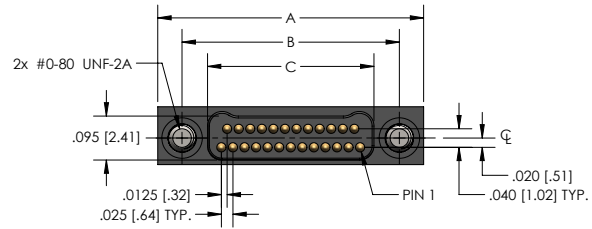
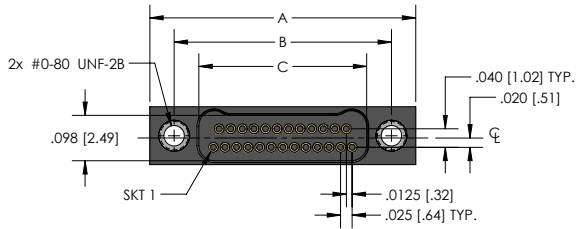
NANO D – PID 159





**RECEPTACLE (SOCKETS)**

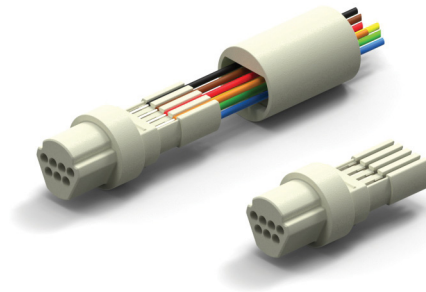
**PLUG (PINS)**



Size	NP SERIES			
	A	B	Plug C	Receptacle
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]

# FIELD SOLDERABLE CONNECTOR



- Plastic Shell Connector w/Flat Leads
- Operating Temperature -50° C to 200°C
- 7 Contacts



NANO D – PID 160

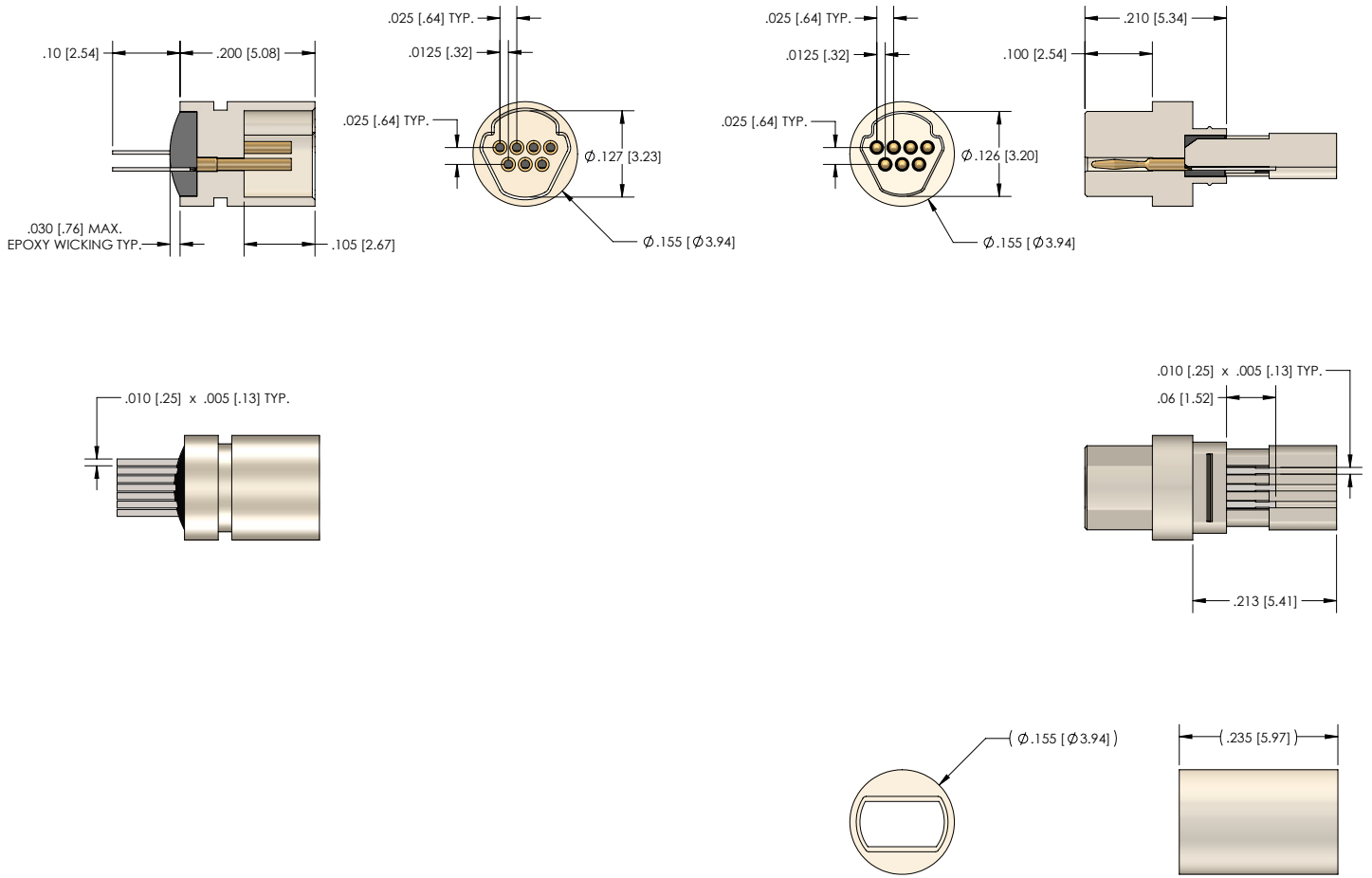
## HOW TO ORDER

\* Indicates preferred standard

RN	P	O	P	- Ø7	N	- 3	
	Series	Mounting Style	Material/Plating	Connector Size	Contact Gender	Color Code	Temp Range
RN= Round Nano	P=Plastic	O=Inline	P=Plastic	Ø7	N=Male/Pin (Plug Side)	3= Tin plated (6Ø/4Ø)	*blank = 125C
						4= Gold plated (RoHS)	HT = 200°C
					T=Female/Socket (Receptacle Side)		
							

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 32 See chart 133 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 32 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 32 See chart 126 M&F or Click Here for Materials and Finishes Data

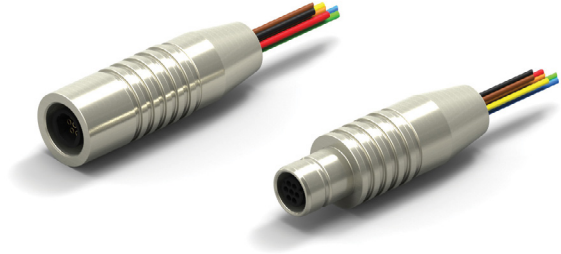
# DIMENSIONS



BACKSHELL SHOWN UNASSEMBLED FOR PART CLARIFICATION ONLY

# CIRCULAR WIRED CONNECTOR





- Metal Shell Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 7, 12 and 19 Contacts
- IP67 Option



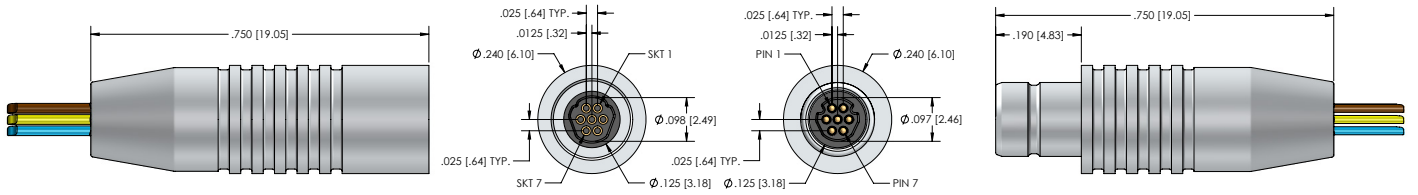
NANO D – PID 113

## HOW TO ORDER

\* Indicates preferred standard \*\* Consult factory for other plating options

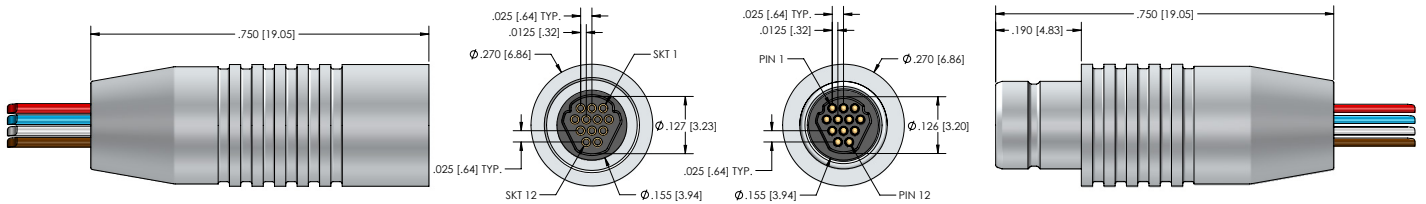
RN		B	Ø	- Ø7	P	- 3Ø	F	6	- 18	A	- SØ1	
Series	Mounting Style	Connector Size	Contact Gender	Wire Gauge	Wire Type	Color Code	**Length	Modifications	Finish**	Temp Range		
RN= Round Nano	B= Break Away	Ø= Inline	Ø7	P= Male/Pin (Plug Side)	3Ø*	*F= Stranded, w/ Teflon insulation, per NEMA HP3-ET	1= White	*18.Ø	Blank= No Modifications	*SØ1= Nickel	*blank = 125C	
			12		32	Y= Stranded w/ Tefzel insulation, per SAE AS22759/33	*6 = 10 solid colors, repeating	*36.Ø	A= With Sealing O-ring (IP-67)		HT = 200°C	
			19	S= Female/Socket (Receptacle Side)	34	A= Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)				SØ3 = Black Anodize		
										SØ9 = Stainless		
												

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 33 See chart 123 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 33 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 33 See chart 113 M&F or Click Here for Materials and Finishes Data



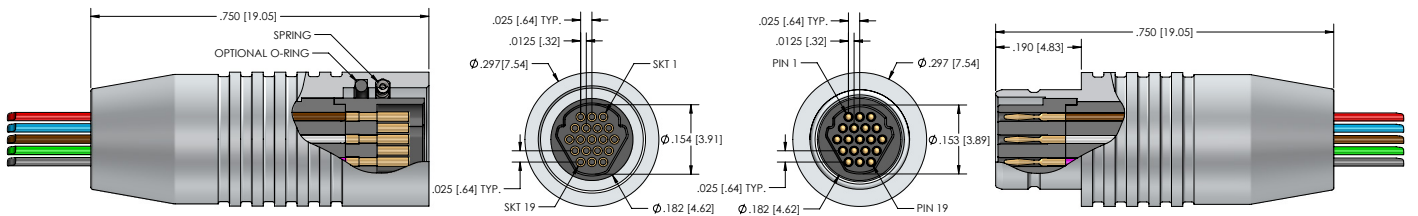
**7 POSITION RECEPTACLE**

**7 POSITION PLUG**



**12 POSITION RECEPTACLE**

**12 POSITION PLUG**

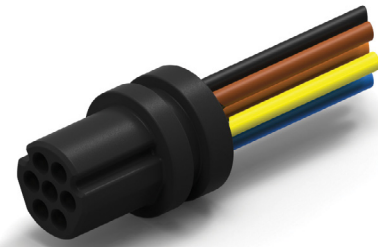


**19 POSITION RECEPTACLE**

**19 POSITION PLUG**

# CIRCULAR WIRED CONNECTOR



- Plastic Connector w/Wire Leads
- Operating Temperature -50° C to 200° C
- 7, 12 and 19 Contacts



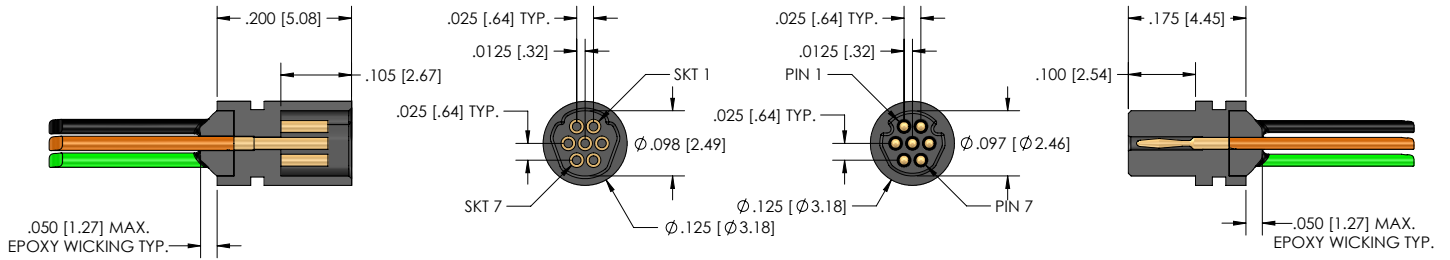
NANO D - PID 122

## HOW TO ORDER

\* Indicates preferred standard

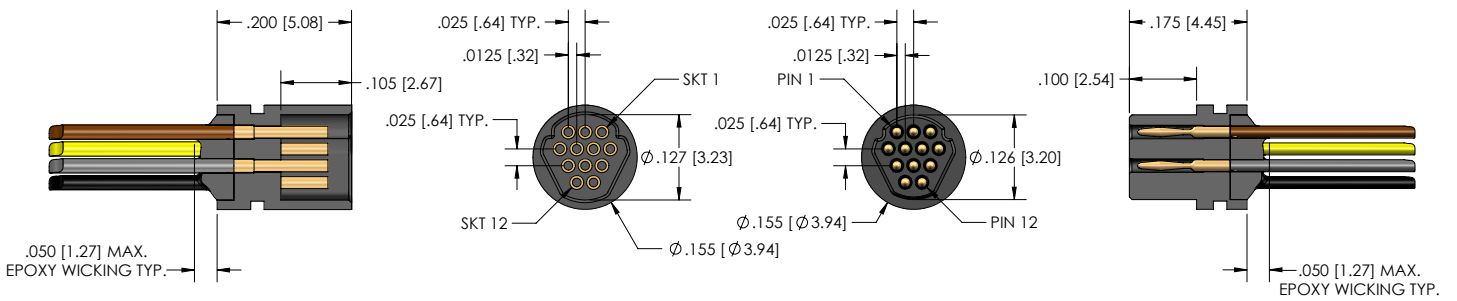
RN	P	O	P	- Ø7	P	- 3Ø	F	6	- 18.Ø	
	Type	Mounting Style	Material/Plating	Connector Size	Contact Gender	Wire Gauge	Wire Type	Color Code	Length	Temp Range
RN= Round Nano	P=Plastic (No Shell)	O=Inline	P=Plastic	Ø7	P=Male/Pin (Plug Side)	3Ø*	*F=Stranded, w/Teflon insulation, per NEMA HP3-ET	1=White	*18.Ø	*blank = 125C
				12		32	Y=Stranded w/Tefzel insulation, per SAE AS22759/33	*6 = 10 solid colors, repeating	*36.Ø	HT = 200°C
				19	S=Female/Socket (Receptacle Side)	34	A=Stranded, per DSCC Ø4Ø47-3ØA (White, 3Ø AWG only)			
										

<b>ELECTRICAL PERFORMANCE DATA</b>	Go to Page 33 See chart 123 E or Click Here for Electrical Performance Data
<b>MECHANICAL PERFORMANCE DATA</b>	Go to Page 33 See chart 123 M or Click Here for Mechanical Performance Data
<b>MATERIALS DATA</b>	Go to Page 33 See chart 122 M&F or Click Here for Materials and Finishes Data



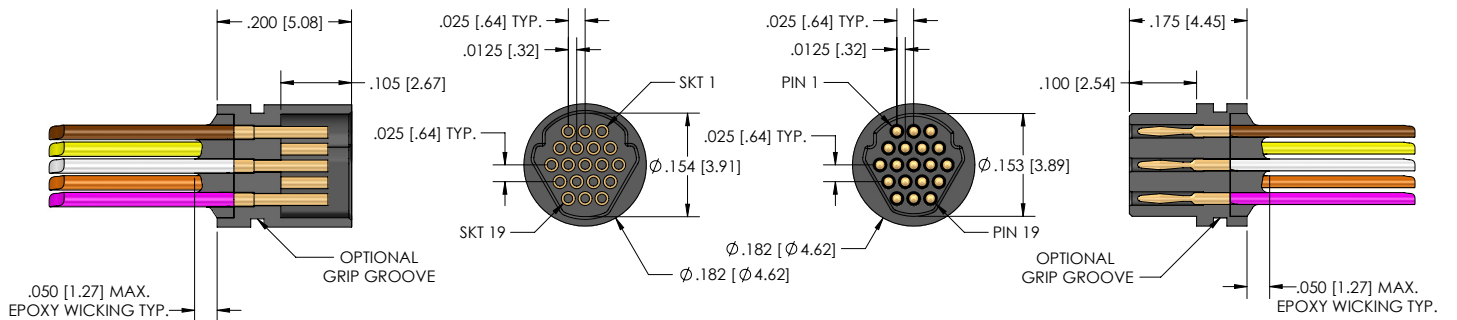
**7 POSITION RECEPTACLE**

**7 POSITION PLUG**



**12 POSITION RECEPTACLE**

**12 POSITION PLUG**



**19 POSITION RECEPTACLE**

**19 POSITION PLUG**

# VISIT OUR WEBSITE FOR MORE INFORMATION ABOUT ULTI-MATE MICRO / NANO MINIATURE CONNECTORS AND CABLE ASSEMBLIES

The screenshot displays the Ulti-Mate Connector Inc. website interface. At the top, a navigation bar includes links for Home, About Us, News And Events, Micro-D Catalog, Job Opportunities, Reps And Distributors, Glossary, and Contact Us. Below this is a search bar with a 'Keyword Search' input field, a 'Go' button, and an 'Inventory Search' link. A secondary navigation bar lists 'Products', 'Technologies', 'Applications', 'Request Information', 'Quality', and 'Blog'. The main content area features a large banner for 'Micro/Nano Miniature Connectors & Cable Assemblies' on the left and a detailed product page for a 'WIRED CONNECTOR' on the right. The product page includes a 'HOW TO ORDER' section with a table of options, a 'PERFORMANCE DATA' table, and technical diagrams. Below the banner, there are two interactive sections: 'find a connector style' with a grid of product images and a 'product family' dropdown menu, and 'featured product' which highlights the same Micro/Nano Miniature Connectors & Cable Assemblies banner with a 'Try it now!' call to action.





