

MIL-DTL-32139 Nano D-Sub Connectors

N06 Right Angle to PCB Series

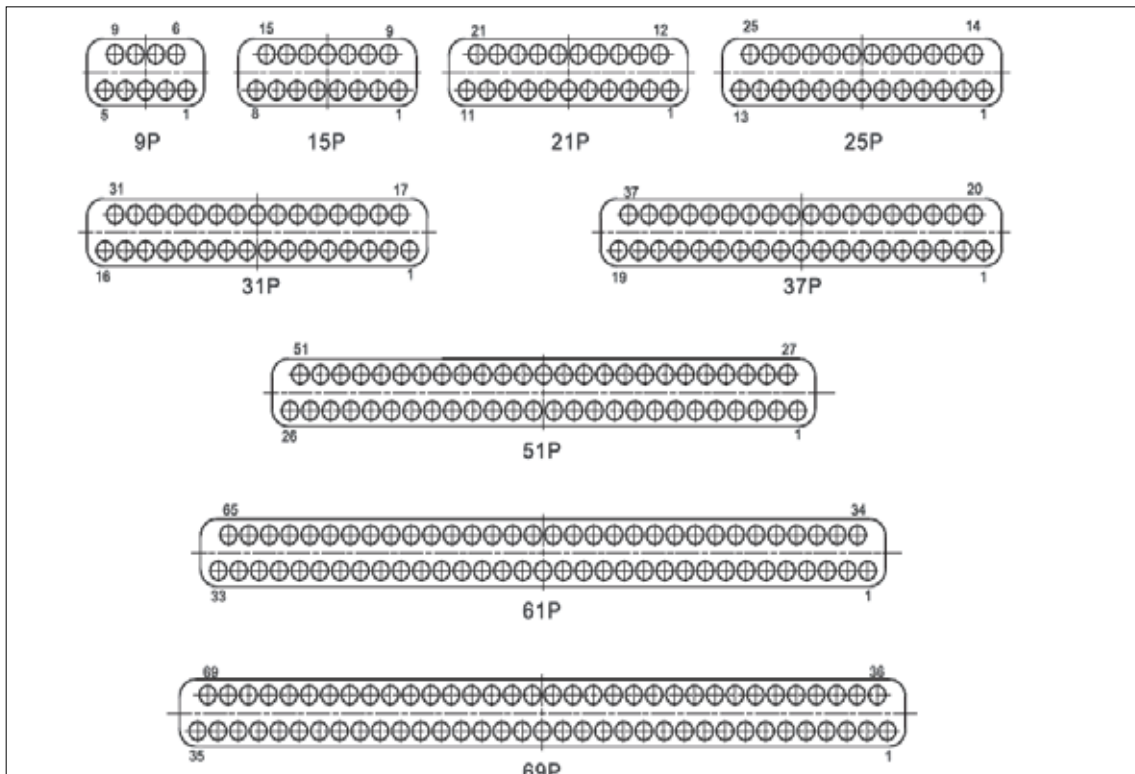
Brief introduction

- Available with no. of contacts: 9,15,21,25,31,37,51,65,69
- Twist pin contacts for improved shock and vibration performance, 0.635mm (0.025") pitch.
- Screw nut locking, easy to insert and extract.
- Commonly used for electrical circuit interconnections with high density, miniaturized, lightweight and high reliability requirements.
- Connector plugs are fitted with twist pin contacts, connector receptacle are fitted with socket contacts
- Standard: MIL-DTL-32139
- Undefined tolerance is $\pm 0.13\text{mm}$

Specification

- | | | | |
|-------------------|--|------------------------|---------------------------|
| Environment: | -55°C ~ +125°C | Contact resistance: | $\leq 21\text{m}\Omega$ |
| Vibration: | 10Hz ~ 2000Hz acc. at 196m/s^2 | Insulation resistance: | $\geq 5000\text{M}\Omega$ |
| Shock: | 980m/s^2 for 6ms | Dielectric strength: | 250V |
| Rated current: | 1A | Mating durability: | 200 Cycles |
| Random vibration: | power spectrum density $0.4\text{G}^2/\text{Hz}$, r.m.s value of total acceleration 23.1G | | |

Contact layout



Note: The above layout is viewed from connector plug mating face

MIL-DTL-32139 Nano D-Sub Connectors

N06 Right Angle to PCB Plug Series

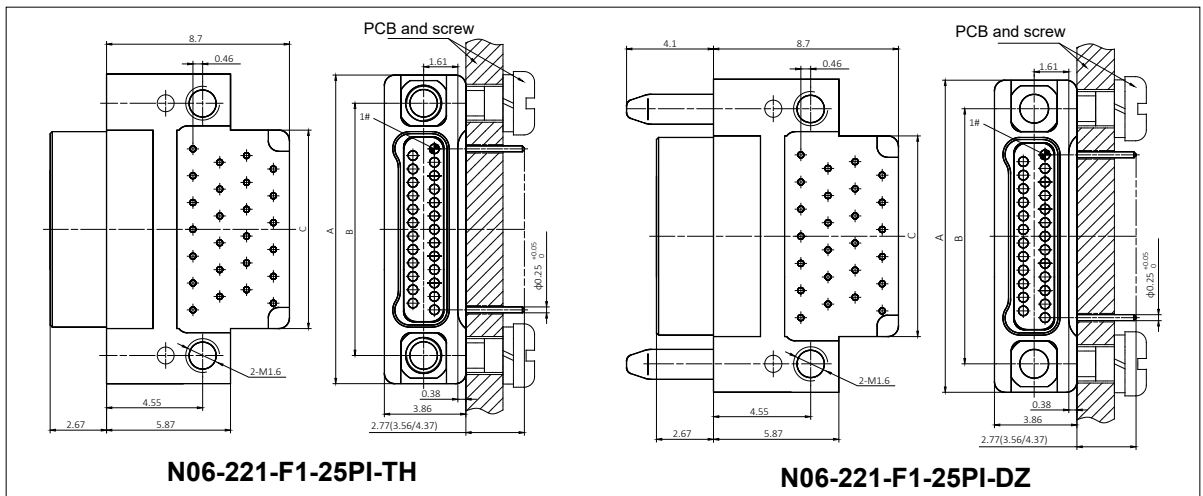
Order Code

Series	N06	-2	2	1	-F	1	-25	PI	-TH	
Contact row: 2 — two rows										
Shell plating: 2 — nickel plating										
Contact plating: 1 — gold plating										
Tail termination type: F — 90° right angle to PCB										N06-221-F1-25PI-TH
Tail length: 1 — 2.77mm 2 — 3.56mm 3 — 4.37mm										
Contact number: 9, 15, 21, 31, 37, 51, 65, 69										
Contact type: PI — pin in plug										N06-221-F1-25PI-DZ
Locking type: DZ — guide pin TH — connect nut										

Notes

- N06-221-F*-**PI-TH is usually mated with a receptacle which has a locking screw, N06-221-F*-**PI-DZ is usually mated with a receptacle which has a guide hole
- 3 tail length options, other customized lengths can be produced

Outline dimension

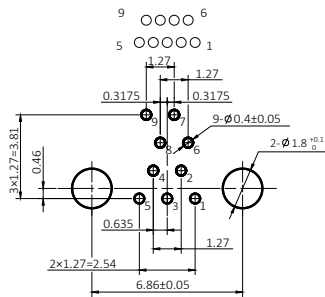
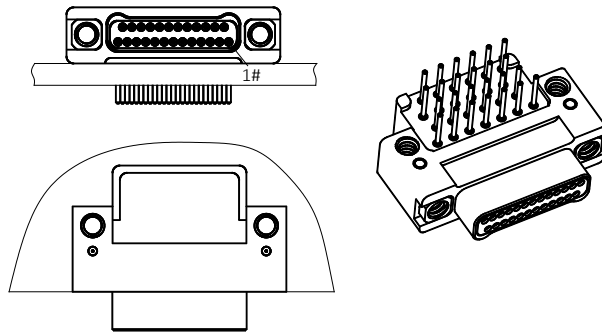


Pin count	Dimension			Pin count	Dimension			Pin count	Dimension		
	A	B	C		A	B	C		A	B	C
9 pins	9.63	6.86	4.25	15 pins	11.53	8.76	6.15	21 pins	13.44	10.67	8.06
25 pins	14.71	11.94	9.33	31 pins	16.61	13.84	11.23	37 pins	18.52	15.75	13.14
51 pins	22.96	20.19	17.58	65 pins	27.41	24.64	22.03	69 pins	28.68	25.91	23.3

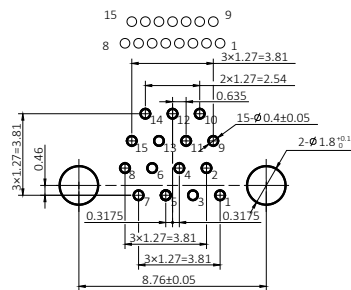
Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Connectors

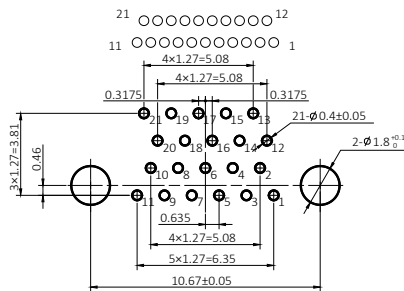
Suggested PCB Layout



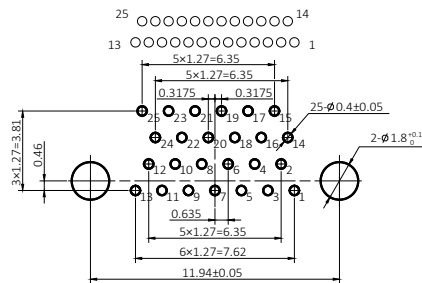
N06-221-F1/F2/F3-9PI-TH



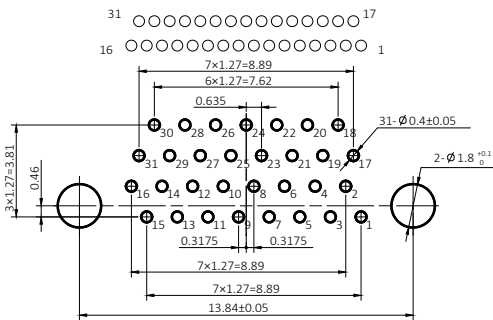
N06-221-F1/F2/F3-15PI-TH



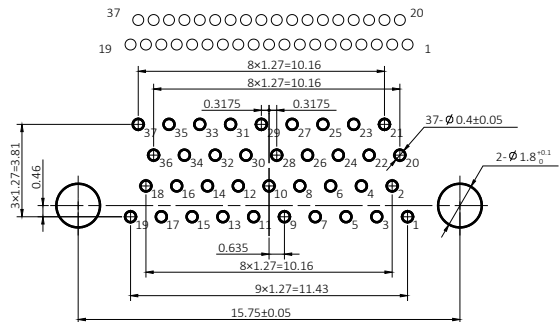
N06-221-F1/F2/F3-21PI-TH



N06-221-F1/F2/F3-25PI-TH



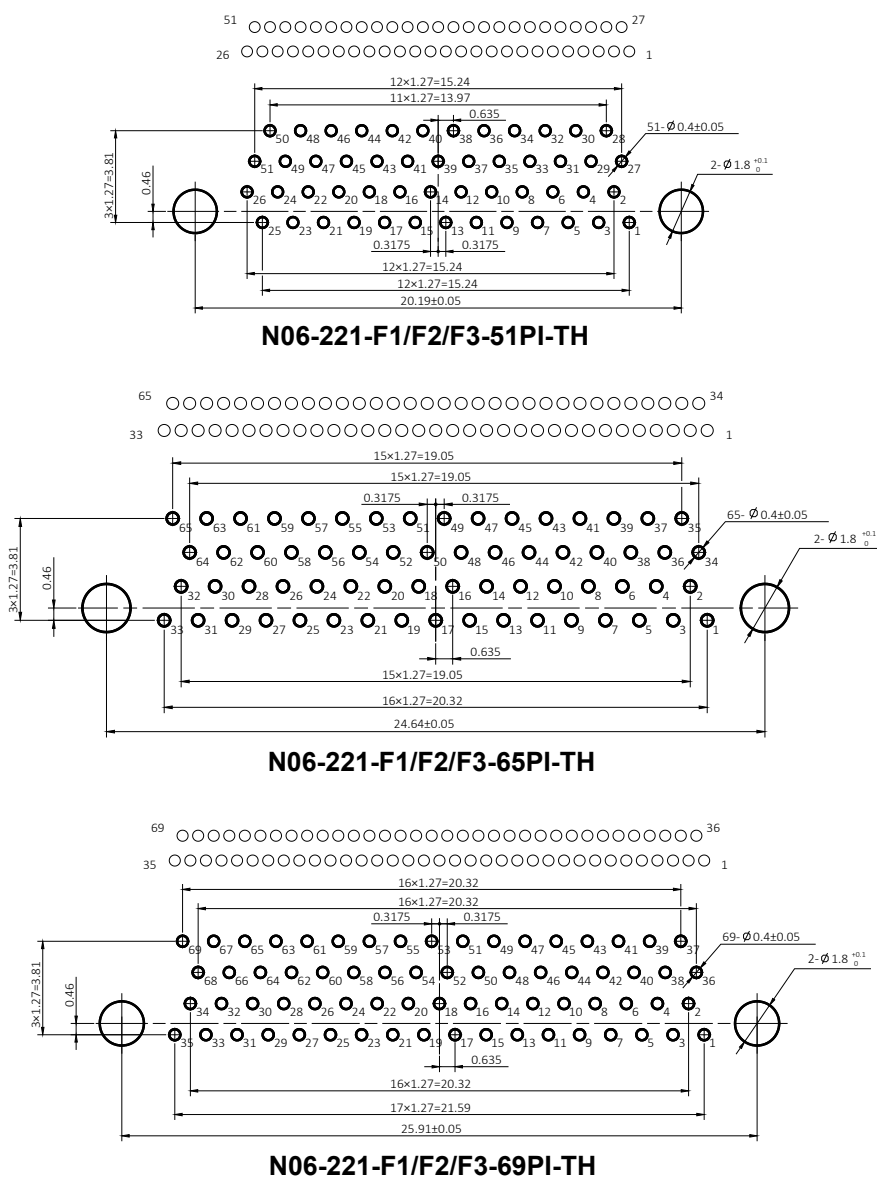
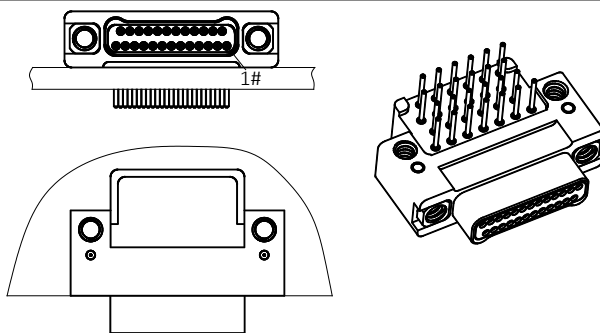
N06-221-F1/F2/F3-31PI-TH



N06-221-F1/F2/F3-37PI-TH

Note: All dimensions are in mm

Suggested PCB Layout



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MIL-DTL-32139 Nano D-Sub Connectors

N06 Right Angle to Flexible PCB Plug with Locking Screw Series

Order Code

Series	N06	-2	2	1	-F	1	-25	PI	-JC
Contact row:	2 — two rows								
Shell plating:	2 — nickel plating								
Contact plating:	1 — gold plating								
Tail termination type:	F — 90° right angle to PCB								
Tail length:	1 — 2.77mm 2 — 3.56mm 3 — 4.37mm								
Contact number:	9, 15, 21, 31, 37, 51, 65, 69								
Contact type:	PI — pin in plug								
Locking type:	JC — locking screw (straight slot, C dimension=1.5mm) JC1 — locking screw (hex, optional, C dimension=2.1mm)								

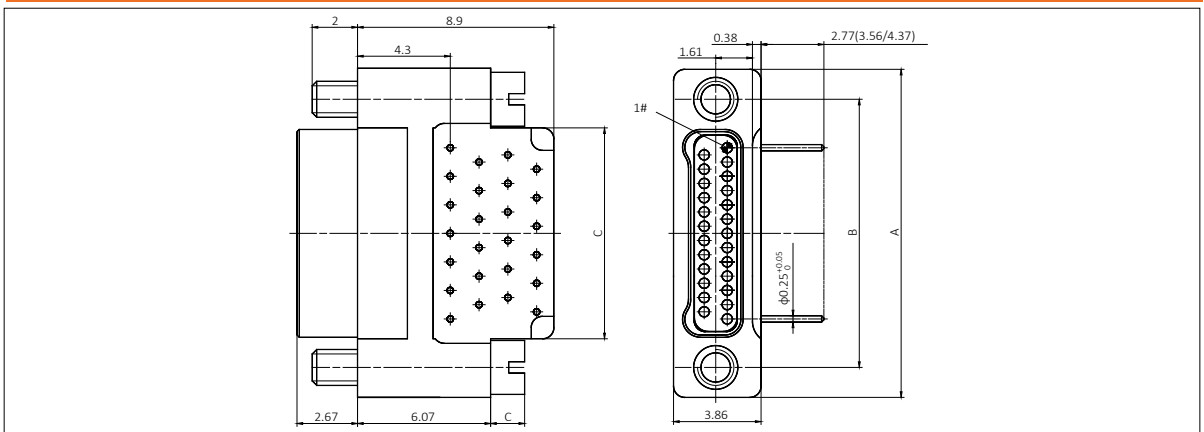


N06-221-F1-25PI-JC

Notes

- 3 options of tail length, other customized lengths can be produced
- Connector is designed for Flexible Printed Circuits (FPC), it should be mated with a receptacle which is fitted with a nut.
- Tail should be soldered into the Flexible PCB
- Recommended JC (straight slot screw) screws, tightened by miniature straight screwdriver
- Optional JC1(hex) screws, tightened by 1.27mm hex screwdriver.

Outline dimension

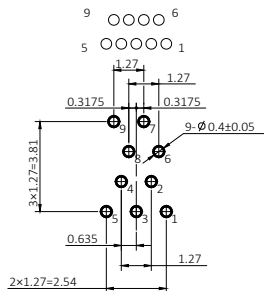
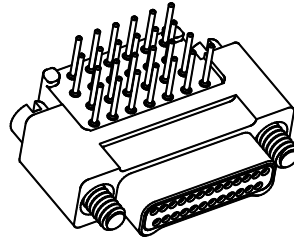
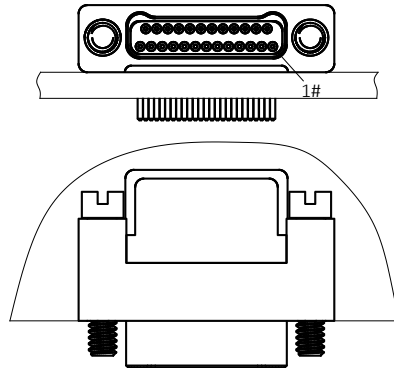


Pin count	Dimension			Pin count	Dimension			Pin count	Dimension		
	A	B	C		A	B	C		A	B	C
9 pins	9.63	6.86	4.25	15 pins	11.53	8.76	6.15	21 pins	13.44	10.67	8.06
25 pins	14.71	11.94	9.33	31 pins	16.61	13.84	11.23	37 pins	18.52	15.75	13.14
51 pins	22.96	20.19	17.58	65 pins	27.41	24.64	22.07	69 pins	28.68	25.91	23.3

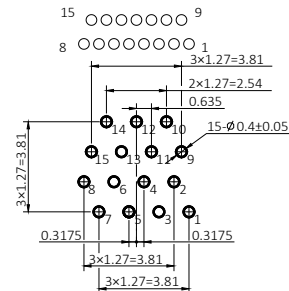
Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Connectors

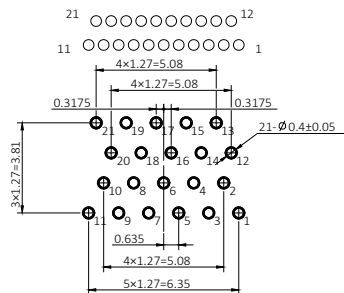
Suggested PCB Layout



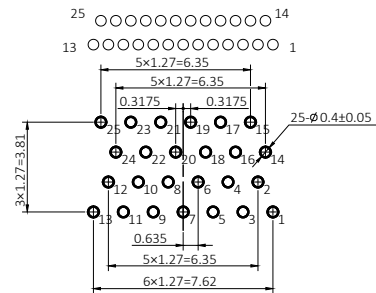
N06-221-F1/F2/F3-9PI-JC



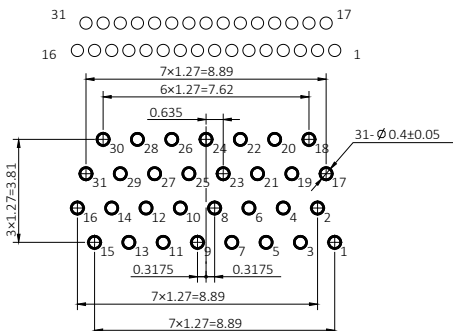
N06-221-F1/F2/F3-15PI-JC



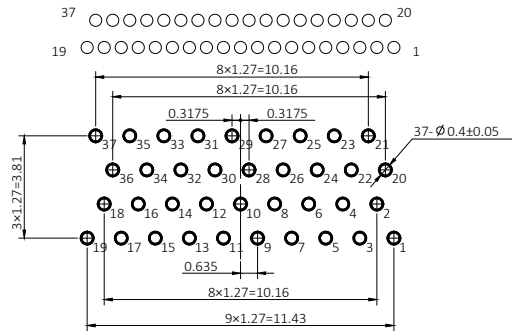
N06-221-F1/F2/F3-21PI-JC



N06-221-F1/F2/F3-25PI-JC



N06-221-F1/F2/F3-31PI-JC

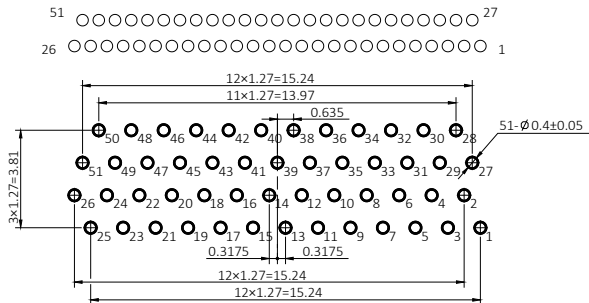
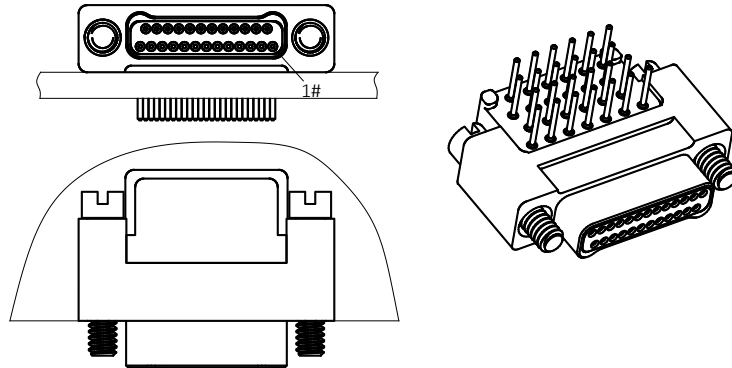


N06-221-F1/F2/F3-37PI-JC

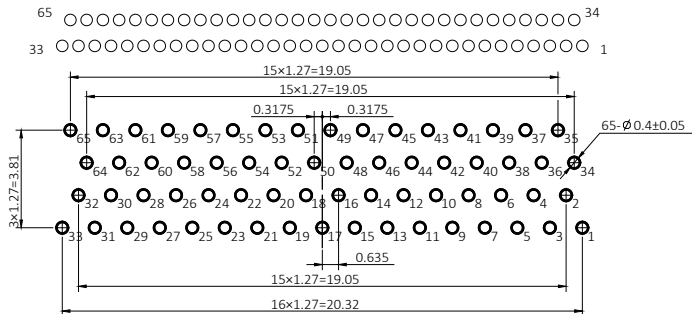
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MIL-DTL-32139 Nano D-Sub Connectors

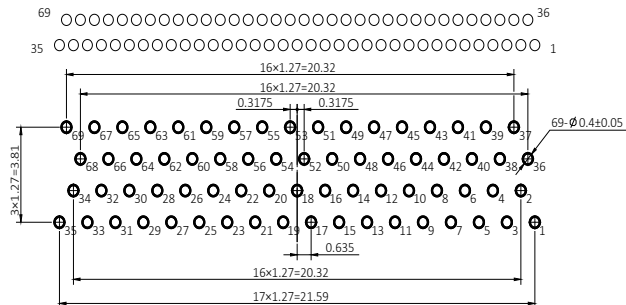
Suggested PCB Layout



N06-221-F1/F2/F3-51PI-JC



N06-221-F1/F2/F3-65PI-JC



N06-221-F1/F2/F3-69PI-JC

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Connectors

N06 Right Angle to PCB Receptacle Series

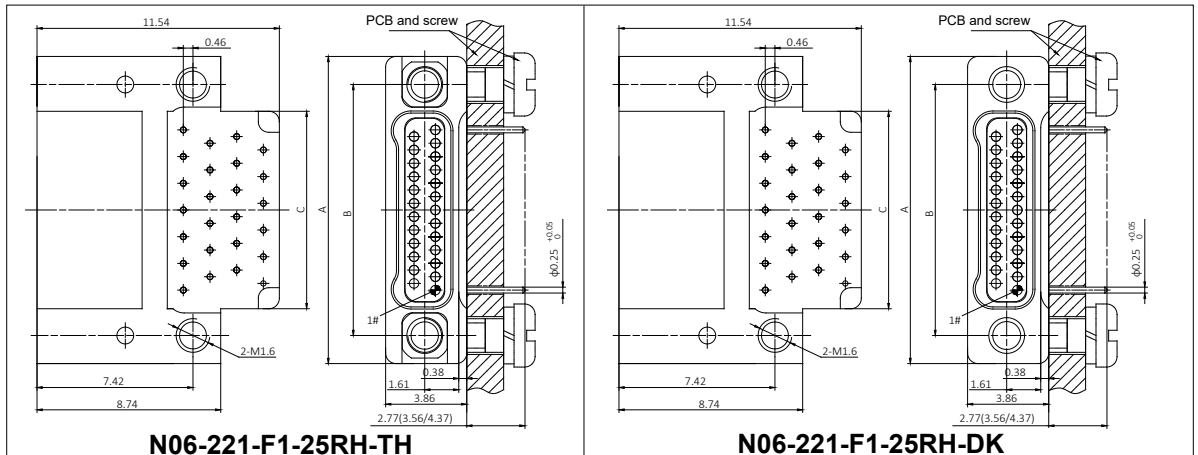
Order Code

Series	N06	-2	2	1	-F	1	-25	RH	-DK	
Contact row:	2 — two rows									
Shell plating:	2 — nickel plating									
Contact plating:	1 — gold plating									
Tail termination type:	F— 90° right angle to PCB									
Tail length:	1 — 2.77mm 2 — 3.56mm 3 — 4.37mm									
Contact number:	9, 15, 21, 31, 37, 51, 65, 69									
Contact type:	RH— socket in receptacle									
Locking type:	DK— Guide Hole TH— Connect Nut									

Notes

- N06-221-F*-**RH-TH is usually mated to a plug with a locking screw, N06-221-F*-**RH-DK is usually mated to a plug with a guide pin
- 3 options of tail length, other customized lengths can be produced

Outline dimension

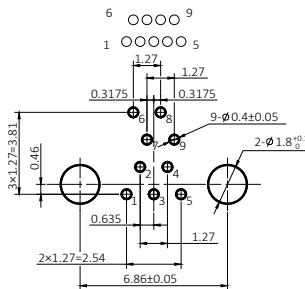
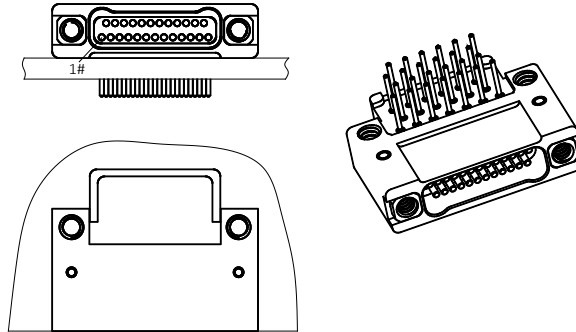


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25 pins	14.71	11.94	9.33	31 pins	16.61	13.84	11.23	37 pins	18.52	15.75	13.14
51 pins	22.96	20.19	17.58	65 pins	27.41	24.64	22.03	69 pins	28.68	25.91	23.3

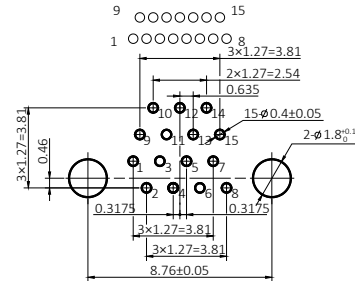
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MIL-DTL-32139 Nano D-Sub Connectors

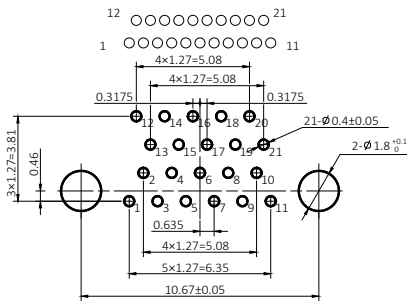
Suggested PCB Layout



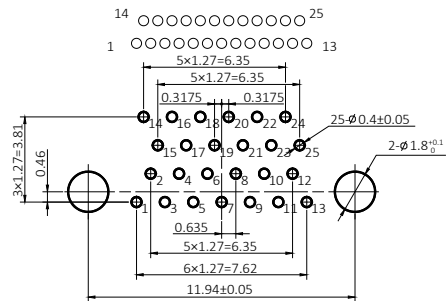
N06-221-F1/F2/F3-9RH-TH



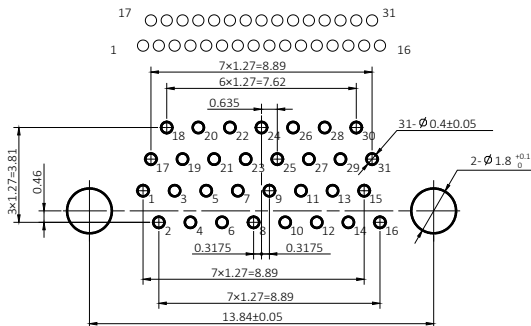
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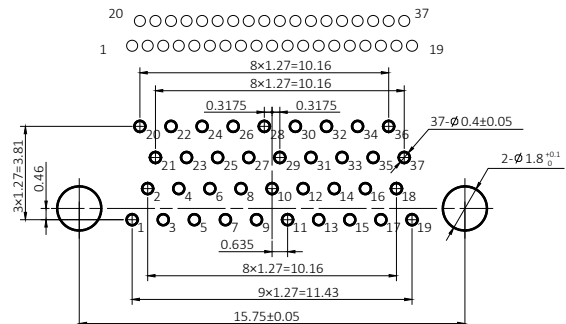
N06-221-F1/F2/F3-21RH-TH



N06-221-F1/F2/F3-25RH-TH



N06-221-F1/F2/F3-31RH-TH



N06-221-F1/F2/F3-37RH-TH

Note: All dimensions are in mm

