



## Company Profile:

Sunkye International Co., Limited.(Connector) Business Group, with sixty five years of experience, specializes in designing and producing connectors, related components and cables. A wide range of connector products, twist pin connector, optical fiber connector, RF coaxial connector, separable connector, custom and application-

# *Company profile*

specific connector, etc, which are widely used in military area: aerospace, aviation, electrical, ship-building, defense system, etc and civil area: communication, telecom, automotive, rail, etc.

Design team focuses on meeting customers' requirement with continuous innovative technology, manufacture team provides high quality products by utilizing advanced equipments in standardized processes to ensure customers' benefits.

Sunkye is ISO 9001 certified, UL, VDE, CE certification passed, and ensures products quality by testing in realistic conditions with advanced test facilities, professional test employees.

Sunkye team is committed to offering high quality products, best service, prompt delivery and competitive price for you.



## Manufacture Equipment:

Five-Axis CNC, AGIE EDM, SODICK WEDM-LS, 40G Vector Network Analyzers, Vacuum Heat Treatment Equipment, Glass-sintered System, Laser Processing Center, High Velocity Ram Machine, Gold, Nickel and Cadmium Plating Production Line, Thermosetting Injection Machine, Thermoplastic Injection Machine, Swiss Automatic Lathe, etc.

## Test Facilities:

Comprehensive Test Instrument of Temperature, Humidity and Vibration; Experimental Box of Temperature and Shock; layer thickness meter; Coordinate Measurement Machine, etc.



MIL-DTL-32139 Nano D-sub connectors

**SUNKYE**



# CONTENT



## **MIL-DTL-32139 Nano D-sub connectors**

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# MIL-DTL-32139 Nano D-sub Connectors

## R06 Right Angle to PCB Series

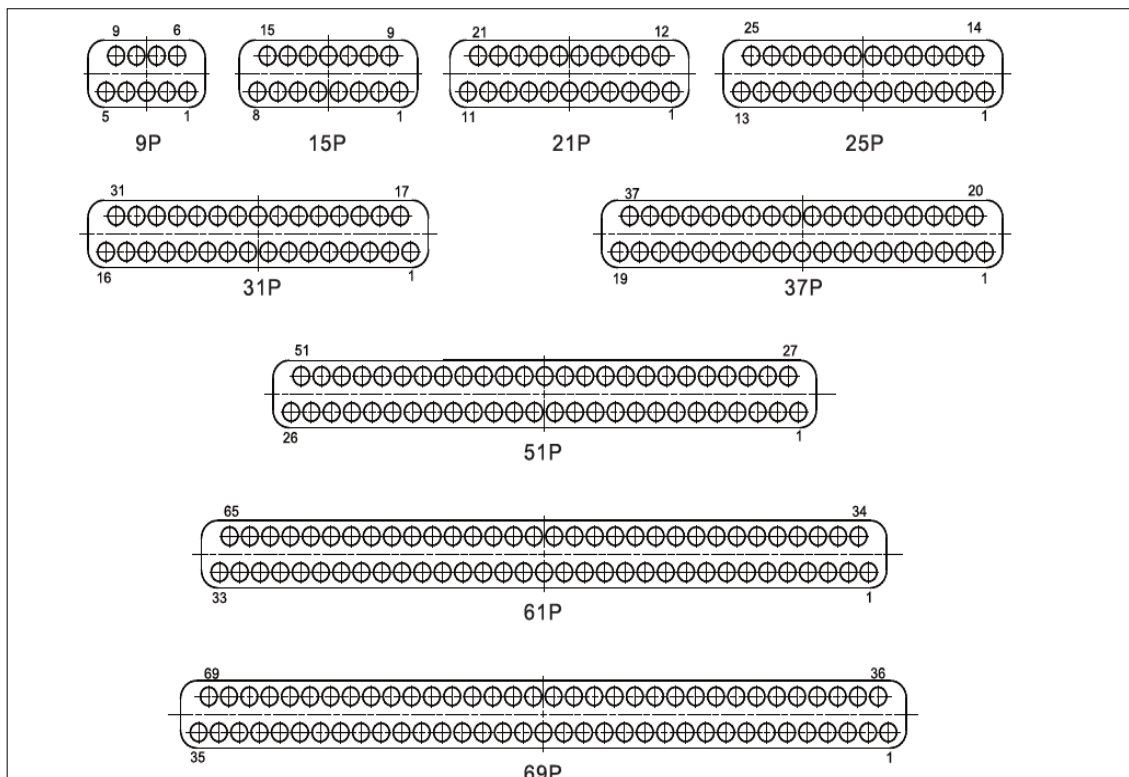
### Brief introduction

- Contacts:9,15,21,25,31,37,51,65,69
- Twist flexible micro pin (twist pin), 0.635mm pitch, micro miniature outline dimension
- Screw nut locking, it is gently when insert and extract, stably locked
- It is used for all kinds for electric circuit system interconnection which have high density, micro, light, highly reliable requirement, it can meet light and miniaturize demand
- Plug with twist pin, receptacle with socket, free terminal with locking screw, fixed terminal with nut, standard mated connector locked by screw and nut
- Standard: MIL-DTL-32139
- Undefined tolerance is±0.13

### Specification

- |                     |   |                          |                |
|---------------------|---|--------------------------|----------------|
| ■ Environment:      | -55℃~+125℃  | ■ Contact resistance:    | ≤21mΩ          |
| ■ Vibration:        | 10Hz~2000Hz 196m/s <sup>2</sup>   | ■ Insulation resistance: | ≥5000MΩ 100VDC |
| ■ Shock:            | 980m/s <sup>2</sup> 6ms   | ■ Dielectric strength:   | 250V           |
| ■ Rated current:    | 1A  | ■ Machine life:          | 200 times      |
| ■ Random vibration: | power spectrum density 0.4G <sup>2</sup> /Hz, r.m.s value of total acceleration 23.1G |                          |                |

### Contact layout


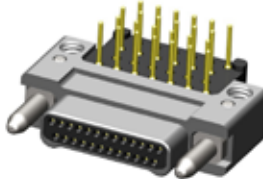


Remark: The above layout is view from plug mate side end face



# R06 Right Angle to PCB Plug Series

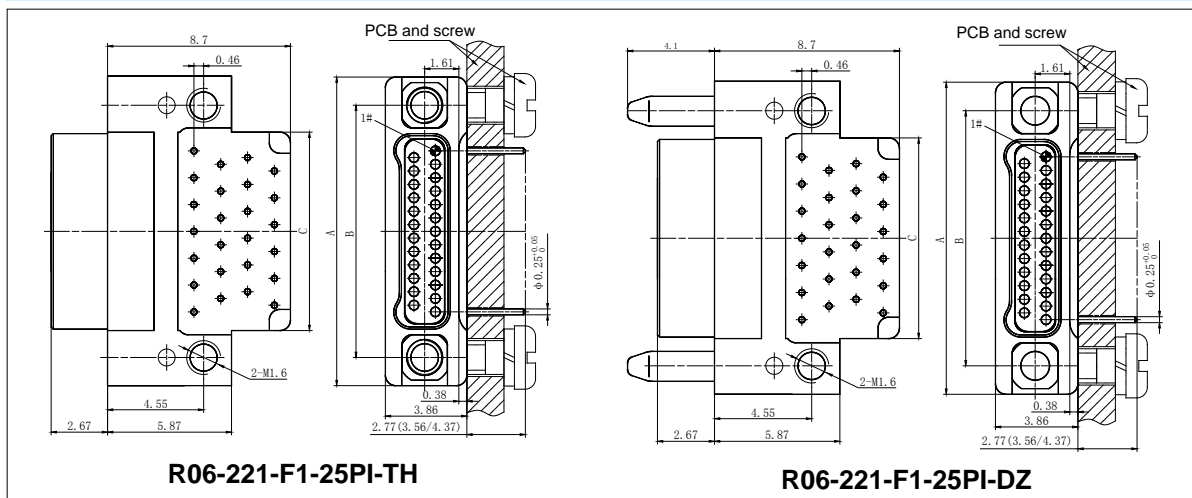
## Order marks

|                                |  |    |   |   |    |   |     |    |     |   |
|--------------------------------|--|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>                  | R06                                    | -2 | 2 | 1 | -F | 1 | -25 | PI | -TH |  <p><b>R06-221-F1-25PI-TH</b></p>  <p><b>R06-221-F1-25PI-DZ</b></p> |
| <b>Contact row:</b>            | 2 — tow rows                           |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b>          | 2 — nickel plating                     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b>        | 1 — gold plating                       |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b> | F — 90° right angle to PCB             |    |   |   |    |   |     |    |     |   |
| <b>Tail length:</b>            | 1 — 2.77mm<br>2 — 3.56mm<br>3 — 4.37mm |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b>         | 9、15、21、25、31、37、51、65、69              |    |   |   |    |   |     |    |     |   |
| <b>Contact type :</b>          | PI — pin in plug                       |    |   |   |    |   |     |    |     |   |
| <b>Locking type:</b>           | DZ — guide pin      TH — connect nut   |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-F\*-\*\*PI-TH usually mated with receptacle which have locking screw, R06-221-F\*-\*\*PI-DZ usually mated with receptacle which have guide hole
- 3 kinds of tail length, customized produce for other length

## Outline dimension

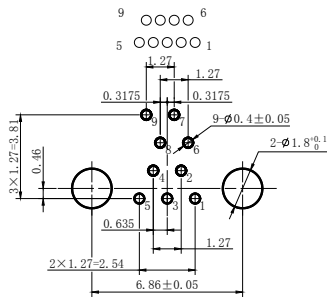
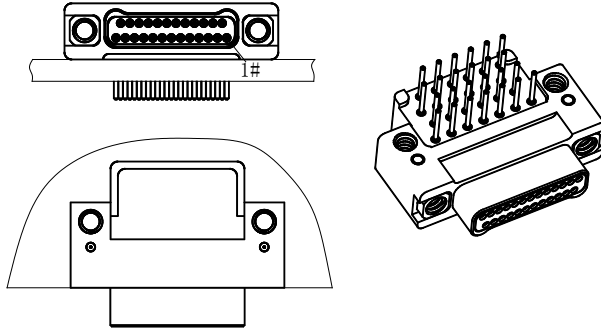


| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A 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

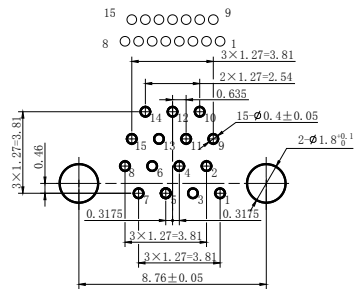
Remark: All dimensions are in mm



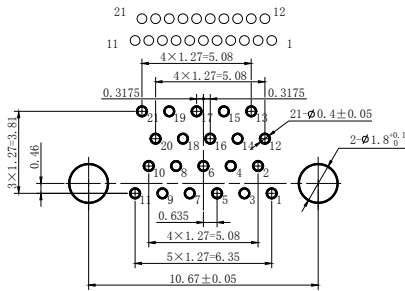
## Suggested PCB Layout



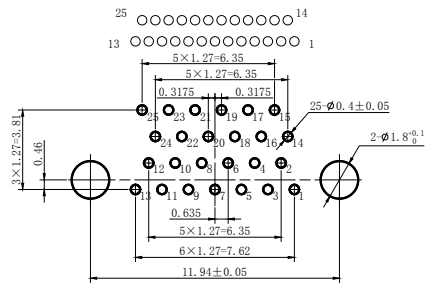
**R06-221-F1/F2/F3-9PI-TH**



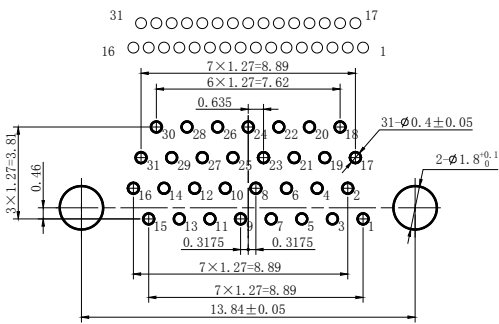
**R06-221-F1/F2/F3-15PI-TH**



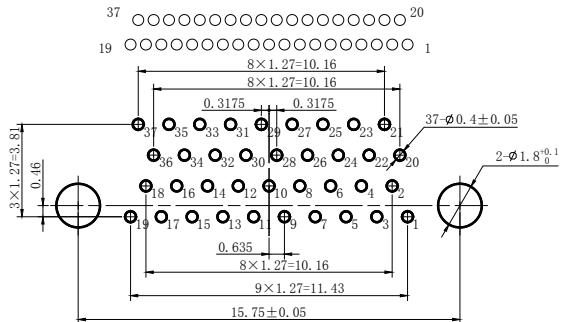
**R06-221-F1/F2/F3-21PI-TH**



**R06-221-F1/F2/F3-25PI-TH**



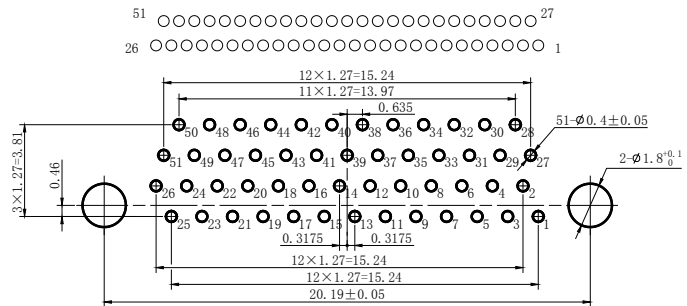
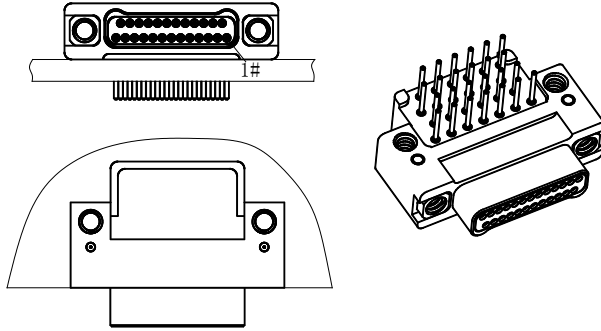
**R06-221-F1/F2/F3-31PI-TH**



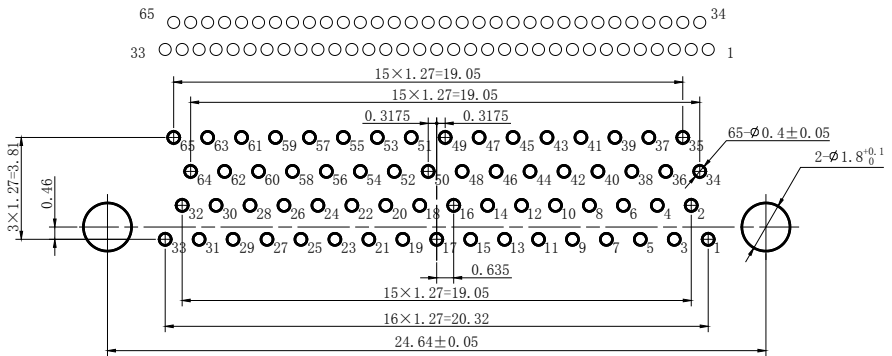
**R06-221-F1/F2/F3-37PI-TH**

Remark: All dimensions are in mm

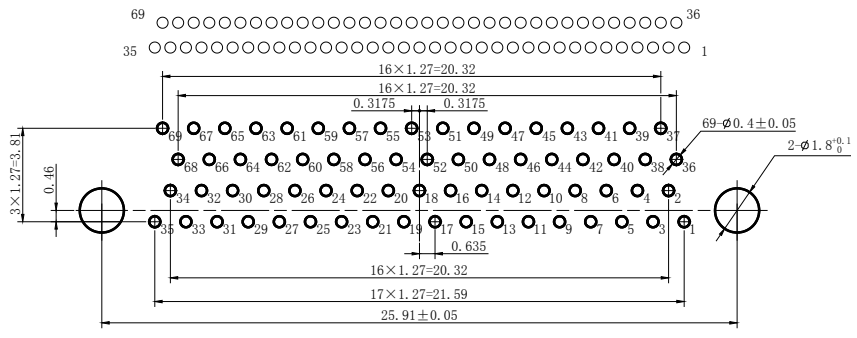
## Suggested PCB Layout



**R06-221-F1/F2/F3-51PI-TH**



**R06-221-F1/F2/F3-65PI-TH**



**R06-221-F1/F2/F3-69PI-TH**

Remark: All dimensions are in mm

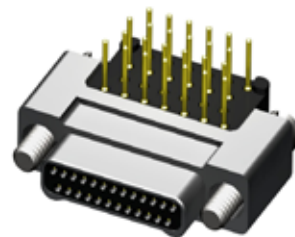




## R06 Right Angle to Flexible PCB Plug with Locking Screw Series

### Order marks

|                                |  |    |   |   |    |   |     |    |      |
|--------------------------------|--|----|---|---|----|---|-----|----|------|
| <b>Series</b>                  | R06  | -2 | 2 | 1 | -F | 1 | -25 | PI | - JC |
| <b>Contact row:</b>            | 2 — tow rows   |    |   |   |    |   |     |    |      |
| <b>Shell plating:</b>          | 2 — nickel plating   |    |   |   |    |   |     |    |      |
| <b>Contact plating:</b>        | 1 — gold plating   |    |   |   |    |   |     |    |      |
| <b>Tail termination type :</b> | F— 90° right angle to PCB  |    |   |   |    |   |     |    |      |
| <b>Tail length:</b>            | 1— 2.77mm<br>2 — 3.56mm<br>3 — 4.37mm  |    |   |   |    |   |     |    |      |
| <b>Contact number:</b>         | 9、15、21、25、31、37、51、65、69  |    |   |   |    |   |     |    |      |
| <b>Contact type :</b>          | PI — pin in plug   |    |   |   |    |   |     |    |      |
| <b>Locking type:</b>           | JC— locking screw(straight slot,C dimension=1.5mm)<br>JC1— locking screw(hex, not recommend,C dimension=2.1mm) |    |   |   |    |   |     |    |      |

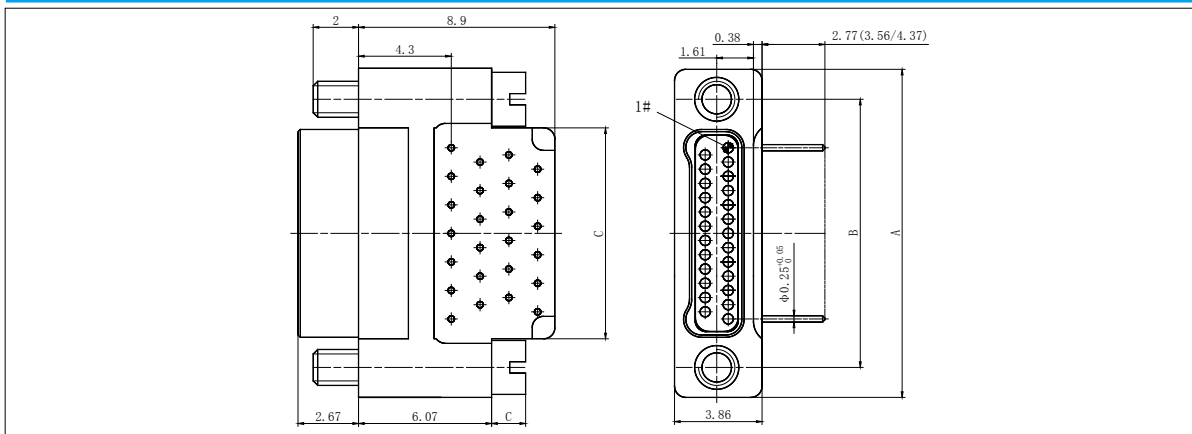


R06-221-F1-25PI-JC

#### Remark

- 3 kinds of tail length,customized produce for other length
- Connector is free mounted,not fixed,usually mated with receptacle which have nut
- Tail soldered in the Flexible PCB
- Recommended JC(straight slot screw) types of screws,tihgt by miniature straight screwdriver
- When choose JC1(hex) type of screws,tight by 1.27mm subtense hex screwdriver.

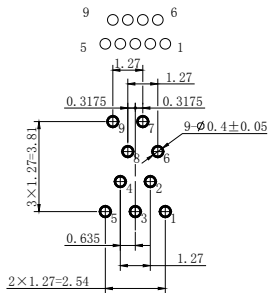
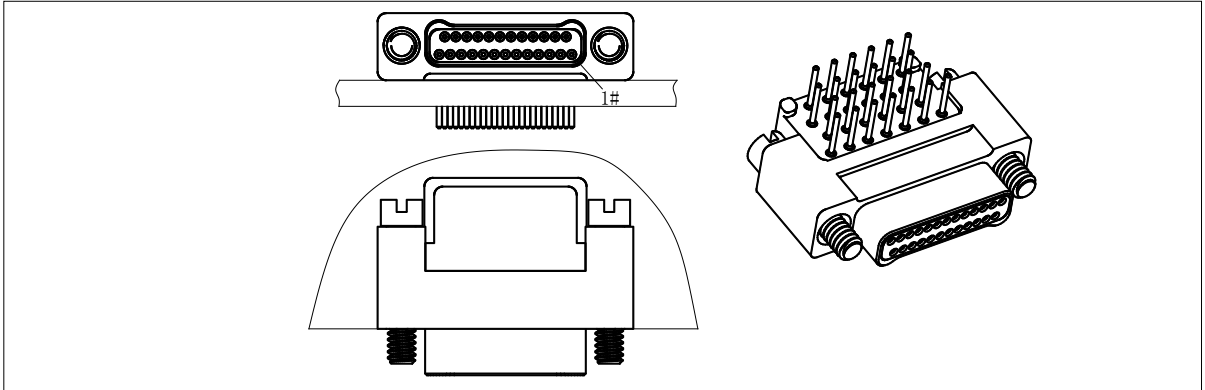
### Outline dimension



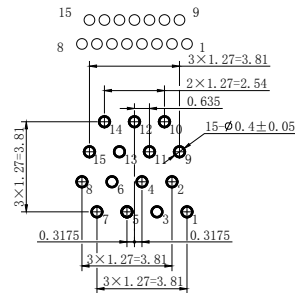
| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Diension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|----------|-------|-------|
|           | A         | B     | C     |           | A   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

Remark: All dimensions are in mm

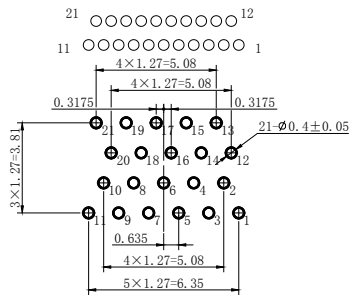
## Suggested PCB Layout



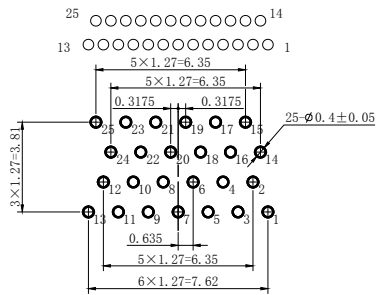
**R06-221-F1/F2/F3-9PI-JC**



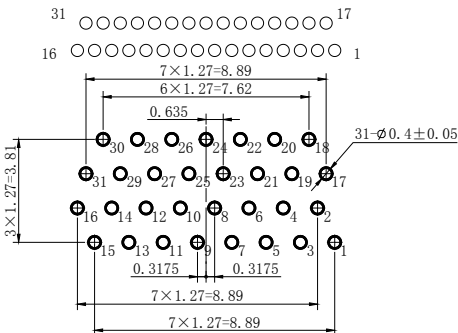
**R06-221-F1/F2/F3-15PI-JC**



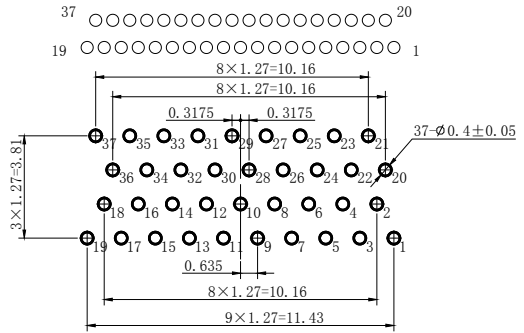
**R06-221-F1/F2/F3-21PI-JC**



**R06-221-F1/F2/F3-25PI-JC**



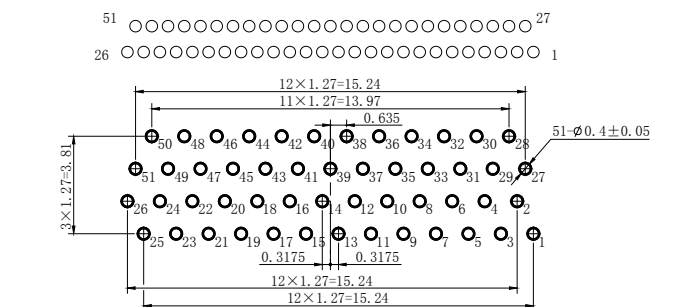
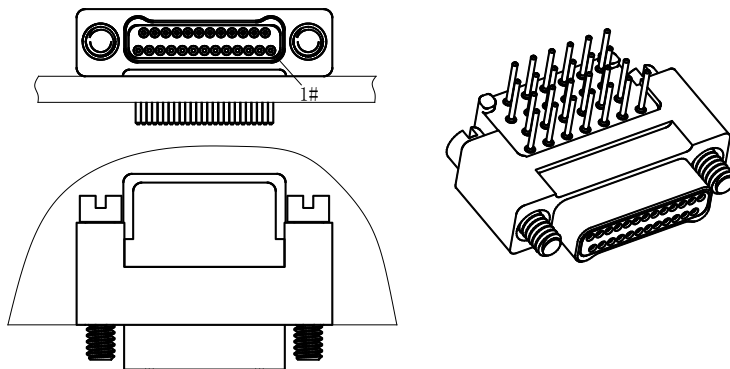
**R06-221-F1/F2/F3-31PI-JC**



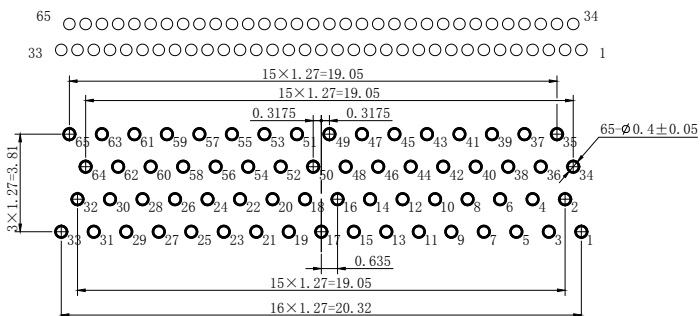
**R06-221-F1/F2/F3-37PI-JC**

Remark: All dimensions are in mm

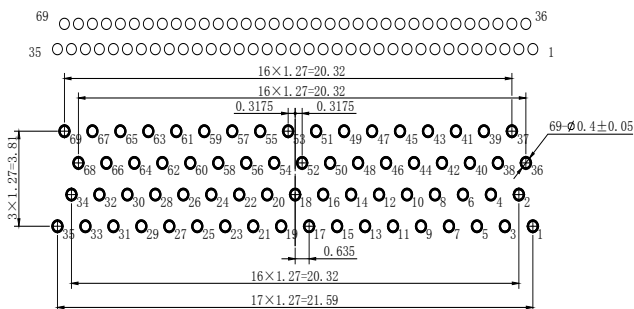
## Suggested PCB Layout



**R06-221-F1/F2/F3-51PI-JC**



**R06-221-F1/F2/F3-65PI-JC**




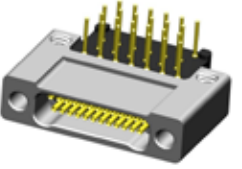
**R06-221-F1/F2/F3-69PI-JC**

Remark: All dimensions are in mm



# R06 Right Angle to PCB Receptacle Series

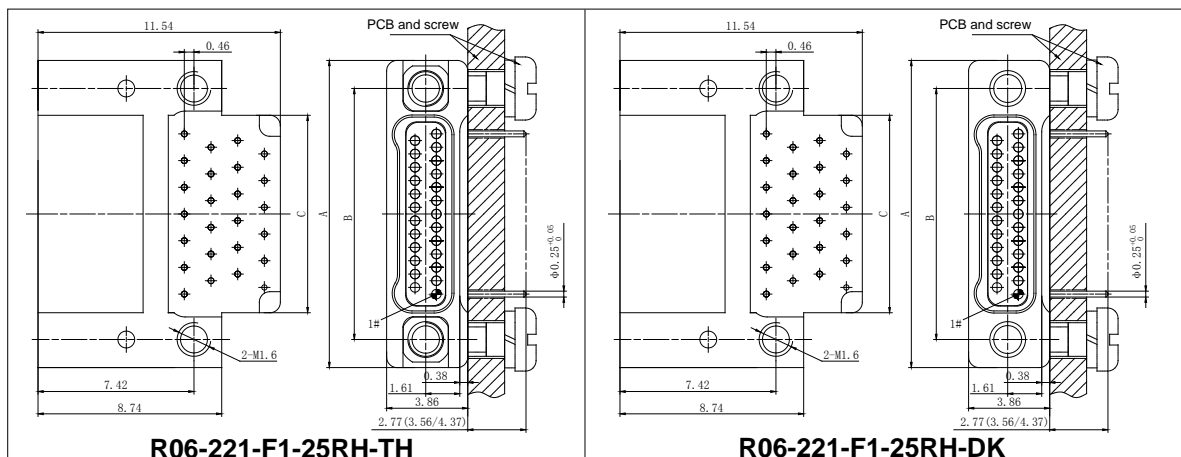
## Order marks

|  |     |    |   |   |    |   |     |    |     |   |
|--|-----|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>  | R06 | -2 | 2 | 1 | -F | 1 | -25 | RH | -TH |  <p><b>R06-221-F1-25RH-TH</b></p>  <p><b>R06-221-F1-25RH-DK</b></p> |
| <b>Contact row:</b><br>2 — tow rows                          |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b><br>2 — nickel plating                  |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b><br>1 — gold plating                  |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b><br>F— 90° right angle to PCB  |     |    |   |   |    |   |     |    |     |   |
| <b>Tail length:</b><br>1— 2.77mm<br>2 — 3.56mm<br>3 — 4.37mm |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b><br>9、15、21、25、31、37、51、65、69          |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type :</b><br>RH— socket in receptacle            |     |    |   |   |    |   |     |    |     |   |
| <b>Locking type:</b><br>DK— guide hole TH— connect nut       |     |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-F\*-\*\*RH-TH usually mated with plug which have locking screw, R06-221-F\*-\*\*RH-DK usually mated with plug which have guide pin
- 3 kinds of tail length, customized produce for other length

## Outline dimension

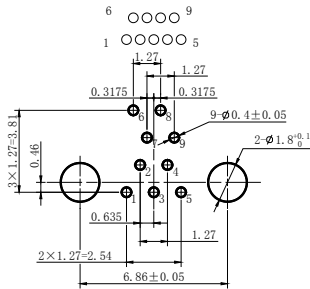
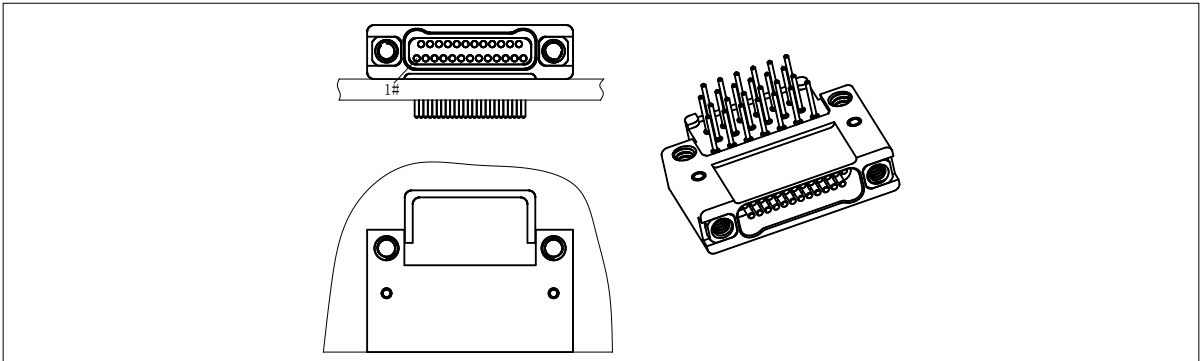


| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A 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

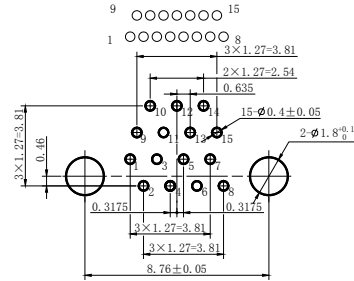
Remark: All dimensions are in mm



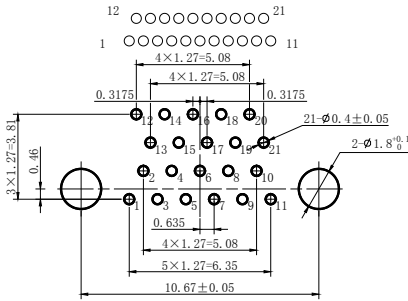
## Suggested PCB Layout



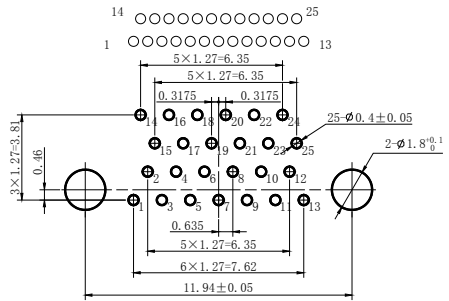
**R06-221-F1/F2/F3-9RH-TH**



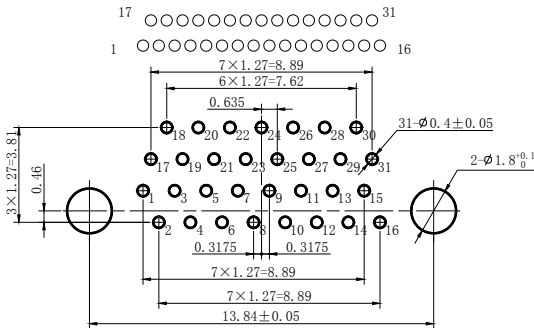
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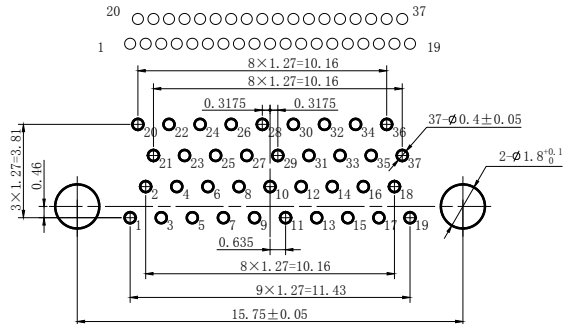
**R06-221-F1/F2/F3-21RH-TH**



**R06-221-F1/F2/F3-25RH-TH**



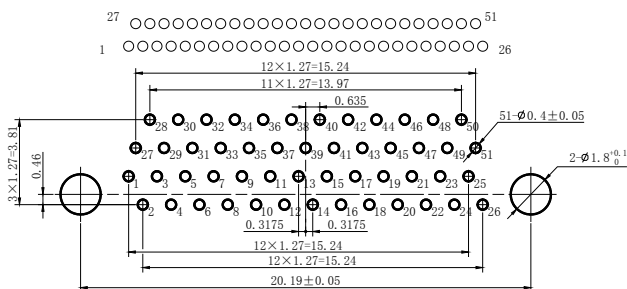
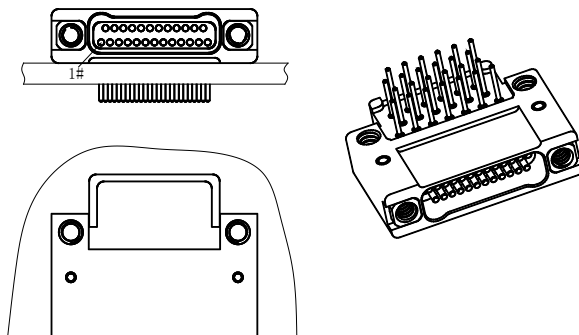
**R06-221-F1/F2/F3-31RH-TH**



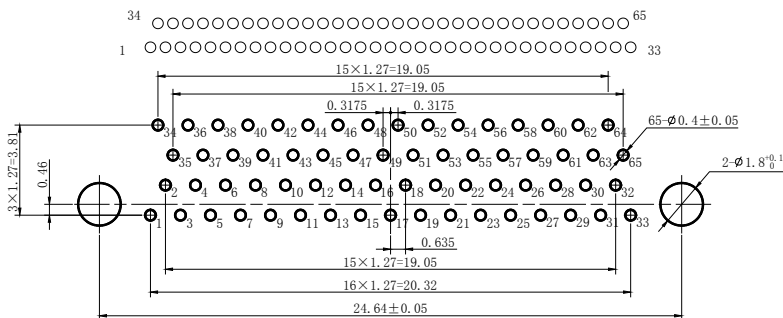
**R06-221-F1/F2/F3-37RH-TH**

Remark: All dimensions are in mm

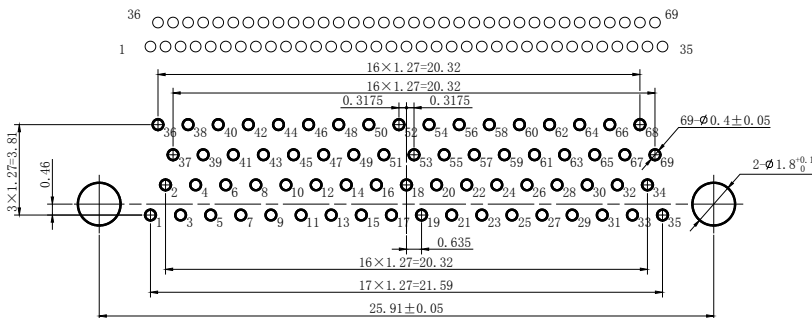
### Suggested PCB Layout



**R06-221-F1/F2/F3-51RH-TH**



**R06-221-F1/F2/F3-65RH-TH**



**R06-221-F1/F2/F3-69RH-TH**

Remark: All dimensions are in mm



# MIL-DTL-32139 Nano D-sub Connectors

## R06 SMT Series

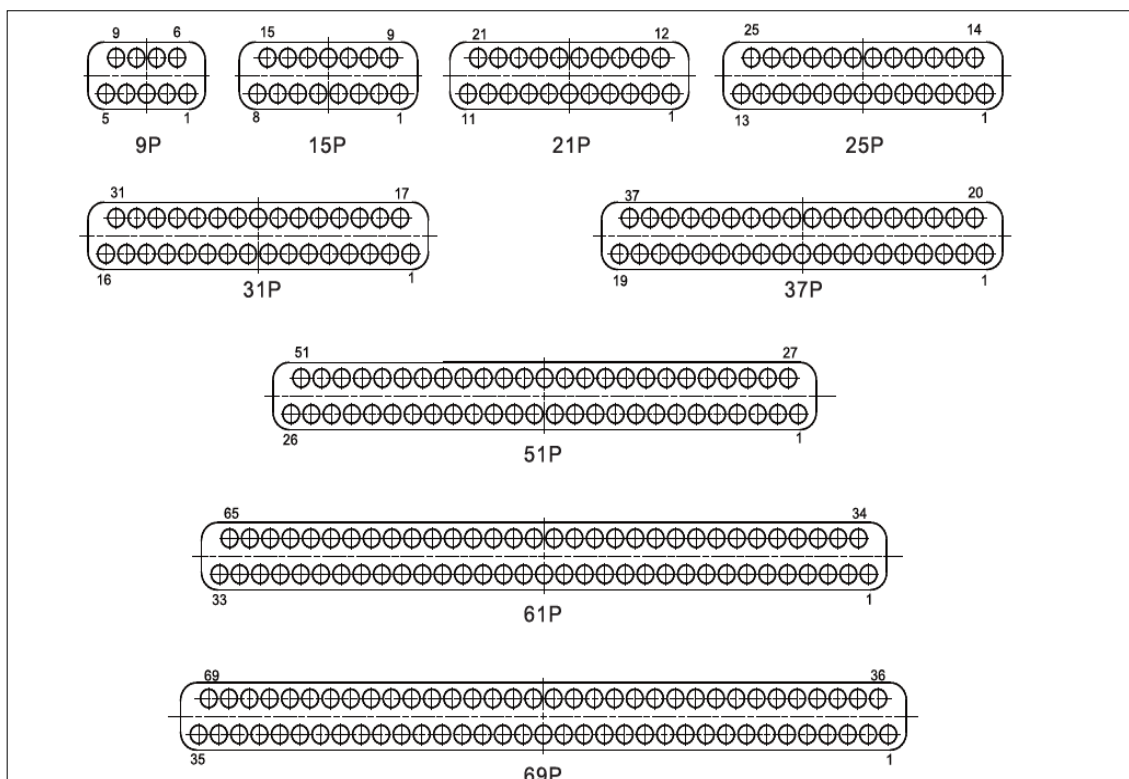
### Brief introduction

- Contacts:9,15,21,25,31,37,51,65,69
- Twist flexible micro pin (twist pin), 0.635mm pitch, micro miniature outline dimension
- Screw nut locking, it is gently when insert and extract, stably locked
- It is used for all kinds for electric circuit system interconnection which have high density, micro, light, highly reliable requirement, it can meet light and miniaturize demand
- Plug with twist pin, receptacle with socket, free terminal with locking screw, fixed terminal with nut, standard mated connector locked by screw and nut
- Standard: MIL-DTL-32139
- Undefined tolerance is $\pm 0.13$

### Specification

- |                     |   |                          |                                  |
|---------------------|---|--------------------------|----------------------------------|
| ■ Environment:      | -55°C~+125°C  | ■ Contact resistance:    | $\leq 21\text{m}\Omega$          |
| ■ Vibration:        | 10Hz~2000Hz 196m/s <sup>2</sup>   | ■ Insulation resistance: | $\geq 5000\text{M}\Omega$ 100VDC |
| ■ Shock:            | 980m/s <sup>2</sup> 6ms   | ■ Dielectric strength:   | 250V                             |
| ■ Rated current:    | 1A  | ■ Machine life:          | 200 times                        |
| ■ Random vibration: | power spectrum density 0.4G <sup>2</sup> /Hz, r.m.s value of total acceleration 23.1G |                          |                                  |

### Contact layout



Remark: The above layout is view from plug mate side end face



## How to order

|   |     |    |   |   |    |   |    |    |     |
|---|-----|----|---|---|----|---|----|----|-----|
| <b>Series</b>   | R06 | -2 | 2 | 1 | -M | 2 | -9 | PI | -TH |
| <b>Contact row:</b><br>2 — tow rows   |     |    |   |   |    |   |    |    |     |
| <b>Shell plating:</b><br>2 — nickel plating   |     |    |   |   |    |   |    |    |     |
| <b>Contact plating:</b><br>1 — gold plating   |     |    |   |   |    |   |    |    |     |
| <b>Tail termination type :</b><br>M— SMT  |     |    |   |   |    |   |    |    |     |
| <b>Mounting style:</b><br>2— vertical SMT<br>3 — horizontal SMT<br>8 — straddle flexible SMT  |     |    |   |   |    |   |    |    |     |
| <b>Contact number:</b><br>9、15、21、25、31、37、51、65、69   |     |    |   |   |    |   |    |    |     |
| <b>Contact type</b><br>PI — pin in plug<br>RH— socket in receptacle   |     |    |   |   |    |   |    |    |     |
| <b>Locking component type:</b><br>JC— locking screw(straight slot)<br>JC1— locking screw(hex, not recommend)<br>TH— connect nut<br>NH— guide hole with nut mounted<br>DZ— guide pin<br>TH1— solder nut<br>SH— solder guide hole |     |    |   |   |    |   |    |    |     |


## Choose mating connector

- When choosing mating connector with locking accessories usually choose the locking component which one side with connect nut(TH), the other side with locking screw(JC).
- When choosing product with guide accessories,connector without locked component but only with guide component,it need fix on mounting panel after mated,for avoiding connector take off. When choosing mating connector with guide components usually choose the guide component which one side with guide pin, the other side with guide hole



## R06 Vertical SMT Plug Series

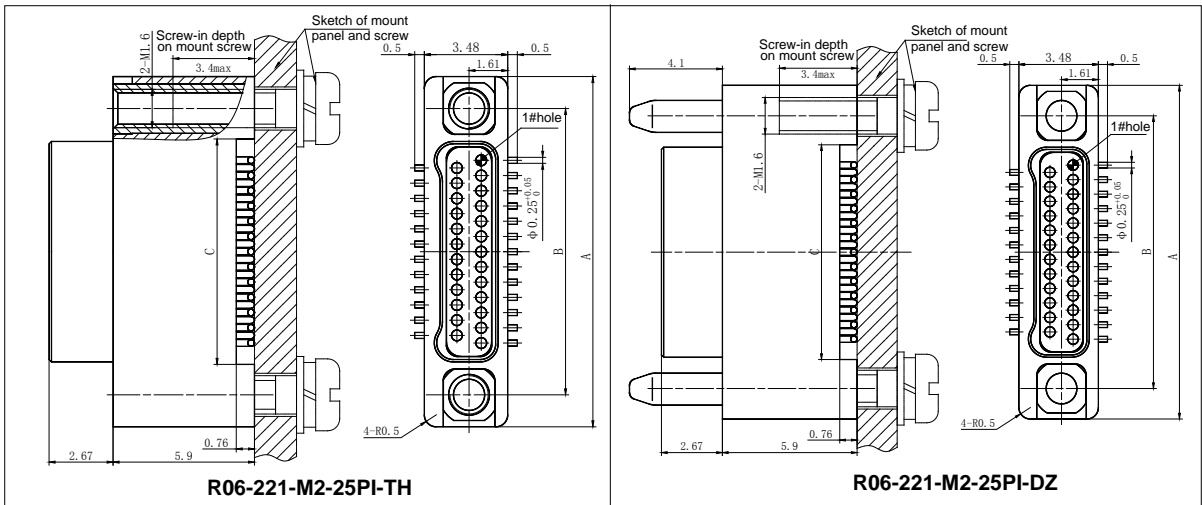
### Order marks

|  |     |    |   |   |    |   |     |    |     |   |
|--|-----|----|---|---|----|---|-----|----|-----|---|
| Series   | R06 | -2 | 2 | 1 | -M | 2 | -25 | PI | -TH |  <p>R06-221-M2-25PI-TH</p> |
| <b>Contact row:</b><br>2 — tow rows                                |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b><br>2 — nickel plating                        |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b><br>1 — gold plating                        |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b><br>M— SMT                           |     |    |   |   |    |   |     |    |     |   |
| <b>Mounting style:</b><br>2— vertical SMT                          |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b><br>9、15、21、25、31、37、51、65、69                |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type:</b><br>PI — pin in plug                           |     |    |   |   |    |   |     |    |     |   |
| <b>Locking component type:</b><br>TH— connect nut<br>DZ— guide pin |     |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-M2-25PI-TH usually mated with receptacle which have locking screw, R06-221-M2-25PI-DZ usually mated with receptacle which have guide hole

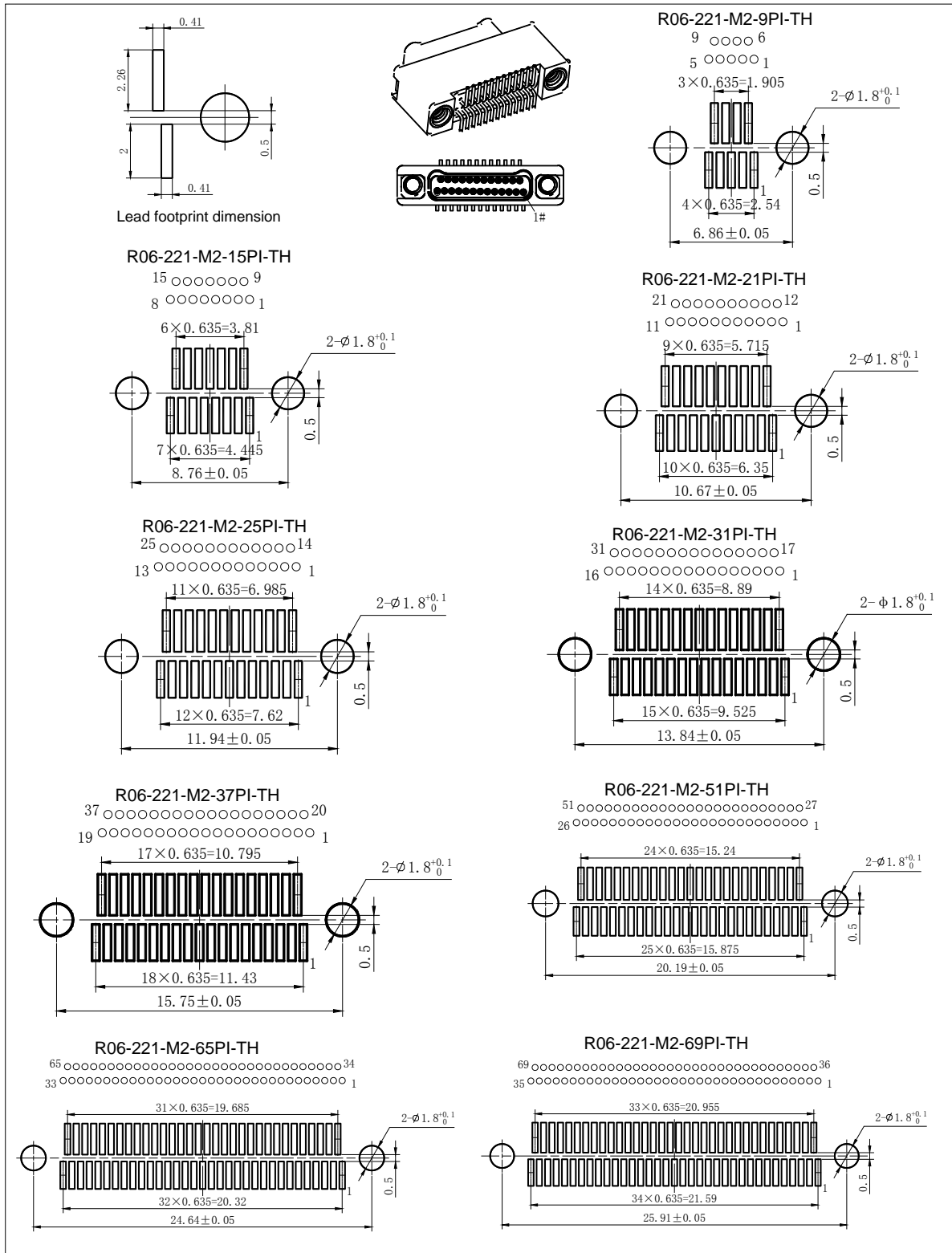
### Outline dimension



| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.4   | 31pins    | 16.61     | 13.84 | 11.3  | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

Remark: All dimensions are in mm

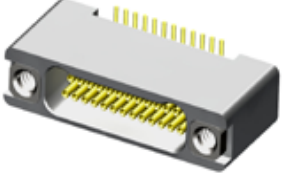
## Suggested PCB Layout



Remark: All dimensions are in mm

## R06 Vertical SMT Receptacle Series

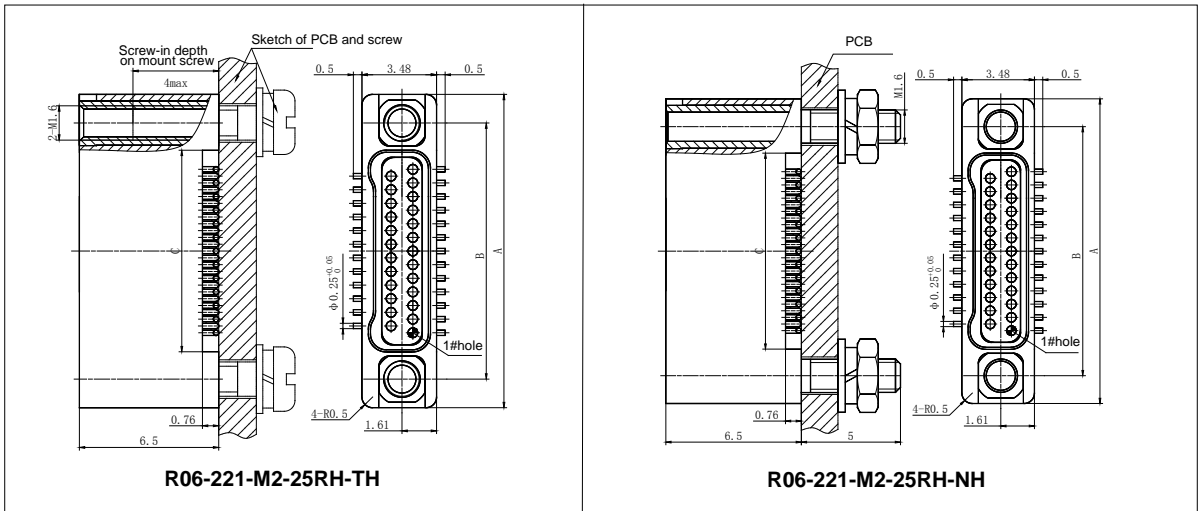
### Order marks

|  |     |    |   |   |    |   |     |    |     |   |
|--|-----|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>  | R06 | -2 | 2 | 1 | -M | 2 | -25 | RH | -TH |  <p><b>R06-221-M2-25RH-TH</b></p> |
| <b>Contact row:</b><br>2 — tow rows  |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b><br>2 — nickel plating  |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b><br>1 — gold plating  |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b><br>M— SMT   |     |    |   |   |    |   |     |    |     |   |
| <b>Mounting style:</b><br>2— vertical SMT  |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b><br>9、15、21、25、31、37、51、65、69                                  |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type:</b><br>RH— socket in receptacle                                     |     |    |   |   |    |   |     |    |     |   |
| <b>Locking component type:</b><br>TH— connect nut<br>NH— guide hole with nut mounted |     |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-M2-25RH-TH usually mated with plug which have locking screw, R06-221-M2-25RH-NH usually mated with plug which have guide pin

### Outline dimension

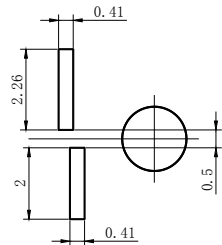


| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.4   | 31pins    | 16.61     | 13.84 | 11.3  | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

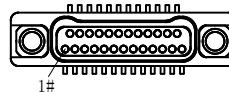
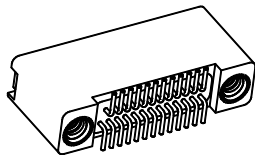
Remark: All dimensions are in mm



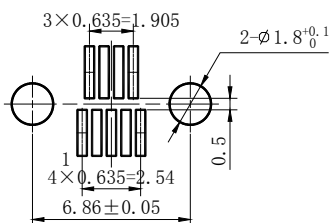
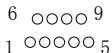
### Suggested PCB Layout



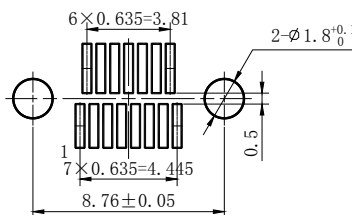
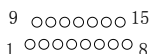
Lead footprint dimension



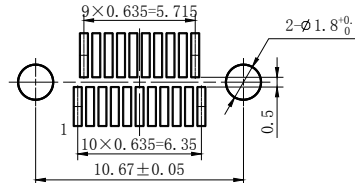
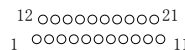
R06-221-M2-9RH-TH



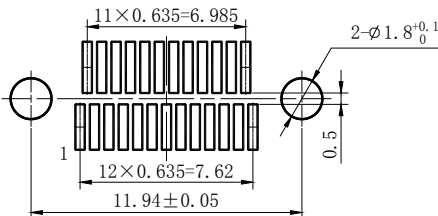
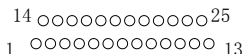
R06-221-M2-15RH-TH



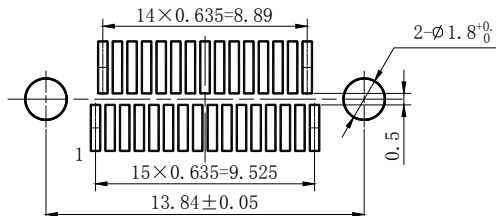
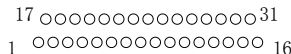
R06-221-M2-21RH-TH



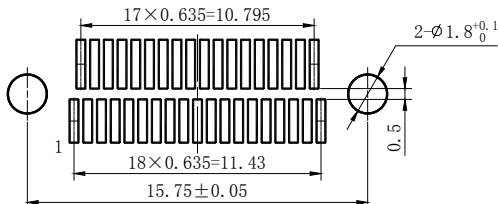
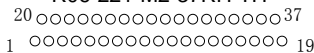
R06-221-M2-25RH-TH



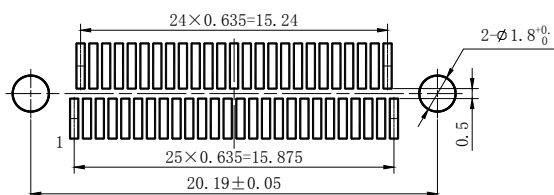
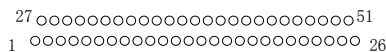
R06-221-M2-31RH-TH



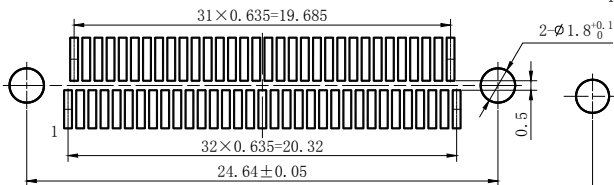
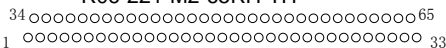
R06-221-M2-37RH-TH



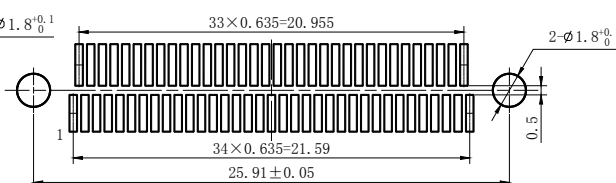
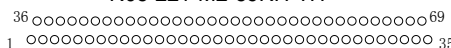
R06-221-M2-51RH-TH



R06-221-M2-65RH-TH



R06-221-M2-69RH-TH



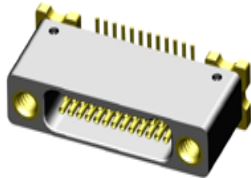
Remark: All dimensions are in mm



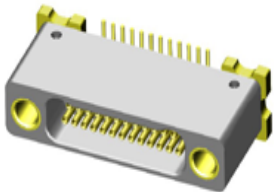
## R06 Vertical SMT Receptacle with Solder Locking Component Series

### Order marks

|                                |                           |    |   |   |    |   |     |    |      |
|--------------------------------|---------------------------|----|---|---|----|---|-----|----|------|
| <b>Series</b>                  | R06                       | -2 | 2 | 1 | -M | 2 | -25 | RH | -TH1 |
| <b>Contact row:</b>            | 2 — tow rows              |    |   |   |    |   |     |    |      |
| <b>Shell plating:</b>          | 2 — nickel plating        |    |   |   |    |   |     |    |      |
| <b>Contact plating:</b>        | 1 — gold plating          |    |   |   |    |   |     |    |      |
| <b>Tail termination type :</b> | M— SMT                    |    |   |   |    |   |     |    |      |
| <b>Mounting style:</b>         | 2— vertical SMT           |    |   |   |    |   |     |    |      |
| <b>Contact number:</b>         | 9、15、21、25、31、37、51、65、69 |    |   |   |    |   |     |    |      |
| <b>Contact type:</b>           | RH— socket in receptacle  |    |   |   |    |   |     |    |      |
| <b>Locking component type:</b> | TH1— solder nut           |    |   |   |    |   |     |    |      |
|                                | SH— solder guide hole     |    |   |   |    |   |     |    |      |



**R06-221-M2-25RH-TH1**

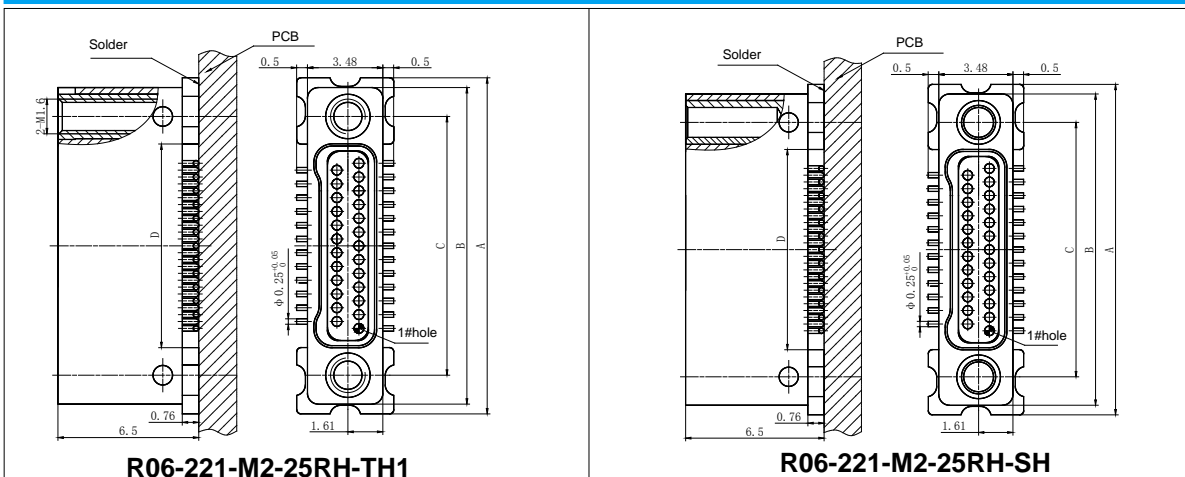


**R06-221-M2-25RH-SH**

### Remark

- Connector of mounting hole solder by SMT, suit for PCB which can't design mounting hole
- R06-221-M2-\*\*RH-TH1 usually mated with plug which have locking screw, R06-221-M2-\*\*RH-SH usually mated with plug which have guide pin

### Outline dimension

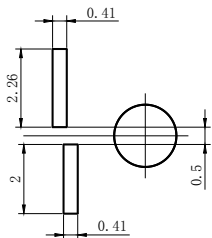


| Pin count | Dimension |       |       |       | Pin count | Dimension |       |       |       |
|-----------|-----------|-------|-------|-------|-----------|-----------|-------|-------|-------|
|           | A         | B     | C     | D     |           | A         | B     | C     | D     |
| 9pins     | 10.43     | 9.63  | 6.86  | 4.31  | 15pins    | 12.33     | 11.53 | 8.76  | 6.22  |
| 21pins    | 14.24     | 13.44 | 10.67 | 8.13  | 25pins    | 15.51     | 14.71 | 11.94 | 9.4   |
| 31pins    | 17.41     | 16.61 | 13.84 | 11.30 | 37pins    | 19.32     | 18.52 | 15.75 | 13.21 |
| 51pins    | 23.76     | 22.96 | 20.19 | 17.65 | 65pins    | 28.21     | 27.41 | 24.64 | 22.10 |
| 69pins    | 29.48     | 28.68 | 25.91 | 23.37 |           |           |       |       |       |

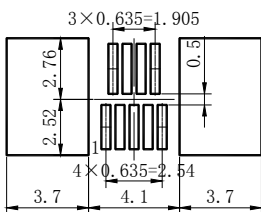
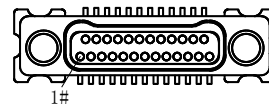
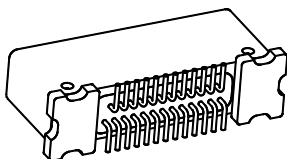
Remark: All dimensions are in mm



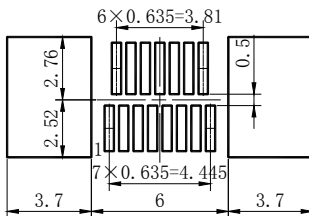
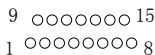
### Suggested PCB Layout



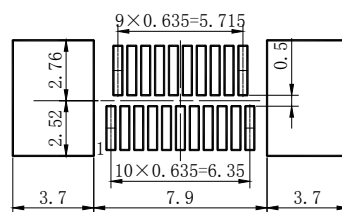
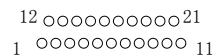
Lead footprint dimension



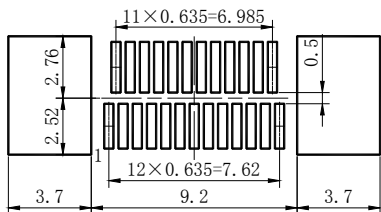
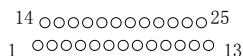
R06-221-M2-9RH-TH1



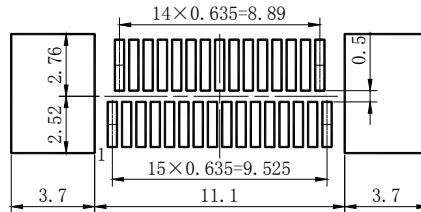
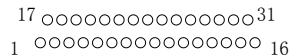
R06-221-M2-15RH-TH1



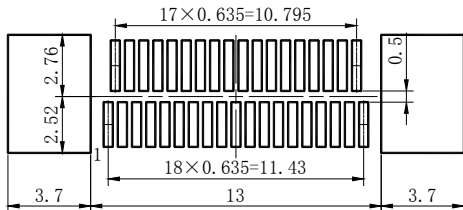
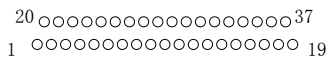
R06-221-M2-21RH-TH1



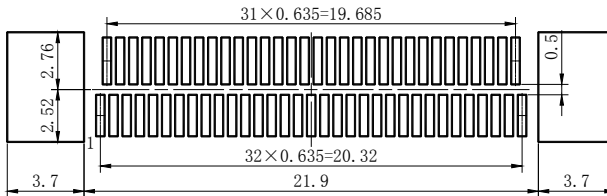
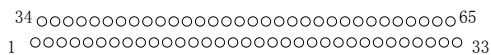
R06-221-M2-25RH-TH1



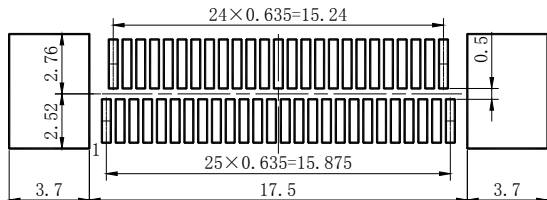
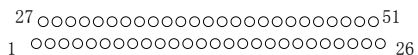
R06-221-M2-31RH-TH1



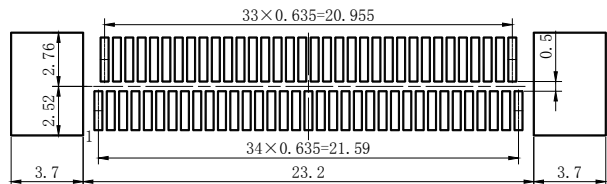
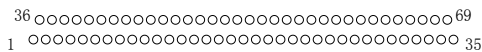
R06-221-M2-37RH-TH1



R06-221-M2-65RH-TH1



R06-221-M2-51RH-TH1




R06-221-M2-69RH-TH1

Remark: All dimensions are in mm

## R06 Horizontal SMT Plug Series

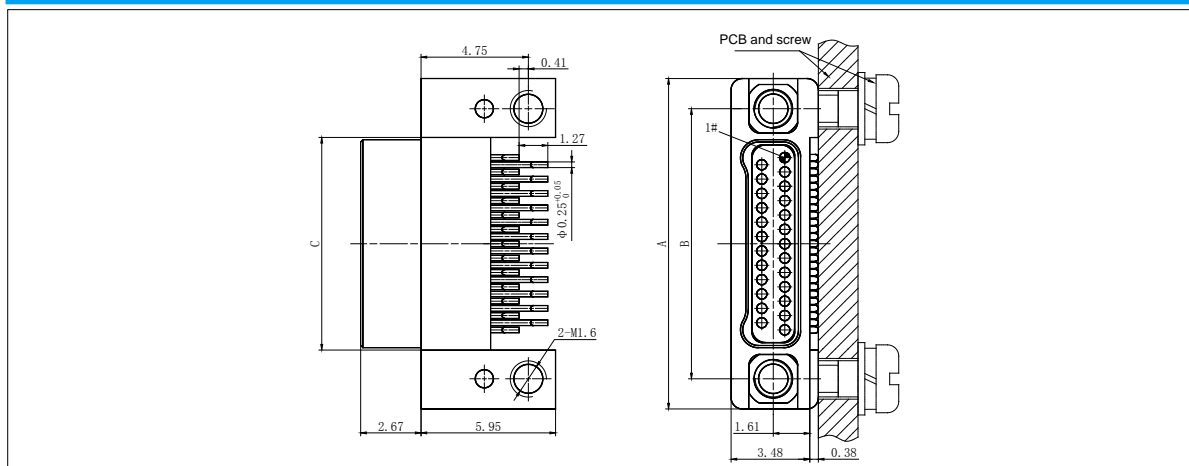
### Order marks

|                                |     |    |   |   |    |   |     |    |     |   |
|--------------------------------|-----|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>                  | R06 | -2 | 2 | 1 | -M | 3 | -25 | PI | -TH |  <p><b>R06-221-M3-25PI-TH</b></p> |
| <b>Contact row:</b>            |     |    |   |   |    |   |     |    |     |   |
| 2 — tow rows                   |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b>          |     |    |   |   |    |   |     |    |     |   |
| 2 — nickel plating             |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b>        |     |    |   |   |    |   |     |    |     |   |
| 1 — gold plating               |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b> |     |    |   |   |    |   |     |    |     |   |
| M — SMT                        |     |    |   |   |    |   |     |    |     |   |
| <b>Mounting style:</b>         |     |    |   |   |    |   |     |    |     |   |
| 3 — horizontal SMT             |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b>         |     |    |   |   |    |   |     |    |     |   |
| 9、15、21、25、31、37、51、65、69      |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type:</b>           |     |    |   |   |    |   |     |    |     |   |
| PI — pin in plug               |     |    |   |   |    |   |     |    |     |   |
| <b>Locking component type:</b> |     |    |   |   |    |   |     |    |     |   |
| TH — connect nut               |     |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-M3-25PI-TH usually mated with receptacle which have locking screw

### Outline dimension

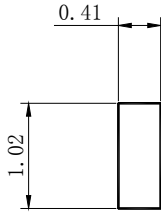


| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.4   | 31pins    | 16.61     | 13.84 | 11.3  | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

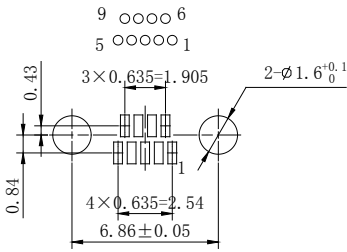
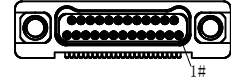
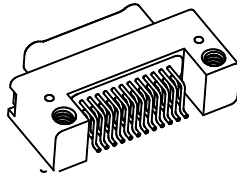
Remark: All dimensions are in mm



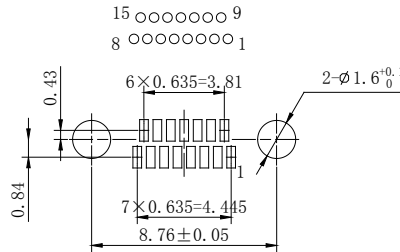
## Suggested PCB Layout



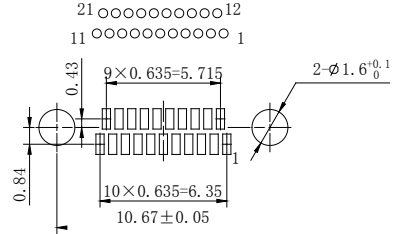
Lead footprint dimension



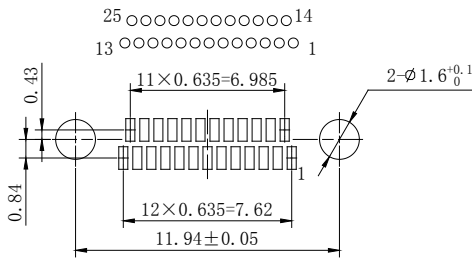
R06-221-M3-9PI-TH



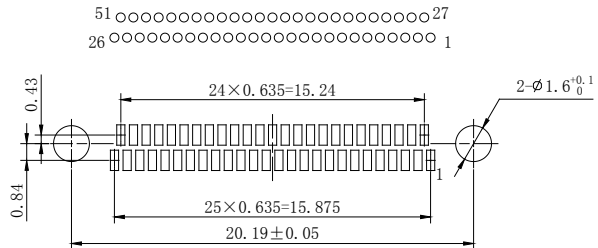
R06-221-M3-15PI-TH



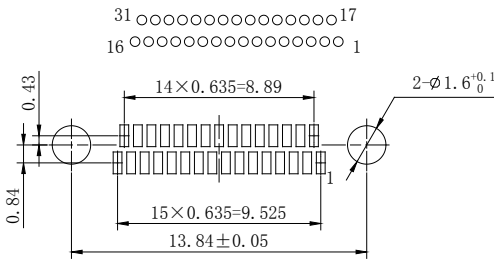
R06-221-M3-21PI-TH



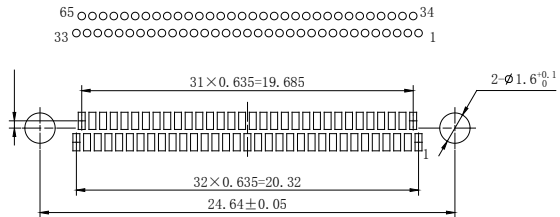
R06-221-M3-25PI-TH



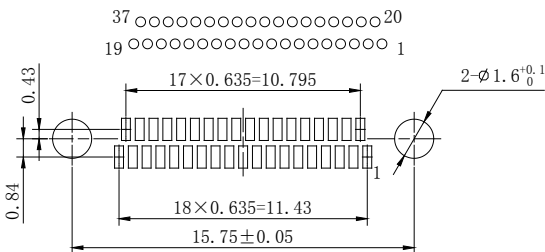
R06-221-M3-51PI-TH



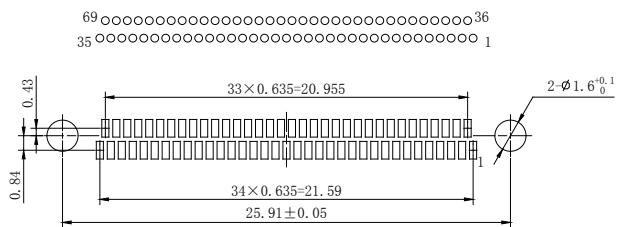
R06-221-M3-31PI-TH



R06-221-M3-65PI-TH



R06-221-M3-37PI-TH



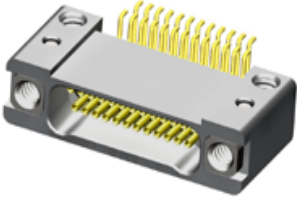
R06-221-M3-69PI-TH

Remark: All dimensions are in mm



## R06 Horizontal SMT Receptacle Series

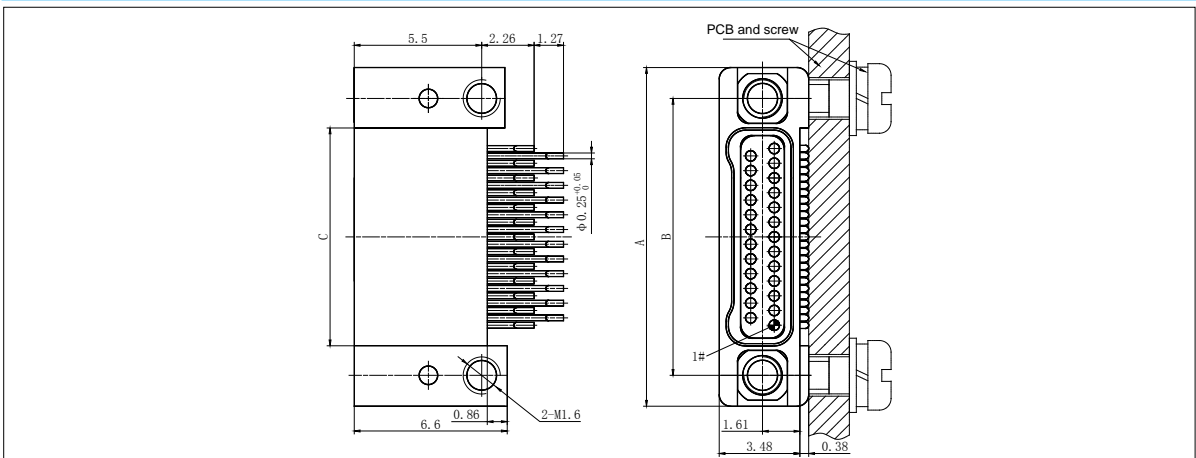
### Order marks

|                                |     |    |   |   |    |   |     |    |     |   |
|--------------------------------|-----|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>                  | R06 | -2 | 2 | 1 | -M | 3 | -25 | RH | -TH |  <p><b>R06-221-M3-25RH-TH</b></p> |
| <b>Contact row:</b>            |     |    |   |   |    |   |     |    |     |   |
| 2 — tow rows                   |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b>          |     |    |   |   |    |   |     |    |     |   |
| 2 — nickel plating             |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b>        |     |    |   |   |    |   |     |    |     |   |
| 1 — gold plating               |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b> |     |    |   |   |    |   |     |    |     |   |
| M— SMT                         |     |    |   |   |    |   |     |    |     |   |
| <b>Mounting style:</b>         |     |    |   |   |    |   |     |    |     |   |
| 3 — horizontal SMT             |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b>         |     |    |   |   |    |   |     |    |     |   |
| 9、15、21、25、31、37、51、65、69      |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type:</b>           |     |    |   |   |    |   |     |    |     |   |
| RH— socket in receptacle       |     |    |   |   |    |   |     |    |     |   |
| <b>Locking component type:</b> |     |    |   |   |    |   |     |    |     |   |
| TH— connect nut                |     |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-M3-\*RH-TH usually mated with plug which have locking screw

### Outline dimension

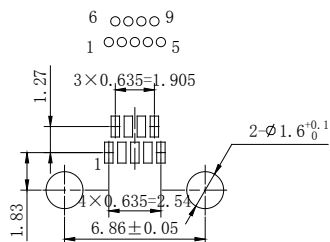
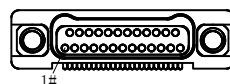
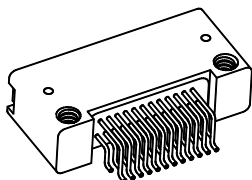
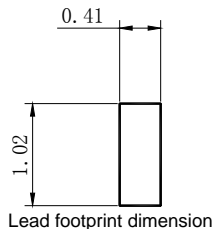


| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.4   | 31pins    | 16.61     | 13.84 | 11.3  | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

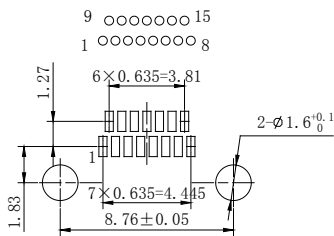
Remark: All dimensions are in mm



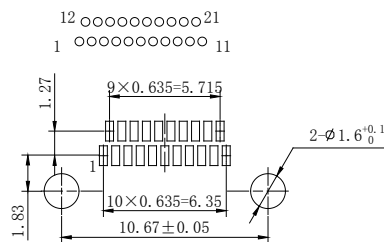
### Suggested PCB Layout



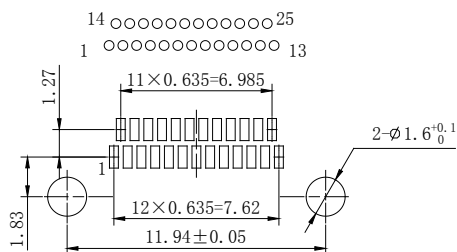
**R06-221-M3-9RH-TH**



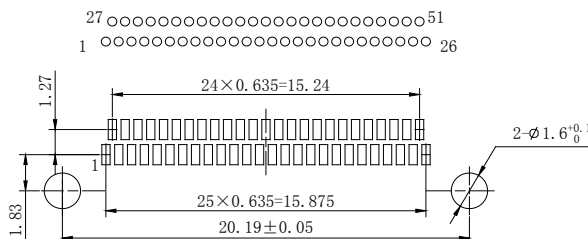
**R06-221-M3-15RH-TH**



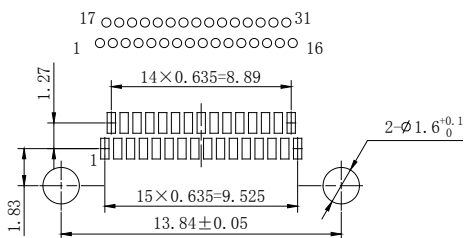
**R06-221-M3-21RH-TH**



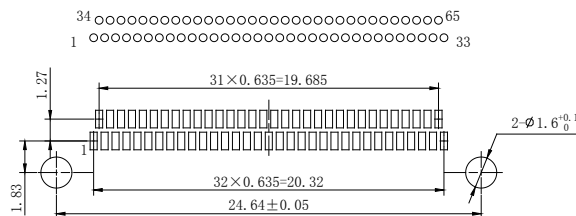
**R06-221-M3-25RH-TH**



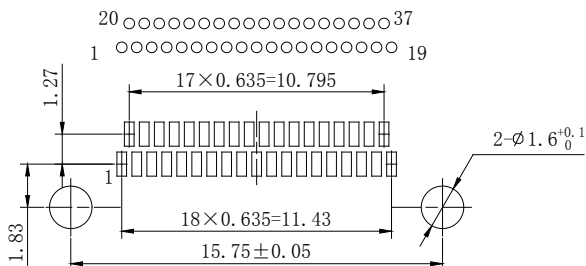
**R06-221-M3-51RH-TH**



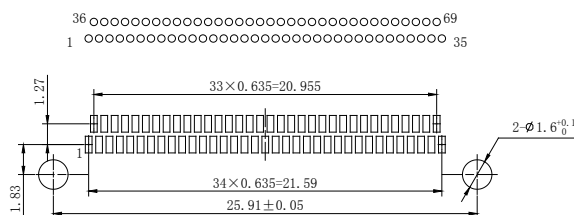
**R06-221-M3-31RH-TH**



**R06-221-M3-65RH-TH**



**R06-221-M3-37RH-TH**




**R06-221-M3-69RH-TH**

Remark: All dimensions are in mm

# R06 Straddle Flexible SMT Plug Series

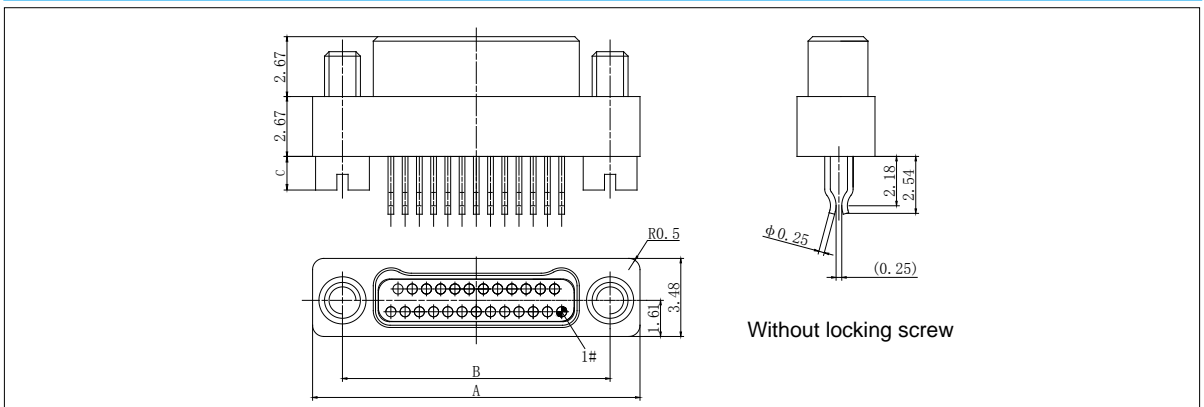
## Order marks

|  |     |    |   |   |    |   |     |    |     |  |
|--|-----|----|---|---|----|---|-----|----|-----|--|
| <b>Series</b>  | R06 | -2 | 2 | 1 | -M | 8 | -25 | PI | -JC |  <p><b>R06-221-M8-25PI-JC</b></p> |
| <b>Contact row:</b>  |     |    |   |   |    |   |     |    |     |  |
| 2 — tow rows   |     |    |   |   |    |   |     |    |     |  |
| <b>Shell plating:</b>                                      |     |    |   |   |    |   |     |    |     |  |
| 2 — nickel plating   |     |    |   |   |    |   |     |    |     |  |
| <b>Contact plating:</b>                                    |     |    |   |   |    |   |     |    |     |  |
| 1 — gold plating   |     |    |   |   |    |   |     |    |     |  |
| <b>Tail termination type :</b>                             |     |    |   |   |    |   |     |    |     |  |
| M— SMT   |     |    |   |   |    |   |     |    |     |  |
| <b>Mounting style:</b>                                     |     |    |   |   |    |   |     |    |     |  |
| 8 — straddle flexible SMT                                  |     |    |   |   |    |   |     |    |     |  |
| <b>Contact number:</b>                                     |     |    |   |   |    |   |     |    |     |  |
| 9、15、21、25、31、37、51、65、69                                  |     |    |   |   |    |   |     |    |     |  |
| <b>Contact type:</b>                                       |     |    |   |   |    |   |     |    |     |  |
| PI — pin in plug   |     |    |   |   |    |   |     |    |     |  |
| <b>Locking component type:</b>                             |     |    |   |   |    |   |     |    |     |  |
| JC— locking screw(straight slot, C dimension=1.5mm)        |     |    |   |   |    |   |     |    |     |  |
| JC1— locking screw(hex, not recommend , C dimension=2.1mm) |     |    |   |   |    |   |     |    |     |  |

### Remark

- Connector is free mounted,not fixed,usually mated with receptacle which have nut
- Recommended JC(straight slot screw) types of screws,tight by miniature straight screwdriver
- When choose JC1(hex) type of screws,tight by 1.27mm subtense hex screwdriver.
- PC tail solder on flexible PCB,PCB thickness is 0.25MAX.

## Outline dimension

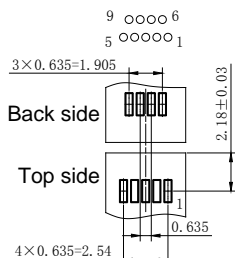
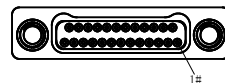
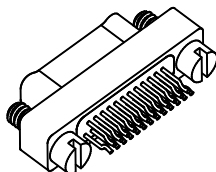
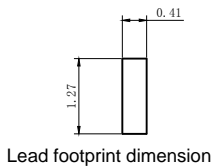


| Pin count | Dimension |       | Pin count | Dimension |       | Pin count | Diension |       |
|-----------|-----------|-------|-----------|-----------|-------|-----------|----------|-------|
|           | A         | B     |           | A         | B     |           | A        | B     |
| 9pins     | 9.63      | 6.86  | 15pins    | 11.53     | 8.76  | 21pins    | 13.44    | 10.67 |
| 25pins    | 14.71     | 11.94 | 31pins    | 16.61     | 13.84 | 37pins    | 18.52    | 15.75 |
| 51 pins   | 22.96     | 20.19 | 65pins    | 27.41     | 24.64 | 69pins    | 28.68    | 25.91 |

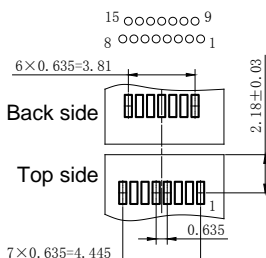
Remark: All dimensions are in mm



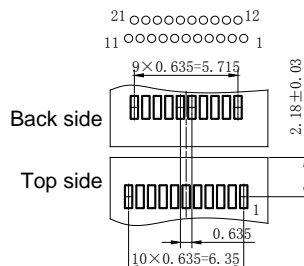
### Suggested PCB Layout



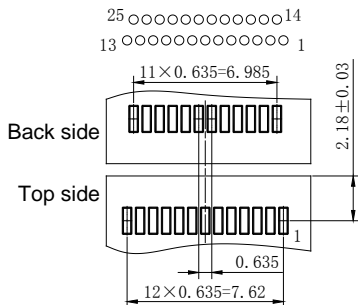
**R06-221-M8-9PI-JC**



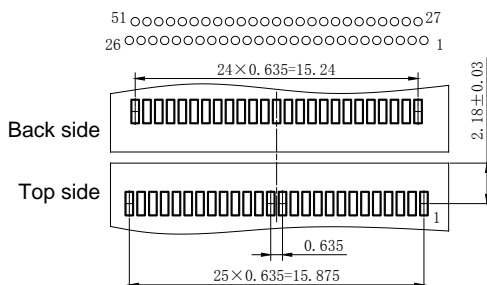
**R06-221-M8-15PI-JC**



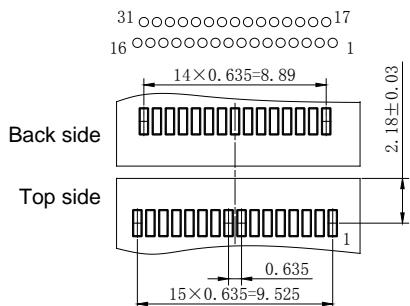
**R06-221-M8-21PI-JC**



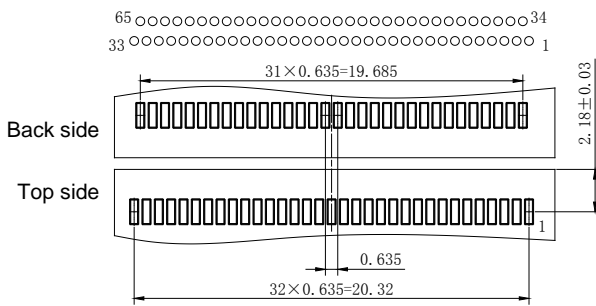
**R06-221-M8-25PI-JC**



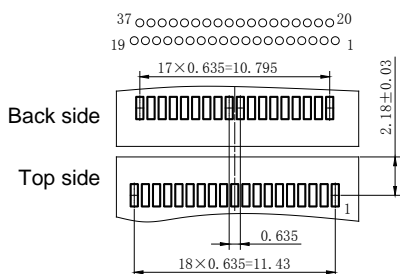
**R06-221-M8-51PI-JC**



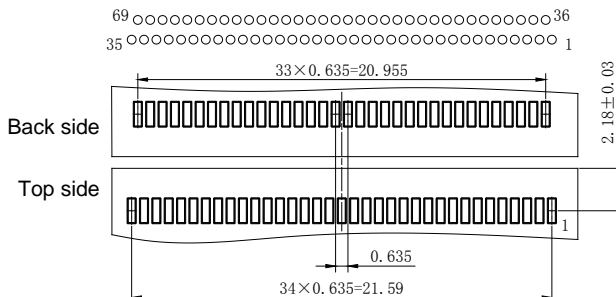
**R06-221-M8-31PI-JC**



**R06-221-M8-65PI-JC**



**R06-221-M8-37PI-JC**

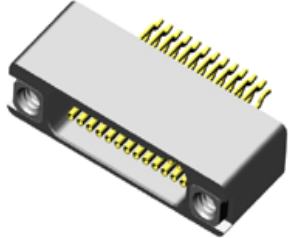


**R06-221-M8-69PI-JC**

Remark: All dimensions are in mm

# R06 Straddle Flexible SMT Receptacle Series

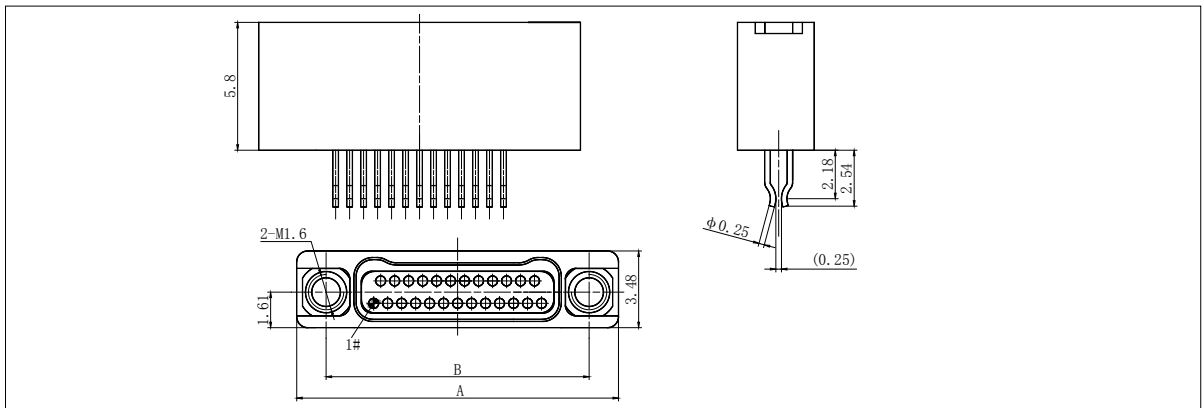
## Order marks

|                                |     |    |   |   |    |   |     |    |     |   |
|--------------------------------|-----|----|---|---|----|---|-----|----|-----|---|
| Series                         | R06 | -2 | 2 | 1 | -M | 8 | -25 | RH | -TH |  <p><b>R06-221-M8-25RH-TH</b></p> |
| <b>Contact row:</b>            |     |    |   |   |    |   |     |    |     |   |
| 2 — tow rows                   |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b>          |     |    |   |   |    |   |     |    |     |   |
| 2 — nickel plating             |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b>        |     |    |   |   |    |   |     |    |     |   |
| 1 — gold plating               |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b> |     |    |   |   |    |   |     |    |     |   |
| M— SMT                         |     |    |   |   |    |   |     |    |     |   |
| <b>Mounting style:</b>         |     |    |   |   |    |   |     |    |     |   |
| 8 — straddle flexible SMT      |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b>         |     |    |   |   |    |   |     |    |     |   |
| 9、15、21、25、31、37、51、65、69      |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type:</b>           |     |    |   |   |    |   |     |    |     |   |
| RH— socket in receptacle       |     |    |   |   |    |   |     |    |     |   |
| <b>Locking component type:</b> |     |    |   |   |    |   |     |    |     |   |
| TH— connect nut                |     |    |   |   |    |   |     |    |     |   |

### Remark

- Connector is free mounted,not fixed,usually mated with plug which have screw
- PC tail solder on flexible PCB,PCB thickness is 0.25MAX.

## Outline dimension

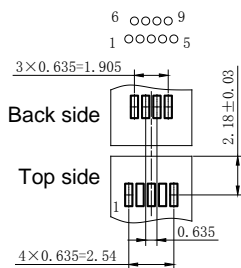
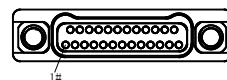
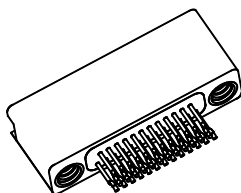
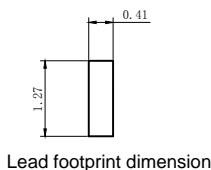


| Pin count | Dimension |       | Pin count | Dimension |       | Pin count | Diension |       |
|-----------|-----------|-------|-----------|-----------|-------|-----------|----------|-------|
|           | A         | B     |           | A         | B     |           | A        | B     |
| 9pins     | 9.63      | 6.86  | 15pins    | 11.53     | 8.76  | 21pins    | 13.44    | 10.67 |
| 25pins    | 14.71     | 11.94 | 31pins    | 16.61     | 13.84 | 37pins    | 18.52    | 15.75 |
| 51pins    | 22.96     | 20.19 | 65pins    | 27.41     | 24.64 | 69pins    | 28.68    | 25.91 |

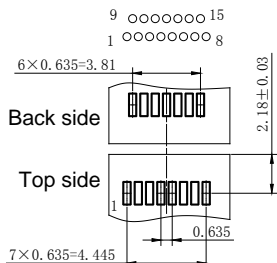
Remark: All dimensions are in mm



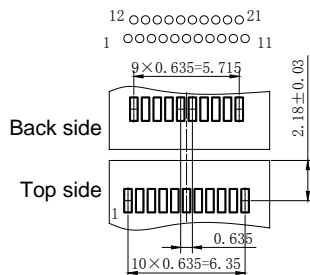
### Suggested PCB Layout



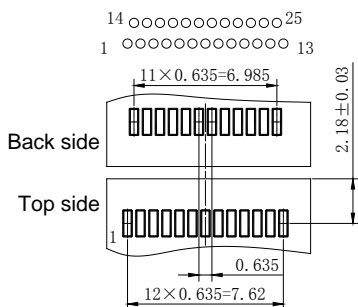
**R06-221-M8-9RH-TH**



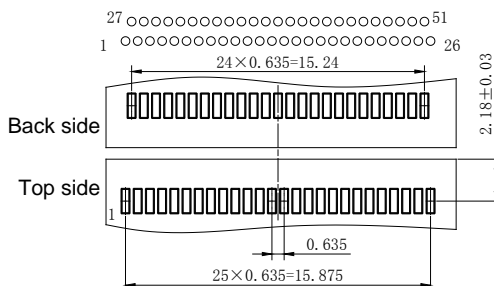
**R06-221-M8-15RH-TH**



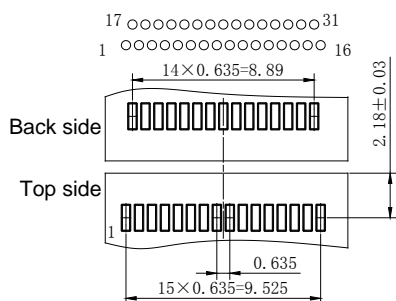
**R06-221-M8-21RH-TH**



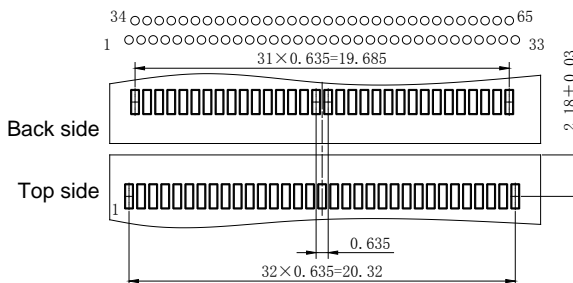
**R06-221-M8-25RH-TH**



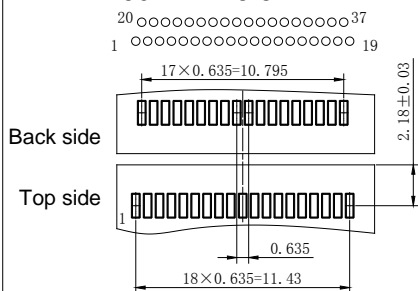
**R06-221-M8-51RH-TH**



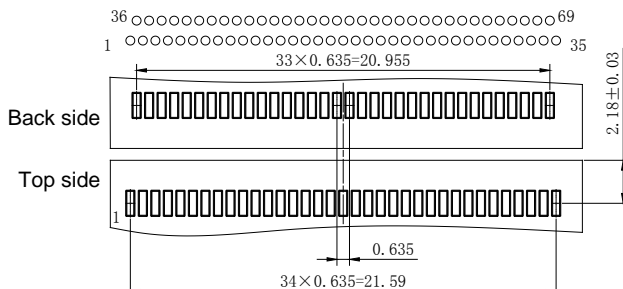
**R06-221-M8-31RH-TH**



**R06-221-M8-65RH-TH**



**R06-221-M8-37RH-TH**



**R06-221-M8-69RH-TH**

Remark: All dimensions are in mm



# MIL-DTL-32139 Nano D-sub Connectors

## R06 Crimp Contact Series

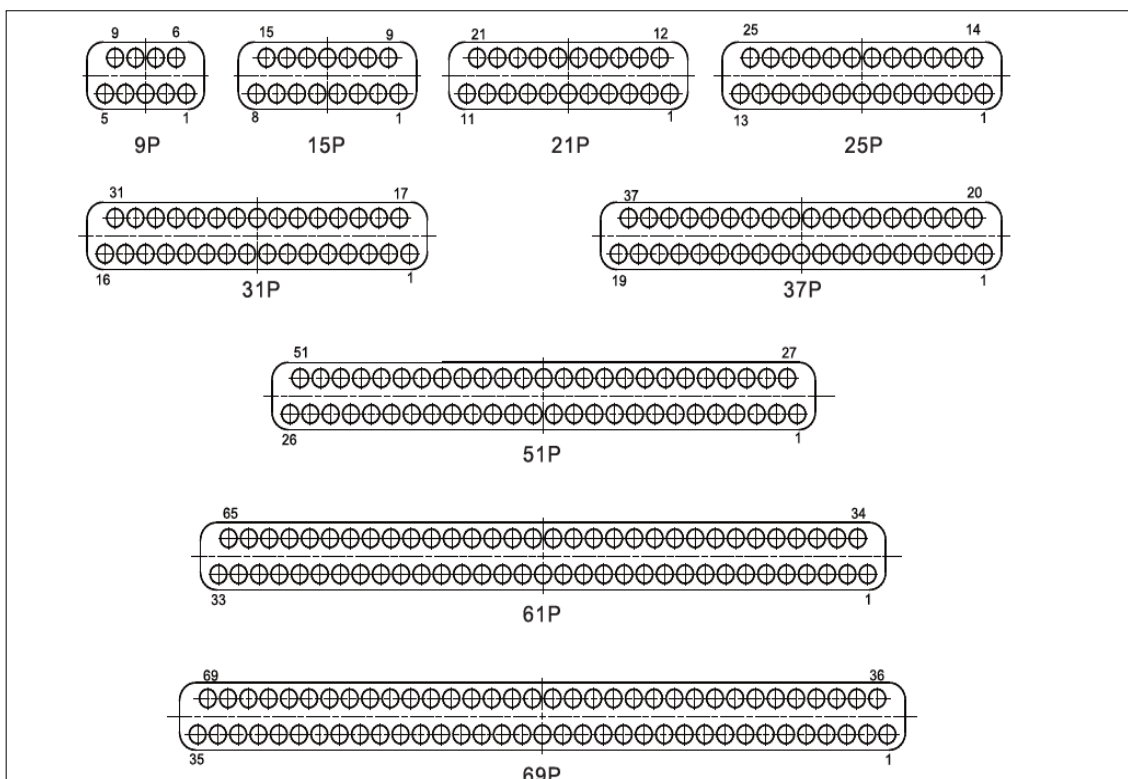
### Brief introduction

- Contacts:9,15,21,25,31,37,51,65,69
- Twist flexible micro pin (twist pin), 0.635mm pitch, micro miniature outline dimension
- Screw nut locking, it is gently when insert and extract, stably locked
- It is used for all kinds for electric circuit system interconnection which have high density, micro, light, highly reliable requirement, it can meet light and miniaturize demand
- Plug with twist pin, receptacle with socket, free terminal with locking screw, fixed terminal with nut, standard mated connector locked by screw and nut
- Standard: MIL-DTL-32139
- The sectional area of crimp conductive cable is 0.035mm<sup>2</sup>
- Undefined tolerance is±0.13

### Specification

- |   |                                 |                          |                |
|---|---------------------------------|--------------------------|----------------|
| ■ Environment:  | -55℃~+125℃                      | ■ Contact resistance:    | ≤21mΩ          |
| ■ Vibration:  | 10Hz~2000Hz 196m/s <sup>2</sup> | ■ Insulation resistance: | ≥5000MΩ 100VDC |
| ■ Shock:  | 980m/s <sup>2</sup> 6ms         | ■ Dielectric strength:   | 250V           |
| ■ Rated current:  | 1A                              | ■ Machine life:          | 200 times      |
| ■ Random vibration: power spectrum density 0.4G <sup>2</sup> /Hz, r.m.s value of total acceleration 23.1G |                                 |                          |                |

### Contact layout



Remark: The above layout is view from plug mate side end face

## How to order

|   |     |    |   |   |    |   |    |    |   |     |
|---|-----|----|---|---|----|---|----|----|---|-----|
| <b>Series</b>   | R06 | -2 | 2 | 1 | -C | 2 | -9 | PI | 0 | -TH |
| <b>Contact row:</b><br>2 — tow rows   |     |    |   |   |    |   |    |    |   |     |
| <b>Shell plating:</b><br>2 — nickel plating   |     |    |   |   |    |   |    |    |   |     |
| <b>Contact plating:</b><br>1 — gold plating   |     |    |   |   |    |   |    |    |   |     |
| <b>Tail termination type :</b><br>C— crimp  |     |    |   |   |    |   |    |    |   |     |
| <b>Mounting style:</b><br>1 —free mounted<br>2— vertical mounted<br>3 — horizontal mounted<br>4 — crimp siamese<br>5 — nut mounted<br>6 — Flange mounted<br>7 — Floating mounted                      |     |    |   |   |    |   |    |    |   |     |
| <b>Contact number:</b><br>9、15、21、25、31、37、51、65、69   |     |    |   |   |    |   |    |    |   |     |
| <b>Contact type</b><br>PI — pin in plug<br>RH— socket in receptacle<br>PP— plug interconnect plug<br>PS— plug interconnect receptacle<br>SS— receptacle interconnect receptacle                       |     |    |   |   |    |   |    |    |   |     |
| <b>Tail cover :</b><br>0— without tail cover<br>1— with tail cover  |     |    |   |   |    |   |    |    |   |     |
| <b>Locking component type:</b><br>00 — without locking component<br>JC— locking screw(straight slot)<br>JC1— locking screw(hex, not recommend )<br>TH— connect nut<br>NH— guide hole with nut mounted |     |    |   |   |    |   |    |    |   |     |

## Choose mating connector

- When choosing mating connector with locking accessories usually choose the locking component which one side with connect nut(TH), the other side with locking screw(JC).
- When choosing product with guide accessories,connector without locked component but only with guide component,it need fix on mounting panel after mated,for avoiding connector take off. When choosing mating connector with guide components usually choose the guide component which one side with guide pin, the other side with guide hole



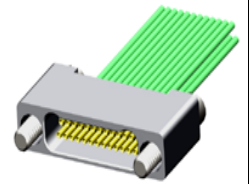
## Free Mounted Crimp Series

### Order marks

|   |     |    |   |   |    |   |     |    |   |     |
|---|-----|----|---|---|----|---|-----|----|---|-----|
| Series  | R06 | -2 | 2 | 1 | -C | 1 | -25 | PI | 0 | -JC |
| <b>Contact row:</b><br>2 — tow rows   |     |    |   |   |    |   |     |    |   |     |
| <b>Shell plating:</b><br>2 — nickel plating   |     |    |   |   |    |   |     |    |   |     |
| <b>Contact plating:</b><br>1 — gold plating   |     |    |   |   |    |   |     |    |   |     |
| <b>Termination type :</b><br>C — crimp  |     |    |   |   |    |   |     |    |   |     |
| <b>Mounting style:</b><br>1 — free mounted  |     |    |   |   |    |   |     |    |   |     |
| <b>Contact number:</b><br>9、15、21、25、31、37、51、65、69   |     |    |   |   |    |   |     |    |   |     |
| <b>Contact type</b><br>PI — pin in plug      RH — socket in receptacle  |     |    |   |   |    |   |     |    |   |     |
| <b>Tail cover :</b><br>0 — without tail cover   |     |    |   |   |    |   |     |    |   |     |
| <b>Locking type:</b><br>JC — locking screw(straight slot, C dimension=1.5mm)<br>JC1 — locking screw(hex, not recommend , C dimension=2.1mm) |     |    |   |   |    |   |     |    |   |     |



plug

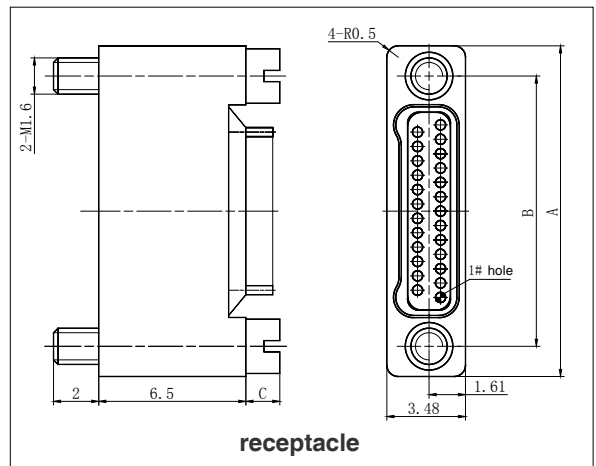
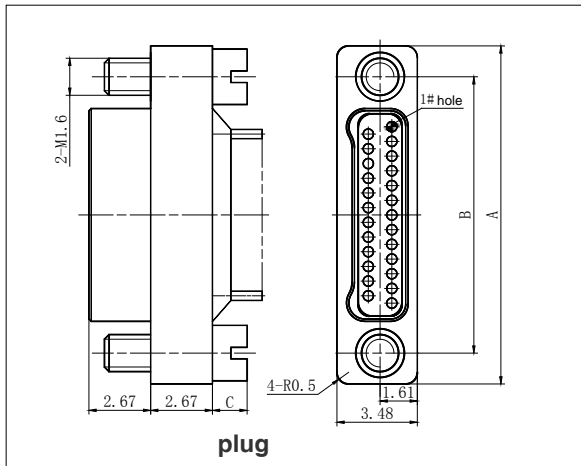


receptacle

### Remark

- Locking screw fixed on the outer shell, can't disassembly
- Connector is free mounted, not fixed, usually mated with connector which have nut
- Recommended JC(straight slot screw) types of screws, tight by miniature straight screwdriver
- When choose JC1(hex) type of screws, tight by 1.27mm subtense hex screwdriver.

### Outline dimension




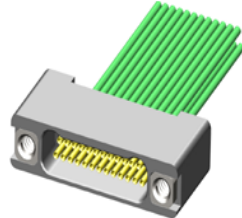
| Pin count | Dimension |       | Pin count | Dimension |       | Pin count | Diension |       |
|-----------|-----------|-------|-----------|-----------|-------|-----------|----------|-------|
|           | A         | B     |           | A         | B     |           | A        | B     |
| 9pins     | 9.63      | 6.86  | 15pins    | 11.53     | 8.76  | 21pins    | 13.44    | 10.67 |
| 25pins    | 14.71     | 11.94 | 31pins    | 16.61     | 13.84 | 37pins    | 18.52    | 15.75 |
| 51pins    | 22.96     | 20.19 | 65pins    | 27.41     | 24.64 | 69pins    | 28.68    | 25.91 |

Remark: All dimensions are in mm



# Vertical Mounted Crimp Series

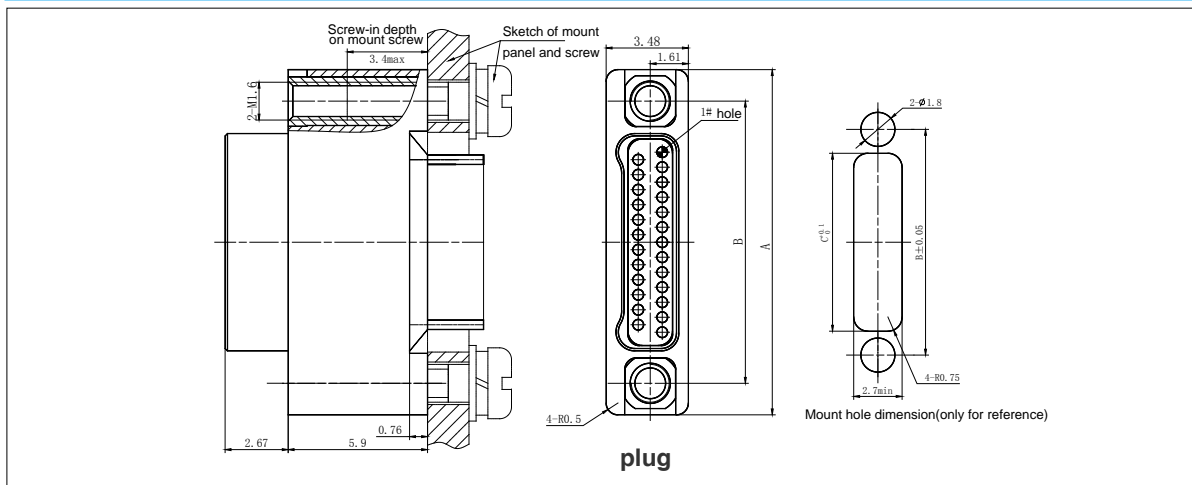
## Order marks

|                           |                           |    |   |   |    |                           |     |    |   |     |   |
|---------------------------|---------------------------|----|---|---|----|---------------------------|-----|----|---|-----|---|
| <b>Series</b>             | R06                       | -2 | 2 | 1 | -C | 2                         | -25 | RH | 0 | -TH |  <p>plug</p>  <p>receptacle</p> |
| <b>Contact row:</b>       | 2 — tow rows              |    |   |   |    |                           |     |    |   |     |   |
| <b>Shell plating:</b>     | 2 — nickel plating        |    |   |   |    |                           |     |    |   |     |   |
| <b>Contact plating:</b>   | 1 — gold plating          |    |   |   |    |                           |     |    |   |     |   |
| <b>Termination type :</b> | C — crimp                 |    |   |   |    |                           |     |    |   |     |   |
| <b>Mounting style:</b>    | 2 — vertical mounted      |    |   |   |    |                           |     |    |   |     |   |
| <b>Contact number:</b>    | 9、15、21、25、31、37、51、65、69 |    |   |   |    |                           |     |    |   |     |   |
| <b>Contact type</b>       | PI — pin in plug          |    |   |   |    | RH — socket in receptacle |     |    |   |     |   |
| <b>Tail cover :</b>       | 0 — without tail cover    |    |   |   |    |                           |     |    |   |     |   |
| <b>Locking type:</b>      | TH — connect nut          |    |   |   |    |                           |     |    |   |     |   |

### Remark

- Connecting nut with thread structure forepart used for locking screw,back part used for mounting
- The connector with connect nut that usually mated with connector which have locking screw

## Outline dimension



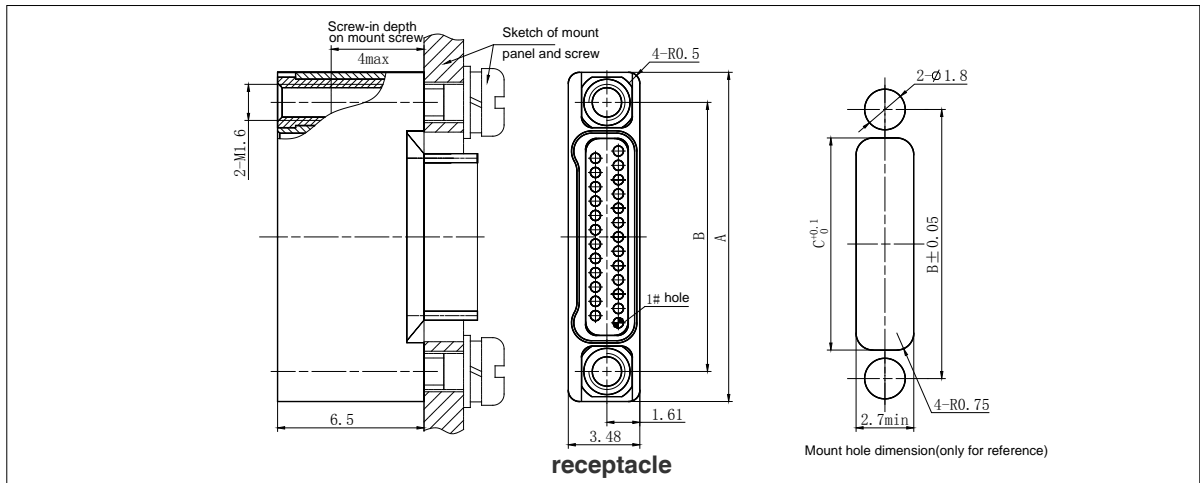
| Pin count | Dimension |       |       | Pin count | Dimension |       |      | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C    |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.2   | 15pins    | 11.53     | 8.76  | 6.1  | 21pins    | 13.44     | 10.67 | 8     |
| 25pins    | 14.71     | 11.94 | 9.3   | 31pins    | 16.61     | 13.84 | 11.2 | 37pins    | 18.52     | 15.75 | 13.1  |
| 51pins    | 22.96     | 20.19 | 17.55 | 65pins    | 27.41     | 24.64 | 22   | 69pins    | 28.68     | 25.91 | 23.25 |

Remark: All dimensions are in mm



## Vertical Mounted Crimp Series

### Outline dimension




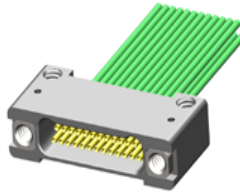
| Pin count | Dimension |       |       | Pin count | Dimension |       |      | Pin count | Diension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|------|-----------|----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C    |           | A        | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.2   | 15pins    | 11.53     | 8.76  | 6.1  | 21pins    | 13.44    | 10.67 | 8     |
| 25pins    | 14.71     | 11.94 | 9.3   | 31pins    | 16.61     | 13.84 | 11.2 | 37pins    | 18.52    | 15.75 | 13.1  |
| 51pins    | 22.96     | 20.19 | 17.55 | 65pins    | 27.41     | 24.64 | 22   | 69pins    | 28.68    | 25.91 | 23.25 |

Remark: All dimensions are in mm



# Horizontal Mounted Crimp Series

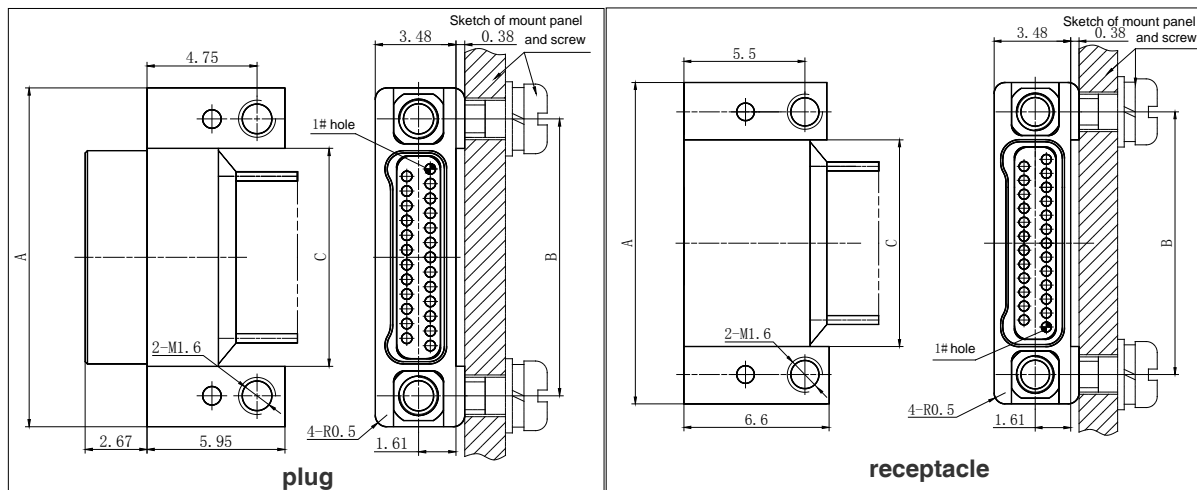
## Order marks

|                           |  |    |   |   |    |   |     |    |   |     |   |
|---------------------------|--|----|---|---|----|---|-----|----|---|-----|---|
| <b>Series</b>             | R06  | -2 | 2 | 1 | -C | 3 | -25 | RH | 0 | -TH |  <p>plug</p>  <p>receptacle</p> |
| <b>Contact row:</b>       | 2 — tow rows                                   |    |   |   |    |   |     |    |   |     |   |
| <b>Shell plating:</b>     | 2 — nickel plating                             |    |   |   |    |   |     |    |   |     |   |
| <b>Contact plating:</b>   | 1 — gold plating                               |    |   |   |    |   |     |    |   |     |   |
| <b>Termination type :</b> | C— crimp                                       |    |   |   |    |   |     |    |   |     |   |
| <b>Mounting style:</b>    | 3 — horizontal mounted                         |    |   |   |    |   |     |    |   |     |   |
| <b>Contact number:</b>    | 9、15、21、25、31、37、51、65、69                      |    |   |   |    |   |     |    |   |     |   |
| <b>Contact type</b>       | PI — pin in plug      RH— socket in receptacle |    |   |   |    |   |     |    |   |     |   |
| <b>Tail cover :</b>       | 0— without tail cover                          |    |   |   |    |   |     |    |   |     |   |
| <b>Locking type:</b>      | TH— connect nut                                |    |   |   |    |   |     |    |   |     |   |

### Remark

- Connector is horizontal mounted
- The connector with connect nut that usually mated with connector which have locking screw

## Outline dimension



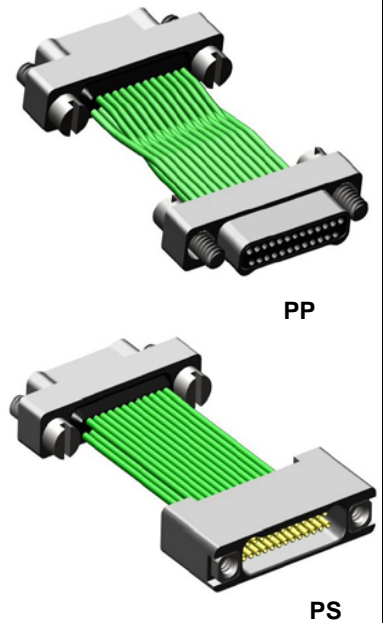
| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.40  | 31pins    | 16.61     | 13.84 | 11.30 | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

Remark: All dimensions are in mm

## Crimp Siamese Connection Series

### Order marks

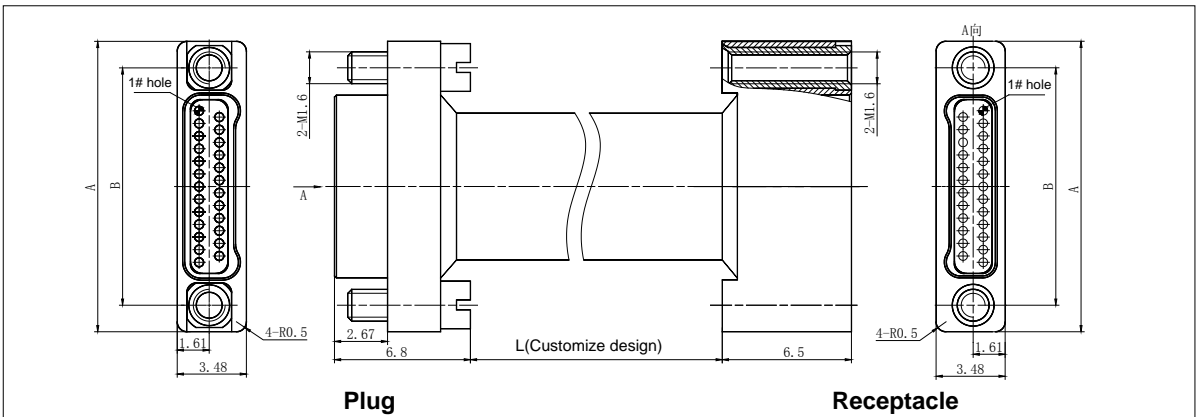
|                           |  |    |   |   |    |   |     |    |
|---------------------------|--|----|---|---|----|---|-----|----|
| <b>Series</b>             | R06  | -2 | 2 | 1 | -C | 4 | -25 | PP |
| <b>Contact row:</b>       | 2 — tow rows   |    |   |   |    |   |     |    |
| <b>Shell plating:</b>     | 2 — nickel plating   |    |   |   |    |   |     |    |
| <b>Contact plating:</b>   | 1 — gold plating   |    |   |   |    |   |     |    |
| <b>Termination type :</b> | C— crimp   |    |   |   |    |   |     |    |
| <b>Mounting style:</b>    | 4 — crimp siamese  |    |   |   |    |   |     |    |
| <b>Contact number:</b>    | 9、15、21、25、31、37、51、65、69  |    |   |   |    |   |     |    |
| <b>Contact type:</b>      | PP— plug interconnect plug<br>PS— plug interconnect receptacle<br>SS— receptacle interconnect receptacle |    |   |   |    |   |     |    |



### Remark

- The matching locking component for this series is single form. (1) Plug with locking screw (2) Receptacle with locking nut

### Outline dimension

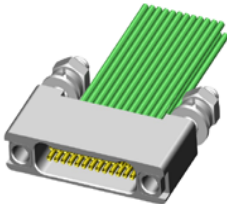


| Pin count | Dimension |       | Pin count | Dimension |       | Pin count | Dimension |       |
|-----------|-----------|-------|-----------|-----------|-------|-----------|-----------|-------|
|           | A         | B     |           | A         | B     |           | A         | B     |
| 9pins     | 9.63      | 6.86  | 15pins    | 11.53     | 8.76  | 21pins    | 13.44     | 10.67 |
| 25pins    | 14.71     | 11.94 | 31pins    | 16.61     | 13.84 | 37pins    | 18.52     | 15.75 |
| 51pins    | 22.96     | 20.19 | 65pins    | 27.41     | 24.64 | 69pins    | 28.68     | 25.91 |

Remark: All dimensions are in mm

# Nut Mounted Crimp Receptacle with Guid Hole Series

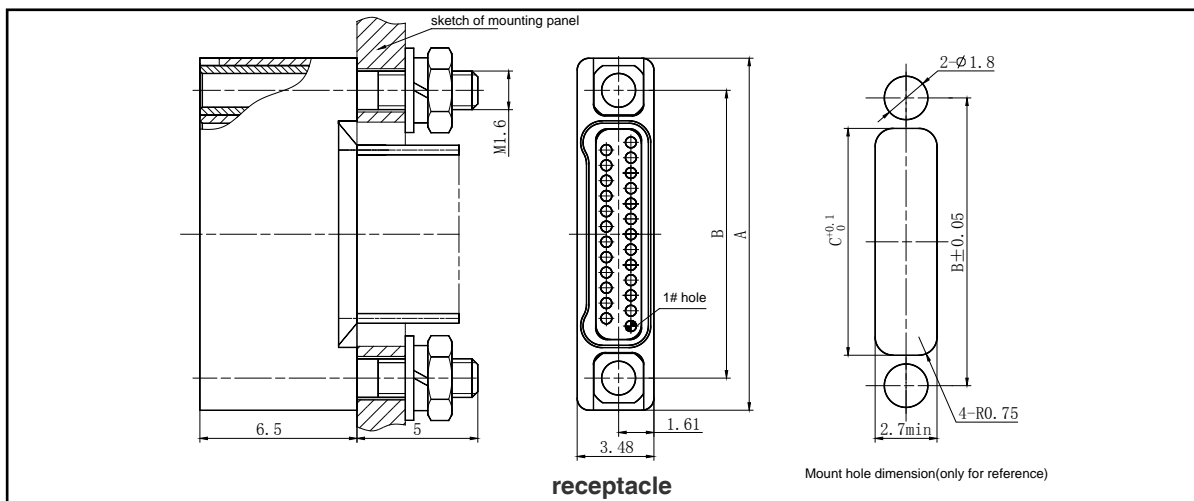
## Order marks

|                                 |     |    |   |   |    |   |     |    |   |     |   |
|---------------------------------|-----|----|---|---|----|---|-----|----|---|-----|---|
| <b>Series</b>                   | R06 | -2 | 2 | 1 | -C | 5 | -25 | RH | 0 | -TH |  <p>RH</p> |
| <b>Contact row:</b>             |     |    |   |   |    |   |     |    |   |     |   |
| 2 — tow rows                    |     |    |   |   |    |   |     |    |   |     |   |
| <b>Shell plating:</b>           |     |    |   |   |    |   |     |    |   |     |   |
| 2 — nickel plating              |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact plating:</b>         |     |    |   |   |    |   |     |    |   |     |   |
| 1 — gold plating                |     |    |   |   |    |   |     |    |   |     |   |
| <b>Termination type :</b>       |     |    |   |   |    |   |     |    |   |     |   |
| C— crimp                        |     |    |   |   |    |   |     |    |   |     |   |
| <b>Mounting style:</b>          |     |    |   |   |    |   |     |    |   |     |   |
| 5 — nut mounted                 |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact number:</b>          |     |    |   |   |    |   |     |    |   |     |   |
| 9、15、21、25、31、37、51、65、69       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact type:</b>            |     |    |   |   |    |   |     |    |   |     |   |
| RH— socket in receptacle        |     |    |   |   |    |   |     |    |   |     |   |
| <b>Tail cover :</b>             |     |    |   |   |    |   |     |    |   |     |   |
| 0— without tail cover           |     |    |   |   |    |   |     |    |   |     |   |
| <b>Locking type:</b>            |     |    |   |   |    |   |     |    |   |     |   |
| NH— guide hole with nut mounted |     |    |   |   |    |   |     |    |   |     |   |

### Remark

- Connector with guide hole, usually mated with plug which have guid pin

## Outline dimension

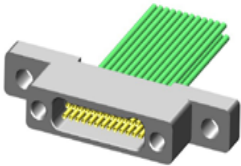


| Pin count | Dimension |       |       | Pin count | Dimension |       |      | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C    |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.2   | 15pins    | 11.53     | 8.76  | 6.1  | 21pins    | 13.44     | 10.67 | 8     |
| 25pins    | 14.71     | 11.94 | 9.3   | 31pins    | 16.61     | 13.84 | 11.2 | 37pins    | 18.52     | 15.75 | 13.1  |
| 51pins    | 22.96     | 20.19 | 17.55 | 65pins    | 27.41     | 24.64 | 22   | 69pins    | 28.68     | 25.91 | 23.25 |

Remark: All dimensions are in mm

## Flange Mounted Crimp Receptacle with Guid Hole Series

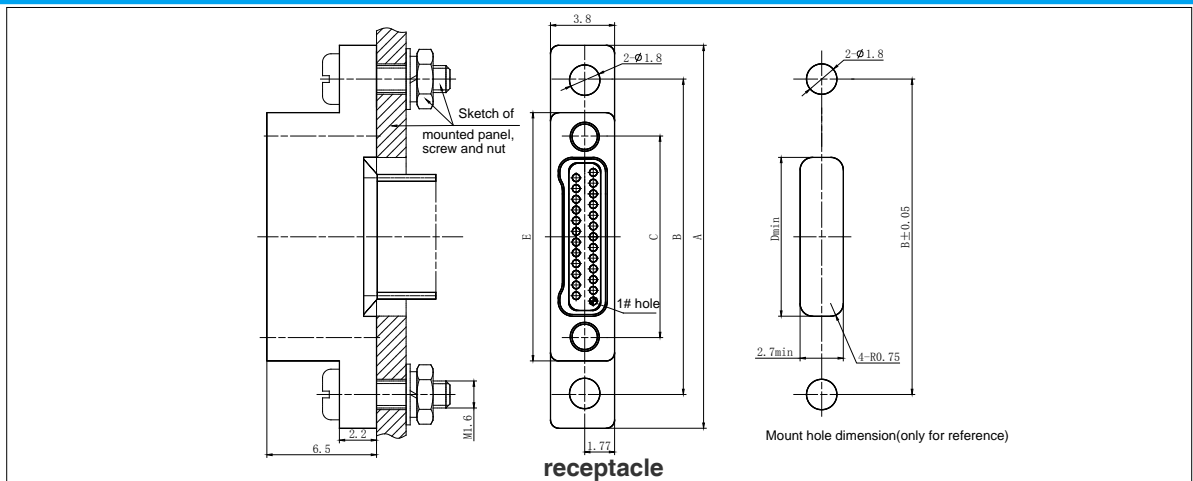
### Order marks

|                                |     |    |   |   |    |   |     |    |   |     |   |
|--------------------------------|-----|----|---|---|----|---|-----|----|---|-----|---|
| Series                         | R06 | -2 | 2 | 1 | -C | 6 | -25 | RH | 0 | -00 |  <p>RH</p> |
| <b>Contact row:</b>            |     |    |   |   |    |   |     |    |   |     |   |
| 2 — tow rows                   |     |    |   |   |    |   |     |    |   |     |   |
| <b>Shell plating:</b>          |     |    |   |   |    |   |     |    |   |     |   |
| 2 — nickel plating             |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact plating:</b>        |     |    |   |   |    |   |     |    |   |     |   |
| 1 — gold plating               |     |    |   |   |    |   |     |    |   |     |   |
| <b>Termination type :</b>      |     |    |   |   |    |   |     |    |   |     |   |
| C— crimp                       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Mounting style:</b>         |     |    |   |   |    |   |     |    |   |     |   |
| 6 — flanget mounted            |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact number:</b>         |     |    |   |   |    |   |     |    |   |     |   |
| 9、15、21、25、31、37、51、65、69      |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact type:</b>           |     |    |   |   |    |   |     |    |   |     |   |
| RH— socket in receptacle       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Tail cover :</b>            |     |    |   |   |    |   |     |    |   |     |   |
| 0— without tail cover          |     |    |   |   |    |   |     |    |   |     |   |
| <b>Locking type:</b>           |     |    |   |   |    |   |     |    |   |     |   |
| 00 — without locking component |     |    |   |   |    |   |     |    |   |     |   |

### Remark

- Connector with guid hole, usually mated with plug which have guid pin

### Outline dimension

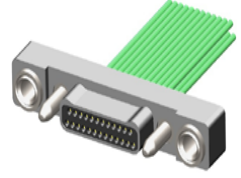


| Pin count | Dimension |      |       |      |       | Pin count | Dimension |      |       |      |       |
|-----------|-----------|------|-------|------|-------|-----------|-----------|------|-------|------|-------|
|           | A         | B    | C     | D    | E     |           | A         | B    | C     | D    | E     |
| 9pins     | 17.6      | 13.6 | 6.86  | 4.2  | 9.63  | 15pins    | 19.5      | 15.5 | 8.76  | 6.1  | 11.53 |
| 21pins    | 21.4      | 17.4 | 10.67 | 8    | 13.44 | 25pins    | 22.7      | 18.7 | 11.94 | 9.3  | 14.71 |
| 31pins    | 24.6      | 20.6 | 13.84 | 11.2 | 16.61 | 37pins    | 26.5      | 22.5 | 15.75 | 13.1 | 18.52 |
| 51pins    | 30.9      | 26.9 | 20.19 | 17.6 | 22.96 | 65pins    | 35.4      | 31.4 | 24.64 | 22   | 27.41 |
| 69pins    | 36.7      | 32.7 | 25.91 | 23.3 | 28.68 |           |           |      |       |      |       |

Remark: All dimensions are in mm

## Floating Mounted Crimp Plug Series

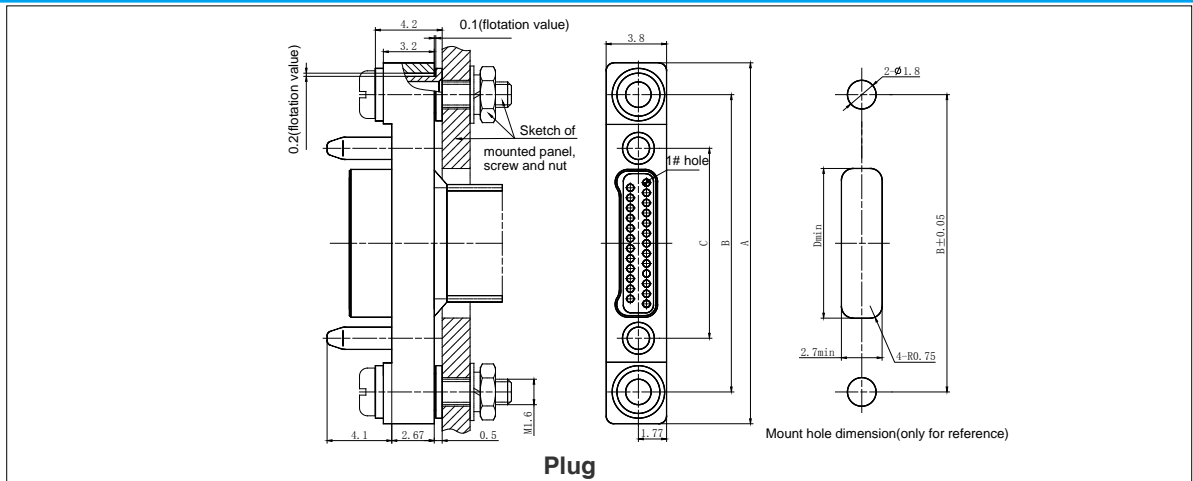
### Order marks

|                                |     |    |   |   |    |   |     |    |   |     |   |
|--------------------------------|-----|----|---|---|----|---|-----|----|---|-----|---|
| <b>Series</b>                  | R06 | -2 | 2 | 1 | -C | 7 | -25 | PI | 0 | -00 |  <p style="text-align: center;">PI</p> |
| <b>Contact row:</b>            |     |    |   |   |    |   |     |    |   |     |   |
| 2 — tow rows                   |     |    |   |   |    |   |     |    |   |     |   |
| <b>Shell plating:</b>          |     |    |   |   |    |   |     |    |   |     |   |
| 2 — nickel plating             |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact plating:</b>        |     |    |   |   |    |   |     |    |   |     |   |
| 1 — gold plating               |     |    |   |   |    |   |     |    |   |     |   |
| <b>Termination type :</b>      |     |    |   |   |    |   |     |    |   |     |   |
| C— crimp                       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Mounting style:</b>         |     |    |   |   |    |   |     |    |   |     |   |
| 7 — floating mounted           |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact number:</b>         |     |    |   |   |    |   |     |    |   |     |   |
| 9、15、21、25、31、37、51、65、69      |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact type:</b>           |     |    |   |   |    |   |     |    |   |     |   |
| RH— socket in receptacle       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Tail cover :</b>            |     |    |   |   |    |   |     |    |   |     |   |
| 0— without tail cover          |     |    |   |   |    |   |     |    |   |     |   |
| <b>Locking type:</b>           |     |    |   |   |    |   |     |    |   |     |   |
| 00 — without locking component |     |    |   |   |    |   |     |    |   |     |   |

#### Remark

- Connector with guid pin and floating tube,application on blind-mated connector
- Connector usually mated with receptacle which have guid hole

### Outline dimension



| Pin count | Dimension |      |       |      | Pin count | Dimension |      |       |      |
|-----------|-----------|------|-------|------|-----------|-----------|------|-------|------|
|           | A         | B    | C     | D    |           | A         | B    | C     | D    |
| 9pins     | 17.6      | 13.6 | 6.86  | 4.2  | 15pins    | 19.5      | 15.5 | 8.76  | 6.1  |
| 21pins    | 21.4      | 17.4 | 10.67 | 8    | 25pins    | 22.7      | 18.7 | 11.94 | 9.3  |
| 31pins    | 24.6      | 20.6 | 13.84 | 11.2 | 37pins    | 26.5      | 22.5 | 15.75 | 13.1 |
| 51pins    | 30.9      | 26.9 | 20.19 | 17.6 | 65pins    | 35.4      | 31.4 | 24.64 | 22   |
| 69pins    | 36.7      | 32.7 | 25.91 | 23.3 |           |           |      |       |      |

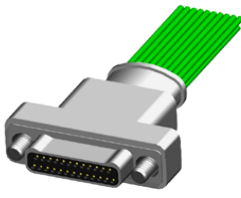

Remark: All dimensions are in mm





## Free Mounted Crimp Connector with Tail Cover Series

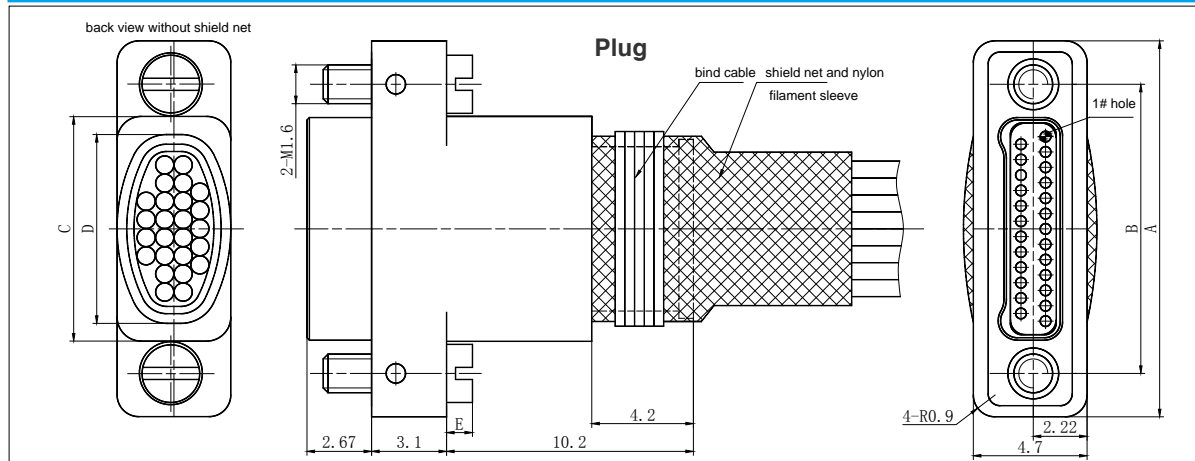
### Order marks

|                           |   |    |   |   |    |                           |     |    |   |     |   |
|---------------------------|---|----|---|---|----|---------------------------|-----|----|---|-----|---|
| <b>Series</b>             | R06   | -2 | 2 | 1 | -C | 1                         | -25 | PI | 1 | -JC |  <p>PI</p>  <p>RH</p> |
| <b>Contact row:</b>       | 2 — tow rows  |    |   |   |    |                           |     |    |   |     |   |
| <b>Shell plating:</b>     | 2 — nickel plating  |    |   |   |    |                           |     |    |   |     |   |
| <b>Contact plating:</b>   | 1 — gold plating  |    |   |   |    |                           |     |    |   |     |   |
| <b>Termination type :</b> | C — crimp   |    |   |   |    |                           |     |    |   |     |   |
| <b>Mounting style:</b>    | 1 — free mounted  |    |   |   |    |                           |     |    |   |     |   |
| <b>Contact number:</b>    | 9、15、21、25、31、37、51、65、69   |    |   |   |    |                           |     |    |   |     |   |
| <b>Contact type</b>       | PI — pin in plug  |    |   |   |    | RH — socket in receptacle |     |    |   |     |   |
| <b>Tail cover :</b>       | 1 — with tail cover   |    |   |   |    |                           |     |    |   |     |   |
| <b>Locking type:</b>      | JC — locking screw(straight slot, E dimension=1mm)<br>JC1 — locking screw(hex, not recommend , E dimension=1.6mm) |    |   |   |    |                           |     |    |   |     |   |

### Remark

- Connector with integrated tail cover,bind shielding net on tail cover,shield whole connector,tail cover non-removable
- Connector is free mounted,not fixed,usually mated with connector which have nut
- Recommended JC(straight slot) types of screws,tight by miniature straight screwdriver
- When choose JC1(hex) type of screws,tight by 1.27mm subtense hex screwdriver.

### Outline dimension

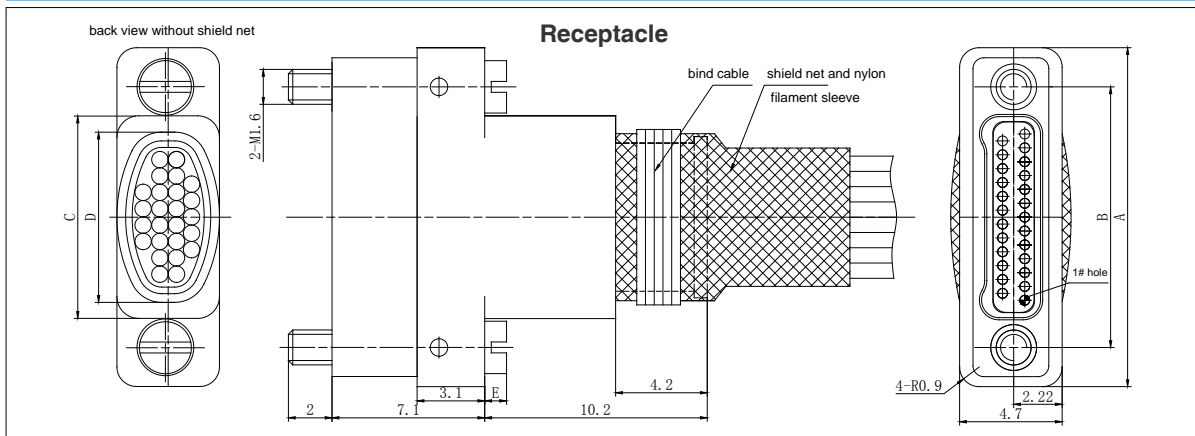


| Pin count | Dimension |       |       |      | Pin count | Dimension |       |      |      |
|-----------|-----------|-------|-------|------|-----------|-----------|-------|------|------|
|           | A         | B     | C     | D    |           | A         | B     | C    | D    |
| 9pins     | 10.5      | 6.86  | 4.2   | 3.7  | 15pins    | 12.4      | 8.76  | 6.1  | 5    |
| 21pins    | 14.3      | 10.67 | 8     | 6.6  | 25pins    | 15.6      | 11.94 | 9.3  | 7.8  |
| 31pins    | 17.5      | 13.84 | 11.2  | 9.4  | 37pins    | 19.4      | 15.75 | 13.1 | 11.2 |
| 51pins    | 23.8      | 20.19 | 17.55 | 15.7 | 65pins    | 28.3      | 24.64 | 22   | 20.1 |
| 69pins    | 29.5      | 25.91 | 23.25 | 21.4 |           |           |       |      |      |

Remark: All dimensions are in mm



### Outline dimension





| Pin count | Dimension |       |       |      | Pin count | Dimension |       |      |      |
|-----------|-----------|-------|-------|------|-----------|-----------|-------|------|------|
|           | A         | B     | C     | D    |           | A         | B     | C    | D    |
| 9pins     | 10.5      | 6.86  | 4.2   | 3.7  | 15pins    | 12.4      | 8.76  | 6.1  | 5    |
| 21pins    | 14.3      | 10.67 | 8     | 6.6  | 25pins    | 15.6      | 11.94 | 9.3  | 7.8  |
| 31pins    | 17.5      | 13.84 | 11.2  | 9.4  | 37pins    | 19.4      | 15.75 | 13.1 | 11.2 |
| 51pins    | 23.8      | 20.19 | 17.55 | 15.7 | 65pins    | 28.3      | 24.64 | 22   | 20.1 |
| 69pins    | 29.5      | 25.91 | 23.25 | 21.4 |           |           |       |      |      |

Remark: All dimensions are in mm

# Vertical Mounted Crimp Connector with Tail Cover Series

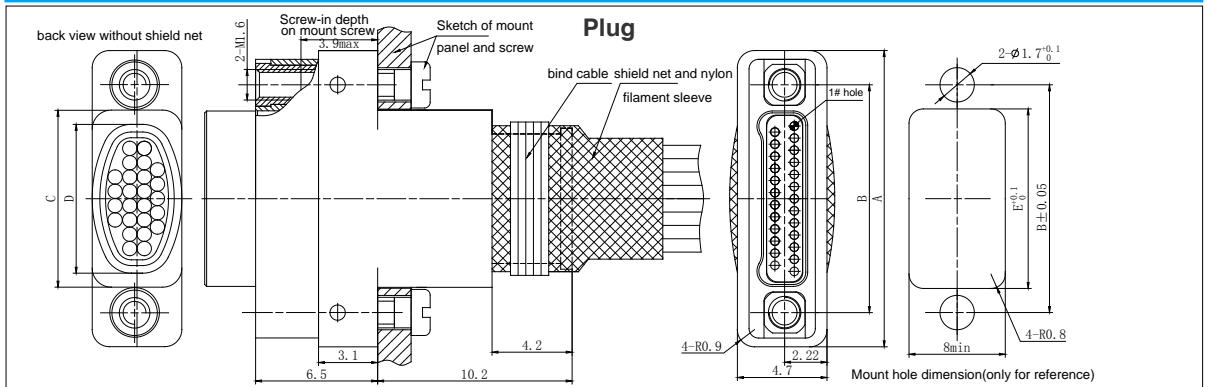
## Order marks

|   |     |    |   |   |    |   |     |    |   |     |   |
|---|-----|----|---|---|----|---|-----|----|---|-----|---|
| <b>Series</b>                                   | R06 | -2 | 2 | 1 | -C | 2 | -25 | RH | 1 | -TH |  <p>PI</p>  <p>RH</p> |
| <b>Contact row:</b>                             |     |    |   |   |    |   |     |    |   |     |   |
| 2 — tow rows                                    |     |    |   |   |    |   |     |    |   |     |   |
| <b>Shell plating:</b>                           |     |    |   |   |    |   |     |    |   |     |   |
| 2 — nickel plating                              |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact plating:</b>                         |     |    |   |   |    |   |     |    |   |     |   |
| 1 — gold plating                                |     |    |   |   |    |   |     |    |   |     |   |
| <b>Termination type :</b>                       |     |    |   |   |    |   |     |    |   |     |   |
| C — crimp                                       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Mounting style:</b>                          |     |    |   |   |    |   |     |    |   |     |   |
| 2 — vertical mounted                            |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact number:</b>                          |     |    |   |   |    |   |     |    |   |     |   |
| 9、15、21、25、31、37、51、65、69                       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact type</b>                             |     |    |   |   |    |   |     |    |   |     |   |
| PI — pin in plug      RH — socket in receptacle |     |    |   |   |    |   |     |    |   |     |   |
| <b>Tail cover :</b>                             |     |    |   |   |    |   |     |    |   |     |   |
| 1 — with tail cover                             |     |    |   |   |    |   |     |    |   |     |   |
| <b>Locking type:</b>                            |     |    |   |   |    |   |     |    |   |     |   |
| TH — connect nut                                |     |    |   |   |    |   |     |    |   |     |   |

### Remark

- Connector with integrated tail cover,bind shielding net on tail cover,shield whole connector,tail cover non-removable
- Connector usually mated with connector which have screw
- As these series connector limited by dimension,it can't use standard M1.6mm screw,so we provide special-made M1.6\*6 mounted screw.

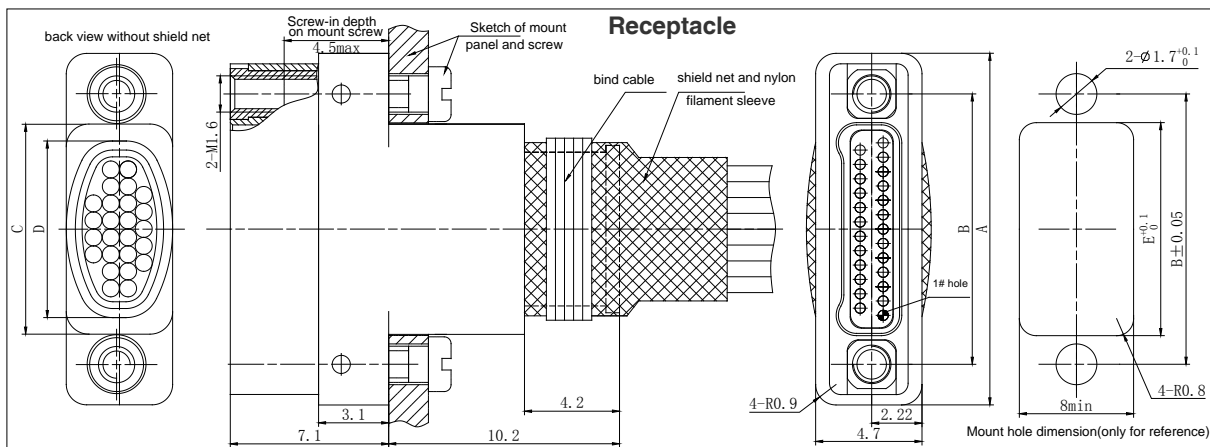
## Outline dimension



| Pin count | Dimension |       |       |      |       | Pin count | Dimension |       |      |      |      |
|-----------|-----------|-------|-------|------|-------|-----------|-----------|-------|------|------|------|
|           | A         | B     | C     | D    | E     |           | A         | B     | C    | D    | E    |
| 9pins     | 10.5      | 6.86  | 4.2   | 3.7  | 4.3   | 15pins    | 12.4      | 8.76  | 6.1  | 5    | 6.2  |
| 21pins    | 14.3      | 10.67 | 8     | 6.6  | 8.1   | 25pins    | 15.6      | 11.94 | 9.3  | 7.8  | 9.4  |
| 31pins    | 17.5      | 13.84 | 11.2  | 9.4  | 11.3  | 37pins    | 19.4      | 15.75 | 13.1 | 11.2 | 13.2 |
| 51pins    | 23.8      | 20.19 | 17.55 | 15.7 | 17.65 | 65pins    | 28.3      | 24.64 | 22   | 20.1 | 22.1 |
| 69pins    | 29.5      | 25.91 | 23.25 | 21.4 | 23.35 |           |           |       |      |      |      |

Remark: All dimensions are in mm

## Outline dimension




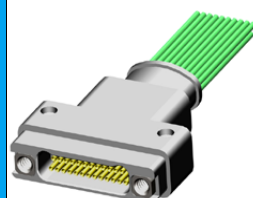
| Pin count | Dimension |       |       |      |       | Pin count | Dimension |       |      |      |      |
|-----------|-----------|-------|-------|------|-------|-----------|-----------|-------|------|------|------|
|           | A         | B     | C     | D    | E     |           | A         | B     | C    | D    | E    |
| 9pins     | 10.5      | 6.86  | 4.2   | 3.7  | 4.3   | 15pins    | 12.4      | 8.76  | 6.1  | 5    | 6.2  |
| 21pins    | 14.3      | 10.67 | 8     | 6.6  | 8.1   | 25pins    | 15.6      | 11.94 | 9.3  | 7.8  | 9.4  |
| 31pins    | 17.5      | 13.84 | 11.2  | 9.4  | 11.3  | 37pins    | 19.4      | 15.75 | 13.1 | 11.2 | 13.2 |
| 51pins    | 23.8      | 20.19 | 17.55 | 15.7 | 17.65 | 65pins    | 28.3      | 24.64 | 22   | 20.1 | 22.1 |
| 69pins    | 29.5      | 25.91 | 23.25 | 21.4 | 23.35 |           |           |       |      |      |      |

Remark: All dimensions are in mm



## Horizontal Mounted Crimp Connector with Tail Cover Series

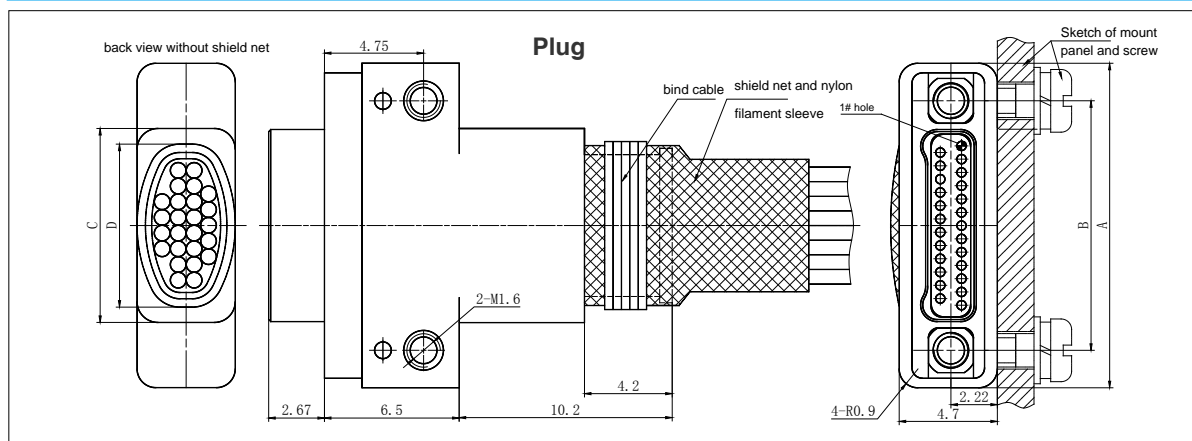
### Order marks

|   |     |    |   |   |    |   |     |    |   |     |   |
|---|-----|----|---|---|----|---|-----|----|---|-----|---|
| <b>Series</b>                                   | R06 | -2 | 2 | 1 | -C | 3 | -25 | RH | 1 | -TH |  <p>PI</p>  <p>RH</p> |
| <b>Contact row:</b>                             |     |    |   |   |    |   |     |    |   |     |   |
| 2 — tow rows                                    |     |    |   |   |    |   |     |    |   |     |   |
| <b>Shell plating:</b>                           |     |    |   |   |    |   |     |    |   |     |   |
| 2 — nickel plating                              |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact plating:</b>                         |     |    |   |   |    |   |     |    |   |     |   |
| 1 — gold plating                                |     |    |   |   |    |   |     |    |   |     |   |
| <b>Termination type :</b>                       |     |    |   |   |    |   |     |    |   |     |   |
| C — crimp                                       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Mounting style:</b>                          |     |    |   |   |    |   |     |    |   |     |   |
| 3 — horizontal mounted                          |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact number:</b>                          |     |    |   |   |    |   |     |    |   |     |   |
| 9、15、21、25、31、37、51、65、69                       |     |    |   |   |    |   |     |    |   |     |   |
| <b>Contact type</b>                             |     |    |   |   |    |   |     |    |   |     |   |
| PI — pin in plug      RH — socket in receptacle |     |    |   |   |    |   |     |    |   |     |   |
| <b>Tail cover :</b>                             |     |    |   |   |    |   |     |    |   |     |   |
| 1 — with tail cover                             |     |    |   |   |    |   |     |    |   |     |   |
| <b>Locking type:</b>                            |     |    |   |   |    |   |     |    |   |     |   |
| TH — connect nut                                |     |    |   |   |    |   |     |    |   |     |   |

### Remark

- Connector with integrated tail cover,bind shielding net on tail cover,shield whole connector,tail cover non-removable
- Connector usually mated with connector which have screw

### Outline dimension

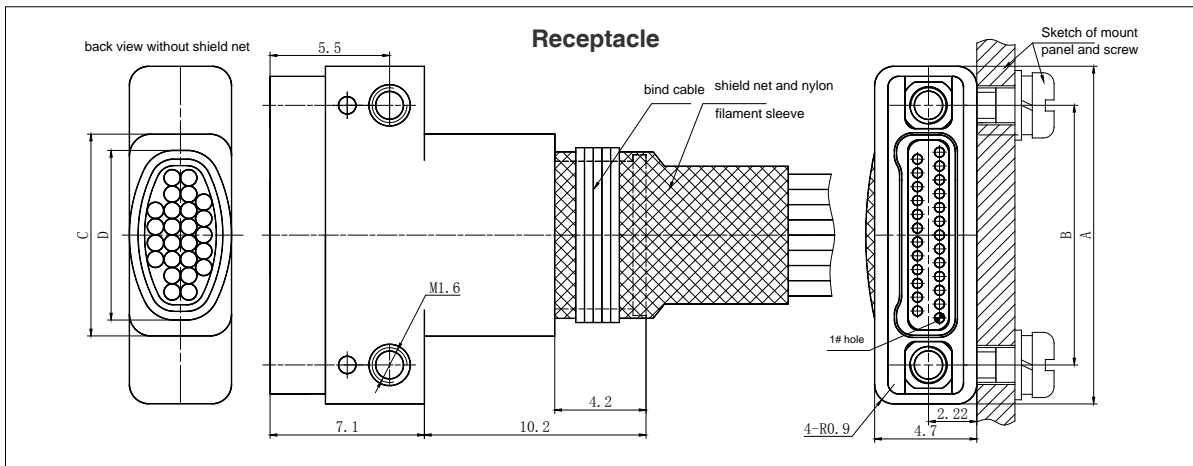


| Pin count | Dimension |       |       |      | Pin count | Dimension |       |      |      |
|-----------|-----------|-------|-------|------|-----------|-----------|-------|------|------|
|           | A         | B     | C     | D    |           | A         | B     | C    | D    |
| 9pins     | 10.5      | 6.86  | 4.2   | 3.7  | 15pins    | 12.4      | 8.76  | 6.1  | 5    |
| 21pins    | 14.3      | 10.67 | 8     | 6.6  | 25pins    | 15.6      | 11.94 | 9.3  | 7.8  |
| 31pins    | 17.5      | 13.84 | 11.2  | 9.4  | 37pins    | 19.4      | 15.75 | 13.1 | 11.2 |
| 51pins    | 23.8      | 20.19 | 17.55 | 15.7 | 65pins    | 28.3      | 24.64 | 22   | 20.1 |
| 69pins    | 29.5      | 25.91 | 23.25 | 21.4 |           |           |       |      |      |

Remark: All dimensions are in mm



**Outline dimension**



| Pin count | Dimension |       |       |      | Pin count | Dimension |       |      |      |
|-----------|-----------|-------|-------|------|-----------|-----------|-------|------|------|
|           | A         | B     | C     | D    |           | A         | B     | C    | D    |
| 9pins     | 10.5      | 6.86  | 4.2   | 3.7  | 15pins    | 12.4      | 8.76  | 6.1  | 5    |
| 21pins    | 14.3      | 10.67 | 8     | 6.6  | 25pins    | 15.6      | 11.94 | 9.3  | 7.8  |
| 31pins    | 17.5      | 13.84 | 11.2  | 9.4  | 37pins    | 19.4      | 15.75 | 13.1 | 11.2 |
| 51pins    | 23.8      | 20.19 | 17.55 | 15.7 | 65pins    | 28.3      | 24.64 | 22   | 20.1 |
| 69pins    | 29.5      | 25.91 | 23.25 | 21.4 |           |           |       |      |      |

Remark: All dimensions are in mm



# MIL-DTL-32139 Nano D-sub Connectors

## R06 Straight to PCB Series

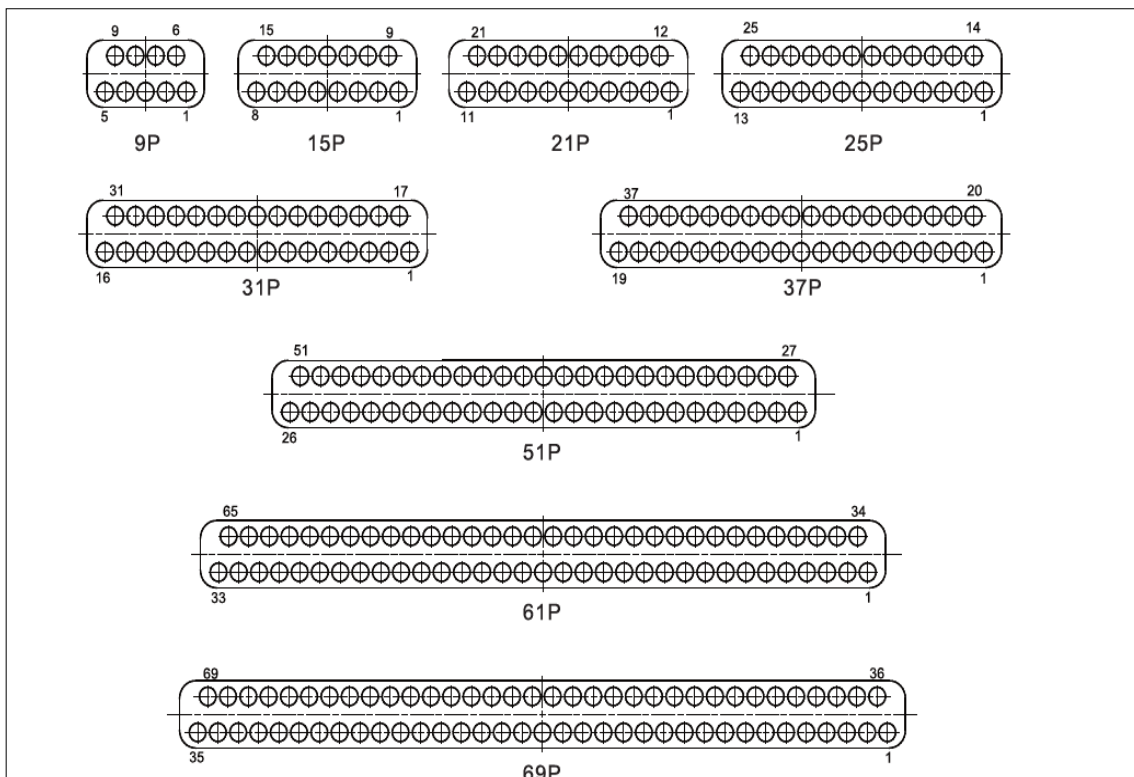
### Brief introduction

- Contacts:9,15,21,25,31,37,51,65,69
- Twist flexible micro pin (twist pin), 0.635mm pitch, micro miniature outline dimension
- Screw nut locking, it is gently when insert and extract, stably locked
- It is used for all kinds for electric circuit system interconnection which have high density, micro, light, highly reliable requirement, it can meet light and miniaturize demand
- Plug with twist pin, receptacle with socket, free terminal with locking screw, fixed terminal with nut, standard mated connector locked by screw and nut
- Standard: MIL-DTL-32139
- Undefined tolerance is $\pm 0.13$

### Specification

- |                     |   |                          |                           |
|---------------------|---|--------------------------|---------------------------|
| ■ Environment:      | -55°C~+125°C  | ■ Contact resistance:    | $\leq 21m\Omega$          |
| ■ Vibration:        | 10Hz~2000Hz 196m/s <sup>2</sup>   | ■ Insulation resistance: | $\geq 5000M\Omega$ 100VDC |
| ■ Shock:            | 980m/s <sup>2</sup> 6ms   | ■ Dielectric strength:   | 250V                      |
| ■ Rated current:    | 1A  | ■ Machine life:          | 200 times                 |
| ■ Random vibration: | power spectrum density 0.4G <sup>2</sup> /Hz, r.m.s value of total acceleration 23.1G |                          |                           |

### Contact layout

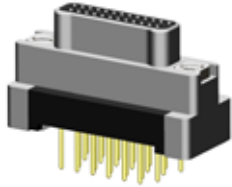
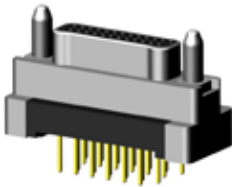


Remark: The above layout is view from plug mate side end face



# R06 Straight to PCB Plug Series

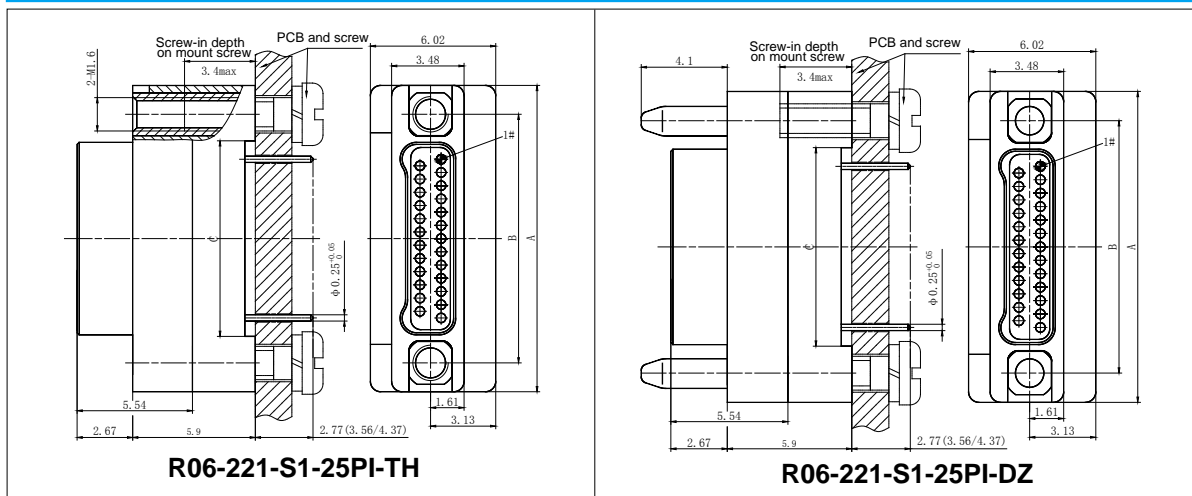
## Order marks

|                                |  |    |   |   |    |   |     |    |     |   |
|--------------------------------|--|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>                  | R06                                    | -2 | 2 | 1 | -S | 1 | -25 | PI | -TH |  <p><b>R06-221-S1-25PI-TH</b></p>  <p><b>R06-221-S1-25PI-DZ</b></p> |
| <b>Contact row:</b>            | 2 — tow rows                           |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b>          | 2 — nickel plating                     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b>        | 1 — gold plating                       |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b> | S — straight to pcb                    |    |   |   |    |   |     |    |     |   |
| <b>Tail length:</b>            | 1 — 2.77mm<br>2 — 3.56mm<br>3 — 4.37mm |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b>         | 9、15、21、25、31、37、51、65、69              |    |   |   |    |   |     |    |     |   |
| <b>Contact type :</b>          | PI — pin in plug                       |    |   |   |    |   |     |    |     |   |
| <b>Locking type:</b>           | DZ — guide pin      TH — connect nut   |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-S\*-\*\*PI-TH usually mated with receptacle which have locking screw, R06-221-S\*-\*\*PI-DZ usually mated with receptacle which have guide hole
- 3 kinds of tail length, customized produce for other length

## Outline dimension



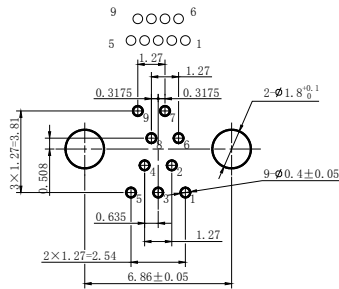
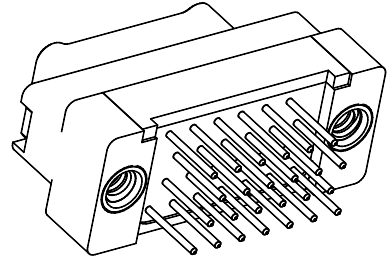
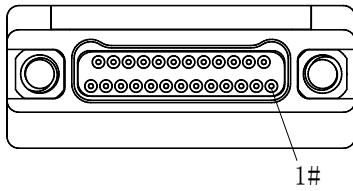
| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.4   | 31pins    | 16.61     | 13.84 | 11.3  | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

Remark: All dimensions are in mm

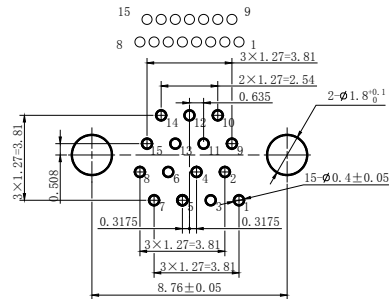




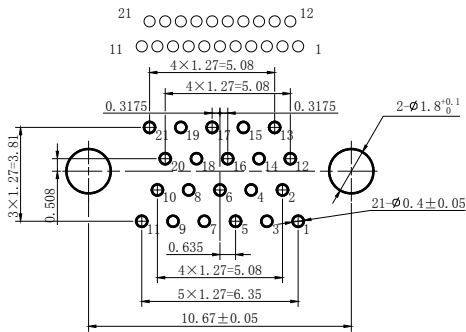
## Suggested PCB Layout



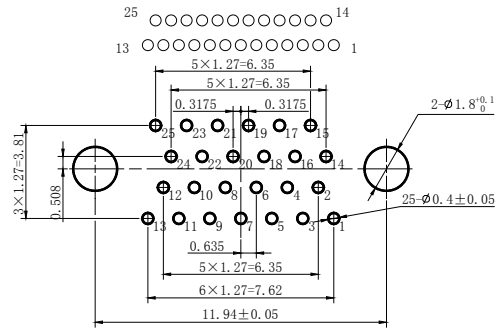
**R06-221-S1/S2/S3-9PI-TH**



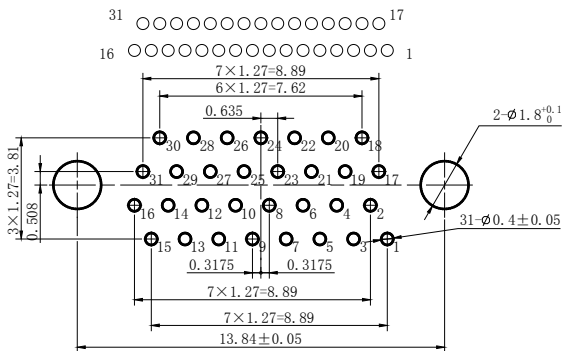
**R06-221-S1/S2/S3-15PI-TH**



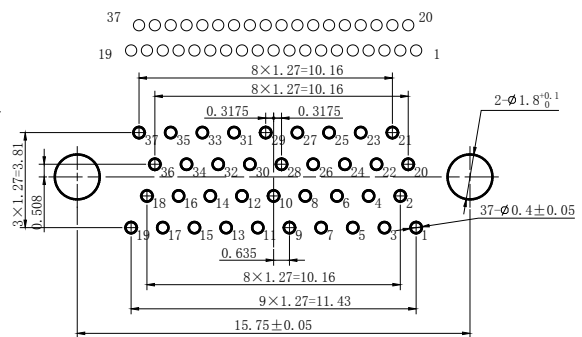
**R06-221-S1/S2/S3-21PI-TH**



**R06-221-S1/S2/S3-25PI-TH**



**R06-221-S1/S2/S3-31PI-TH**

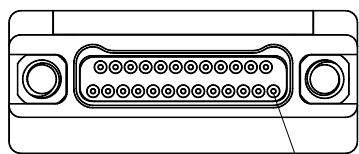


**R06-221-S1/S2/S3-37PI-TH**

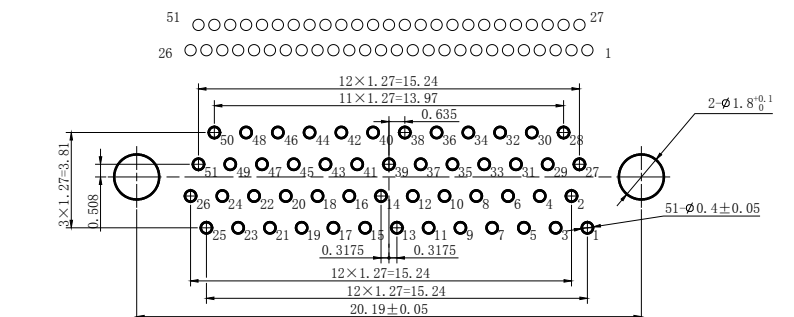
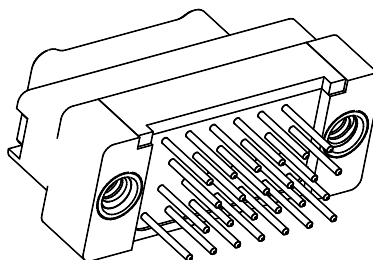
Remark: All dimensions are in mm



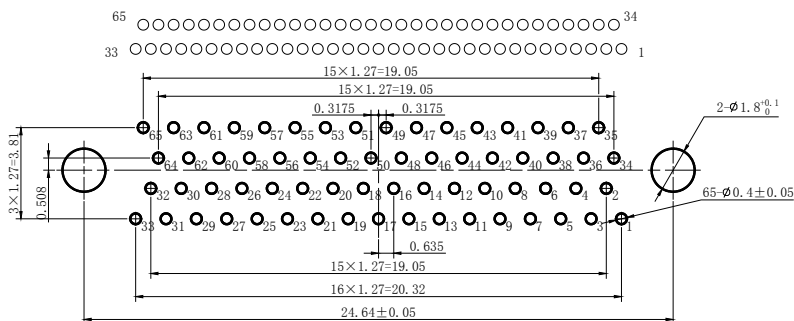
### Suggested PCB Layout



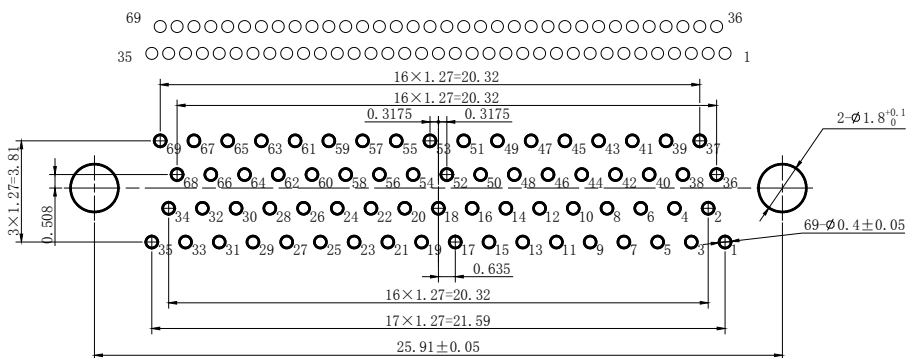
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**R06-221-S1/S2/S3-51PI-TH**



**R06-221-S1/S2/S3-65PI-TH**




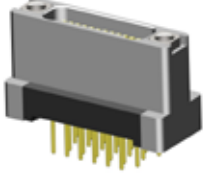
**R06-221-S1/S2/S3-69PI-TH**

Remark: All dimensions are in mm



# R06 Straight to PCB Receptacle Series

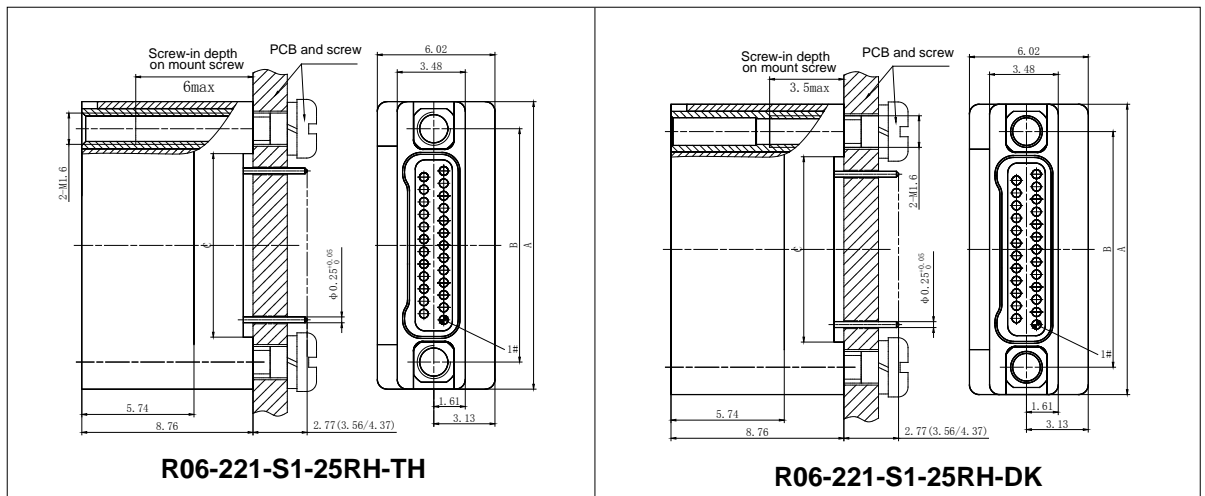
## Order marks

|                                       |     |    |   |   |    |   |     |    |     |   |
|---------------------------------------|-----|----|---|---|----|---|-----|----|-----|---|
| <b>Series</b>                         | R06 | -2 | 2 | 1 | -S | 1 | -25 | RH | -TH |  <p><b>R06-221-S1-25RH-TH</b></p>  <p><b>R06-221-S1-25RH-DK</b></p> |
| <b>Contact row:</b>                   |     |    |   |   |    |   |     |    |     |   |
| 2 — tow rows                          |     |    |   |   |    |   |     |    |     |   |
| <b>Shell plating:</b>                 |     |    |   |   |    |   |     |    |     |   |
| 2 — nickel plating                    |     |    |   |   |    |   |     |    |     |   |
| <b>Contact plating:</b>               |     |    |   |   |    |   |     |    |     |   |
| 1 — gold plating                      |     |    |   |   |    |   |     |    |     |   |
| <b>Tail termination type :</b>        |     |    |   |   |    |   |     |    |     |   |
| S — straight to pcb                   |     |    |   |   |    |   |     |    |     |   |
| <b>Tail length:</b>                   |     |    |   |   |    |   |     |    |     |   |
| 1 — 2.77mm                            |     |    |   |   |    |   |     |    |     |   |
| 2 — 3.56mm                            |     |    |   |   |    |   |     |    |     |   |
| 3 — 4.37mm                            |     |    |   |   |    |   |     |    |     |   |
| <b>Contact number:</b>                |     |    |   |   |    |   |     |    |     |   |
| 9、15、21、25、31、37、51、65、69             |     |    |   |   |    |   |     |    |     |   |
| <b>Contact type :</b>                 |     |    |   |   |    |   |     |    |     |   |
| RH — socket in receptacle             |     |    |   |   |    |   |     |    |     |   |
| <b>Locking type:</b>                  |     |    |   |   |    |   |     |    |     |   |
| DK — guide hole      TH — connect nut |     |    |   |   |    |   |     |    |     |   |

### Remark

- R06-221-S\*-\*\*RH-TH usually mated with plug which have locking screw, R06-221-S\*-\*\*PI-DK usually mated with plug which have guide pin
- 3 kinds of tail length, customized produce for other length

## Outline dimension

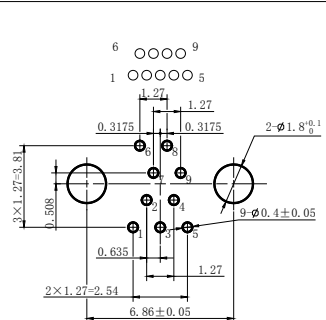
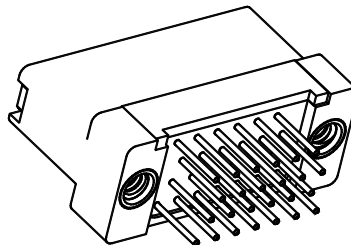
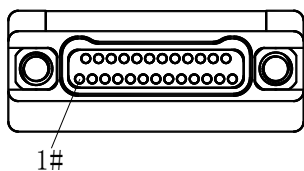


| Pin count | Dimension |       |       | Pin count | Dimension |       |       | Pin count | Dimension |       |       |
|-----------|-----------|-------|-------|-----------|-----------|-------|-------|-----------|-----------|-------|-------|
|           | A         | B     | C     |           | A         | B     | C     |           | A         | B     | C     |
| 9pins     | 9.63      | 6.86  | 4.31  | 15pins    | 11.53     | 8.76  | 6.22  | 21pins    | 13.44     | 10.67 | 8.13  |
| 25pins    | 14.71     | 11.94 | 9.4   | 31pins    | 16.61     | 13.84 | 11.3  | 37pins    | 18.52     | 15.75 | 13.21 |
| 51pins    | 22.96     | 20.19 | 17.65 | 65pins    | 27.41     | 24.64 | 22.10 | 69pins    | 28.68     | 25.91 | 23.37 |

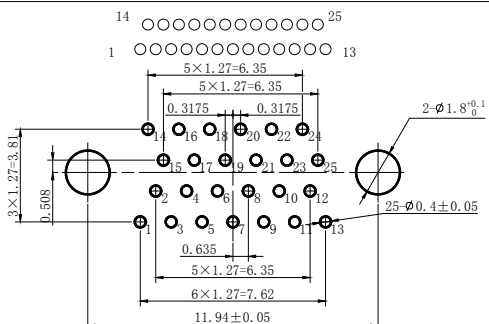
Remark: All dimensions are in mm



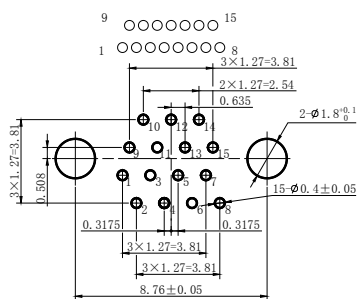
## Suggested PCB Layout



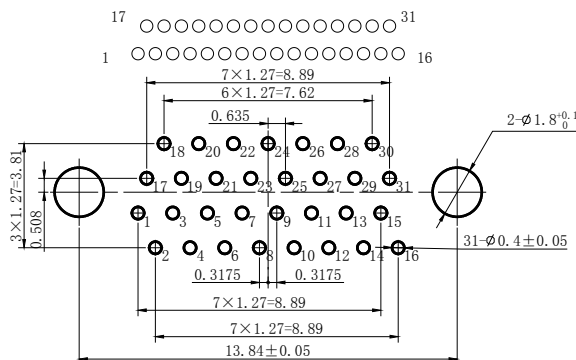
**R06-221-S1/S2/S3-9RH-TH**



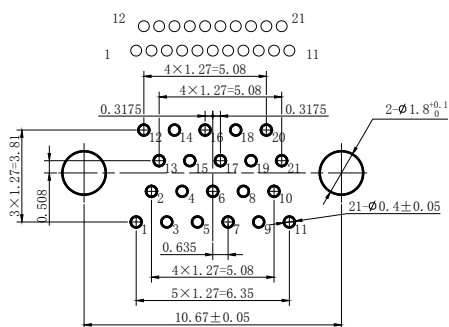
**R06-221-S1/S2/S3-25RH-TH**



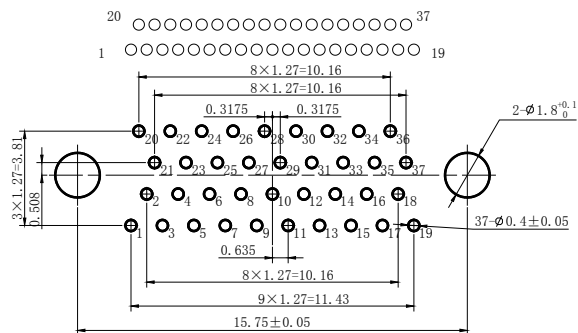
**R06-221-S1/S2/S3-15RH-TH**



**R06-221-S1/S2/S3-31RH-TH**



**R06-221-S1/S2/S3-21RH-TH**

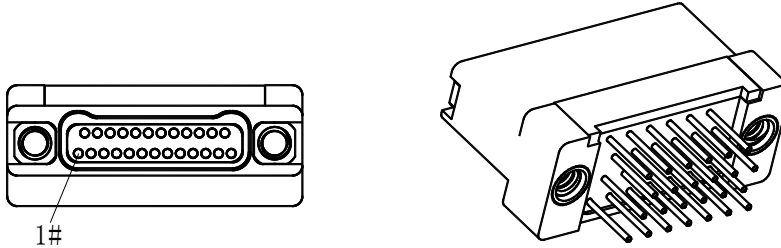


**R06-221-S1/S2/S3-37RH-TH**

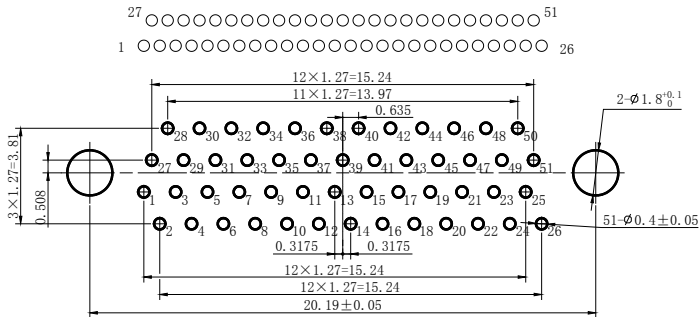
Remark: All dimensions are in mm



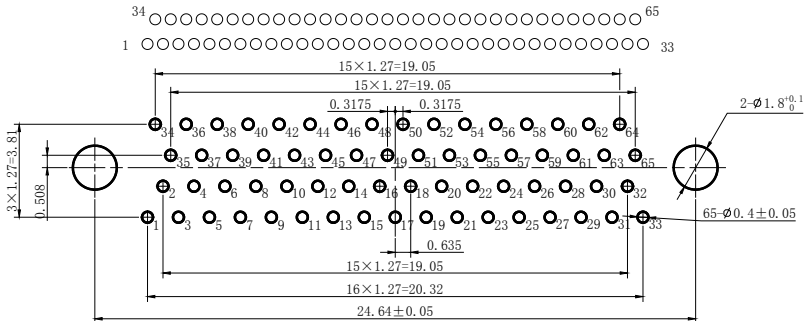
## Suggested PCB Layout



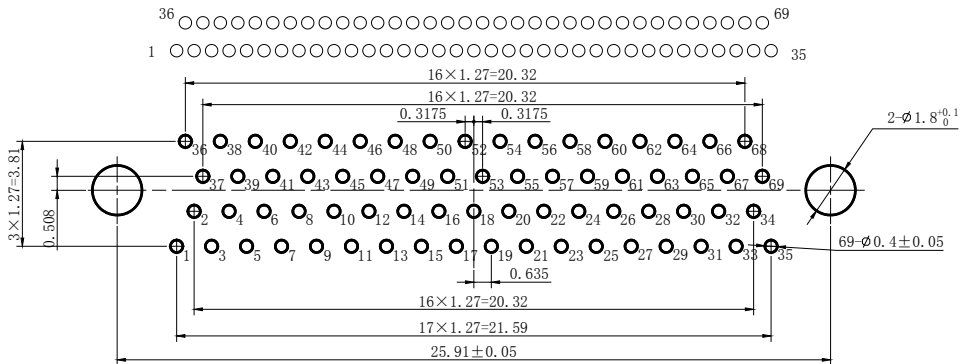
1#



**R06-221-S1/S2/S3-51RH-TH**



**R06-221-S1/S2/S3-65RH-TH**



**R06-221-S1/S2/S3-69RH-TH**

Remark: All dimensions are in mm

