



# R04 Series Microminiature Rectangular Connector

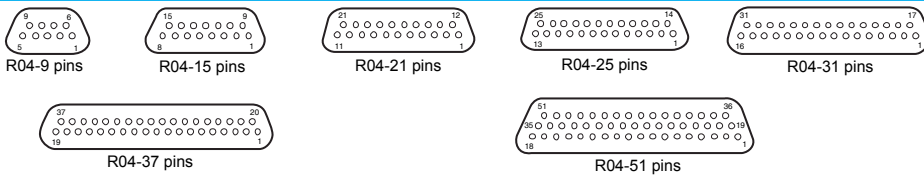
## Brief introduction

- Contacts: 9, 15, 21, 25, 31, 37, 51 pins
- Twist pin contacts, good connection performance
- The sectional area of the cable core is 0.1mm<sup>2</sup>–0.15mm<sup>2</sup>. besides, you can use 0.07mm<sup>2</sup> cable.
- The performance meet the standard of MIL–TDL–83513
- The locking component of this series should be ordered separately. If the customer would like the locking components be assembled on the connectors, please need to state in the purchase order.
- Standard: E/SC–A7 (03)–51–2005

## Specification

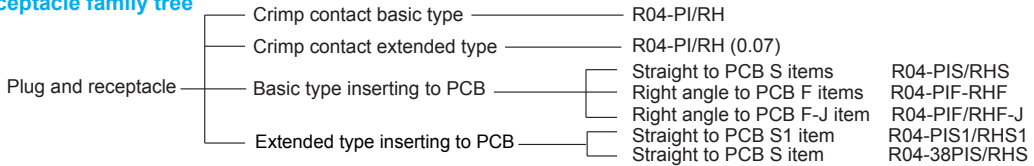
- Environment temperature: –55°C~+125°C
- Vibration: 10Hz~2000Hz 196m/s<sup>2</sup>
- Random vibration: Power spectral density 0.4G<sup>2</sup>/Hz, root mean square value of total acceleration 23.1G
- Shock: 980m/s<sup>2</sup> 11ms
- Rated current: 3A
- Contact resistance: ≤ 10mΩ
- Insulation resistance: ≥ 5000MΩ
- Dielectric strength: 800V
- Durability: 500 times

## Contact arrangement

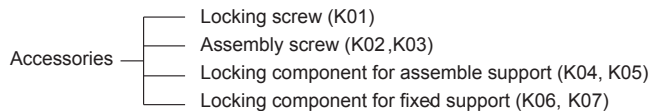


## Product family tree

### plug & receptacle family tree



### accessories family tree



### Notes:

When order R04 series connectors, if you need assembly and locking component, please state the accessory part no. in purchase order.

## How to order

R04 – ① ② ③ PI/RH ④ J (Remark)  
① ② ③ ④ ⑤ ⑥

- ① R04 – Serial number;
- ② No designation – plastic outer shell
- ③ Contacts: 9, 15, 21, 25, 31, 37, 51pins
- ④ PI/RH– Type of connector and contact  
PI–pin in plug, RH– socket in receptacle  
PI and RH is fixed couple.
- ⑤ Termination type:  
No designation- crimp contact;  
J- solder contact;  
S – straight to PCB;  
F–right angle to PCB

- ⑥ J– Right angle to PCB, the net grid size on PCB is 1.27mm\*2.54mm

Remark: The covering is not included in the order information, please mark cable details in the bracket.

For example: the cable sectional area, length and color, etc.  
If it is not standard cable, please provide us spec and drawing.

### Example

**R04- 37PIF -J**

This means R04 series plug with 37 pins, termination type is right angle to PCB, the grid net size on PCB is 1.27mm \* 2.54mm.

## R04 series connectors/ R04 crimp contact basic type plug&receptacle

■ Plug  
■ R04-9, 15, 21, 25, 31, 37, 51 PI

■ Receptacle  
■ R04-9, 15, 21, 25, 31, 37, 51 RH

### Product solid picture



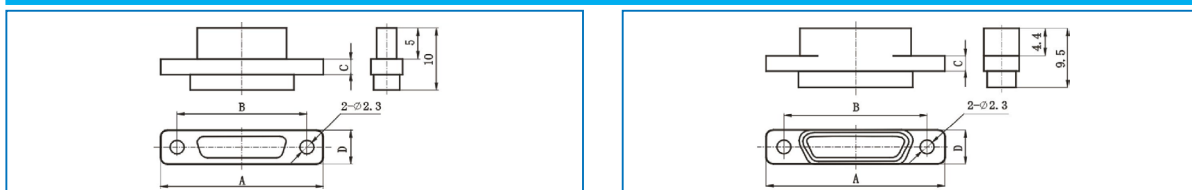
R04-31PI

R04-51PI

R04-31RH

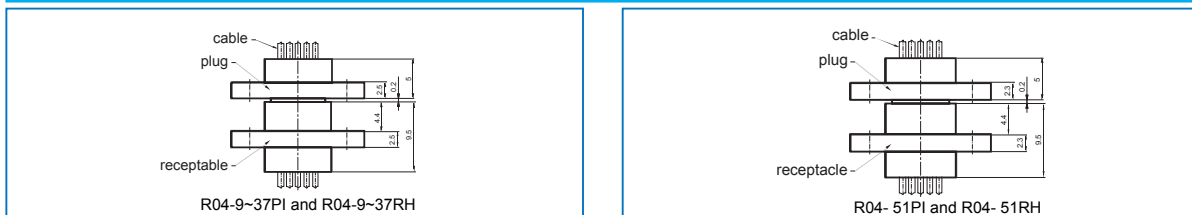
R04-51RH

### Appearance dimension of plug and receptacle



Item no.	A	B	C	D	Item no.	A	B	C	D
R04-9PI	19.8	14.3	2.5	5.4	R04-9RH	19.8	14.3	2.5	5.4
R04-15PI	23.6	18.2	2.5	5.4	R04-15RH	23.6	18.2	2.5	5.4
R04-21PI	27.5	22	2.5	5.4	R04-21RH	27.5	22	2.5	5.4
R04-25PI	30	24.5	2.5	5.4	R04-25RH	30	24.5	2.5	5.4
R04-31PI	33.7	28.3	2.5	5.4	R04-31RH	33.7	28.3	2.5	5.4
R04-37PI	37.5	32.2	2.5	5.4	R04-37RH	37.5	32.2	2.5	5.4
R04-51PI	36.3	30.8	2.3	6.5	R04-51RH	36.3	30.8	2.3	6.5

### Appearance dimension after mating



R04-9~37PI and R04-9~37RH

R04-51PI and R04-51RH

### R04 series connectors/ R04 crimp contact extended type plug&receptacle

Crimp contact, cable can be assembled on the connector, cable core sectional area is 0.07mm<sup>2</sup>.

■ Plug:R04-9,15,21,25,31,37,51PI(0.07)

■ Receptacle:R04-9,15,21,25,31,37,51RH(0.07)

### R04 series connectors/ R04 basic type plug&receptacle inserting to PCB

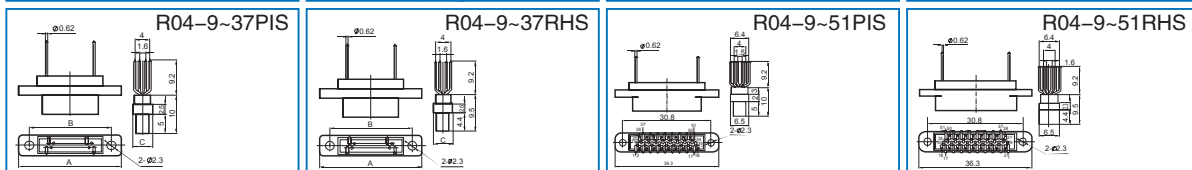
Straight to PCB contact, the grid net size on PCB is 2.54mm\*2.54mm.

■ Plug

■ Receptacle

■ R04-9, 15, 21, 25, 31, 37, 51PIS

■ R04-9, 15, 21, 25, 31, 37, 51RHS



Item no.	A	B	C	Item no.	A	B	C
R04-9PIS	19.8	14.3	5.4	R04-9RHS	19.8	14.3	5.4
R04-15PIS	23.6	18.2	5.4	R04-15RHS	23.6	18.2	5.4
R04-21PIS	27.5	22	5.4	R04-21RHS	27.5	22	5.4
R04-25PIS	30	24.5	5.4	R04-25RHS	30	24.5	5.4
R04-31PIS	33.7	28.3	5.4	R04-31RHS	33.7	28.3	5.4
R04-37PIS	37.5	32.2	5.4	R04-37RHS	37.5	32.2	5.4



### R04 series connectors/ R04 extended type inserting to PCB (straight to PCB S1 items)

Termination type is straight to PCB contact, extended type plug and receptacle.

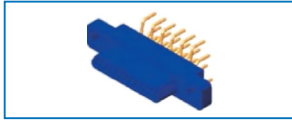
■ Plug

■ Receptacle

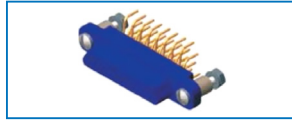
■ R04-9, 15, 21, 25, 31, 37, 51 PIS1

■ R04-9, 15, 21, 25, 31, 37, 51 RHS1

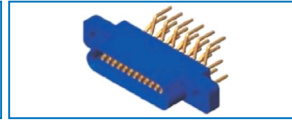
#### Product solid picture



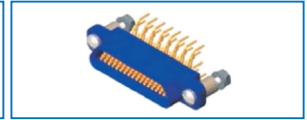
R04-25PIS1



R04-51PIS1

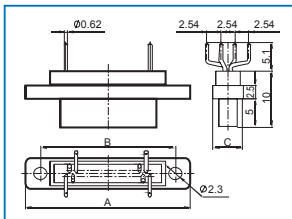


R04-25RHS1

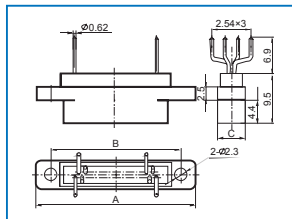


R04-51RHS1

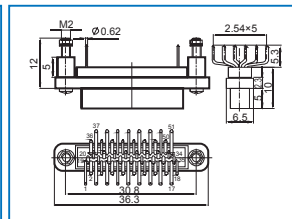
#### Appearance dimension



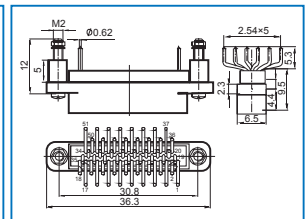
R04-9~37PIS1



R04-9~37RHS1



R04-51PIS1



R04-51RHS1

Item no.	A	B	C	Item no.	A	B	C
R04-9PIS1	19.8	14.3	5.4	R04-9RHS1	19.8	14.3	5.4
R04-15PIS1	23.6	18.2	5.4	R04-15RHS1	23.6	18.2	5.4
R04-21PIS1	27.5	22	5.4	R04-21RHS1	27.5	22	5.4
R04-25PIS1	30	24.5	5.4	R04-25RHS1	30	24.5	5.4
R04-31PIS1	33.7	28.3	5.4	R04-31RHS1	33.7	28.3	5.4
R04-37PIS1	37.5	32.2	5.4	R04-37RHS1	37.5	32.2	5.4

### R04 series connectors/ R04 basic type inserting to PCB (right angle to PCB F items)

Termination type is right angle to PCB contact, the net grid size on PCB is 2.54mm\*2.54mm

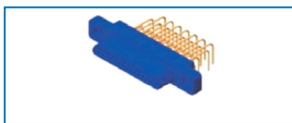
■ Plug

■ Receptacle

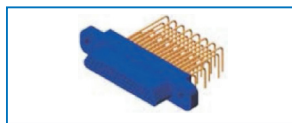
■ R04-9, 15, 21, 25, 31, 37, 51 PIF

■ R04-9,15, 21, 25, 31, 37, 51 RHF

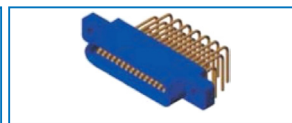
#### Product solid picture



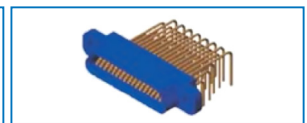
R04-31PIF



R04-51PIF

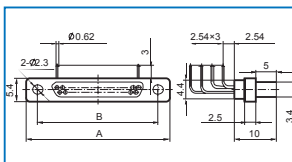


R04-31RHF

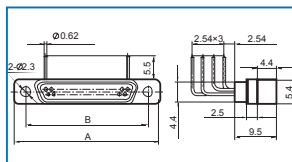


R04-51RHF

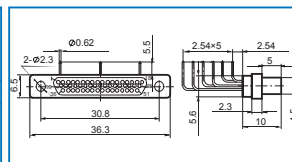
#### Appearance dimension



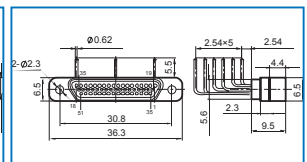
R04-9~37PIF



R04-9~37RHF



R04-51PIF



R04-51RHF

Item no.	A	B	Item no.	A	B
R04-9PIF	19.8	14.3	R04-9RHF	19.8	14.3
R04-15PIF	23.6	18.2	R04-15RHF	23.6	18.2
R04-21PIF	27.5	22	R04-21RHF	27.5	22
R04-25PIF	30	24.5	R04-25RHF	30	24.5
R04-31PIF	33.7	28.3	R04-31RHF	33.7	28.3
R04-37PIF	37.5	32.2	R04-37RHF	37.5	32.2

### R04 series connectors/ R04 basic type inserting to PCB (right angle PCB F-J items)

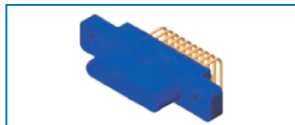
Termination type is right angle to PCB contact, the net grid size on PCB is 1.27mm\*2.54mm

■ Plug

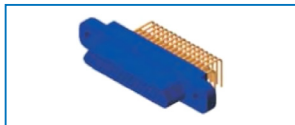
■ R04-9, 15, 21, 25, 31, 37, 51 PIF-J

■ Receptacle

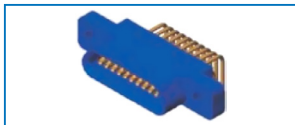
■ R04-9, 15, 21, 25, 31, 37, 51 RHF-J



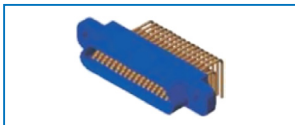
R04-21PIF-J



R04-51PIF-J

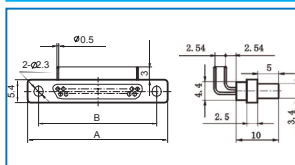


R04-21RHF-J

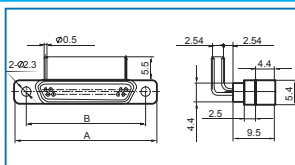


R04-51RHF-J

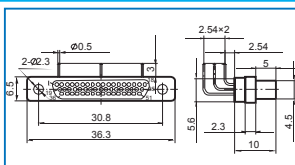
### Appearance dimension



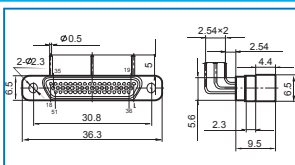
R04-9~37PIF-J



R04-9~37RHF-J



R04-51PIF-J



R04-51RHF-J

Item no.	A	B	Item no.	A	B
R04-9PIF-J/RHF-J	19.8	14.3	R04-25PIF-J/RHF-J	30	24.5
R04-15PIF-J/RHF-J	23.6	18.2	R04-31PIF-J/RHF-J	33.7	28.3
R04-21PIF-J/RHF-J	27.5	22	R04-37PIF-J/RHF-J	37.5	32.2

### R04 series connectors/ R04 extended type inserting to PCB (straight to PCB S items)

Termination type: plug - straight to PCB; receptacle - right angle to PCB and SMT.

Locking screw is in the middle of the connector, as below image shows.

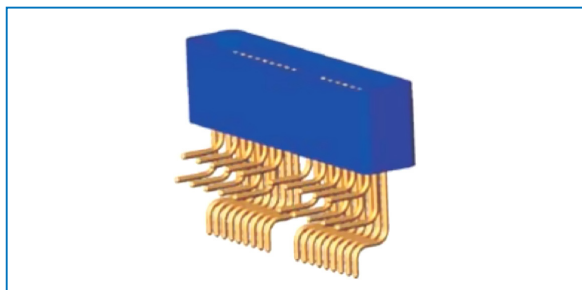
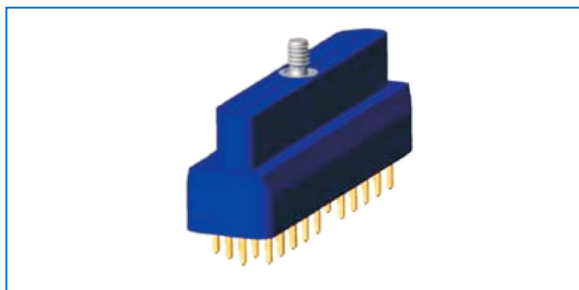
■ Plug

■ R04-38PIS

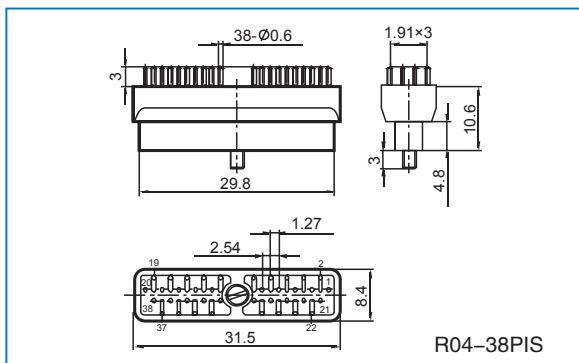
■ Receptacle

■ R04-38RHS

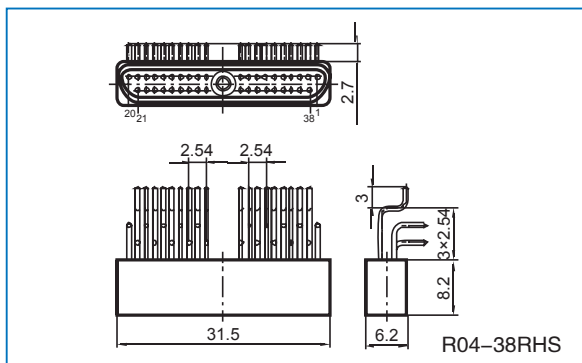
### Product solid picture



### Appearance dimension



R04-38PIS



R04-38RHS

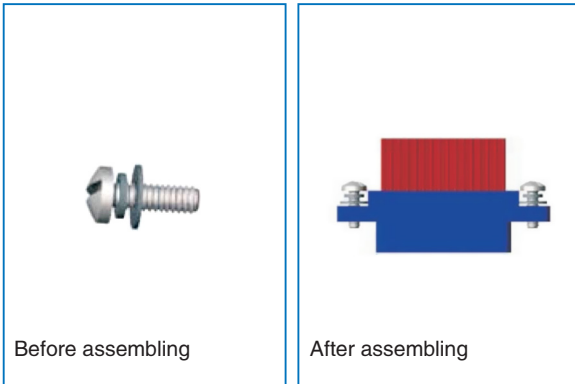


## R04 accessories

- Locking components and assembling components.
- Locking components are commonly used for locking and fixing the connectors when mating.
- Assembly components are widely used for fixing the connectors with the PCB or mounting panel.
- Application: locking components: crimp contact basic type; assembly components: inserting to PCB series.

### K01 locking screw component

#### Product solid picture

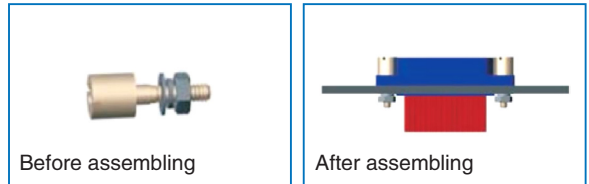


#### K01 locking screw components matching instruction

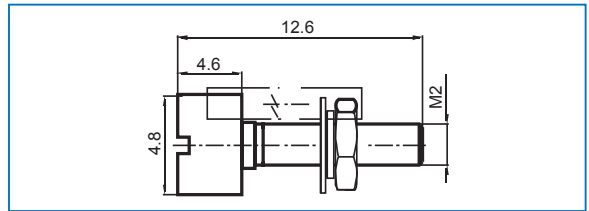
Item no.	feature of the screw component	Matching pieces
K01	all the components are standard pieces (screw size:M2*6)	K02 K03

### K02 assembly screw components

#### Product solid picture



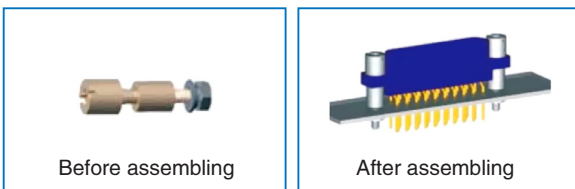
#### Appearance dimension



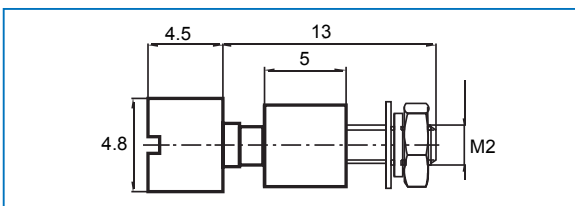
Item no.	feature of the screw component	Matching pieces
K02	all the components are standard (component size as below drawing shows)	K01

### K03 locking screw component

#### Product solid picture



#### Appearance dimension

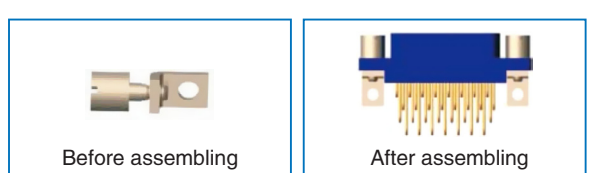


#### K03 locking screw components matching instruction

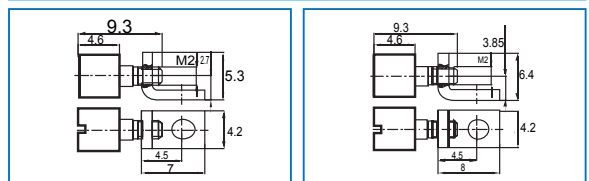
Item no.	Application	Matching pieces
K03	Apply to straight pcb series connectors, PCB board thickness shall be less than 2.5mm	K01

### K04, K05 locking screw component

#### Product solid picture



#### Appearance dimension

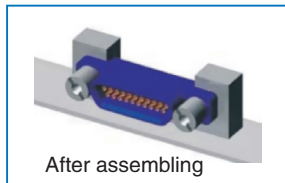
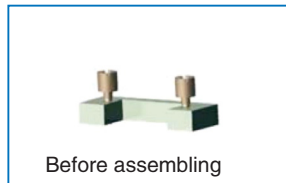


#### K04, K05 locking component matching instruction

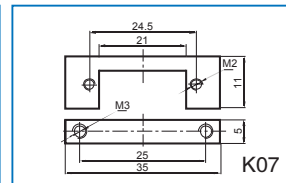
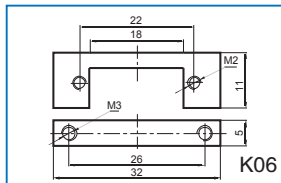
Item no.	Application	Matching pieces
K04	R04-9, 15, 21, 25, 31, 37P IF/PI F-/RHF/RHF-J	K04
K05	R04-51PIF/PIF-/RHF/RHF-J	K05

## K06, 07 locking components for fixing

### Product solid picture



### Appearance Dimension



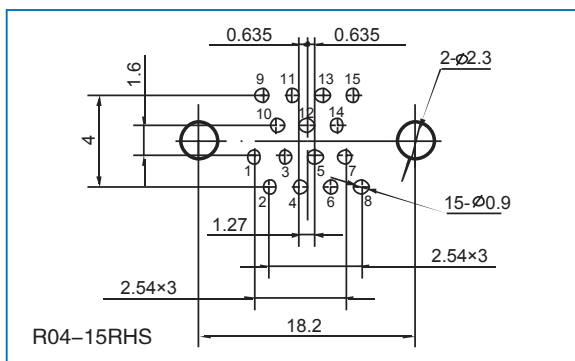
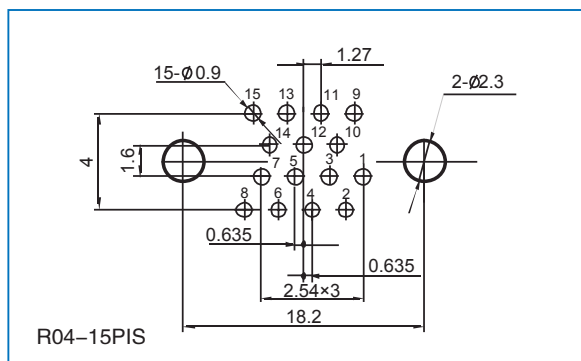
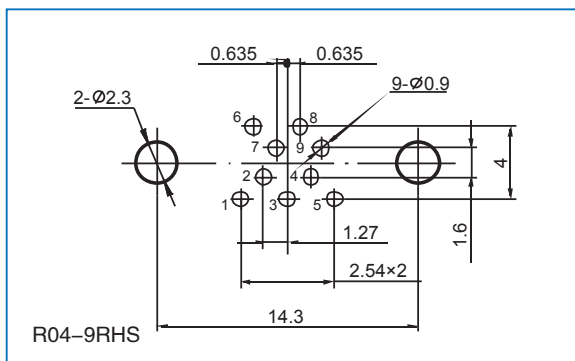
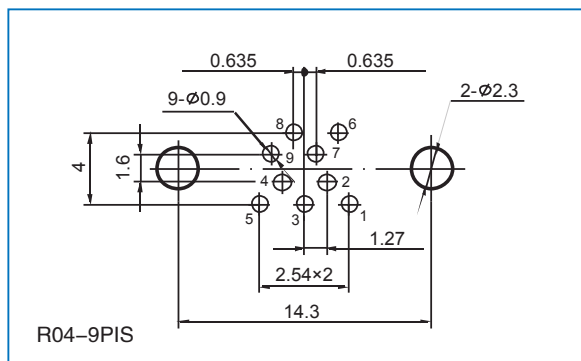
Item no.	Application
K06	R04-9, 15, 21, 25, 31, 37P IF/PI F-J/RHF/RHF-J
K07	R04-51PIF/PIF-J/RHF/RHF-J

## R04 series mounting hole dimension

The mounting hole dimension of R04 crimp contact series (front panel mounting)

	Contacts	A	B	C	D
	9 pins	10.1 mm	4.6 mm	14.3 mm	2.3 mm
	15 pins	14.2 mm	4.6 mm	18.2 mm	2.3 mm
	21 pins	17.9 mm	4.6 mm	22 mm	2.3 mm
	25 pins	20.8 mm	4.6 mm	24.5 mm	2.3 mm
	31 pins	24.2 mm	4.6 mm	28.3 mm	2.3 mm
	37 pins	28.2 mm	4.6 mm	32.2 mm	2.3 mm
	51 pins	26.9 mm	4.6 mm	30.5 mm	2.3 mm

## R04 series PCB layout

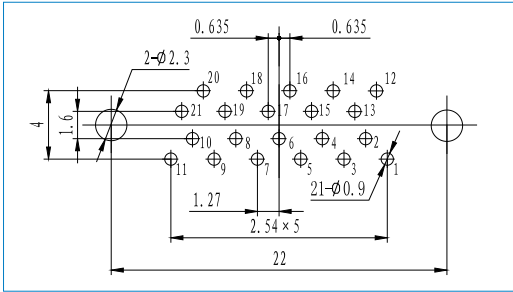




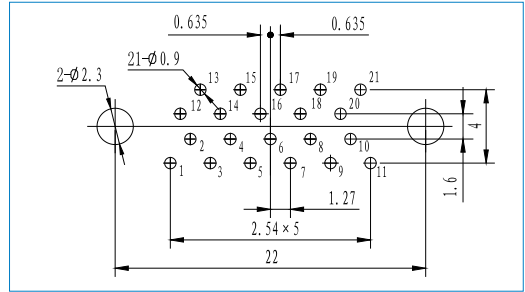
## R04 series PCB Layout

### R04-□PIS/□RHS

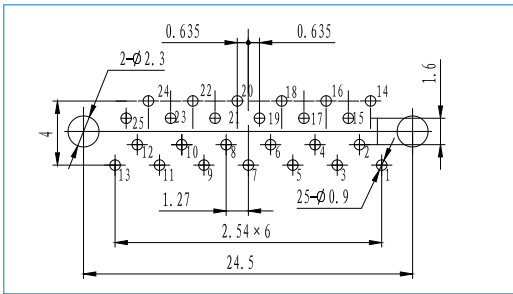
#### R04-21PIS



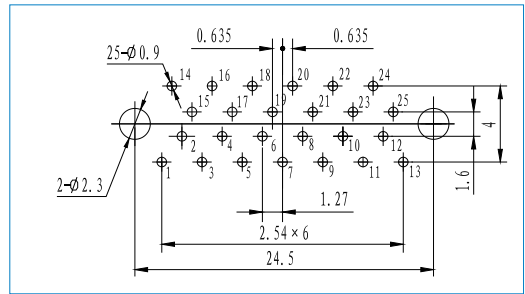
#### R04-21RHS



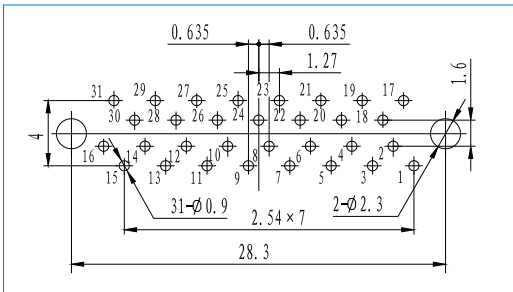
#### R04-25PIS



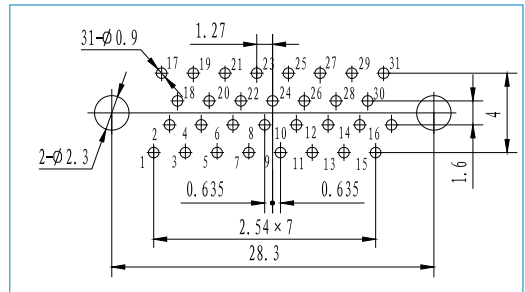
#### R04-25RHS



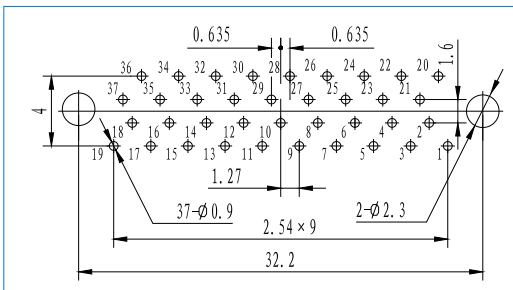
#### R04-31PIS



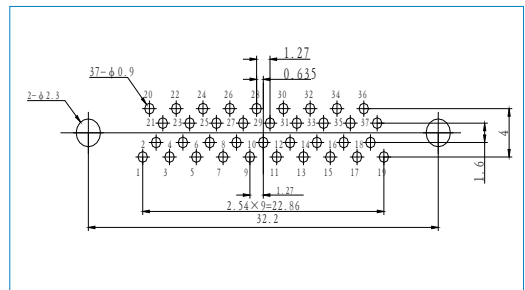
#### R04-31RHS



#### R04-37PIS

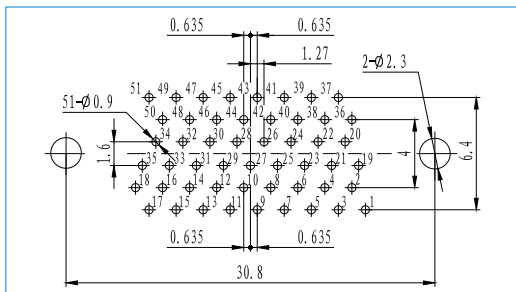


#### R04-37RHS

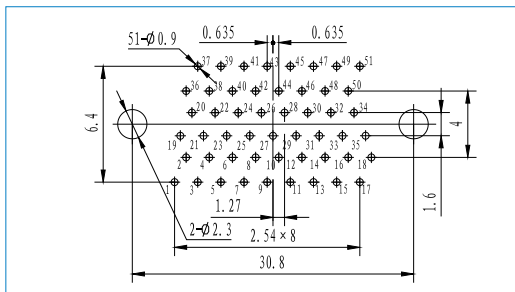


### R04-□PIS/□RHS

#### ■ R04-51PIS

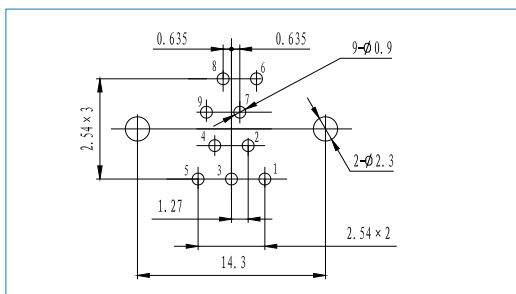


#### ■ R04-51RHS

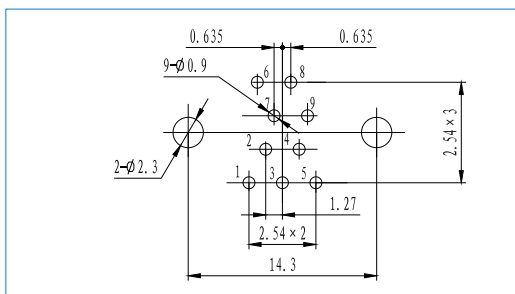


### R04-□PIS1/□RHS1(the net grid size on PCB:2.54\*2.54mm)

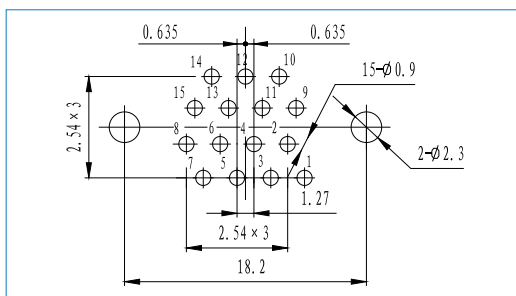
#### ■ R04-9PIS1



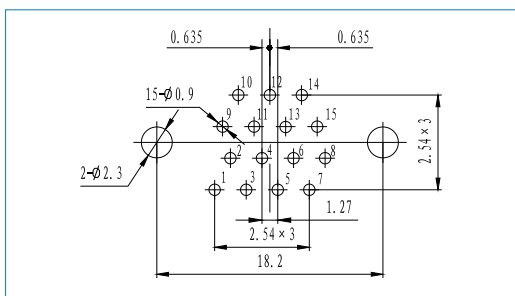
#### ■ R04-9RHS1



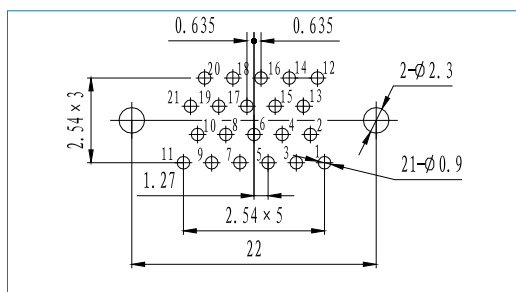
#### ■ R04-15PIS1



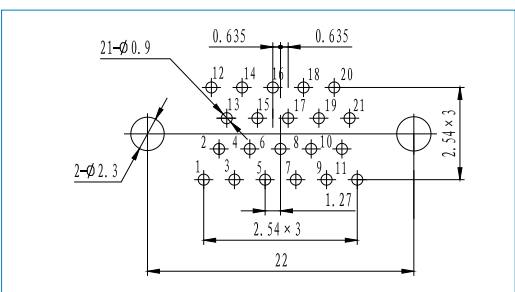
#### ■ R04-15RHS1



#### ■ R04-21PIS1



#### ■ R04-21RHS1

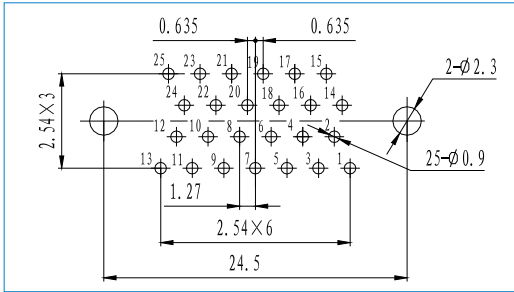




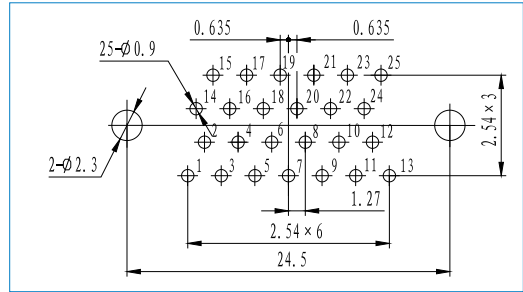


R04-□PIS1/□RHS1 (the net grid size on PCB: 2.54\*2.54mm)

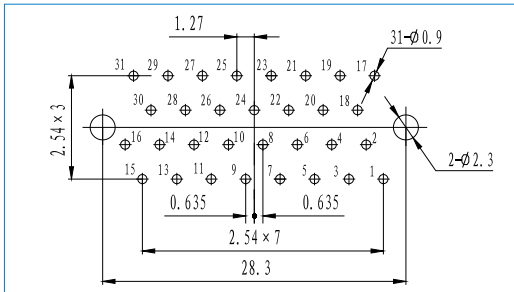
■ R04-25PIS1



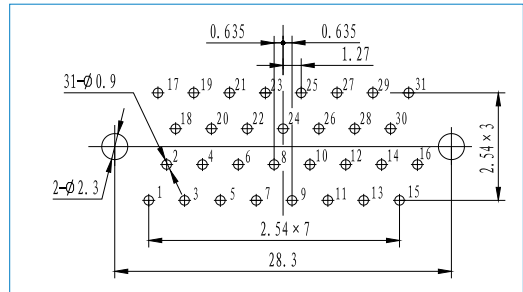
■ R04-25RHS1



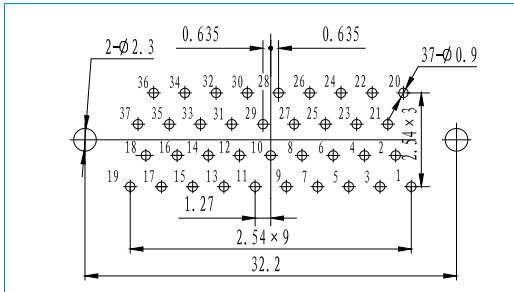
■ R04-31PIS1



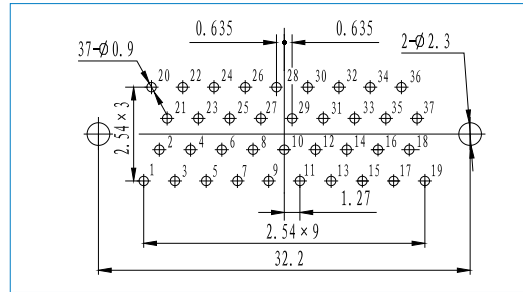
■ R04-31RHS1



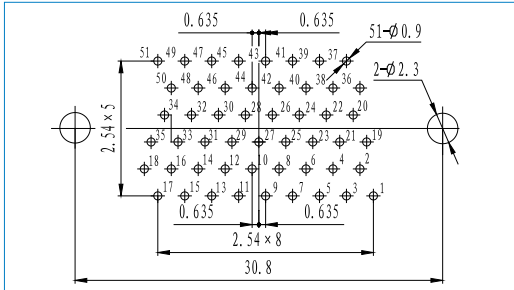
■ R04-37PIS1



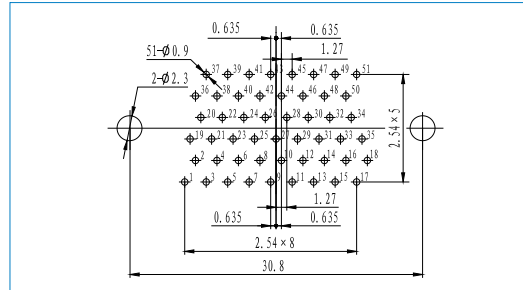
■ R04-37RHS1



■ R04-51PIS1

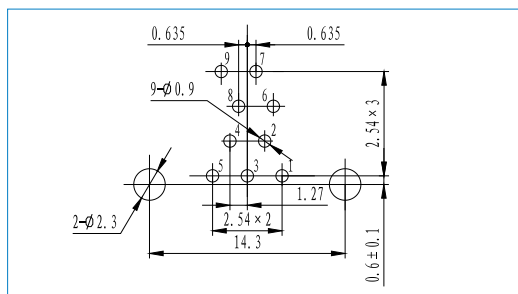


■ R04-51RHS1

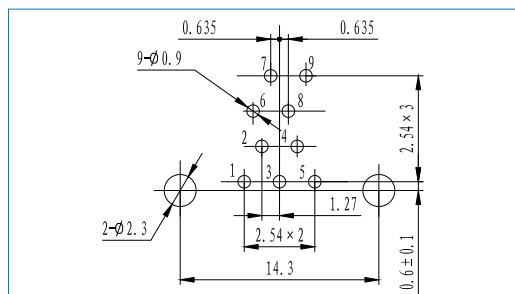


R04-□PIF/□RHF (the net grid size on PCB:2.54\*2.54)

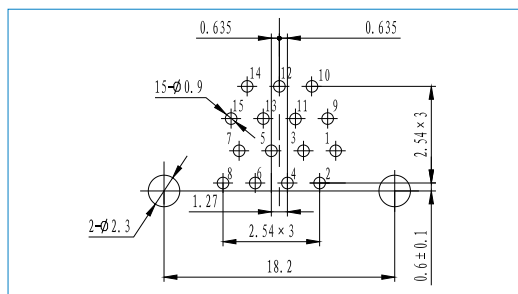
■ R04-9PIF



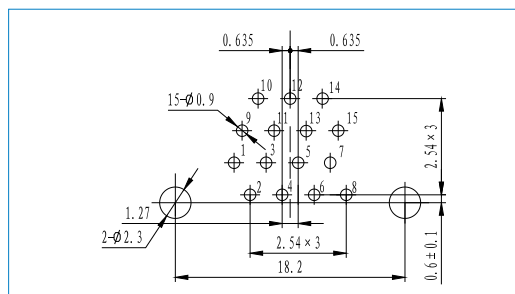
■ R04-9RHF



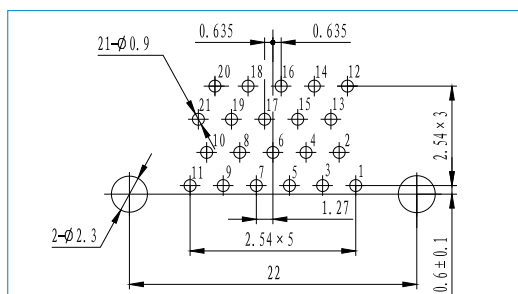
■ R04-15PIF



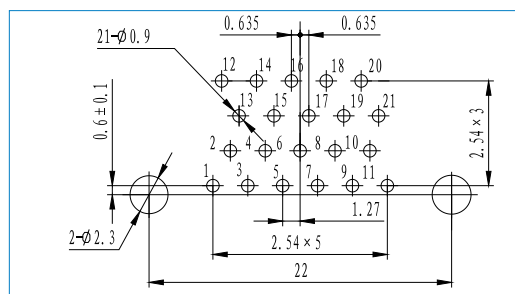
■ R04-15RHF



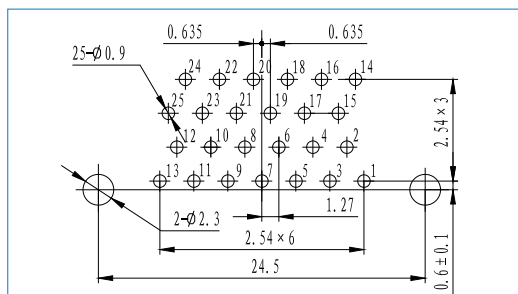
■ R04-21PIF



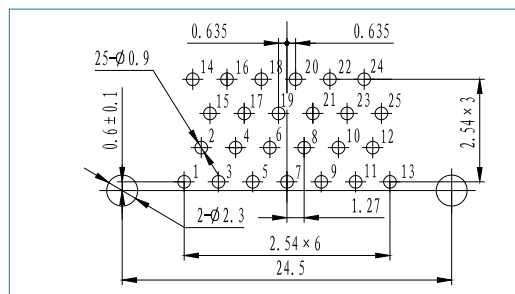
■ R04-21RHF



■ R04-25PIF



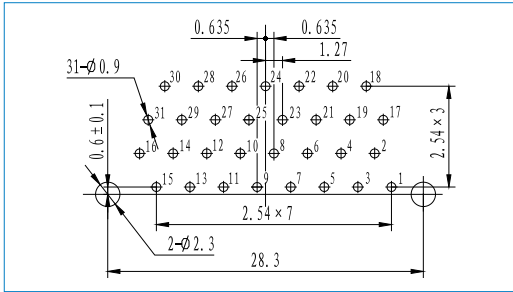
■ R04-25RHF



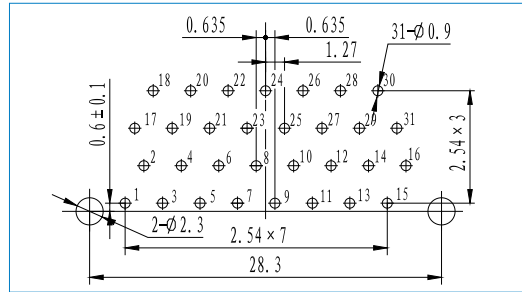


R04-□PIF/□RHF (the net grid size on PCB:2.54\*2.54mm)

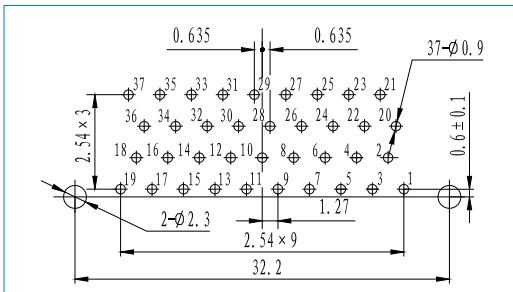
■ R04-31PIF



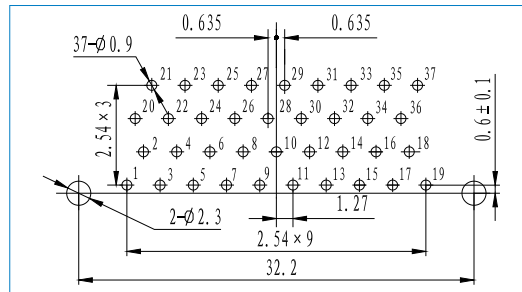
■ R04-31RHF



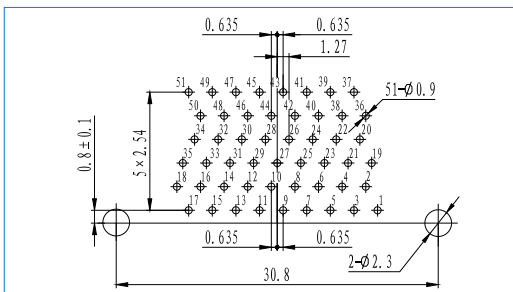
■ R04-37PIF



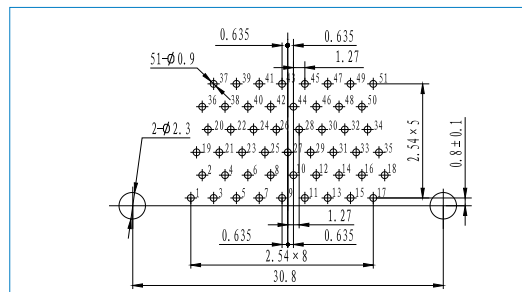
■ R04-37RHF



■ R04-51PIF

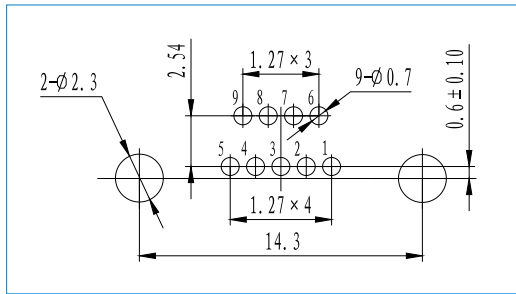


■ R04-51RHF

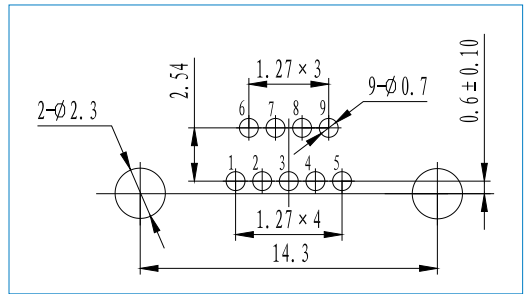


R04-□PIF-J/□RHF-J (the net grid size on PCB:1.27\*2.54mm)

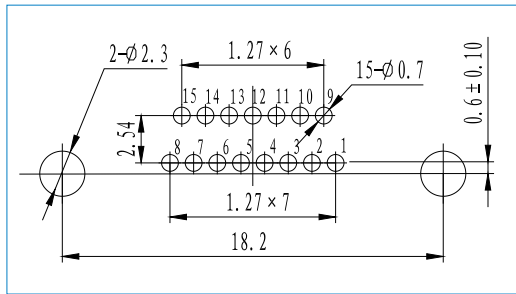
■ R04-9PIF-J



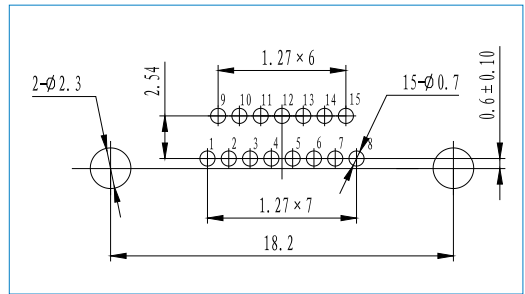
■ R04-9RHF-J



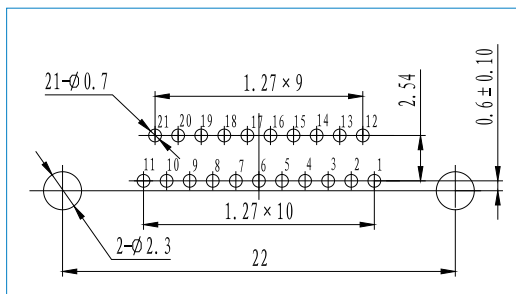
■ R04-15PIF-J



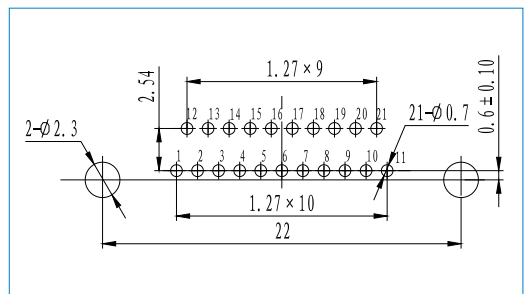
■ R04-15RHF-J



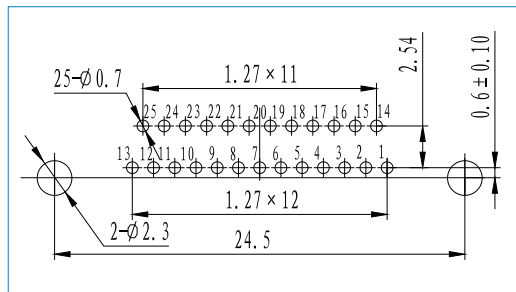
■ R04-21PIF-J



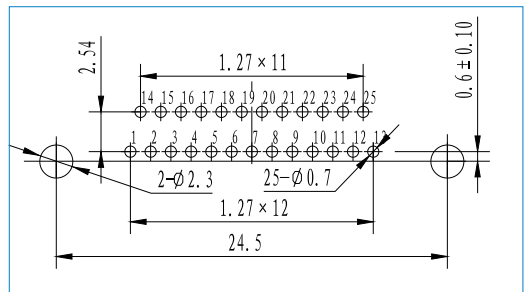
■ R04-21RHF-J



■ R04-25PIF-J



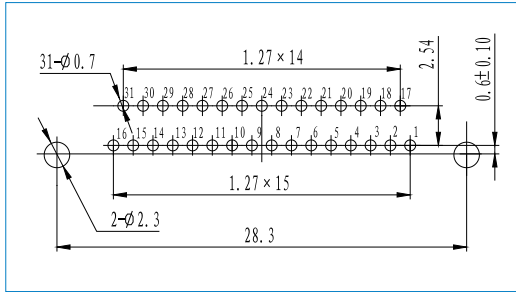
■ R04-25RHF-J



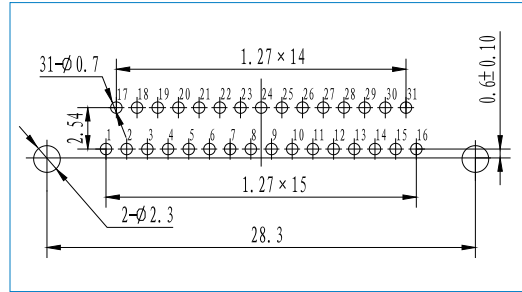


R04-PIF-J/RHF-J (the net grid size on PCB:1.27\*2.54mm)

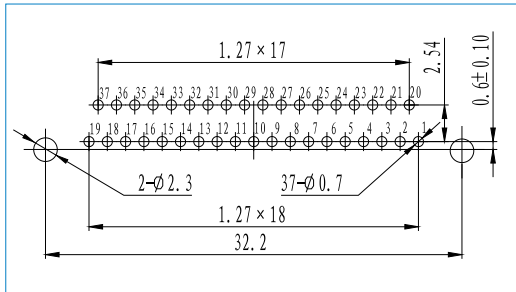
R04-31PIF-J



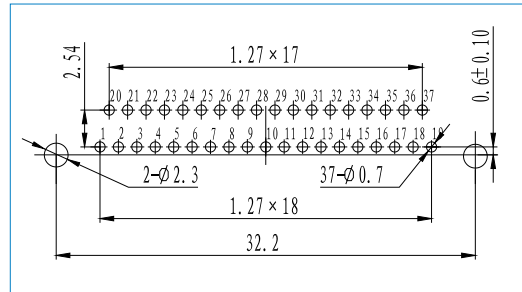
R04-31RHF-J



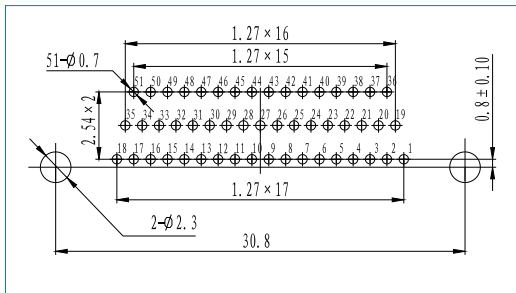
R04-37PIF-J



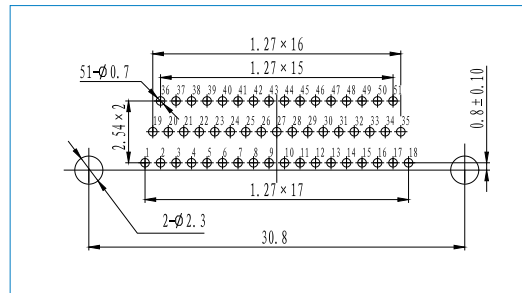
R04-37RHF-J



R04-51PIF-J



R04-51RHF-J



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