R04S Series Connectors for Space Applications
Space Grade Micro D Connector Straight to PCB Style

SA style

Brief Introduction

- Micro-D connectors for space applications
- Twist pin contacts, high density interconnection, 1.27mm contact spacing and 1.1mm spacing between rows.
- Contacts:9,15,21,31,37, 51pins.
- SA & SB style.
- Product feature:small and light, antivibration etc. high performance.
- Meet space applications.

Material and finish

Item	Material	Finish
shell	Aluminum alloy	Electroless nickel plating
insulator	20%GPPS	—
seal ring	Silicone rubber	—
contacts	copper alloy	gold plating
locking hardware	stainless steel	passivation
backshell	Aluminum alloy	Electroless nickel plating

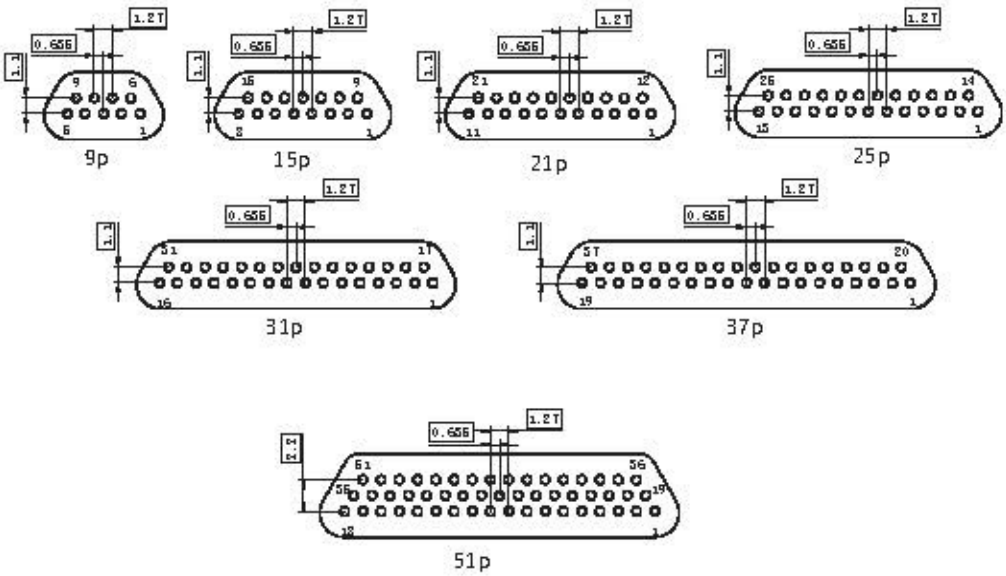
Electrical Performance

Performance	Marking	Rating value
Current rating(max)	I	3A(24#),13A(16#)
Dielectric withstanding voltage (sea level)	U	800 Vr.m.x(50Hz)
Contact resistance	R	≤ 10mΩ (24#),≤ 5mΩ (16#)
Insulation resistance(500VDS, sea leavel)	R	≥ 5000MΩ

Environment performance

Performance	Rating value	Test method
Environment temperature range:	-55 ~ +125 ℃	/
Durability	500 mating cycles	/
Vibration	10Hz ~ 2000Hz, $294m^2/s$	EIA-364-28, test condition IV
Random vibration	Power spectral density $0.6G^2/Hz$, root mean square value of total acceleration 28.4G	/
Shock	$980m/s^2$、6ms	EIA-364-27, test condition E
Salt spray	96h	EIA-364-26, test condition B
Humidity	240h	EIA-364-31, test condition IV
Thrmal shock	-55 ~ +125℃	EIA-364-32, test condition IV
Contact engaging and separating force	0.3 ~ 1.5 N (24#) 0.56 ~ 8.35N (16#)	/
Irradiation resistant	Total dose:$1X10^5$Gy	/
Thermal vacuum outgassing	TML ≤ 1%, CVCM ≤ 0.1%	/
Magnetic permeability	200 gamma	/

Contact arrangements



Mating face of male

How to order

Sample part number:	R04S	-31	PI	SA	3	N04

Series:
R04S-Micro D connectors for space applications.

Contact number:
9,15,21,25,31,37,51pins

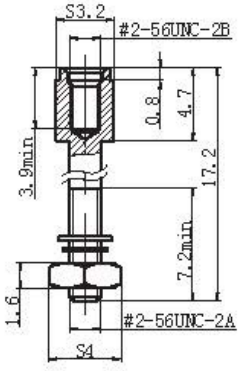
Contact type:
PI-pin in plug RH-socket in receptacle

Termination type:
SA style and the PCB layout is 2.54*1.91mm
SB style and the PCB layout is 2.54*2.54mm

Tail length:
1-2.77mm 2-3.56mm 3-4.37mm

Locking hardware:
blank-without N04-locking hardware, please see page3

The mating locking hardware

Code	Feature	Stereogram	Outline dimension
N04	1. Jackpost with hex head. 2. Fitted to vertical mounting with pcb.		

Note: all dimensions are in mm.

Tail length

tail code	tail length	Recommend the thickness of PCB(in mm)
1	2.77	1.2~2.2
2	3.56	2.0~3.0
3	4.37	2.8~3.8

Notes: all dimensions are in mm.

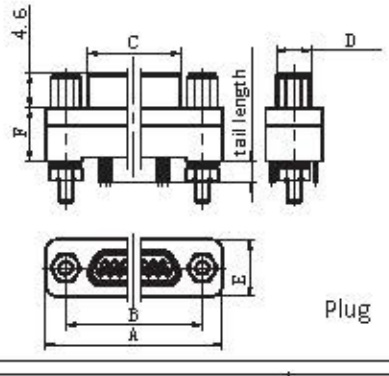
R04S series straight to PCB connectors for SA style

Product stereogram

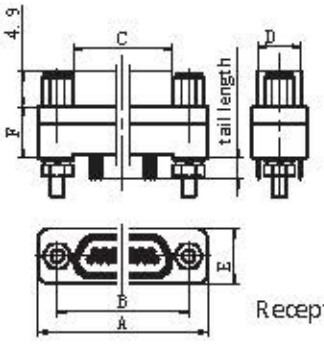
R04S-15PISA1N04

R04S-15RHSA1N04

Outline Dimension



Plug



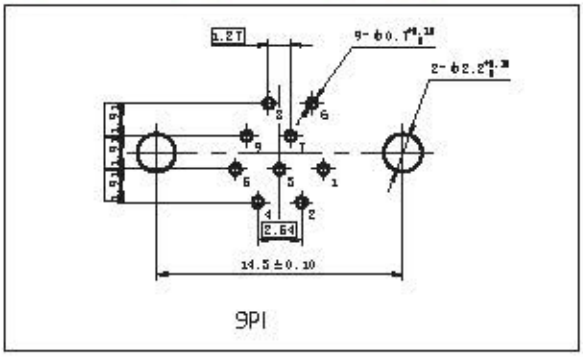
Receptacle

Contacts Nos	Outline dimension(in mm)					
	A	B	C	D	E	F
9PI	19.6	14.3	8.4	4.7	7.6	7.1
15PI	23.8	18.2	12.3	4.7	7.6	7.1
21PI	27.3	22	16.1	4.7	7.6	7.1
25PI	29.8	24.5	18.6	4.7	7.6	7.1
31PI	33.6	28.3	22.4	4.7	7.6	7.1
37PI	37.4	32.1	26.2	4.7	7.6	7.1
51PI	36.5	30.9	25	5.8	8.7	8.2
9RH	19.6	14.3	9.9	6.1	7.6	7.1
15RH	23.5	18.2	13.7	6.1	7.6	7.1
21RH	27.3	22	17.5	6.1	7.6	7.1
25RH	29.8	24.5	20.1	6.1	7.6	7.1
31RH	33.6	28.3	23.9	6.1	7.6	7.1
37RH	37.4	32.1	27.7	6.1	7.6	7.1
51RH	36.5	30.9	26.7	7.2	8.7	8.2

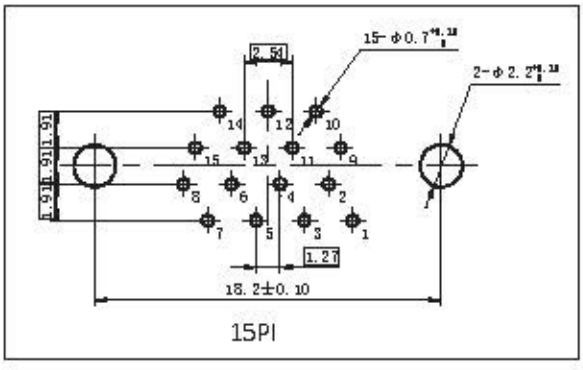
Notes: all dimensions are in mm.

Recommend the PCB layout

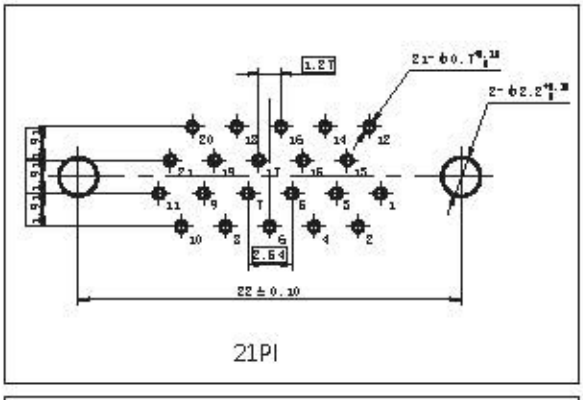
PCB layout for plug



9PI



15PI



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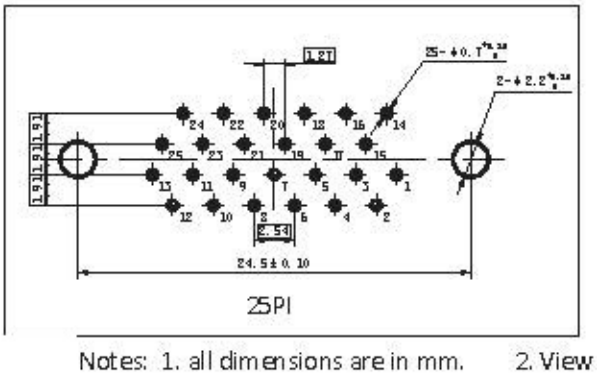
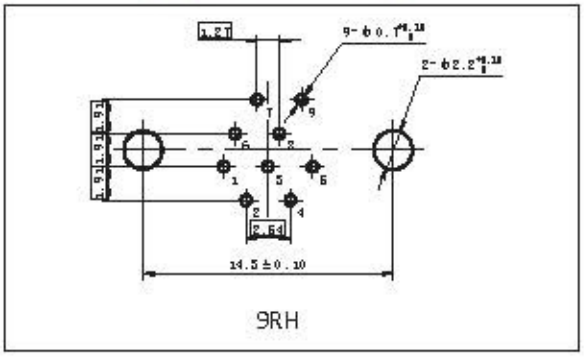


25PI

PCB layout for receptacle



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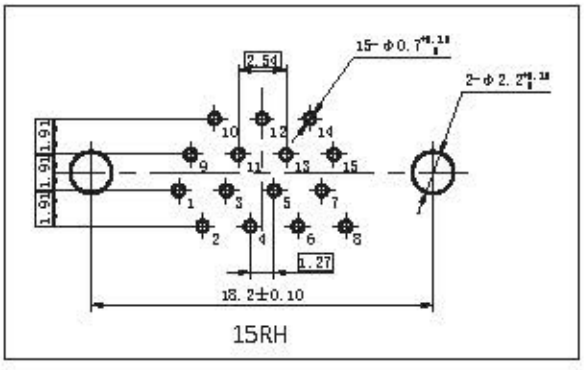

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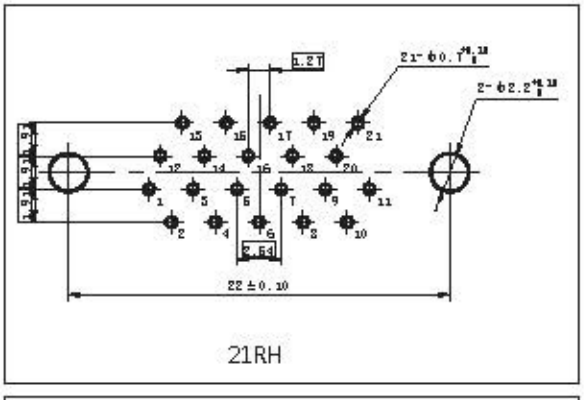

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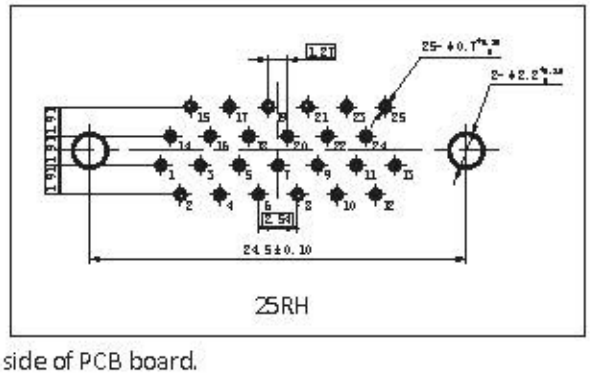


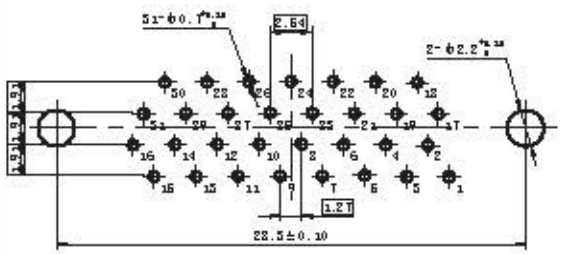
25RH

Notes: 1. all dimensions are in mm. 2. View top side of PCB board.

Recommend the PCB layout

PCB layout for plug

PCB layout for receptacle



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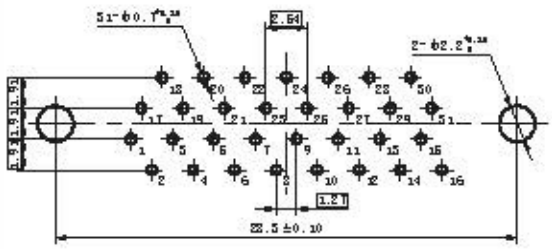

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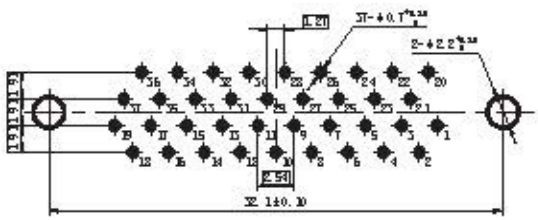

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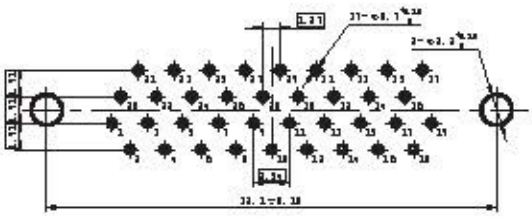

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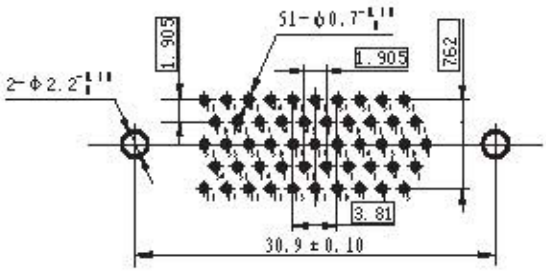
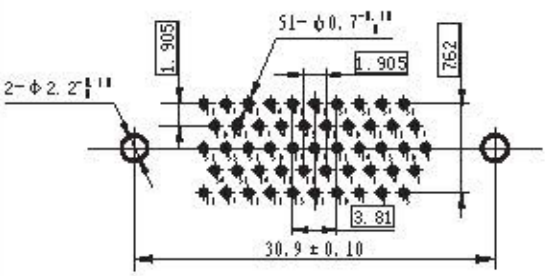


51PI

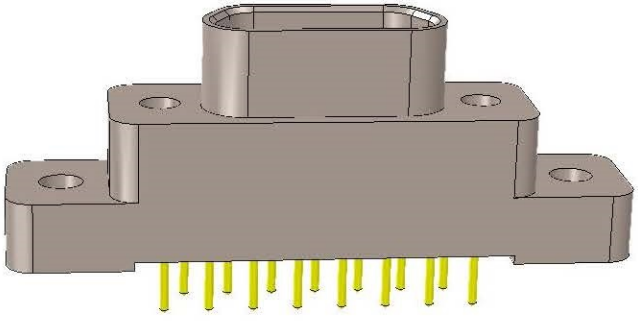


51RH

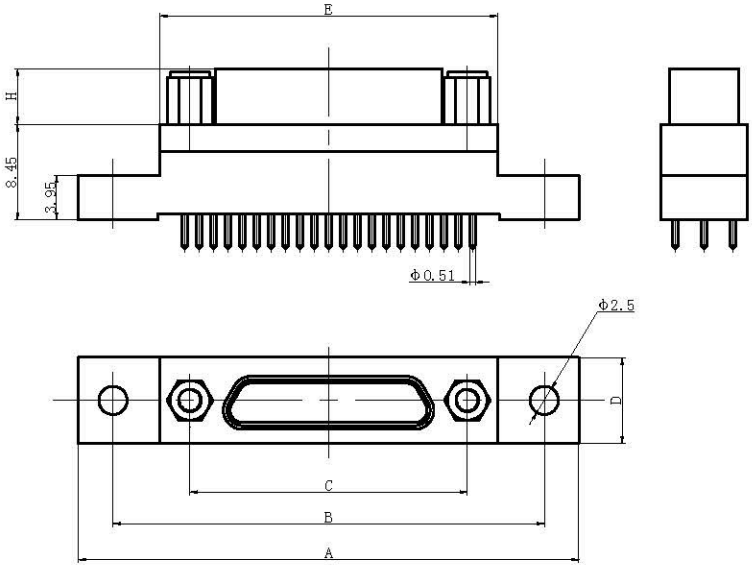
Notes: 1. all dimensions are in mm. 2. View top side of PCB board.

R04S series straight to PCB connectors for SB style

Product stereogram



Outline Dimension

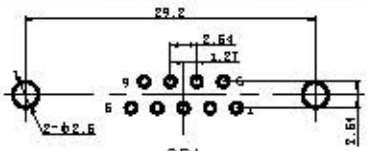


Contacts Nos	Outline dimension(in mm)						
	A	B	C	D	E	H	
						PI	RH
9	35.31	29.21	14.35	7.9	20.1	4.6	4.9
15	35.31	29.21	18.16	7.9	23.9	4.6	4.9
21	42.93	36.83	21.97	7.9	30.0	4.6	4.9
25	44.2	38.1	24.51	7.9	32.4	4.6	4.9
31	51.82	45.72	28.32	7.9	40.0	4.6	4.9
37	59.44	53.34	32.13	7.9	47.6	4.6	4.9
51	57.64	50.8	30.86	8.9	45.1	4.6	4.9

Recommend the PCB layout

PCB layout for plug

PCB layout for receptacle



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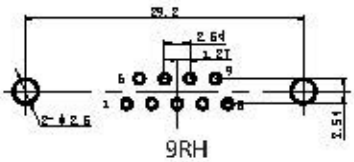

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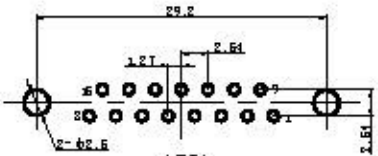

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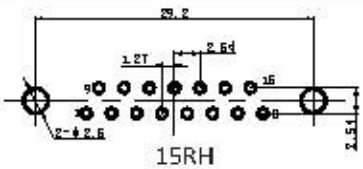

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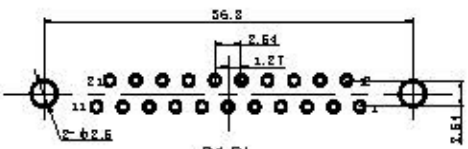

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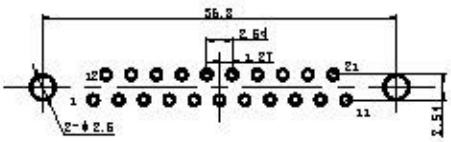

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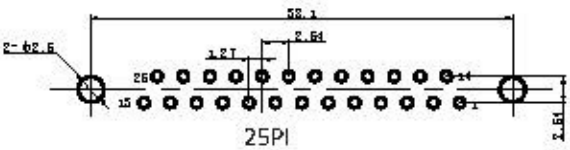

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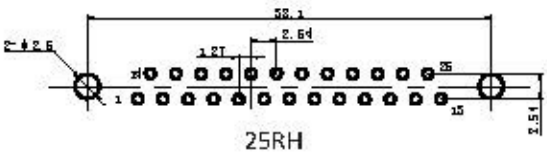

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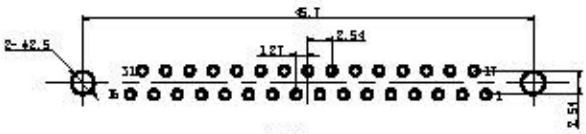

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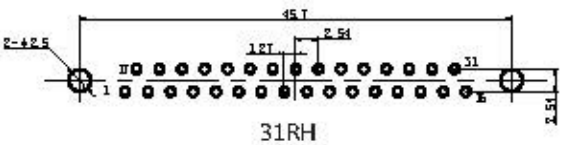

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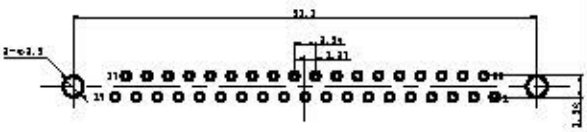

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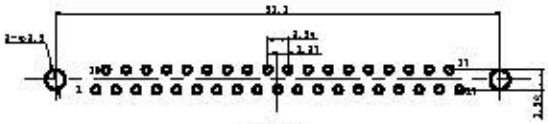

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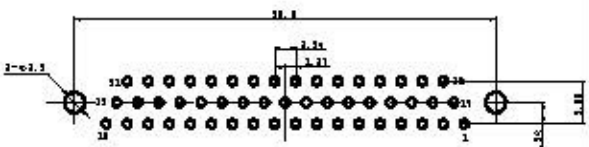
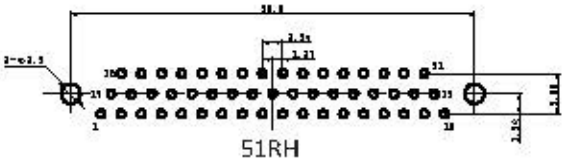


51PI



51RH

Notes: 1. all dimensions are in mm. 2. View top side of PCB board.