

R16 Series Micro Miniature connector

Description

- Conform to GJB2446 (MIL-C-83513)
- Twist pin used on male contact
- High density contact, 1.27mm pattern
- Using plastic shell, equivalent to American MD Series
- 9~74 contacts, 8 different types
- Termination can be modified to adjust to contact pattern for PCB
- Enterprise standard: 21E0.204.118JT

Product type

—R16 series crimped plug and receptacle:

Crimped termination

—R16 series straight PCB plug and receptacle:

According to grid pattern, there are three

types:

Type N: 2.54×1.6 Type N1: 2.54×2.54

Type N-J: 1.27×2.54

—R16 series right angle PCB plug and receptacle:

According to grid pattern, there are two types:

Type W: 2.54×2.54 Type W-J: 1.27×2.54

Main technical performance

—Operating temperature: -55℃~+125℃

—Relative humidity: 95% at 40℃

—Vibration: Frequency 10~2000Hz

Acceleration 196m/s²

— Shock: Acceleration 735m/s²

— Rated current: 3A

— Withstanding voltage: 800V (normal) 100V (heat & damp)

—Insulation resistance: ≥5000MΩ(normal)
≥100MΩ(heat & damp)

—Contact resistance: ≤20mΩ

—Durability: 500 cycles

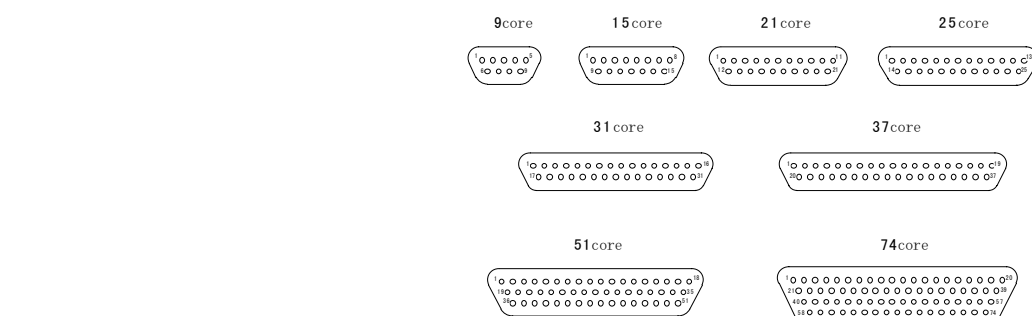
How to order

No.	Type characteristic	Content	Mark
1	Basic series	Micro miniature plastic shell connector	R16
2	Number of contact	9, 15, 21, 25, 31, 37, 51, 74	Mark the figure
3	Connector type	Plug with pins	TJ
		Receptacle with sockets	ZK
4	Termination	Crimped	No marking
		Straight PCB modification	N, N1, N-J
		Right angle PCB modification	W, W-J

Ordering part number example:

For example: R16 series electrical connector with 15 contacts. Plug is loaded with 15 twisted pins and the termination is crimped, P/N of plug should be R16-15TJ; Receptacle is loaded with sockets and the termination is right angle PCB modification (2.54×2.54), P/N of receptacle should be R16-15ZKW. P/N of the electrical connector should be R16-15ZKW/TJ

Insert arrangement (View from mating face of plug)



Ordering instruction

I、Crimped product ordering instruction

- 1、If customer has no special request, wire for R16 series will be AFR-250-0.12-250V-white L=120mm;
- 2、If there is any special request, please state the content as following:
 - 1) Wire cross section area: clearly state the value for wire. If no statement, there should be 0.12mm²; Section area for wires used on R16 is 0.07~0.15 mm²;
 - 2) Wire color: color should be stated clearly. Otherwise, color will be white;
 - 3) Wire length: unit is mm. Length is calculated from the surface of the shell. Normal length is 120mm;

Note:

- a) When the cross section of 0.07mm² is chosen, (0.07) is added behind P/N, the wire color and length should be marked in P/N ;
For example:
When R16-25TJ is ordered and AFR-250-0.07 red wire with 0.6m of the length is required, P/N will be R16-25TJ (0.07 red L600) , the marking should be R16-25TJ (0.07)
 - b) When the other cross section is selected, cross section, color and length should be marked behind P/N.
For example:
When R16-25TJ is ordered and AFR-250-0.1 red wire with 0.6m of the length is required, P/N will be R16-25TJ (0.1 red L600) , the marking should be R16-25TJ
- 3、If customer has special request (for example, wire not specified in the manual is selected and wiring not specified in the manual is selected), that should be stated in the purchase order

II、Ordering P/N instruction on products with locking assemblies

To facilitate the customer's use, there are different kinds of locking assemblies, see R16 series locking assemblies for more detail. Locking assemblies can either be ordered separately according to code or can be ordered with matched products. When ordered with matched products, ordering P/N designates P/N+ locking assemblies' code

For example:

- 1) Plug R16-15TJW can be matched with the locking assembly 21E6-040-024-B1;
therefore,

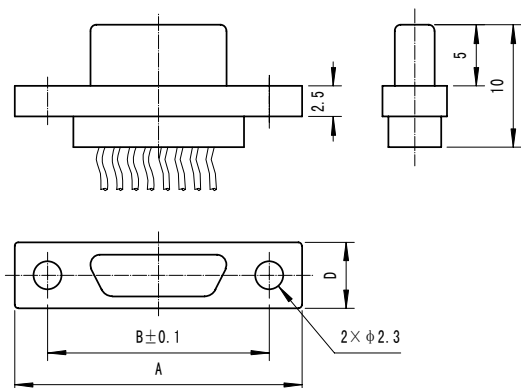
the ordering P/N should be R16-15TJW+21E6-040-024-B1

- 2) Receptacle R16-51ZK can be matched with the locking assembly 21E6-040-024-B1 and AFR-250-0.0 blue wire with 1m of length is required, therefore, the ordering P/N should be R16-51ZK (0.07 blue L1000) +21E6-040-023-B1

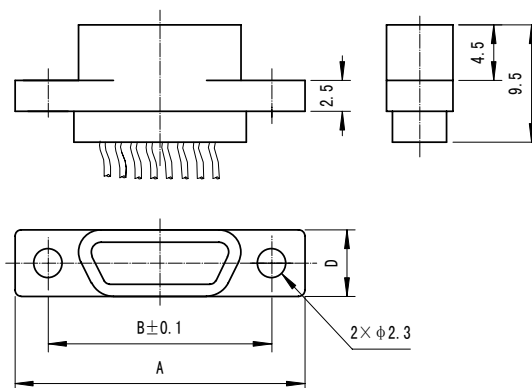
Dimensions

R16 series plug and receptacle

Plug R16-xTJ



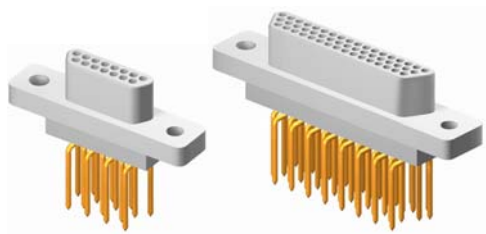
Receptacle R16-xZK



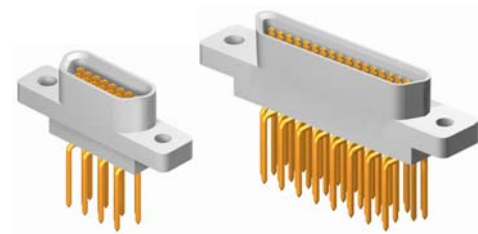
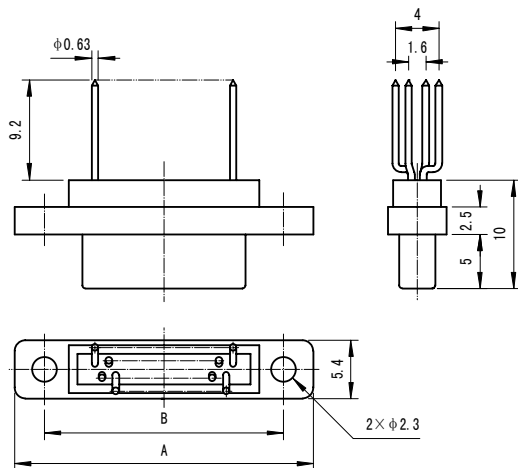
P/N	A	B	D
R16-9TJ	19.8	14.3	5.4
R16-15TJ	23.6	18.2	5.4
R16-21TJ	27.5	22.0	5.4
R16-25TJ	30.0	24.5	5.4
R16-31TJ	33.7	28.3	5.4
R16-37TJ	37.5	32.2	5.4
R16-51TJ	36.2	30.8	6.5
R16-74TJ	38.8	33.5	7.5

P/N	A	B	D
R16-9ZK	19.8	14.3	5.4
R16-15ZK	23.6	18.2	5.4
R16-21ZK	27.5	22.0	5.4
R16-25ZK	30.0	24.5	5.4
R16-31ZK	33.7	28.3	5.4
R16-37ZK	37.5	32.2	5.4
R16-51ZK	36.2	30.8	6.5
R16-74ZK	38.8	33.5	7.5

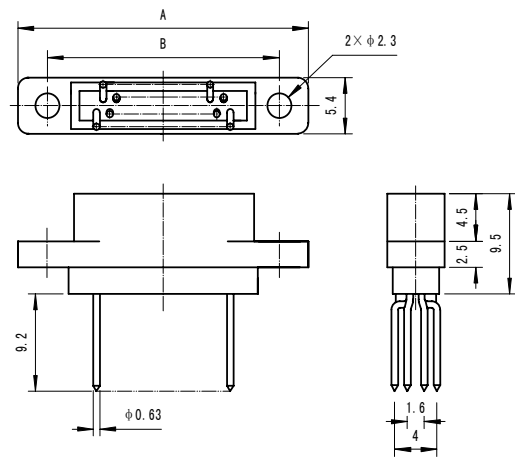
R16 Series Straight PCB Plug and Receptacle (Type N)



Plug R16-9~37TJN

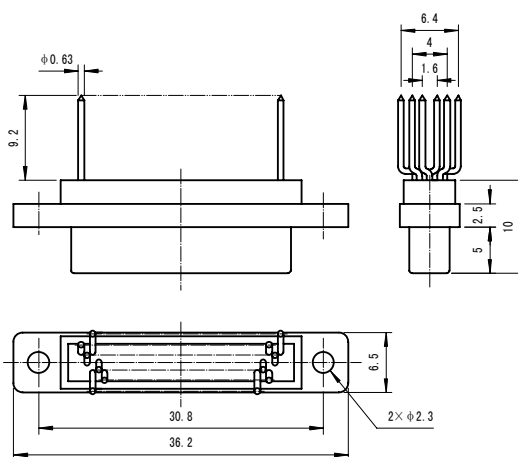


Receptacle R16-9~37ZKN



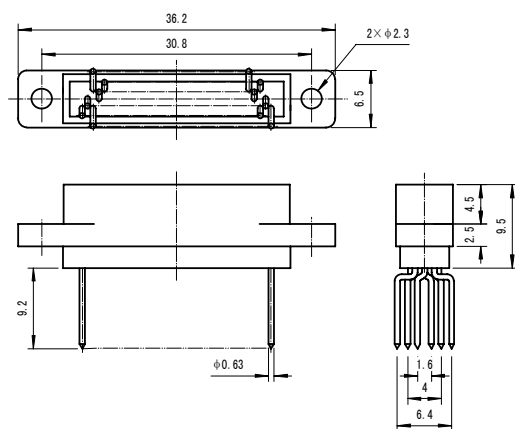
P/N	A	B
R16-9TJN	19.8	14.3
R16-15TJN	23.6	18.2
R16-21TJN	27.5	22.0
R16-25TJN	30.0	24.5
R16-31TJN	33.7	28.3
R16-37TJN	37.5	32.2

Plug R16-51TJN

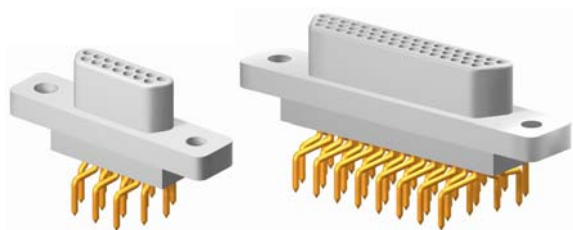


P/N	A	B
R16-9ZKN	19.8	14.3
R16-15ZKN	23.6	18.2
R16-21ZKN	27.5	22.0
R16-25ZKN	30.0	24.5
R16-31ZKN	33.7	28.3
R16-37ZKN	37.5	32.2

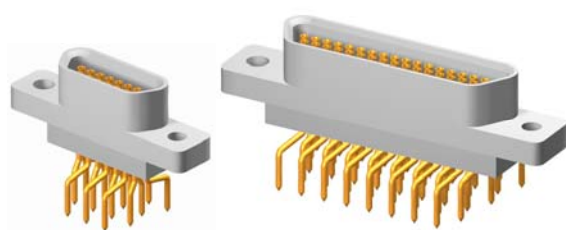
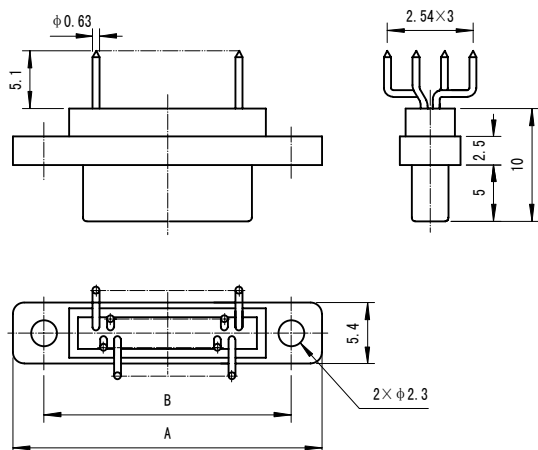
Receptacle R16-51ZKN



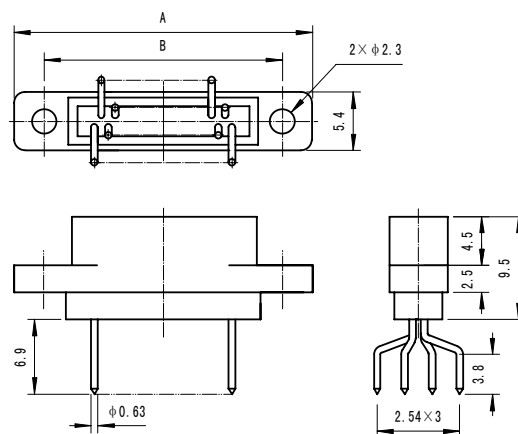
R16 Series Straight PCB Plug and Receptacle (Type N1)



Plug R16-9~37TJN1



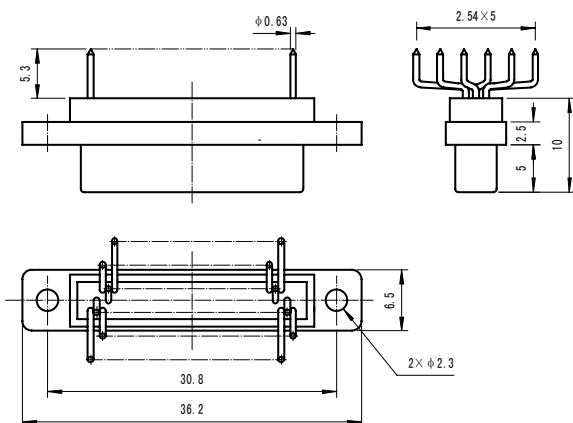
Receptacle R16-9~37ZKN1



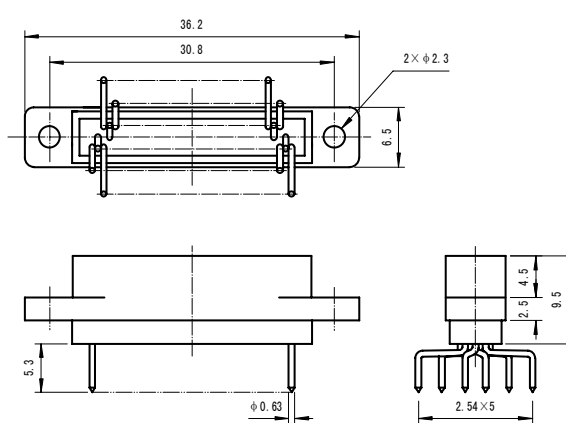
P/N	A	B
R16-9TJN1	19.8	14.3
R16-15TJN1	23.6	18.2
R16-21TJN1	27.5	22.0
R16-25TJN1	30.0	24.5
R16-31TJN1	33.7	28.3
R16-37TJN1	37.5	32.2

P/N	A	B
R16-9ZKN1	19.8	14.3
R16-15ZKN1	23.6	18.2
R16-21ZKN1	27.5	22.0
R16-25ZKN1	30.0	24.5
R16-31ZKN1	33.7	28.3
R16-37ZKN1	37.5	32.2

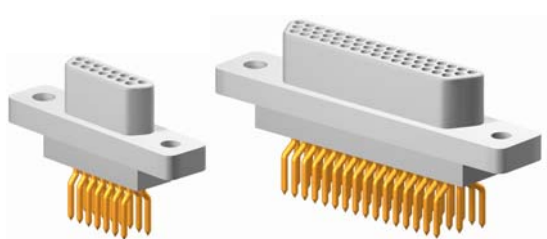
Plug R16-51TJN1



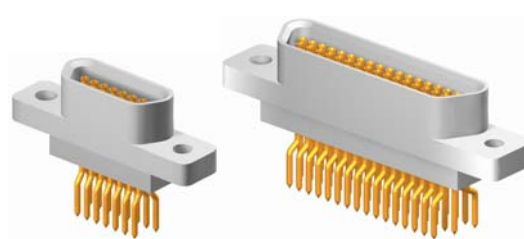
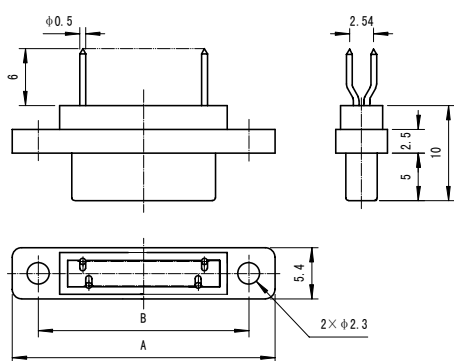
Receptacle R16-51ZKN1



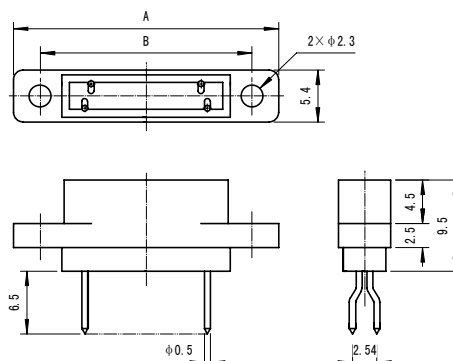
R16 Series Straight PCB Plug and Receptacle (Type N-J)



Plug R16-9~37TJN-J



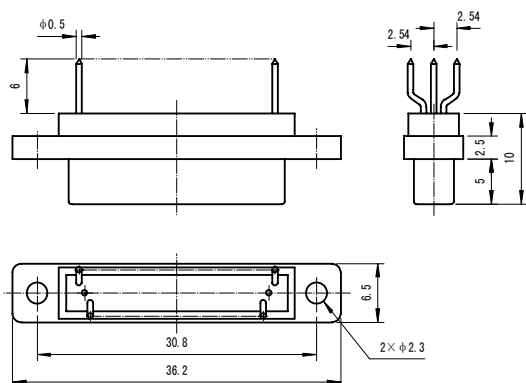
Receptacle R16-9~37ZKN-J



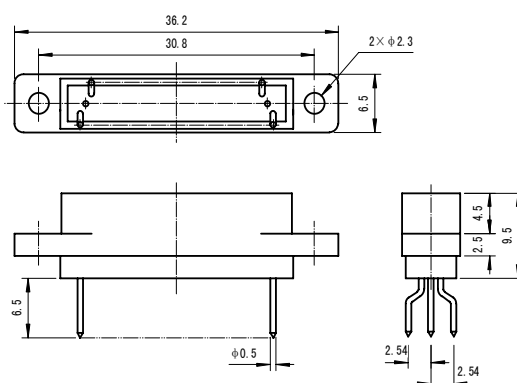
P/N	A	B
R16-9TJN-J	19.8	14.3
R16-15TJN-J	23.6	18.2
R16-21TJN-J	27.5	22.0
R16-25TJN-J	30.0	24.5
R16-31TJN-J	33.7	28.3
R16-37TJN-J	37.5	32.2

P/N	A	B
R16-9ZKN-J	19.8	14.3
R16-15ZKN-J	23.6	18.2
R16-21ZKN-J	27.5	22.0
R16-25ZKN-J	30.0	24.5
R16-31ZKN-J	33.7	28.3
J30-37ZKN-J	37.5	32.2

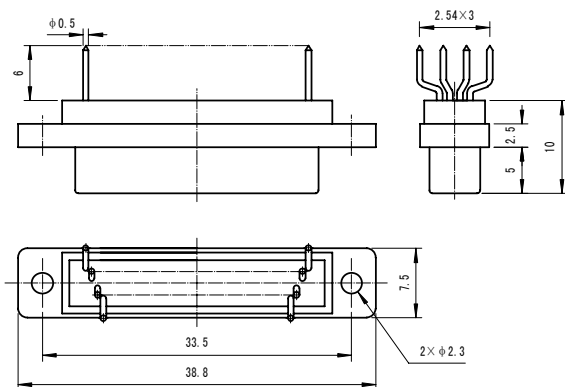
Plug R16-51TJN-J



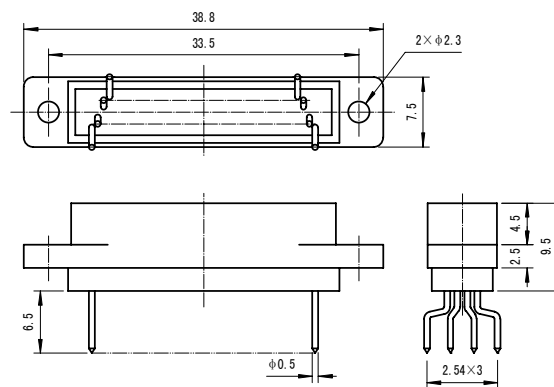
Receptacle R16-51ZKN-J



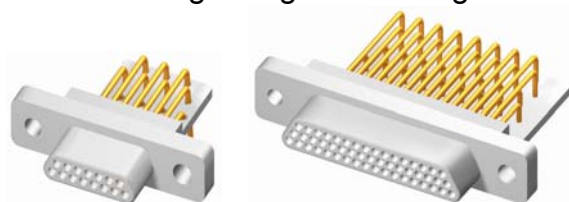
Plug R16-74TJN-J



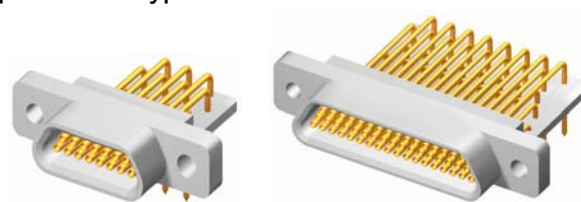
Receptacle R16-74ZKN-J



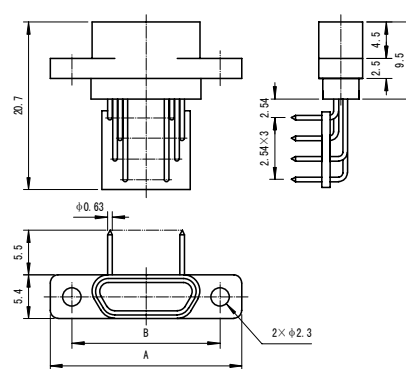
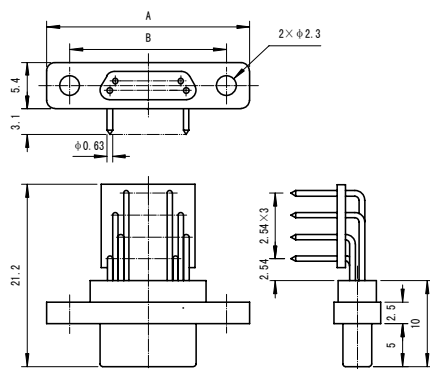
R16 Series Right Angle PCB Plug and Receptacle (Type W)



Plug R16-9~37TJW



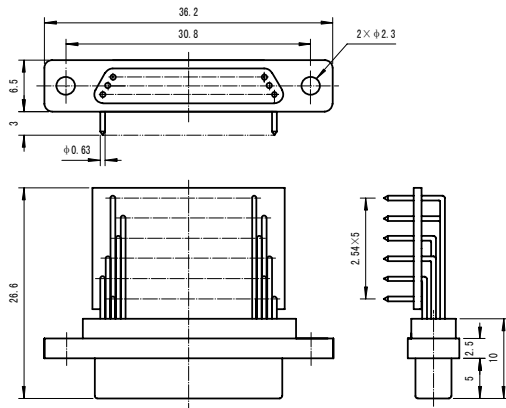
Receptacle R16-9~37ZKW



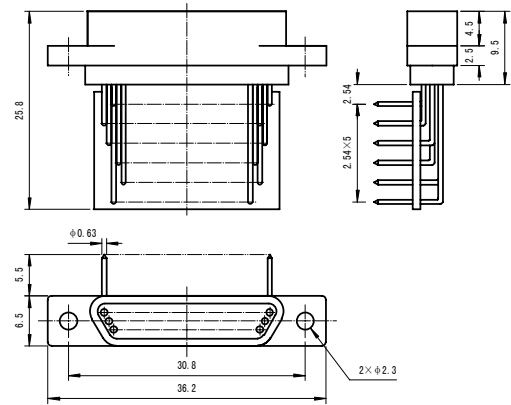
P/N	A	B
R16-9TJW	19.8	14.3
R16-15TJW	23.6	18.2
R16-21TJW	27.5	22.0
R16-25TJW	30.0	24.5
R16-31TJW	33.7	28.3
R16-37TJW	37.5	32.2

P/N	A	B
R16-9ZKW	19.8	14.3
R16-15ZKW	23.6	18.2
R16-21ZKW	27.5	22.0
R16-25ZKW	30.0	24.5
R16-31ZKW	33.7	28.3
R16-37ZKW	37.5	32.2

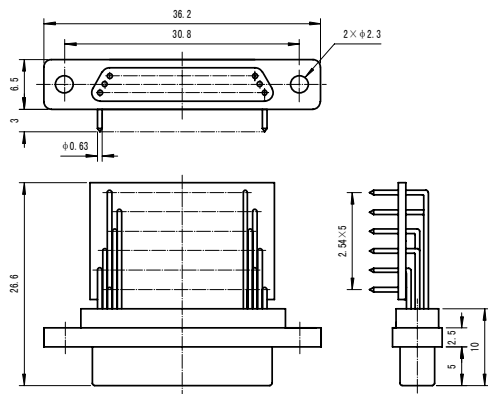
Plug R16-51TJW



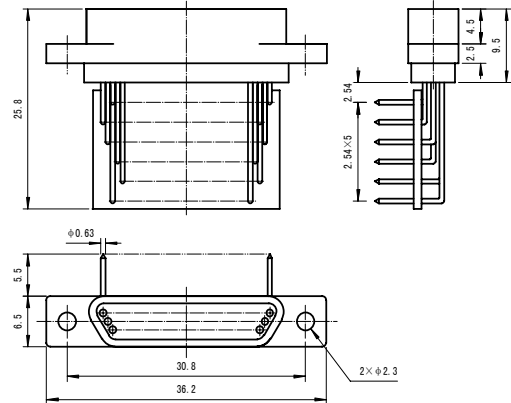
Receptacle R16-51ZKW



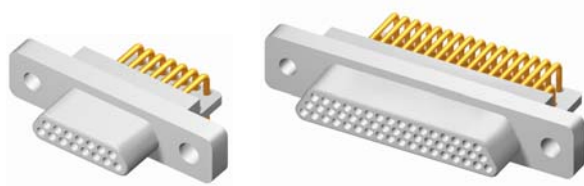
Plug R16-74TJW



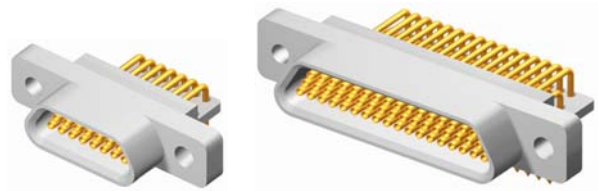
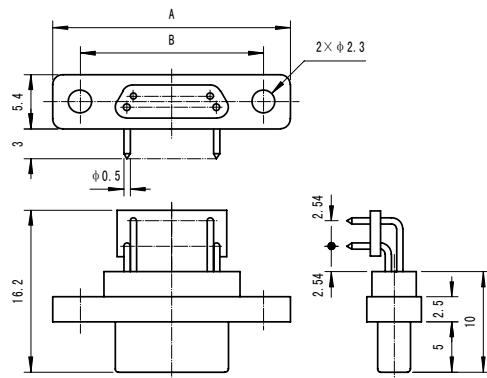
Receptacle R16-74ZKW



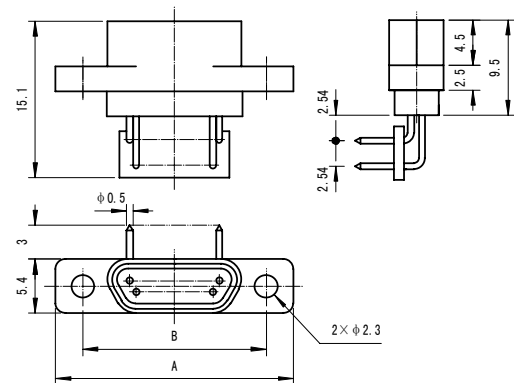
R16 Series Right Angle PCB Plug and Receptacle (Type W-J)



Plug R16-9~37TJW-J



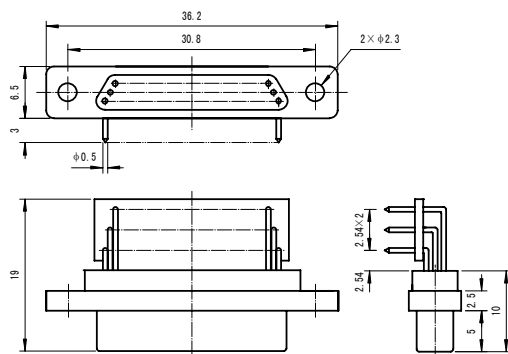
Receptacle R16-9~37ZKW-J



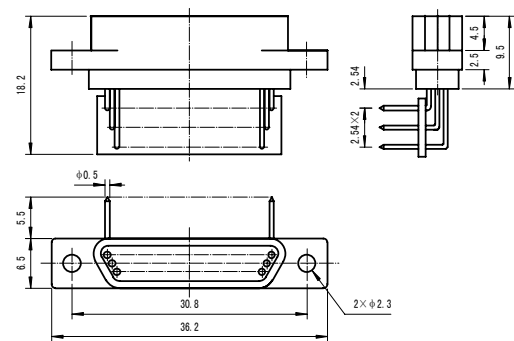
P/N	A	B
R16-9TJW-J	19.8	14.3
R16-15TJW-J	23.6	18.2
R16-21TJW-J	27.5	22.0
R16-25TJW-J	30.0	24.5
R16-31TJW-J	33.7	28.3
R16-37TJW-J	37.5	32.2

P/N	A	B
R16-9ZKW-J	19.8	14.3
R16-15ZKW-J	23.6	18.2
R16-21ZKW-J	27.5	22.0
R16-25ZKW-J	30.0	24.5
R16-31ZKW-J	33.7	28.3
R16-37ZKW-J	37.5	32.2

Plug R16-51TJW-J



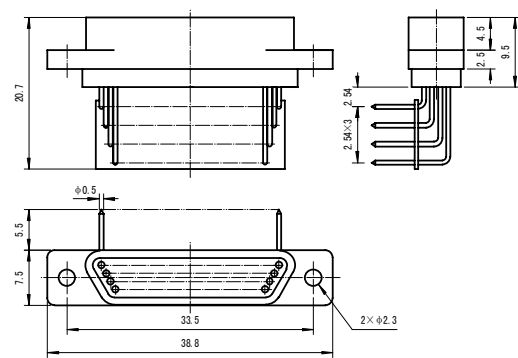
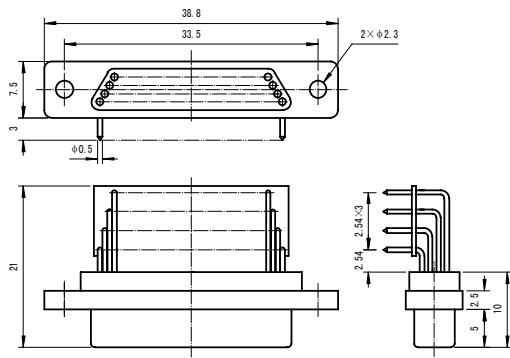
Receptacle R16-51ZKW-J



Plug R16-74TJW-J

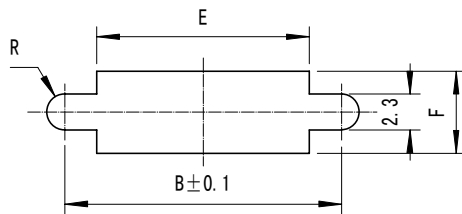


Receptacle R16-74ZKW-J



Panel Cut-out Dimensions

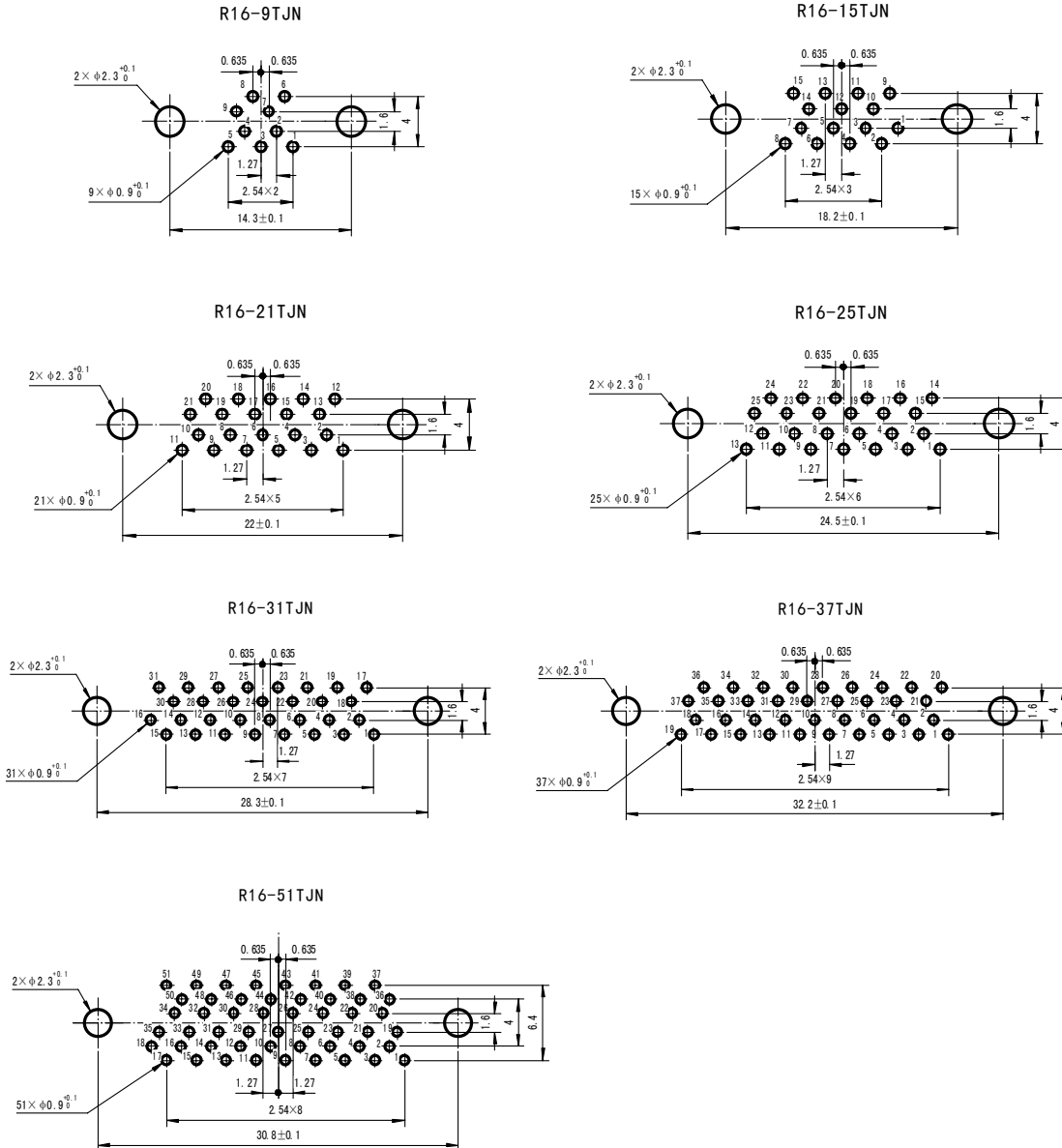
Cut-out dimension for receptacle front panel mounting



Size	B	E	F
R16-9	14.3	10.1	4.6
R16-15	18.2	14.2	4.6
R16-21	22.0	17.9	4.6
R16-25	24.5	20.8	4.6
R16-31	28.3	24.2	4.6
R16-37	32.2	28.2	4.6
R16-51	30.8	26.9	5.9
R16-74	33.5	29.7	6.8

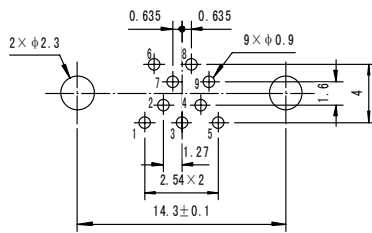
Recommended PCB Cut-out Dimensions

R16-×TJNPlug PCB cut-out dimensions (grid pattern 2.54×1.6)

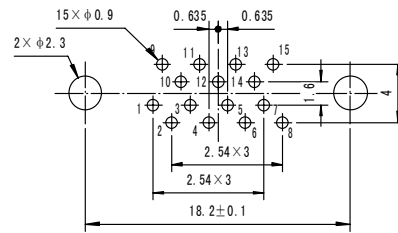


R16- $\times$ ZKN receptacle PCB cut-out dimensions (grid pattern 2.54 $\times$ 1.6)

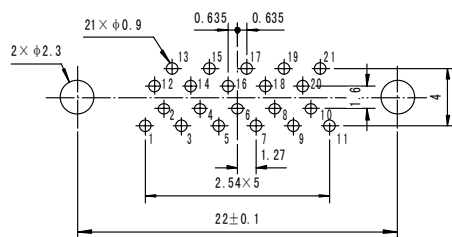
R16-9ZKN



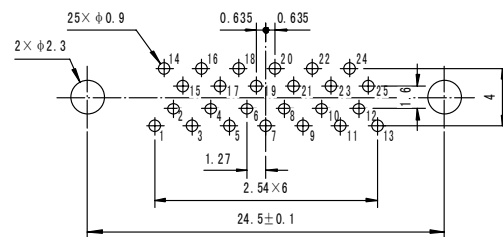
R16-15ZKN



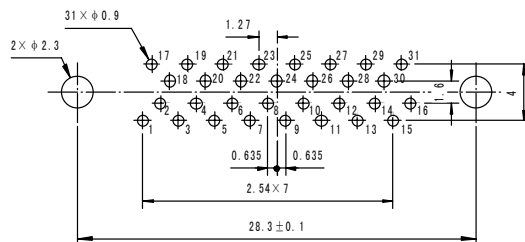
R16-21ZKN



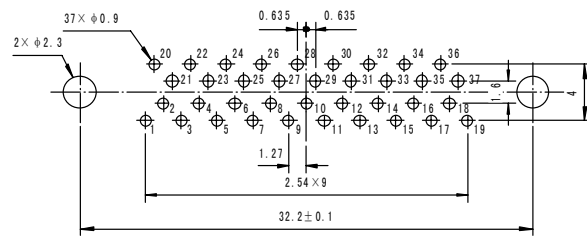
R16-25ZKN



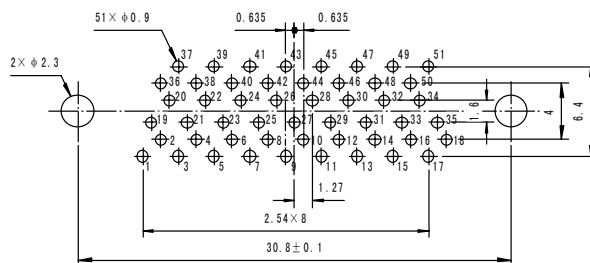
R16-31ZKN



R16-37ZKN

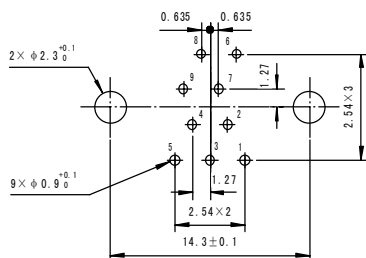


R16-51ZKN

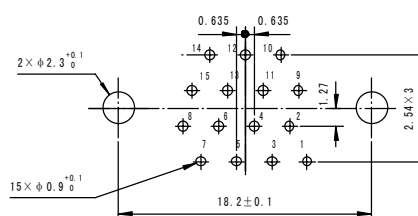


R16-×TJN1 plug PCB cut-out dimensions (grid pattern 2.54×2.54)

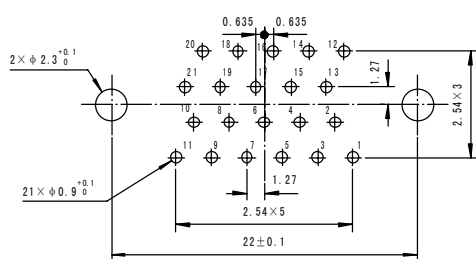
R16-9TJN1



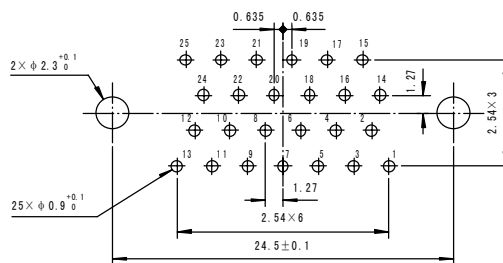
R16-15TJN1



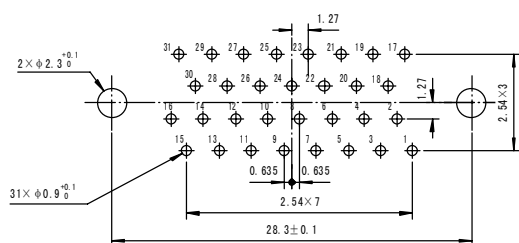
R16-21TJN1



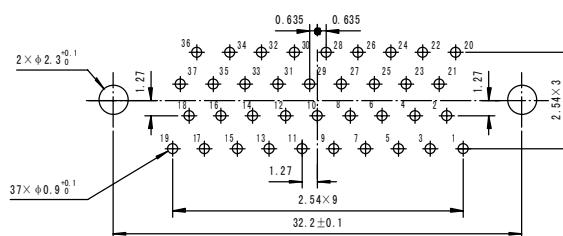
R16-25TJN1



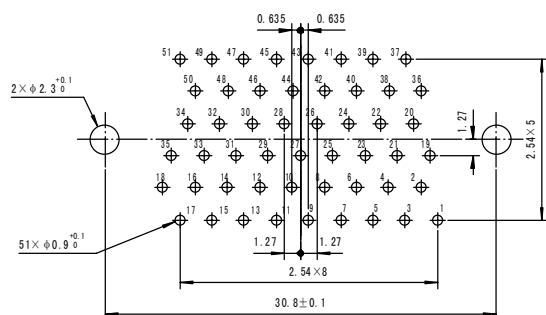
R16-31TJN1



R16-37TJN1

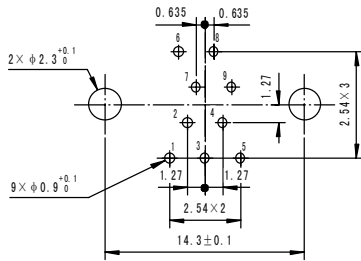


R16-51TJN1

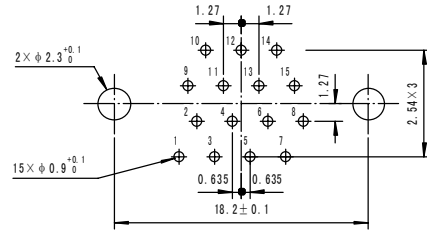


R16- $\times$ ZKN1 receptacle PCB cut-out dimensions (grid pattern 2.54 $\times$ 2.54)

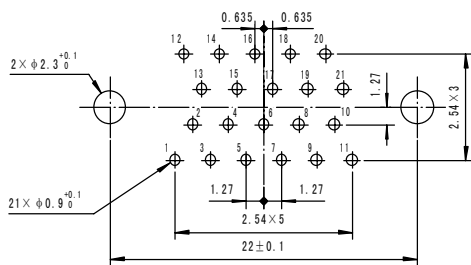
R16-9ZKN1



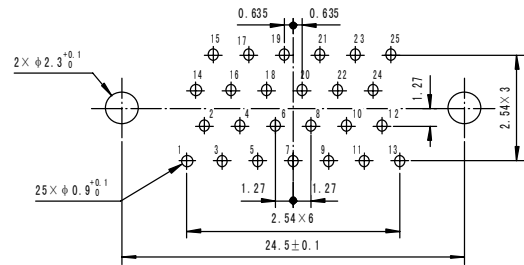
R16-15ZKN1



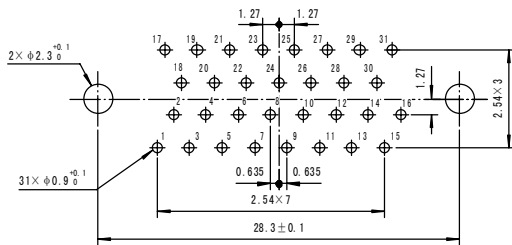
R16-21ZKN1



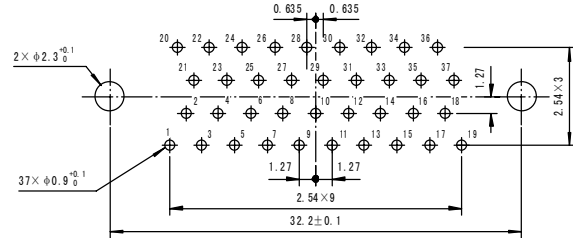
R16-25ZKN1



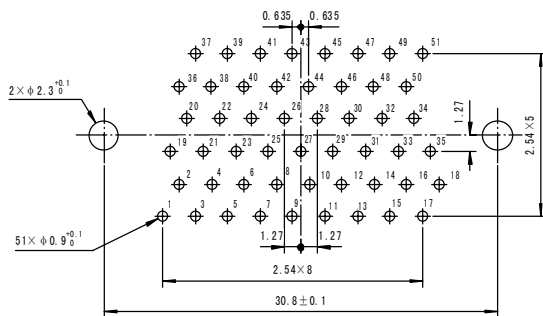
R16-31ZKN1



R16-37ZKN1

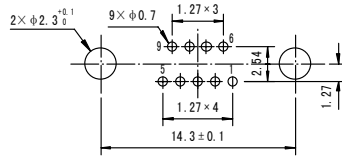


R16-51ZKN1

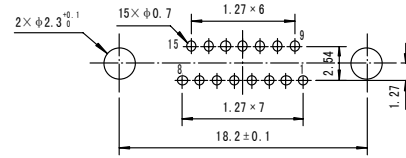


R16- $\times$ TJN-J plug PCB cut-out dimensions (grid pattern 1.27 $\times$ 2.54)

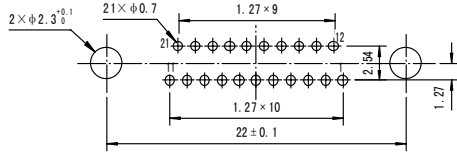
R16-9TJN-J



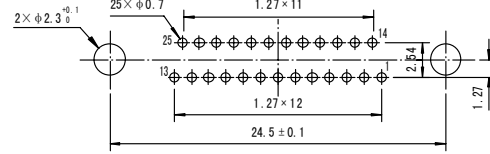
R16-15TJN-J



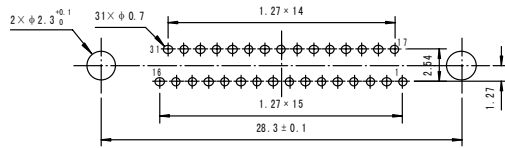
R16-21TJN-J



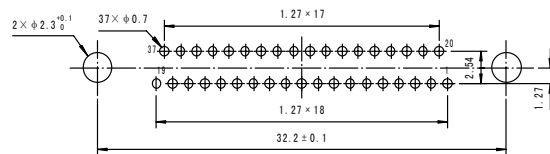
R16-25TJN-J



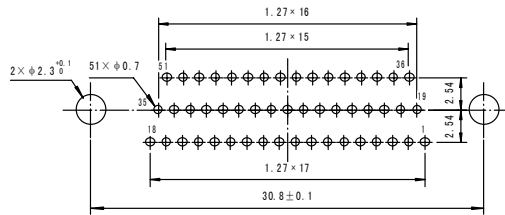
R16-31TJN-J



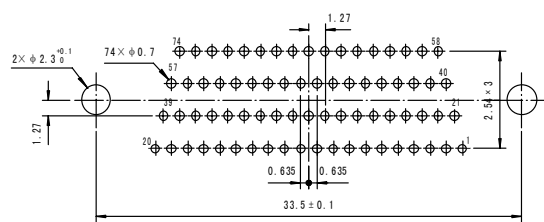
R16-37TJN-J



R16-51TJN-J

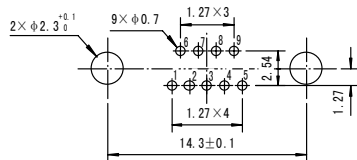


R16-74TJN-J

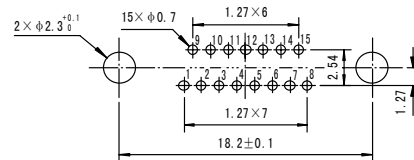


R16- $\times$ ZKN-J receptacle PCB cut-out dimensions (grid pattern 1.27 $\times$ 2.54)

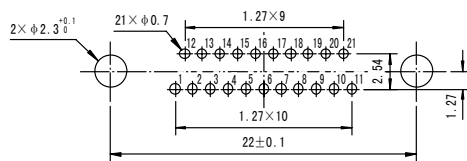
R16-9ZKN-J



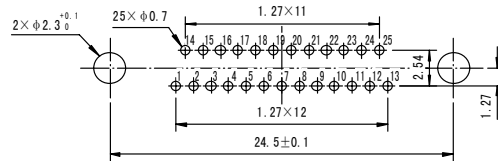
R16-15ZKN-J



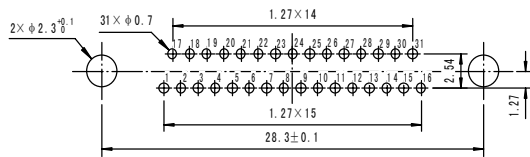
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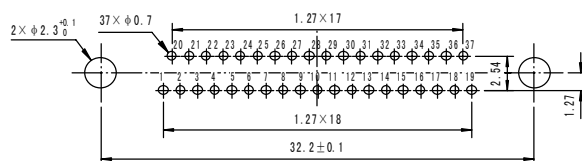
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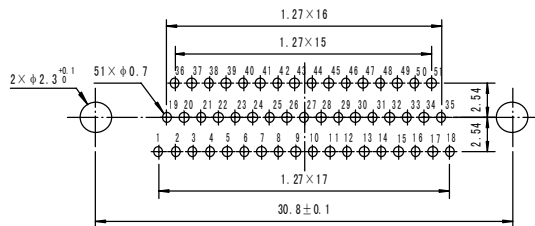
R16-31ZKN-J



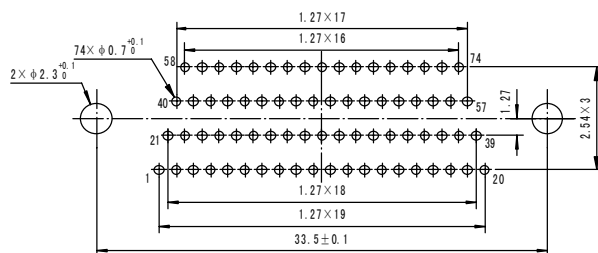
R16-37ZKN-J



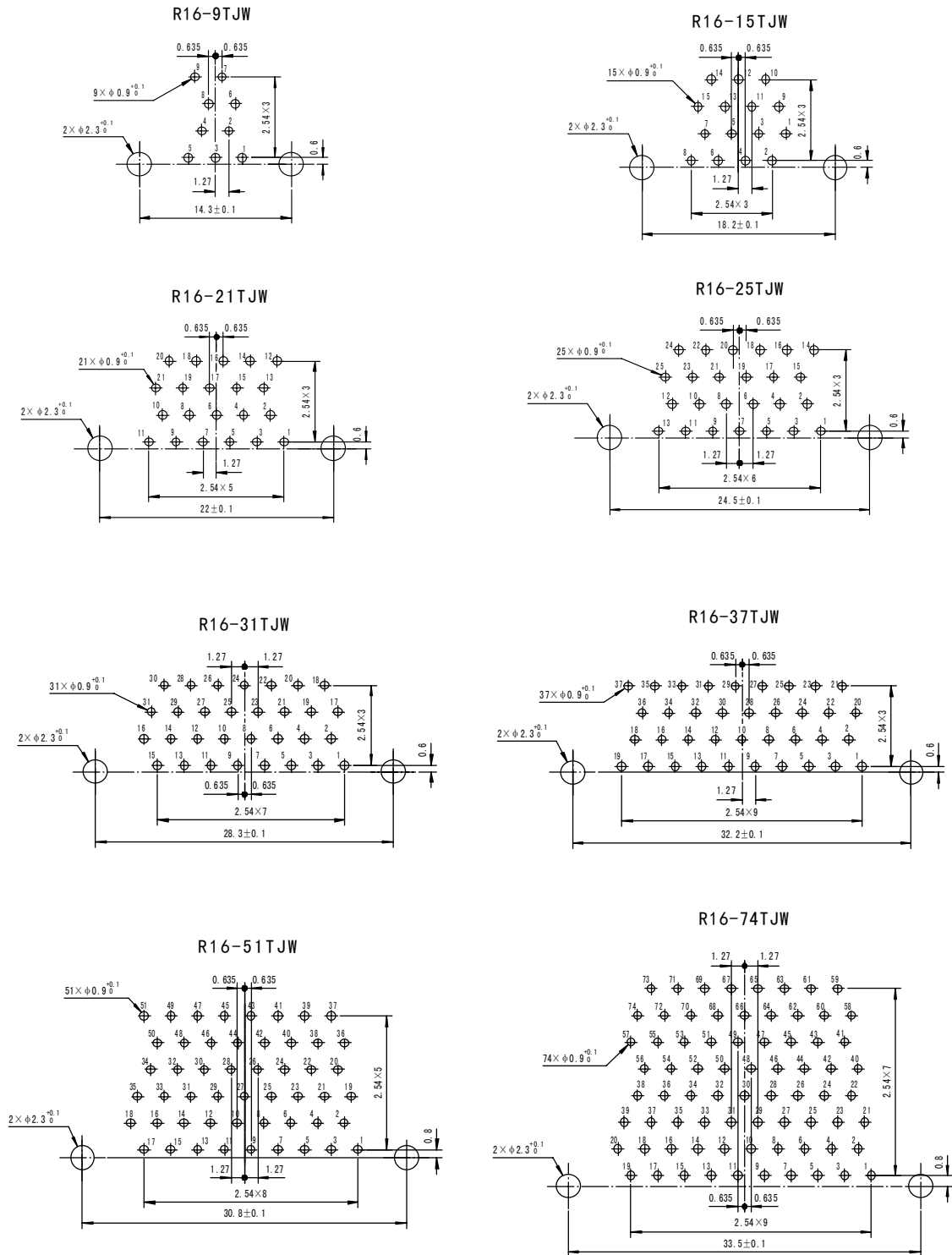
R16-51ZKN-J



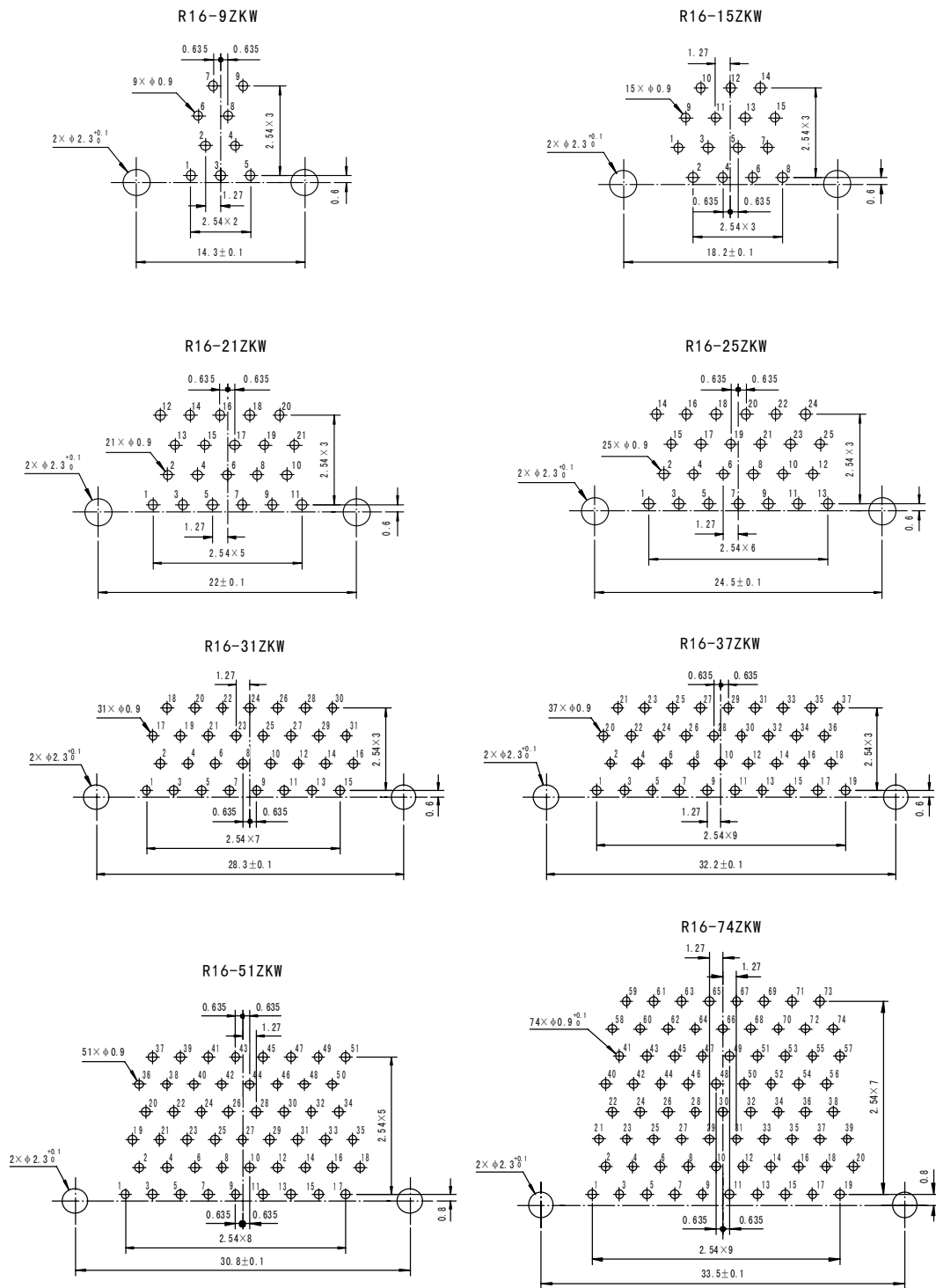
R16-74ZKN-J



R16- $\times$ TJW plug PCB cut-out dimensions (grid pattern 2.54 $\times$ 2.54)

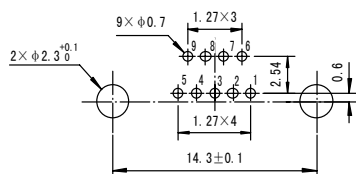


R16-xZKW receptacle PCB cut-out dimensions (grid pattern 2.54×2.54)

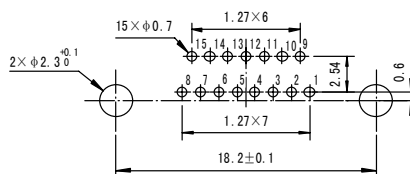


R16-×TJW-J plug PCB cut-out dimensions (grid pattern 1.27×2.54)

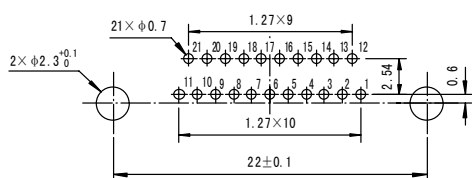
R16-9TJW-J



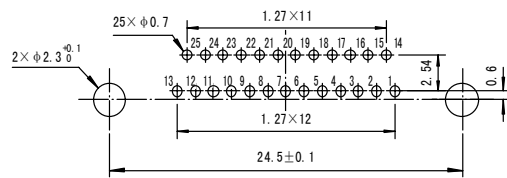
R16-15TJW-J



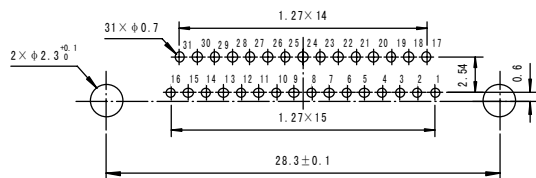
R16-21TJW-J



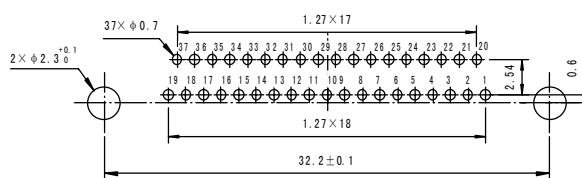
R16-25TJW-J



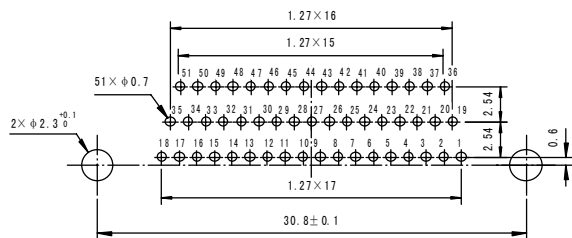
R16-31TJW-J



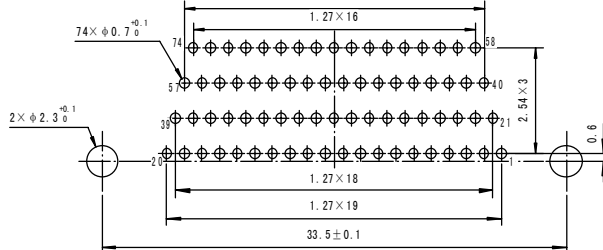
R16-37TJW-J



R16-51TJW-J

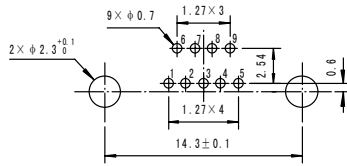


R16-74TJW-J

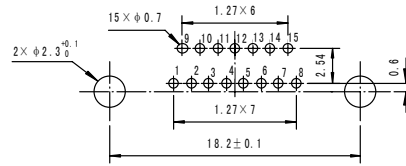


R16- $\times$ ZKW-J receptacle PCB cut-out dimensions (grid pattern 1.27 $\times$ 2.54)

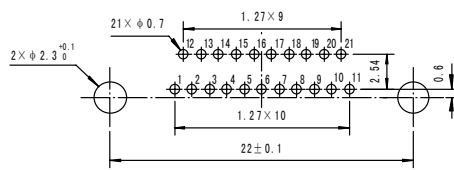
R16-9ZKW-J



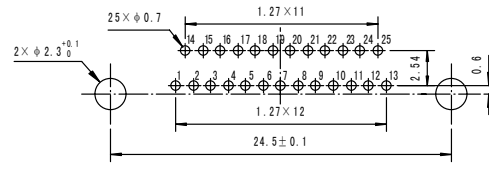
R16-15ZKW-J



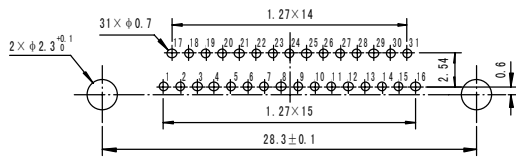
R16-21ZKW-J



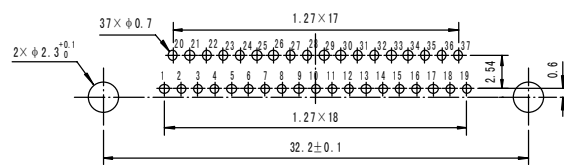
R16-25ZKW-J



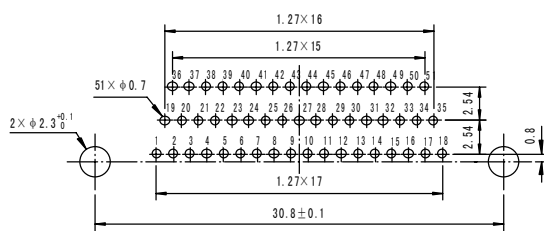
R16-31ZKW-J



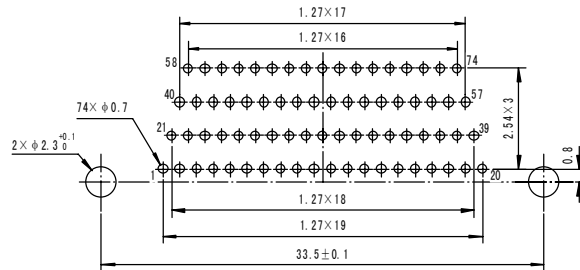
R16-37ZKW-J



R16-51ZKW-J



R16-74ZKW-J

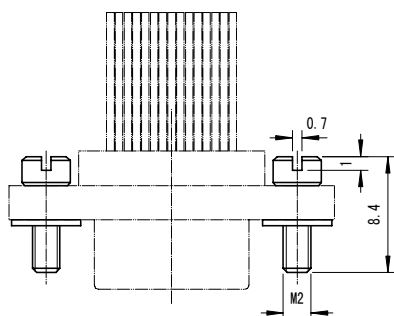


R16 series locking and installation assemblies

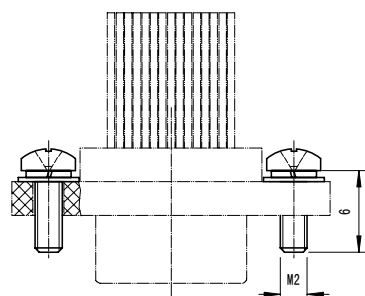
Class	Description	Ordering code	Note
Locking assemblies	The locking assembly is used for locking after the plug mates with the receptacle, it can be matched with crimped plug.	21E6-040-022-B1 21E6-040-076-B1	The locking assembly can be matched with the installation assembly.
Installation assemblies	The installation assembly is used for fixed the products and installation panel or PCB and can be matched with any kind of receptacle	21E6-040-023-B1 21E6-040-024-B1 21E6-040-303-B1 21E6-040-304-B1 21E6-040-025-B1	

Outline dimensions

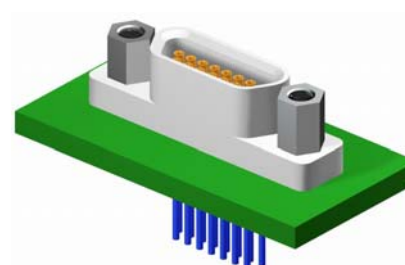
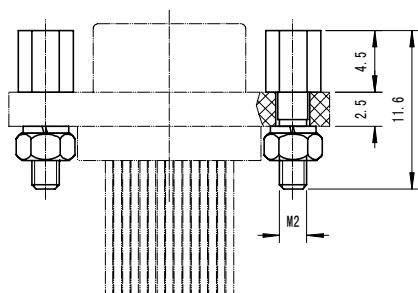
21E6-040-022-B1locking assembly



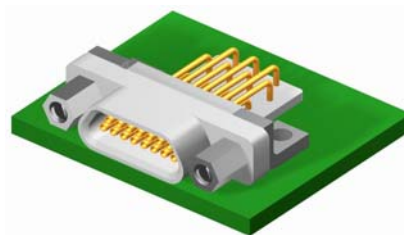
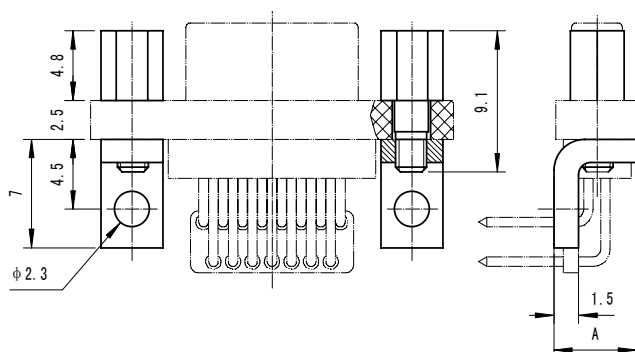
21E6-040-076-B1locking assembly



21E6-040-023-B1installation assembly

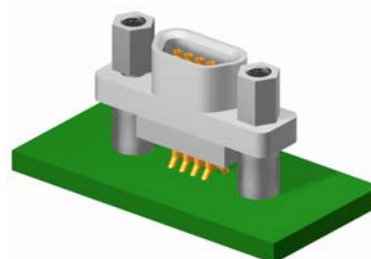
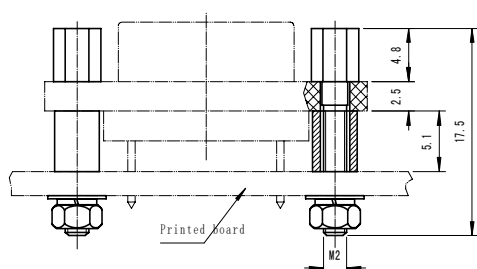


21E6-040-024、303、304-B1 installation assembly



Applicable product	locking assembly code	A
R16-9~37 right angle PCB product	21E6-040-024-B1	5.3
R16-51 right angle PCB product	21E6-040-303-B1	6.5
R16-74 right angle PCB product	21E6-040-304-B1	9.7

21E6-040-025-B1 installation assembly



Notes

Due to PDM update, the locking and installation assemblies are required to change the code of sub-component and the products are ordered according to the current code of sub-component. Only the code of sub-component is changed and the part, dimension and matching relationship are not changed. The product with locking and installation assemblies with the new code can be matched with the product with locking and installation assemblies with the old code

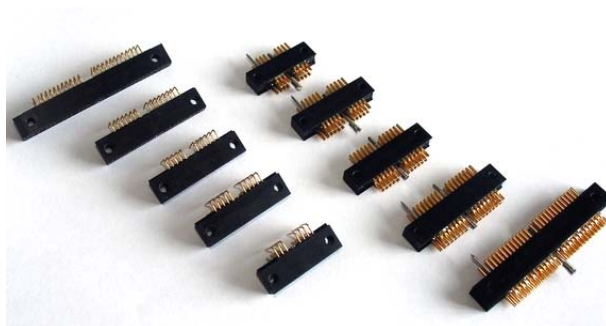
Comparison of locking and installation assemblies with old and new code

New code	Old code
21E6-040-022-B1	21E6.040.022
21E6-040-023-B1	21E6.040.023
21E6-040-024-B1	21E6.040.024-1
21E6-040-303-B1	21E6.040.024-2
21E6-040-304-B1	21E6.040.024-3
21E6-040-025-B1	21E6.040.025

R16D Series Micro-miniature Connector

Description

- Micro-miniature connector, spacing 1.27×2.54mm
- Plug with pins, right angle PCB; Receptacle with rigid socket, solder cup
- Guide pin and guide socket can make locking after being mated
- Contact arrangement: 51, 31, 23, 21, 15
- Interchangeable with DRS/DRP series products manufactured by OMNETICS company
- Enterprise standard: 21E0.204.118JT



Main technical performance

Mechanical

- Vibration: 10~2000Hz, acceleration 196m/s²
- Shock: Acceleration 735m/s²
- Durability: 500 cycles

Electrical

- Contact size: $\Phi 0.56\text{mm}$
- Rated current: 3A
- Contact resistance: $\leq 20\text{m}\Omega$
- Withstanding voltage: 800V
- Insulation resistance: $\geq 5000\text{M}\Omega$ (normal); $\geq 1000\text{M}\Omega$ (heat & damp)

Environmental

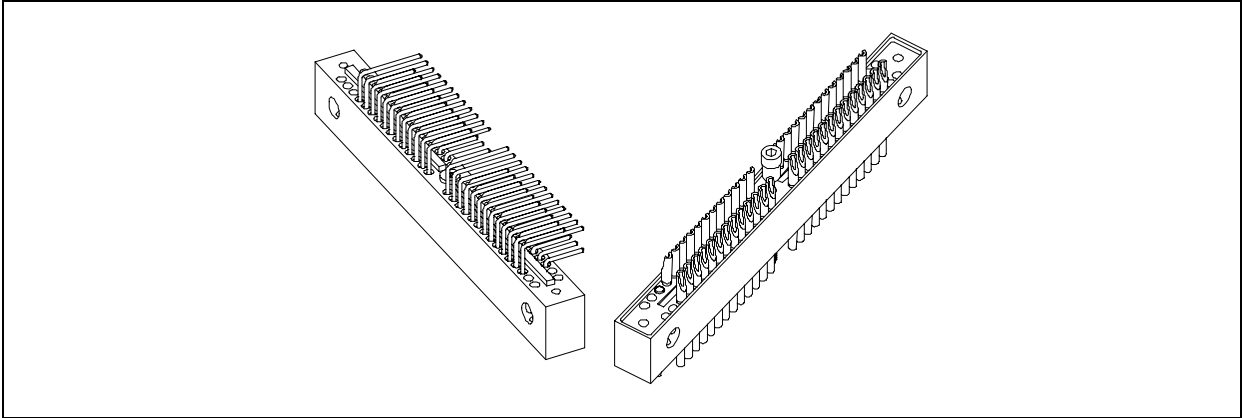
- Operating temperature: -55~+125℃

How to order

Basic series	R16D		-15	ZK	S
Number of contact	15、21、23、31、51				
Connector type	ZK—Receptacle with sockets	TJ—Plug with pins			
Termination	S—Solder cup (Socket)	W—Right angle PCB (Pin)			

Insert Arrangement

Contacts	View from mating face of plug		
51			
31			
23			
21			
15			
With contact		Without contact	With guide pin

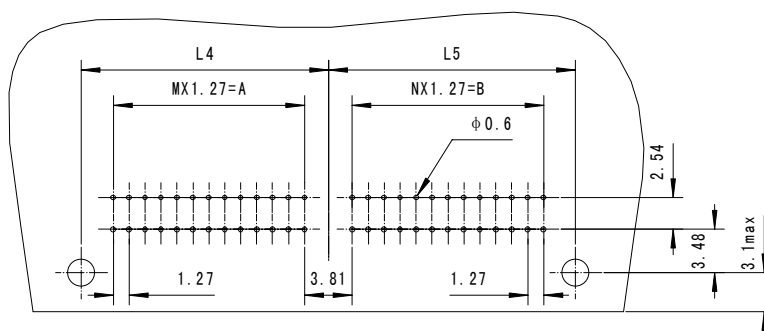
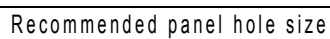


Cavity identification

Plug hole identification		
core	A	B
51		
31		
23		
21		
15		

core	A	B
51		
31		
23		
21		
15		

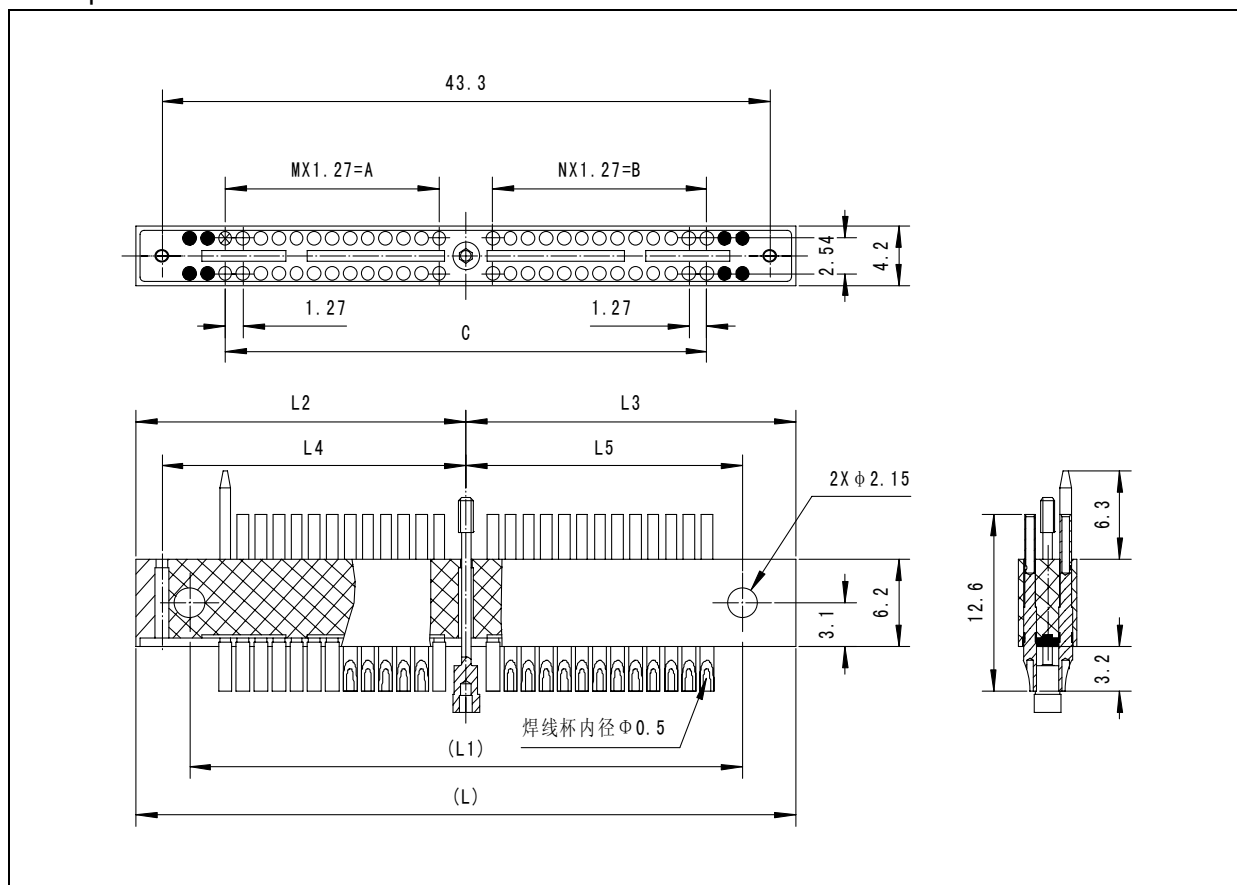
Plug R16D-xxTJW



P/N	L	L1	L2	L3	L4	L5	A	B	C	M	N
R16D-15TJ W	20.6 2	16.5 1	10.31	10.31	8.255	8.255	3.81	3.81	11.4 3	3	3
R16D-21TJ W	24.4 3	20.3 2	12.85	11.58	10.79 5	9.525	6.35	5.08	15.2 4	5	4
R16D-23TJ W	25.7	21.5 9	12.85	12.85	10.79 5	10.79 5	6.35	6.35	16.5 1	5	5
R16D-31TJ W	30.7 8	26.6 7	15.39	15.39	13.33 5	13.33 5	8.89	8.89	21.5 9	7	7
R16D-51TJ	46.9	39.3	23.49	23.49	19.68	19.68	15.2	15.2	34.2	12	12

W	9	7	5	5	5	5	4	4	9		
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Receptacle R16D-xxZKS



P/N	L	L1	L2	L3	L4	L5	A	B	C	M	N
R16D-15ZKS	20.62	16.51	10.31	10.31	8.255	8.255	3.81	3.81	11.43	3	3
R16D-21ZKS	24.43	20.32	12.85	11.58	10.795	9.525	6.35	5.08	15.24	5	4
R16D-23ZKS	25.7	21.59	12.85	12.85	10.795	10.795	6.35	6.35	16.51	5	5
R16D-31ZKS	30.78	26.67	15.39	15.39	13.335	13.335	8.89	8.89	21.59	7	7
R16D-51ZKS	46.99	39.37	23.495	23.495	19.685	19.685	15.24	15.24	34.29	12	12