

MIL-DTL-32139 Nano-D Connectors

R06 Series SMT Connectors

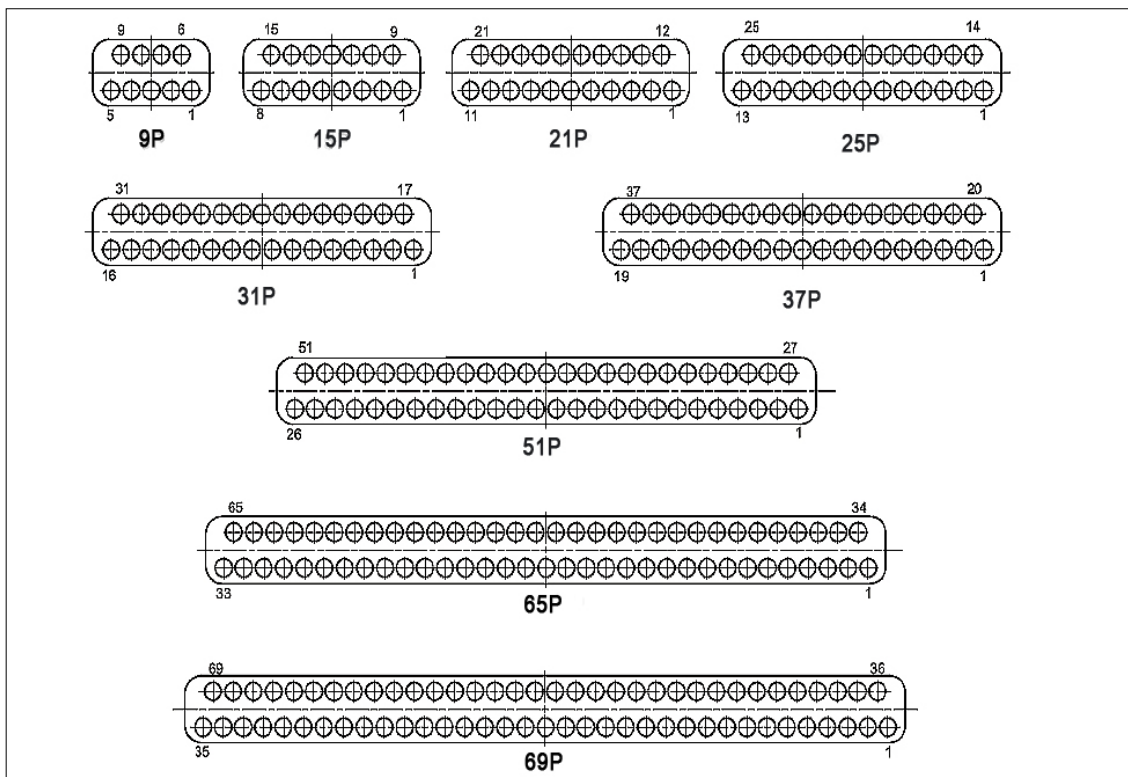
Brief Introduction

- Contacts: 9, 15, 21, 25, 31, 37, 51, 65, 69 pins.
Twist flexible nano pin (twist pin), 0.635mm pitch, nano 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, nano, 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 0.035mm².
- Undefined tolerance is ±0.13mm.

Specifications

- | | | | |
|---|---------------------------------|--------------------------|----------------|
| ■ Environment: | -55°C~+125°C | ■ Contact Resistance: | ≤21mΩ |
| ■ Vibration: | 10HZ~2000HZ 196m/s ² | ■ Insulation Resistance: | ≥5000MΩ 100VDC |
| ■ Shock: | 980m/s ² 6ms | ■ Dielectric Strength: | 250V |
| ■ Rated Current: | 1A | ■ Machine Life: | 200 times |
| ■ Random Vibration: Power spectrum density 0.4G 2/Hz, r.m.s value of total acceleration 23.1G | | | |

Contact Arrangements

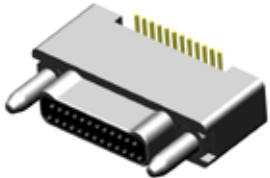


Remark: The above layout is viewed from mating face of plug connectors



R06 Series Vertical SMT Plug Connectors

How To Order

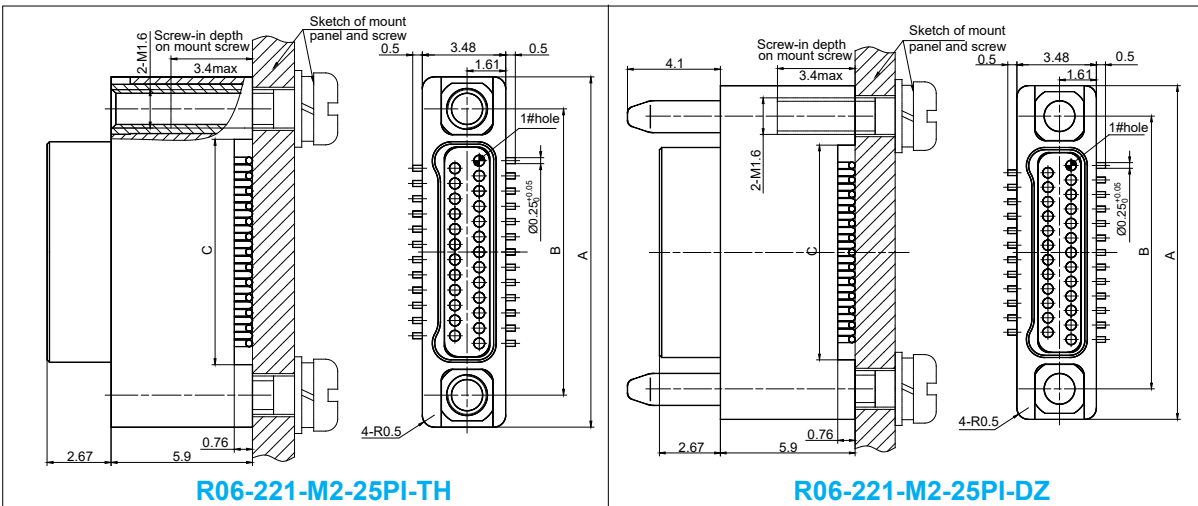
Series	R06	-2	2	1	-M	2	-25	PI	-TH	
Contact Row: 2—Two Rows										
Shell Plating: 2—Nickel Plating										
Contact Plating: 1—Gold Plating										
Tail Termination Type: M—SMT										
Mounting Style: 2—Vertical SMT										
Contact Number: 9,15,21,25,31,37,51,65,69pins										
Contact Type: PI—Pin in Plug										
Locking Hardware Type: DZ—Guide Pin TH—Connect Nut										

R06-221-M2-25PI-TH

R06-221-M2-25PI-DZ

Remark: 1. R06-221-M2-25PI-TH usually matches with receptacle which have locking screw.
2. R06-221-M2-25PI-DZ usually matches with receptacle which have guide hole.

Outline Dimensions



R06-221-M2-25PI-TH

R06-221-M2-25PI-DZ

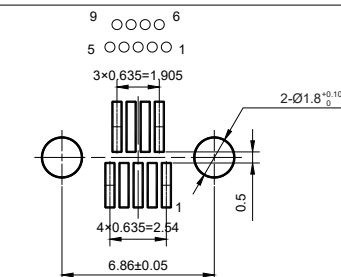
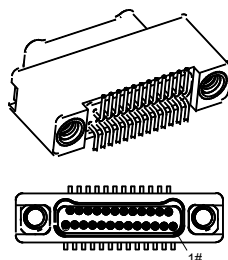
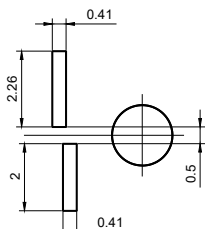
Pin Count	Dimensions			Pin Count	Dimensions			Pin Count	Dimensions		
	A	B	C		A	B	C		A	B	C
9pins	9.63	6.86	4.31	15pins	11.53	8.76	6.22	21pins	13.44	10.67	8.13
25pins	14.71	11.94	9.40	31pins	16.61	13.84	11.30	37pins	18.52	15.75	13.21
51pins	22.96	20.19	17.65	65pins	27.41	24.64	22.10	69pins	28.68	25.91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

Remark: All dimensions are in mm.

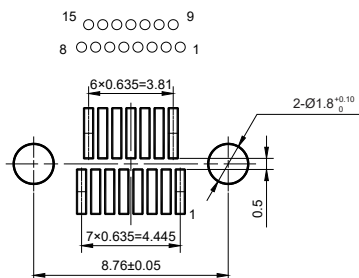


R06 Series Vertical SMT Plug Connectors - PCB Layout

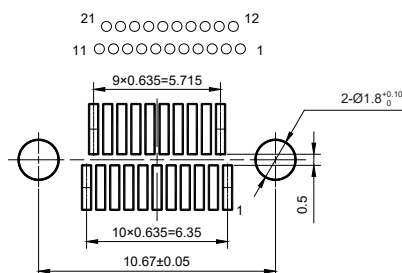
Lead Footprint Dimensions



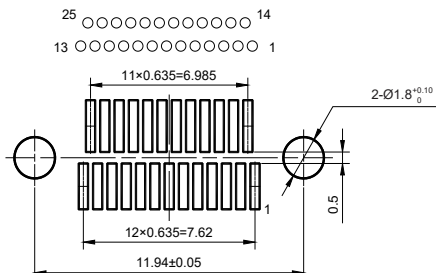
R06-221-M2-9PI-TH



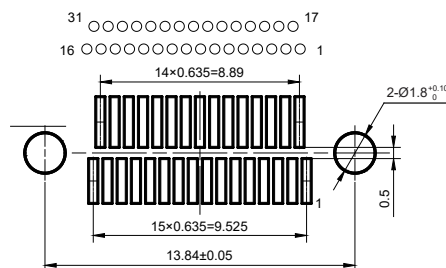
R06-221-M2-15PI-TH



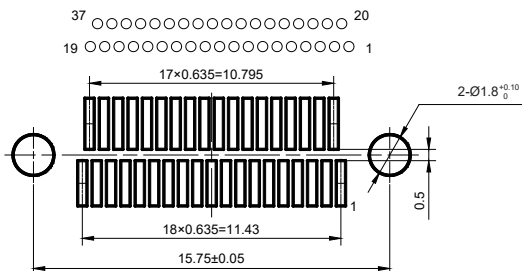
R06-221-M2-21PI-TH



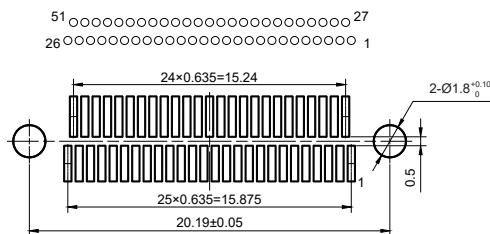
R06-221-M2-25PI-TH



R06-221-M2-31PI-TH



R06-221-M2-37PI-TH



R06-221-M2-51PI-TH



R06-221-M2-65PI-TH



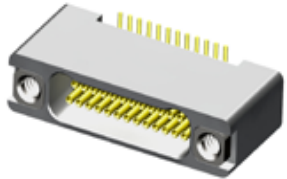
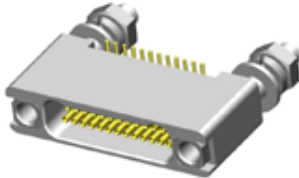
R06-221-M2-69PI-TH

Remark: All dimensions are in mm.



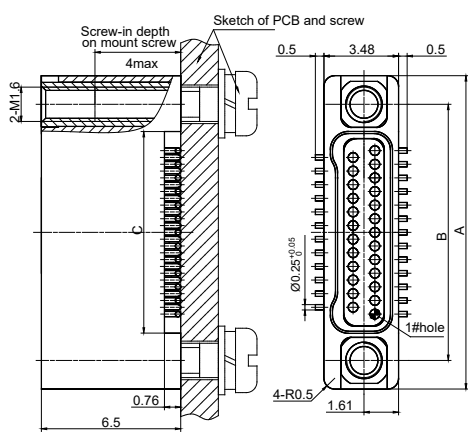
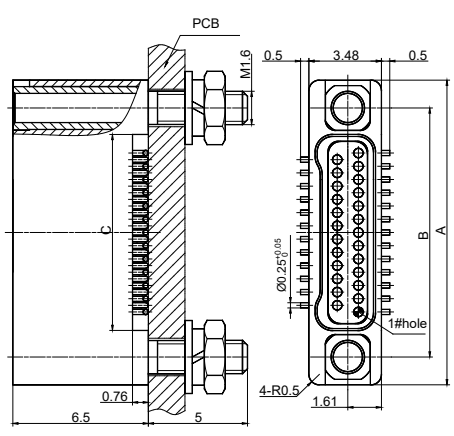
R06 Series Vertical SMT Receptacle Connectors

How To Order

Series	R06	-2	2	1	-M	2	-25	RH	-TH	
Contact Row: 2—Two Rows										
Shell Plating: 2—Nickel Plating										
Contact Plating: 1—Gold Plating										
Tail Termination Type: M—SMT										
Mounting Style: 2—Vertical SMT										
Contact Number: 9,15,21,25,31,37,51,65,69pins										
Contact Type: RH—Socket in Receptacle										
Locking Hardware Type: NH—Guide Hole With Nut Mounted TH—Connect Nut										

Remark: 1. R06-221-M2-25RH-TH usually matches with plug which have locking screw.
2. R06-221-M2-25RH-NH usually matches with plug which have guide pin.

Outline Dimensions

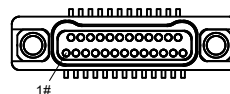
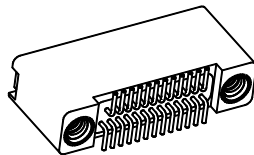
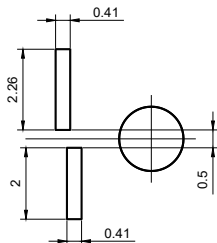
 R06-221-M2-25RH-TH	 R06-221-M2-25RH-NH
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Pin Count	Dimensions			Pin Count	Dimensions			Pin Count	Dimensions		
	A	B	C		A	B	C		A	B	C
9pins	9.63	6.86	4.31	15pins	11.53	8.76	6.22	21pins	13.44	10.67	8.13
25pins	14.71	11.94	9.40	31pins	16.61	13.84	11.30	37pins	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.

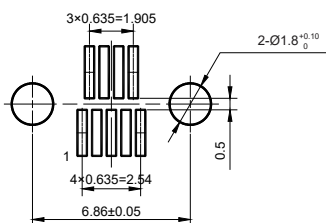


R06 Series Vertical SMT Receptacle Connectors - PCB Layout



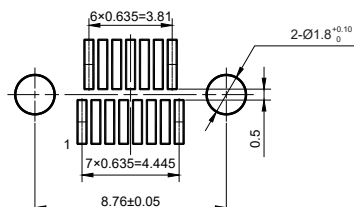
Lead Footprint Dimensions

6 ○○○○ 9
1 ○○○○ 5



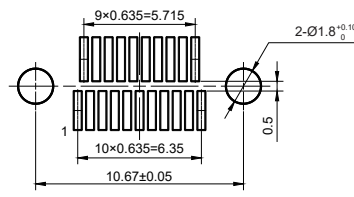
R06-221-M2-9RH-TH

9 ○○○○○○ 15
1 ○○○○○○ 8



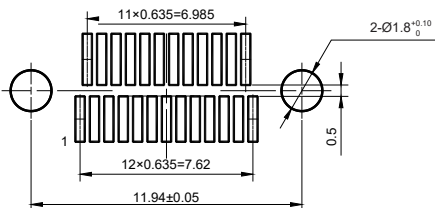
R06-221-M2-15RH-TH

12 ○○○○○○○○○○ 21
1 ○○○○○○○○○○ 11



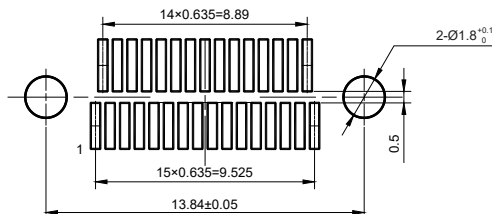
R06-221-M2-21RH-TH

14 ○○○○○○○○○○ 25
1 ○○○○○○○○○○ 13



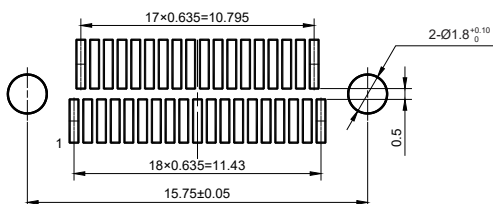
R06-221-M2-25RH-TH

17 ○○○○○○○○○○ 31
1 ○○○○○○○○○○ 16



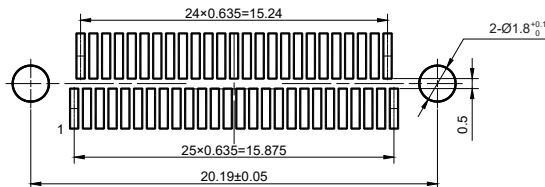
R06-221-M2-31RH-TH

20 ○○○○○○○○○○ 37
1 ○○○○○○○○○○ 19



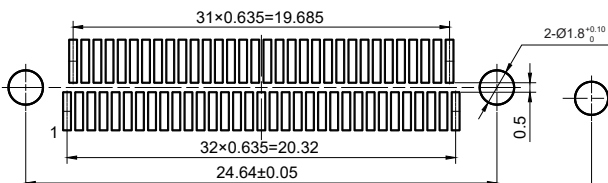
R06-221-M2-37RH-TH

27 ○○○○○○○○○○ 51
1 ○○○○○○○○○○ 26



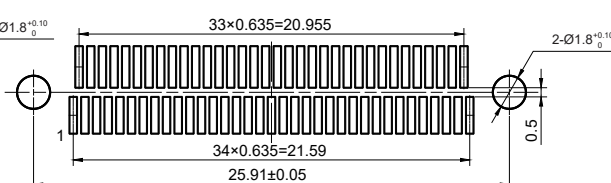
R06-221-M2-51RH-TH

34 ○○○○○○○○○○ 65
1 ○○○○○○○○○○ 33



R06-221-M2-65RH-TH

36 ○○○○○○○○○○ 69
1 ○○○○○○○○○○ 35



R06-221-M2-69RH-TH

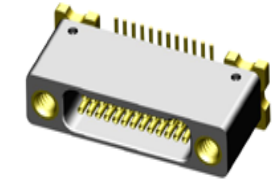
Remark: All dimensions are in mm.



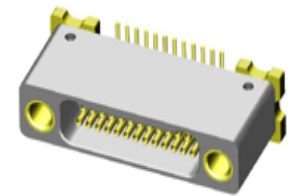
R06 Vertical SMT Receptacle with Solder Locking Hardware

How To Order

Series	R06	-2	2	1	-M	2	-25	RH	-TH1
Contact Row:									
2—Two Rows									
Shell Plating:									
2—Nickel Plating									
Contact Plating:									
1—Gold Plating									
Tail Termination Type:									
M—SMT									
Mounting Style:									
2—Vertical SMT									
Contact Number:									
9,15,21,25,31,37,51,65,69pins									
Contact Type:									
RH—Socket in Receptacle									
Locking Hardware Type:									
TH1—Solder Nut									
SH—Solder Guide Hole									



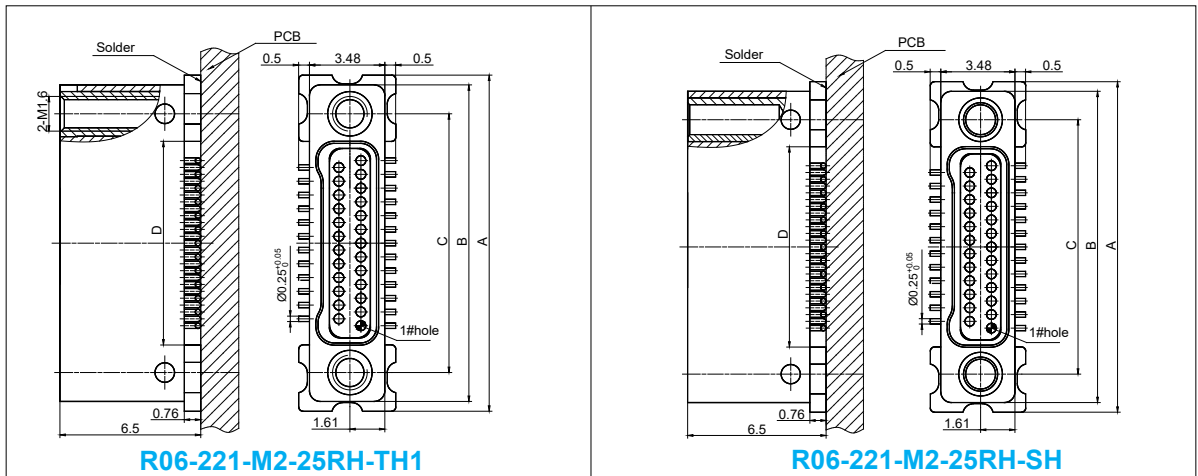
R06-221-M2-25RH-TH1



R06-221-M2-25RH-SH

Remark: 1. R06-221-M2-25RH-TH1 usually matches with plug which have locking screw.
2. R06-221-M2-25RH-SH usually matches with plug which have guide pin.
3. Connector of mounting hole solder by SMT, suit for PCB which can't design mounting hole.

Outline Dimensions

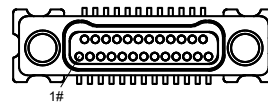
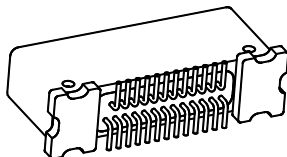
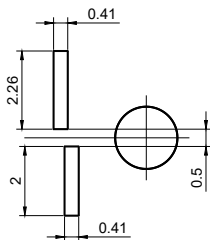


Pin Count	Dimensions				Pin Count	Dimensions			
	A	B	C	D		A	B	C	D
9pins	10.43	9.63	6.86	4.31	15pins	12.33	11.53	8.76	6.22
21pins	14.24	13.44	10.67	8.13	25pins	15.51	14.71	11.94	9.40
31pins	17.41	16.61	13.84	11.30	37pins	19.32	18.52	15.75	13.21
51pins	23.76	22.96	20.19	17.65	65pins	28.21	27.41	24.64	22.10
69pins	29.48	28.68	25.91	23.37					

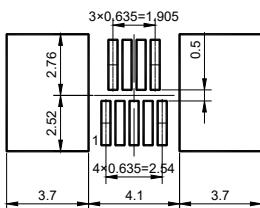
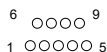
Remark: All dimensions are in mm.



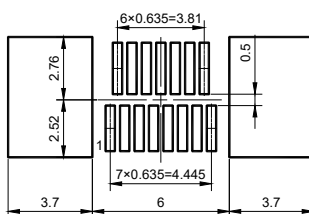
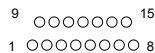
R06 Vertical SMT Receptacle with Solder Locking Hardware - PCB Layout



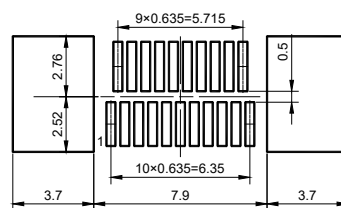
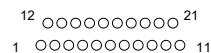
Lead Footprint Dimensions



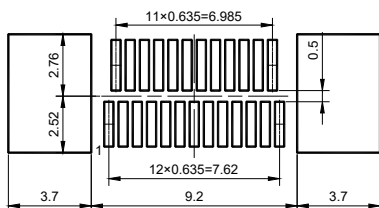
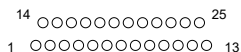
R06-221-M2-9RH-TH1



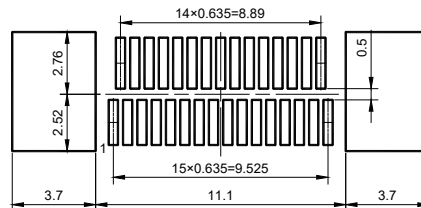
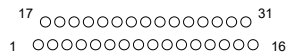
R06-221-M2-15RH-TH1



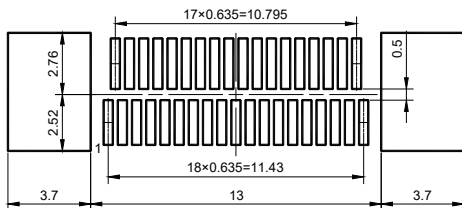
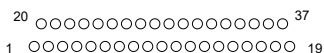
R06-221-M2-21RH-TH1



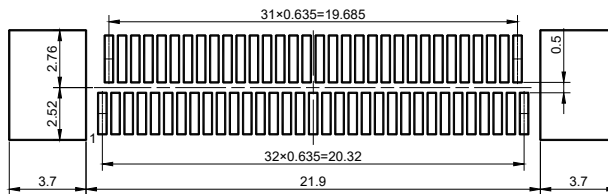
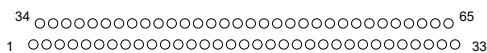
R06-221-M2-25RH-TH1



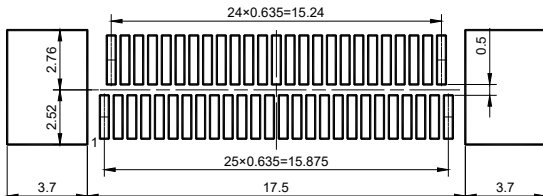
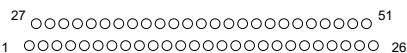
R06-221-M2-31RH-TH1



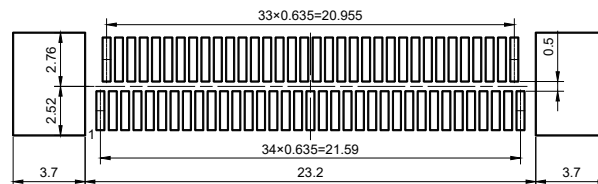
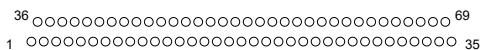
R06-221-M2-37RH-TH1



R06-221-M2-65RH-TH1



R06-221-M2-51RH-TH1



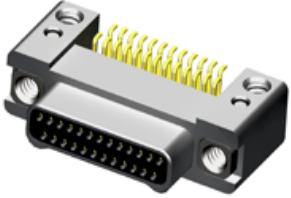
R06-221-M2-69RH-TH1

Remark: All dimensions are in mm.



R06 Series Horizontal SMT Plug Connectors

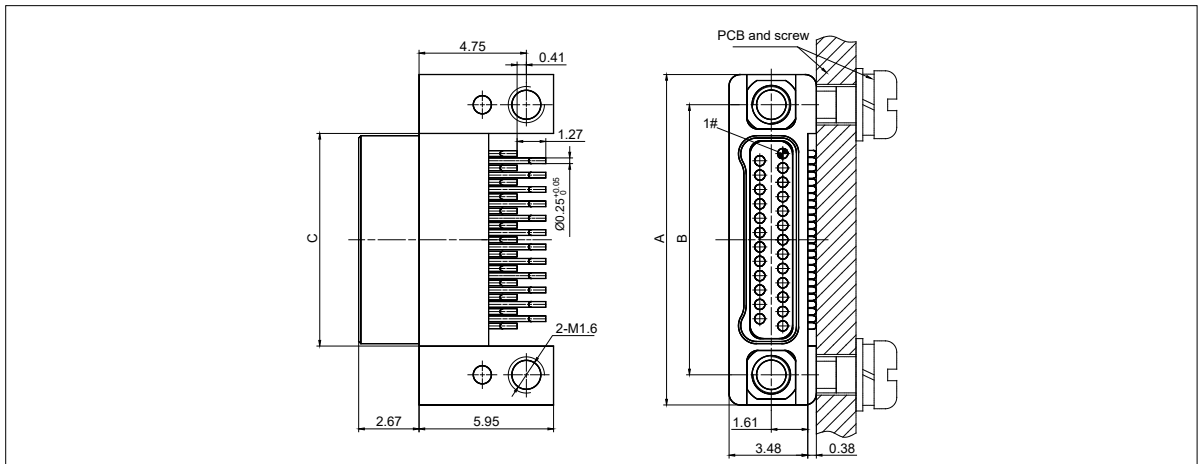
How To Order

Series	R06	-2	2	1	-M	3	-25	PI	-TH	
Contact Row:										
2—Two Rows										
Shell Plating:										
2—Nickel Plating										
Contact Plating:										
1—Gold Plating										
Tail Termination Type:										
M—SMT										
Mounting Style:										
3—Horizontal SMT										
Contact Number:										
9,15,21,25,31,37,51,65,69pins										
Contact Type:										
PI—Pin in Plug										
Locking Hardware Type:										
TH—Connect Nut										

R06-221-M3-25PI-TH

Remark: R06-221-M3-PI-TH usually matches with receptacle which have locking screw.

Outline Dimensions

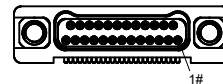
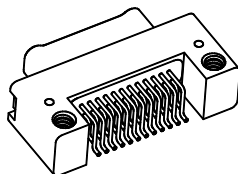
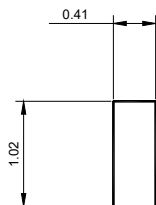


Pin Count	Dimensions			Pin Count	Dimensions			Pin Count	Dimensions		
	A	B	C		A	B	C		A	B	C
9pins	9.63	6.86	4.31	15pins	11.53	8.76	6.22	21pins	13.44	10.67	8.13
25pins	14.71	11.94	9.40	31pins	16.61	13.84	11.30	37pins	18.52	15.75	13.21
51pins	22.96	20.19	17.65	65pins	27.41	24.64	22.10	69pins	28.68	25.91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

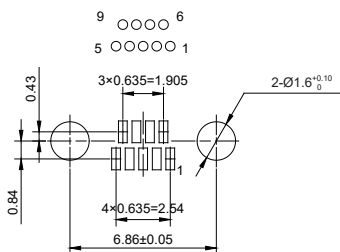
Remark: All dimensions are in mm.



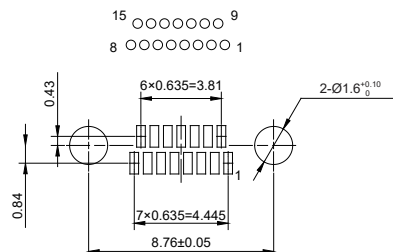
R06 Series Horizontal SMT Plug Connectors - PCB Layout



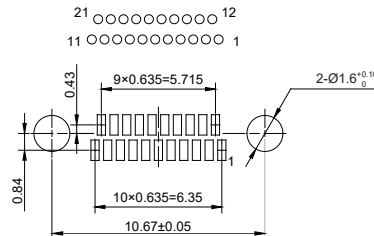
Lead Footprint Dimensions



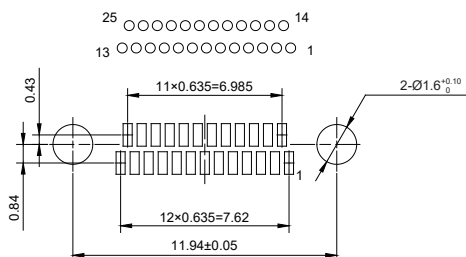
R06-221-M3-9PI-TH



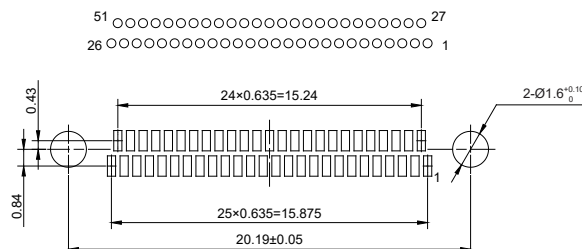
R06-221-M3-15PI-TH



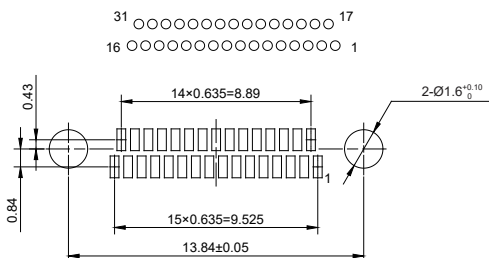
R06-221-M3-21PI-TH



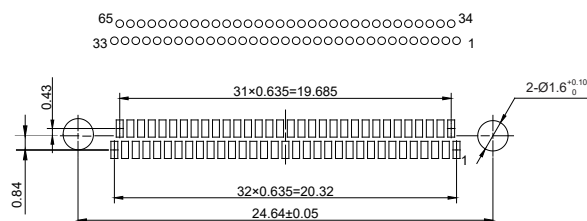
R06-221-M3-25PI-TH



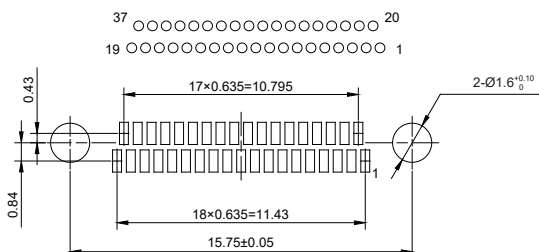
R06-221-M3-51PI-TH



R06-221-M3-31PI-TH



R06-221-M3-65PI-TH



R06-221-M3-37PI-TH



R06-221-M3-69PI-TH

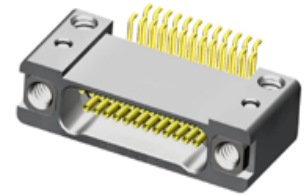
Remark: All dimensions are in mm.



R06 Series Horizontal SMT Receptacle Connectors

How To Order

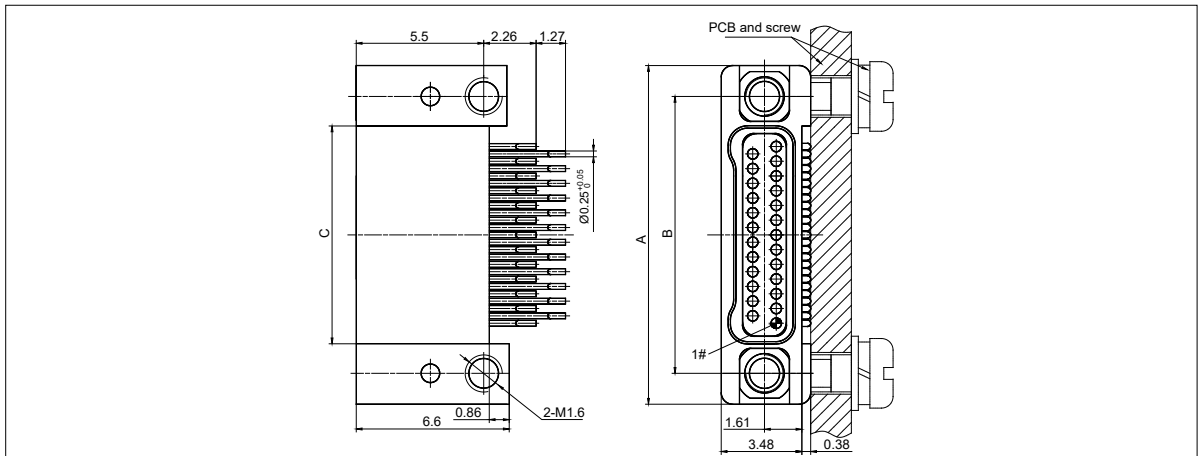
Series	R06	-2	2	1	-M	3	-25	RH	-TH
Contact Row:									
2—Two Rows									
Shell Plating:									
2—Nickel Plating									
Contact Plating:									
1—Gold Plating									
Tail Termination Type:									
M—SMT									
Mounting Style:									
3—Horizontal SMT									
Contact Number:									
9,15,21,25,31,37,51,65,69pins									
Contact Type:									
RH—Socket in Receptacle									
Locking Hardware Type:									
TH—Connect Nut									



R06-221-M3-25RH-TH

Remark: R06-221-M3-*RH-TH usually matches with plug which have locking screw.

Outline Dimensions

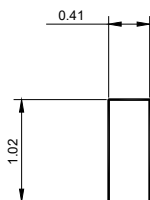


Pin Count	Dimensions			Pin Count	Dimensions			Pin Count	Dimensions		
	A	B	C		A	B	C		A	B	C
9pins	9.63	6.86	4.31	15pins	11.53	8.76	6.22	21pins	13.44	10.67	8.13
25pins	14.71	11.94	9.40	31pins	16.61	13.84	11.30	37pins	18.52	15.75	13.21
51pins	22.96	20.19	17.65	65pins	27.41	24.64	22.10	69pins	28.68	25.91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

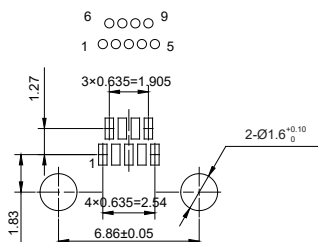
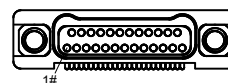
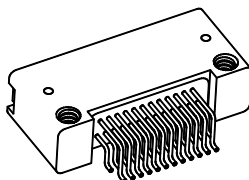
Remark: All dimensions are in mm.



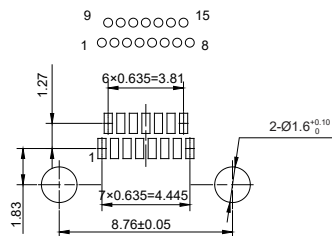
R06 Series Horizontal SMT Receptacle Connectors - PCB Layout



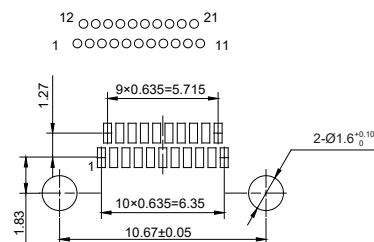
Lead Footprint Dimensions



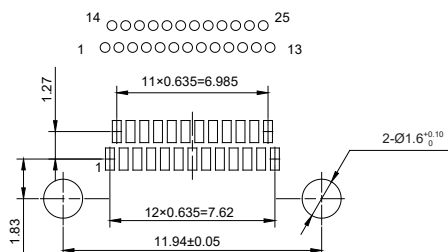
R06-221-M3-9RH-TH



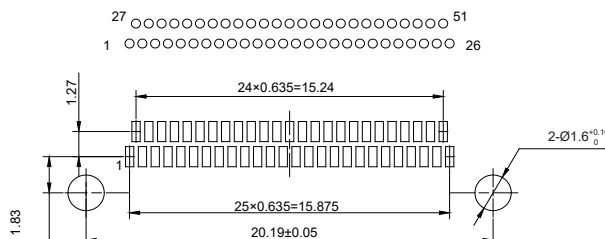
R06-221-M3-15RH-TH



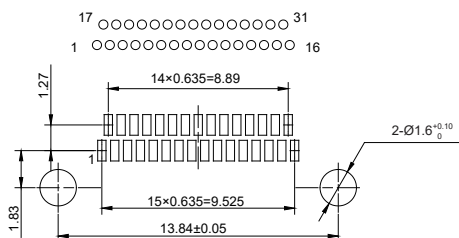
R06-221-M3-21RH-TH



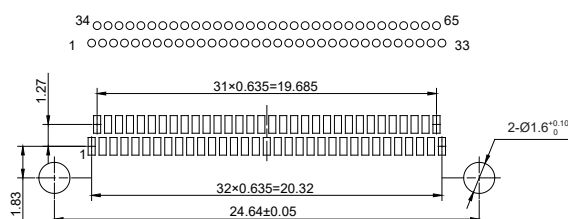
R06-221-M3-25RH-TH



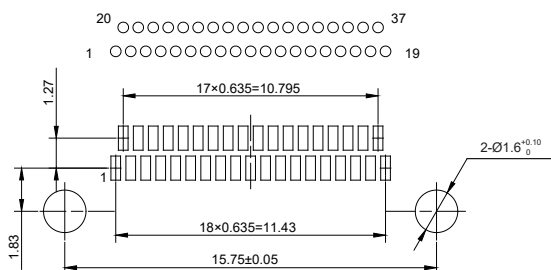
R06-221-M3-51RH-TH



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.



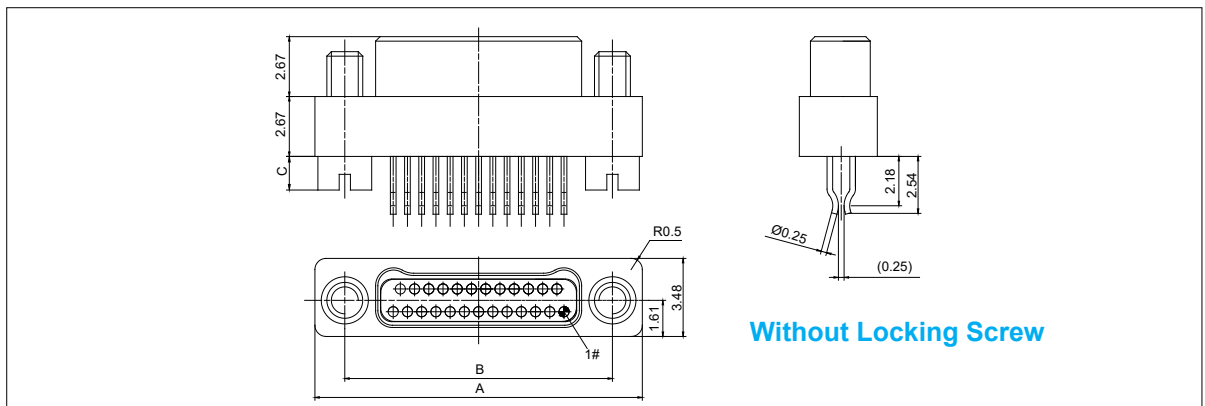
R06 Series Straddle Flexible SMT Plug Connectors

How To Order

Series	R06	-2	2	1	-M	8	-25	PI	-JC	 R06-221-M8-25PI-JC
Contact Row:										
2—Two Rows										
Shell Plating:										
2—Nickel Plating										
Contact Plating:										
1—Gold Plating										
Tail Termination Type:										
M—SMT										
Mounting Style:										
8—Straddle Flexible SMT										
Contact Number:										
9,15,21,25,31,37,51,65,69pins										
Contact Type:										
PI—Pin in Plug										
Locking Hardware Type:										
JC—Locking Screw (Straight Slot, "C" Dimension is 1.5mm)										
JC1— Locking Screw (Hex, Not Recommend , "C" Dimension is 2.1mm)										

Remark: 1.Connectors are free mounted,not fixed, usually mated with connectors with nuts.
2.Recommend JC Screws (straight slot screw), tightened by miniature straight screwdriver.
3.When choosing JC1 Screws (hex screw), tightened by 1.27mm subtense hex screwdriver.
4.PC tail solder on flexible PCB, PCB thickness is 0.25MAX.

Outline Dimensions



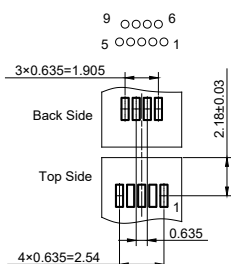
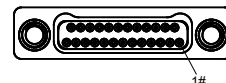
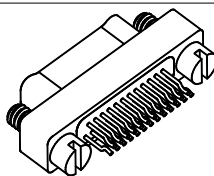
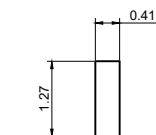
Pin Count	Dimensions		Pin Count	Dimensions		Pin Count	Dimensions	
	A	B		A	B		A	B
9pins	9.63	6.86	15pins	11.53	8.76	21pins	13.44	10.67
25pins	14.71	11.94	31pins	16.61	13.84	37pins	18.52	15.75
51pins	22.96	20.19	65pins	27.41	24.64	69pins	28.68	25.91

Remark: All dimensions are in mm.

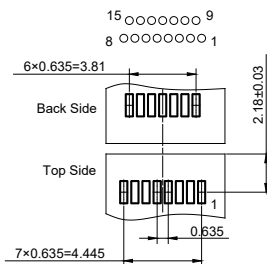


R06 Series Straddle Flexible SMT Plug Connectors - PCB Layout

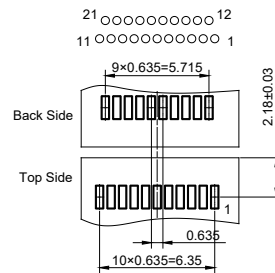
Lead Footprint Dimensions



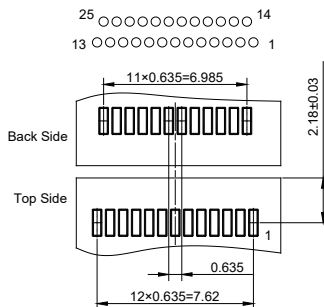
R06-221-M8-9PI-JC



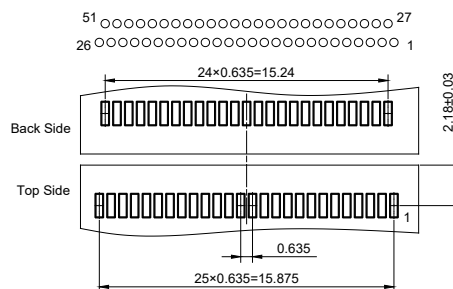
R06-221-M8-15PI-JC



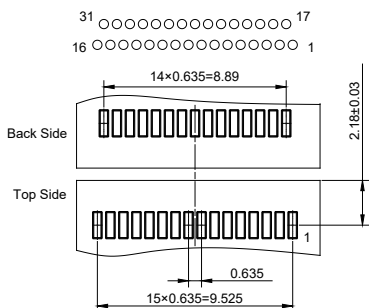
R06-221-M8-21PI-JC



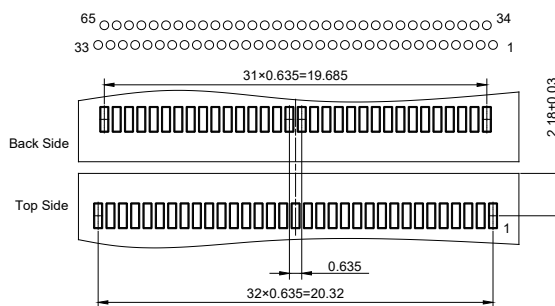
R06-221-M8-25PI-JC



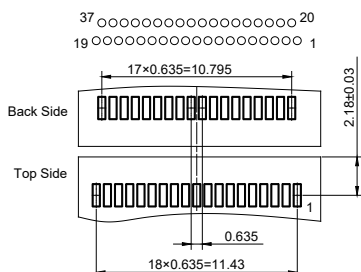
R06-221-M8-51PI-JC



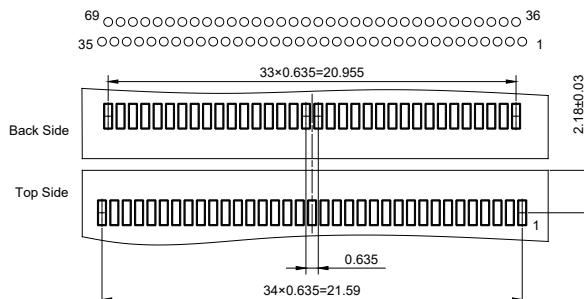
R06-221-M8-31PI-JC



R06-221-M8-65PI-JC



R06-221-M8-37PI-JC



R06-221-M8-69PI-JC

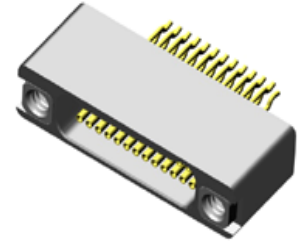
Remark: All dimensions are in mm.



R06 Series Straddle Flexible SMT Receptacle Connectors

How To Order

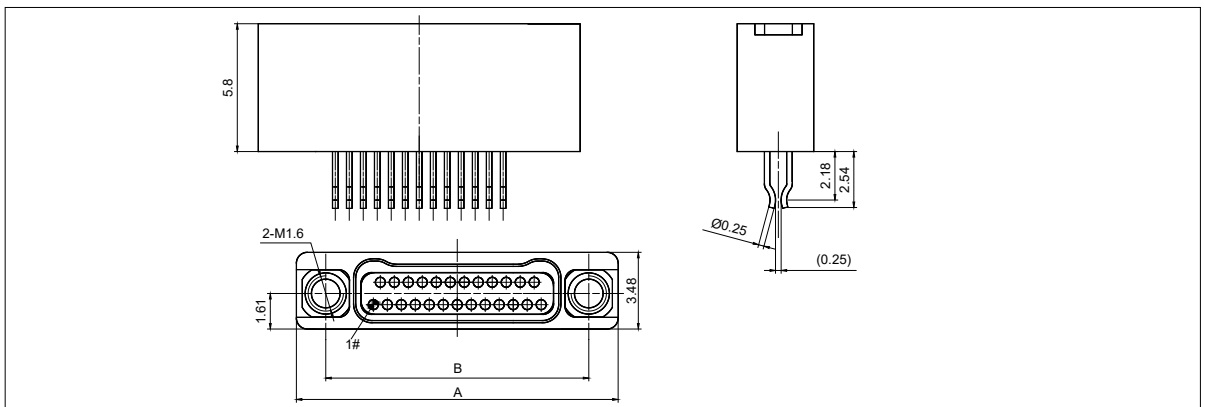
Series	R06	-2	2	1	-M	8	-25	RH	-TH
Contact Row:									
2—Two Rows									
Shell Plating:									
2—Nickel Plating									
Contact Plating:									
1—Gold Plating									
Tail Termination Type:									
M—SMT									
Mounting Style:									
8—Straddle Flexible SMT									
Contact Number:									
9,15,21,25,31,37,51,65,69pins									
Contact Type:									
RH—Socket in Receptacle									
Locking Hardware Type:									
TH—Connect Nut									



R06-221-M8-25RH-TH

Remark: 1. Connectors are free mounted, not fixed, usually mated with plug which have locking screw.
2. PC tail solder on flexible PCB, PCB thickness is 0.25MAX.

Outline Dimensions

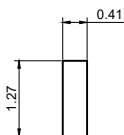


Pin Count	Dimensions		Pin Count	Dimensions		Pin Count	Dimensions	
	A	B		A	B		A	B
9pins	9.63	6.86	15pins	11.53	8.76	21pins	13.44	10.67
25pins	14.71	11.94	31pins	16.61	13.84	37pins	18.52	15.75
51pins	22.96	20.19	65pins	27.41	24.64	69pins	28.68	25.91

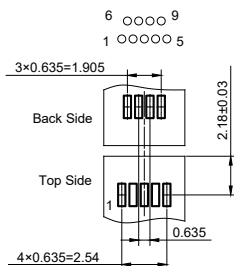
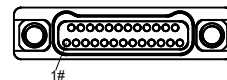
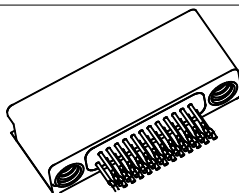
Remark: All dimensions are in mm.



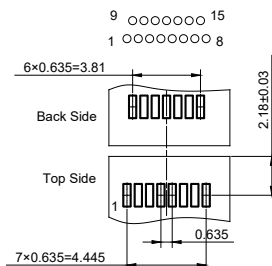
R06 Series Straddle Flexible SMT Receptacle Connectors - PCB Layout



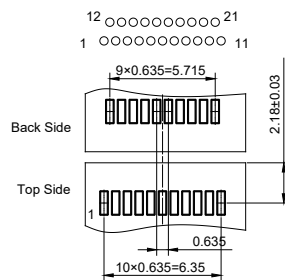
Lead Footprint Dimensions



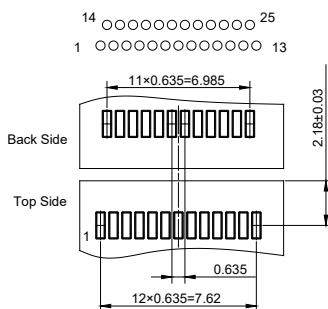
R06-221-M8-9RH-TH



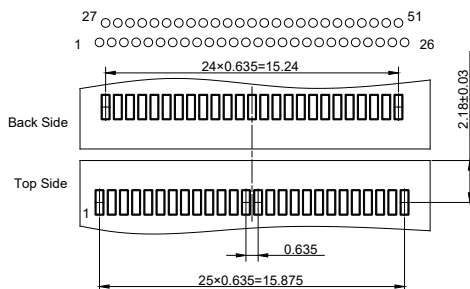
R06-221-M8-15RH-TH



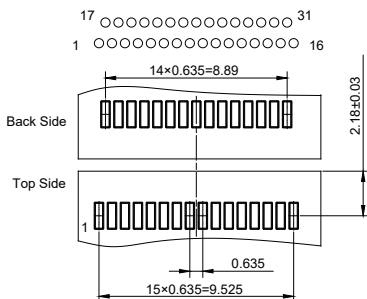
R06-221-M8-21RH-TH



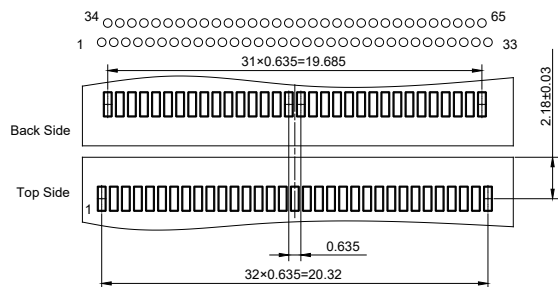
R06-221-M8-25RH-TH



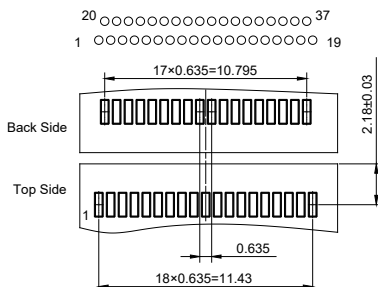
R06-221-M8-51RH-TH



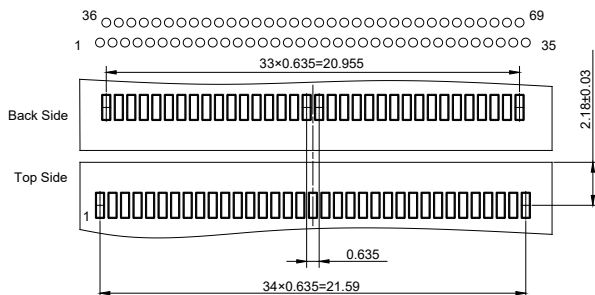
R06-221-M8-31RH-TH



R06-221-M8-65RH-TH



R06-221-M8-37RH-TH



R06-221-M8-69RH-TH

Remark: All dimensions are in mm.