

**COMPLIANCE WITH  
THE USB STANDARD**

**USB (AXJ1)  
CONNECTORS**



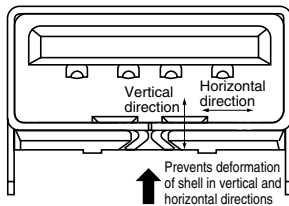
USB: Universal Serial Bus serial interface for connecting a telephone, board and other peripheral units to a personal computer.

**FEATURES**

1. Permits connection/disconnection while the power is on.
2. Resistant structure for mating stress
3. Low insertion force/Insertion and removal life 1,500 times

**APPLICATIONS**

- Receptacle
- Series A: Personal Computers and USB hubs.



A construction which protects the connector from cable stretching and other external forces is achieved by interfitting the metal shell cover into the molding.

**Compliance with RoHS Directive**

**ORDERING INFORMATION**

AXJ 1 1 [ ] [ ] [ ] 2 T

- 1: USB connector
- <Receptacle>
- 1: Receptacle
- <Composition>
- 1: Series A, 1 port
- 2: Series A, 2 port
- <Terminal and Retention fitting>

Terminal portion	Retention fitting portion
2	Clinching type board thickness 0.8 to 1.2mm
3	
5	Straight type

- <Flange shape>
- 0: Without flange
- 1: Side flange
- 2: Center flange
- <Surface treatment (Contact portion/ Terminal portion)>
- 2: Contact portion: Ni plating on base, PdNi + Au flash plating on surface
- Terminal portion: Ni plating on base, Au plating on surface (except for top of the terminal)
- <Packing>
- T: Tray packaging

## PRODUCT TYPES

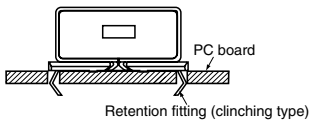
Series	No. of port	Terminal shape	Holding parts shape	Flange	Part no.	Packing quantity	
						Inner carton	Outer carton
A	1 port (4 contacts)	DIP terminal	Clinching type Applicable board thickness 0.8mm to 1.2mm	Side flange	AXJ111212T	90	900
				Center flange	AXJ111222T	90	900
		SMD terminal	Straight type	Side flange	AXJ111512T	90	900
				Without flange	AXJ111502T	90	900
	2 ports (4 contacts × 2-layer)	DIP terminal	Clinching type Applicable board thickness 0.8mm to 1.2mm	Without flange	AXJ112202T	60	600
				Clinching type Applicable board thickness 1.6mm	Without flange	AXJ112302T	60

Note: The "clinching type" refers to a connector whose retention fittings are clinched as shown in the figure below so that the connector can support itself.

Remark: T: Tray packaging

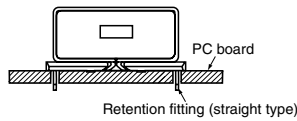
### Clinching type

Applicable to DIP terminal



### Straight type

Applicable to SMD terminal



## SPECIFICATIONS

### 1. Characteristics

Item		Specifications		Conditions	
Electrical characteristics	Rated current	1.0A			
	Rated voltage	30V DC/AC			
	Contact resistance	1 Port (receptacle)	Max. 30mΩ		EIA-364-23 (Inductive resistance for wire is not included)
		2 Ports (receptacle)	Max. 40mΩ		
	Insulation resistance	Min. 1000MΩ		EIA-364-21 Using 500V DC megger	
	Breakdown voltage	Breaking voltage 750V AC for 1min.		EIA-364-20 Detection current: 1mA	
Electrostatic capacity	Max. 2pF		EIA-364-30 Measured at 1 kHz between connectors which are not connected.		
Mechanical characteristics	Composite insertion force	Max. 35N {3.57kgf} (initial)		EIA-364-13 Measures the insertion and removal force for a plug at the speed of 12.5mm/min.	
	Composite removal force	Min. 10N {1.02kgf}			
Environmental characteristics	Ambient temperature	0°C to +40°C (carrying current)		No freezing at low temperatures	
	Soldering heat resistance	260°C within 10sec.		Soldering bath	
		Tip temperature of soldering iron: 300°C within 5sec., 350°C within 3sec.		Soldering iron	
Storage condition	-40°C to +60°C		No freezing at low temperatures		
Lifetime characteristics	Mechanical life	1500 times		EIA-364-09 Repeated insertion and removal speed of max. 200 times/hours	
Unit weight		1 port type: 2.0 g, 2 parts type: 5.5 g			

### 2. Material and surface treatment

#### Series A

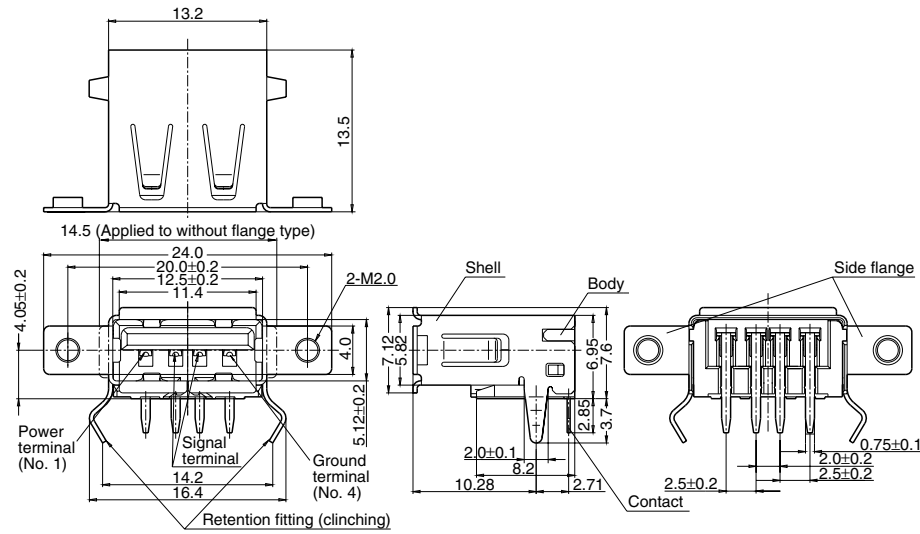
Part name	Material	Surface treatment
Resin-molding portion	Heat-resistant resin (UL94V-0)	—
Contact	Copper alloy	Contact portion: Ni plating on base, Au plating on surface Terminal portion: Ni plating on base, Au plating on surface (except for top of the terminal)
Shell	Copper alloy	Cu plating on base, Sn plating on surface (except for thick of the terminal)
Center clip	Copper alloy	Cu plating on base, Sn plating on surface (except for thick of the terminal)

# AXJ(1)

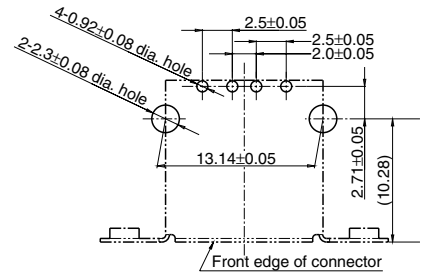
## DIMENSIONS

mm General tolerance:  $\pm 0.3$

### 1. Series A 1 port DIP terminal with side flange



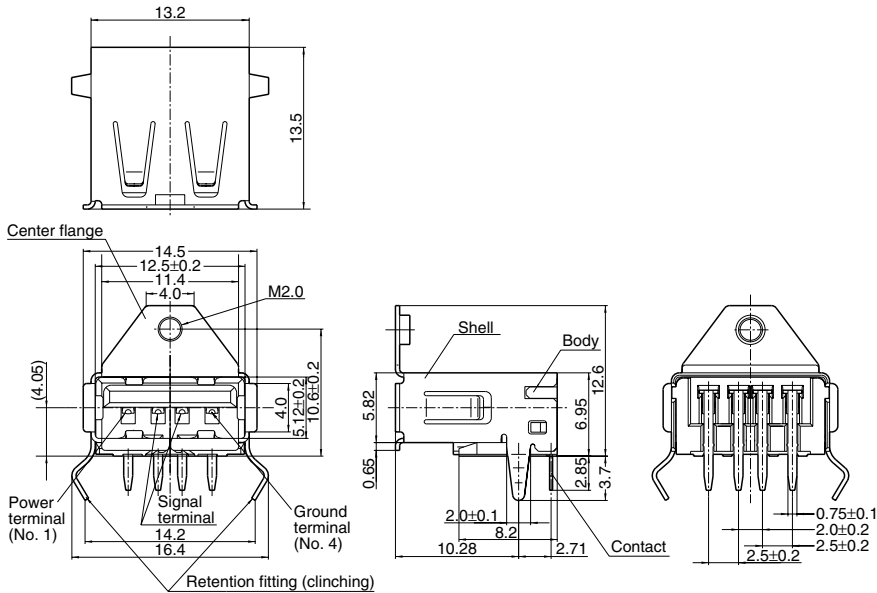
Recommended PC board pattern (TOP VIEW)



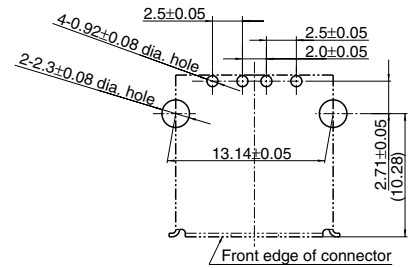
Note) Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

Part no.	Flange shape
AXJ111202	Without flange
AXJ111212	With side flange

### 2. Series A 1 port DIP terminal with center flange

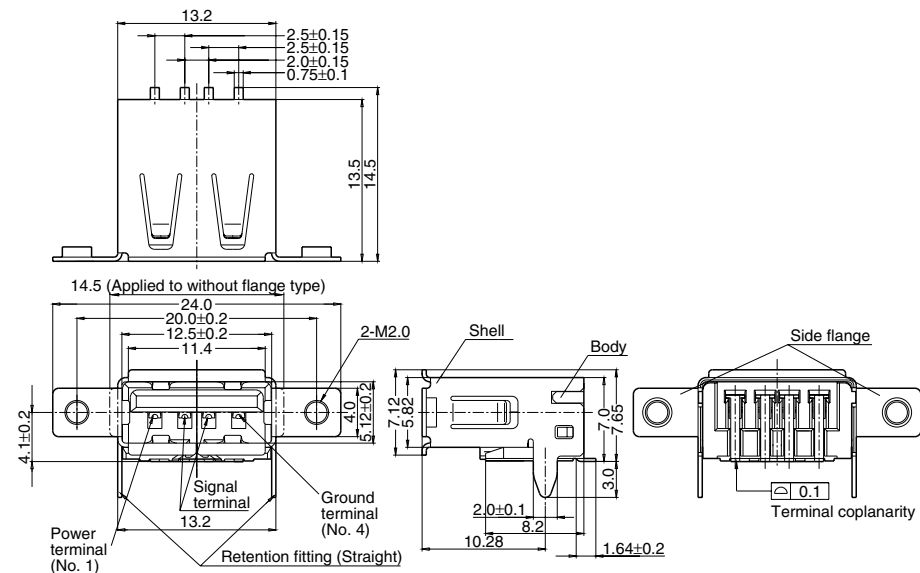


Recommended PC board pattern (TOP VIEW)

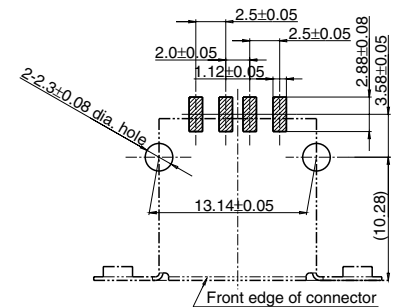


Note) Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

### 3. Series A 1 port SMD terminal with side flange



Recommended PC board pattern (TOP VIEW)

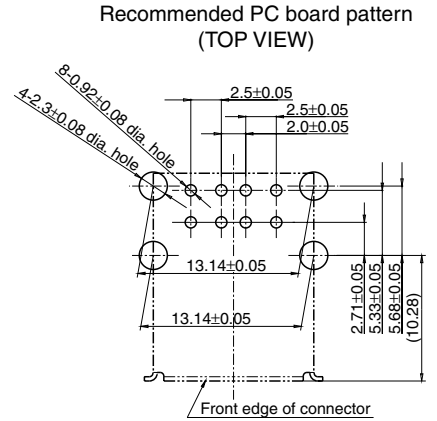
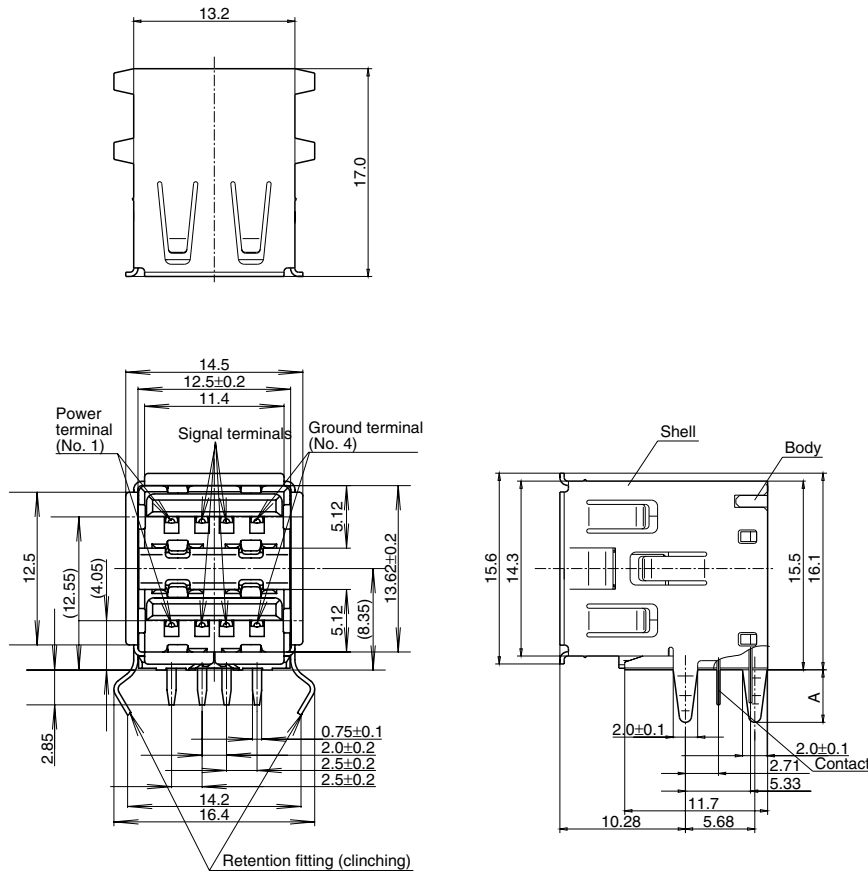


Note) Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

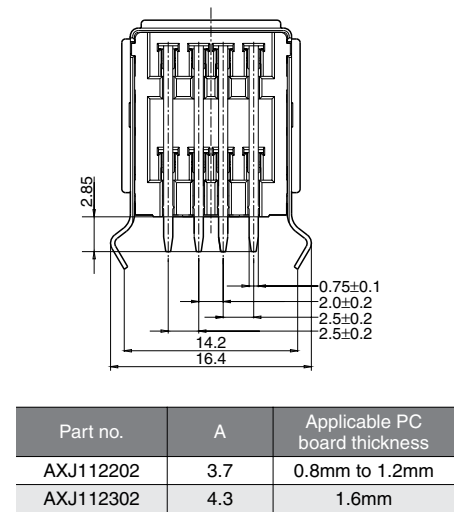
Part no.	Flange shape
AXJ111502	Without flange
AXJ111512	With side flange

4. Series A 2 ports DIP terminal without flange

mm General tolerance:  $\pm 0.3$



Note) Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).



**NOTES**

1. Use of a cover is recommended when using this device in order to prevent scraps, dust, dirt, etc., from getting inside the receptacle.
2. Since these products come with metal retainers, the foot patterns for two retainers (in the case of 1 port) or for 4 retainers (in the case of 2 ports) must be fabricated. (Refer to the diagram for the recommended PCB processing.) Furthermore, the retainers must be soldered to the PCB to anchor them in place.
3. In the case of automatic soldering, ensure that the solder bath temperature is less than 260°C and that the immersion time does not exceed 10 seconds.
4. Since excessive force on the terminals will cause deformation and the integrity of the soldering will be lost during reflow soldering, avoid dropping or rough handling of the product.

5. This connector has metal shell for preventing EMI, when designing an enclosure the followings should be considered. Guide for plug entrance should be arranged in order to prevent distorted insertions. Provide a cover to reinforce the metal shell portions of the receptacle.
6. Repeated bending of terminals and holding parts can result in terminals breaking.
7. The compatible PCB thickness is either 0.8mm to 1.2mm or 1.6mm for the DIP type of mounting.  
In regard to the compatible PCB thickness range from 0.8mm to 1.2mm, it should be added that the only trouble when using the connector with a PCB which is less than 0.8mm thick is that play may develop between the PCB and metal retainers. The connector can therefore be used if it is clamped or some other measure is taken to secure it. The same applies when the 1.6mm type connector is used with a PCB which is less than 1.6mm thick.

8. Please take care of excessive force to flange. (Recommended torque tension: 0.05 to 0.07 N-m)  
Tightening too much may deform the contacts and damage the threads or screw head. Please be careful.

For other details, please verify with the product specification sheets.