

NAIS

**FOR CELLULAR PHONE;
ULTRA LOW PROFILE TYPE
FOR PORTABLE EQUIPMENT
(0.5mm PITCH)**

**SYSTEM CONNECTORS
ULTRA-LOW PROFILE TYPE (AXR3)
I/O CONNECTORS FOR
PORTABLE EQUIPMENT (AXR5)**

System connector ultra low profile type
Receptacle
18, 22 and 24 contacts



I/O connectors for portable equipment
Receptacle
18, 22, 24 and 26 contacts



50 contacts



System connector ultra low profile type
Plug (cable connection type)



System connector ultra low profile type
Plug (Board mounting type)
22 and 26 contacts

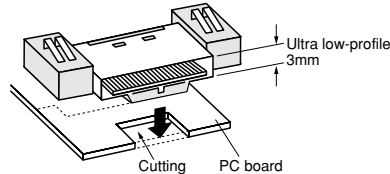


Customizable for several contacts.
Ask about details.

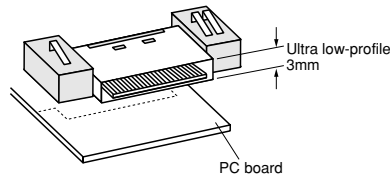
FEATURES

1. Compact receptacle helps to design lighter, slimmer, smaller devices.

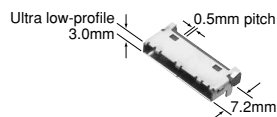
- 1) Super low-profile type system connector.
- Board cutting type



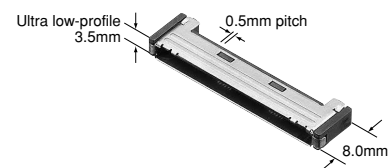
- On board mounting type



- 2) I/O connector for portable equipment
- 18, 22, 24 and 26 contacts

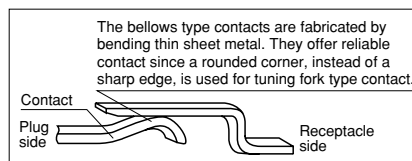


- 50 contacts



2. Bellows-type contacts

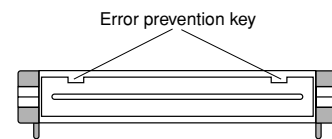
Our bellows-type contacts resist mating stress and offer high contact reliability.



3. Coaxial portion with switching function (1 Form B configuration) can be applied up to 2GHz.

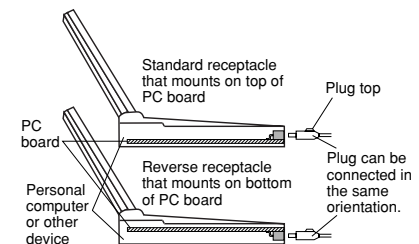
4. Connection of incorrect pairs is prevented by cross-manufacturer mating error prevention key.

By changing the location of the mating error prevention key, erroneous insertion of a different connector is prevented. This eliminates the chance of any problems that may be caused by mistaken connections. Please consult us for more information.

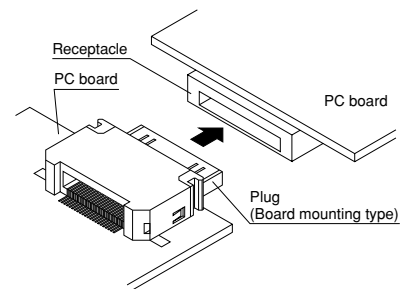


The key groove is different for every customer.

5. To increase the simplicity of the device design, a reverse-type 50-contact receptacle is also available.



6. Board mounting types are also available for 22- and 26-contact plugs. These are suitable for connection of PDAs with cradles used for data communication.



PRODUCT TYPES

1. Receptacle

No. of signal terminals	Type	No. of coaxial	No. of battery terminal	Part No.	Packing quantity	
					Inner carton (1 reel)	Outer carton
18 contacts	Board cutting type	1	4 contacts	AXR32284P	700 pcs.	1,400 pcs.
	On board mounting type (reverse type)	None	None	AXR51188P	1,000 pcs.	2,000 pcs.
22 contacts	Board cutting type	None	4 contacts	AXR35374P	700 pcs.	1,400 pcs.
	On board mounting type (reverse type)	None	None	AXR51228P	1,000 pcs.	2,000 pcs.
	On board mounting type	None	3 contacts	AXR35371P	700 pcs.	1,400 pcs.
24 contacts	On board mounting type (reverse type)	None	None	AXR51248P	1,000 pcs.	2,000 pcs.
	On board mounting type	None	3 contacts	AXR35471V	700 pcs.	3,500 pcs.
26 contacts	On board mounting type (reverse type)	None	None	AXR51268P	1,000 pcs.	2,000 pcs.
50 contacts	On board mounting type (standard type)	None	None	AXR5154	750 pcs.	1,500 pcs.
	On board mounting type (reverse type)	None	None	AXR5157	750 pcs.	1,500 pcs.

Note) For cellular phones and other applications where problems of insertion into the wrong device is possible, the location of the key will be changed for each order. An order number will be set for each separate order.

2. Plug (Cable connection type)

No. of signal terminals	Type	EMI immunity	Part No.	Packing quantity	
				Inner carton	Outer carton
18 contacts	Board cutting type	Not available	AXR30274	—	600 pcs.
	On board mounting type	Not available	AXR30244	—	600 pcs.
22 contacts	Board cutting type	Not available	AXR30394	—	600 pcs.
	On board mounting type	Available	AXR30341	—	600 pcs.
		Not available	AXR30343	—	600 pcs.
24 contacts	On board mounting type	Not available	AXR30444	—	600 pcs.
26 contacts	On board mounting type	Available	AXR30541	—	600 pcs.
50 contacts	On board mounting type	Available	AXR5256S (for 5.5 dia. cable)	—	200 pcs.
	On board mounting type	Available	AXR5257S (for 6.2 dia. cable)	—	200 pcs.

Note) For cellular phones and other applications where problems of insertion into the wrong device is possible, the location of the key will be changed for each order. An order number will be set for each separate order.

2. Plug (PC board mounting type)

No. of signal terminals	Type	EMI countermeasure	Part No.	Packing quantity	
				Inner carton	Outer carton
22 contacts	On board mounting type	Available	AXR30345	500 pcs.	1,000 pcs.
26 contacts	On board mounting type	Available	AXR30545	500 pcs.	1,000 pcs.

RECEPTACLE AND PLUG COMPATIBILITY TABLE

Each receptacle and plug is mutually compatible.

(Example: Plugs compatible with receptacle AXR51228P are AXR30341, AXR30343 and AXR30345.)

No. of signal terminals	Type	Board cutting type				On board mounting type			
		Coaxial: 1 and Battery terminal: 4 contacts		Battery terminal: 4 contacts		Signal terminal only		Battery terminal: 3 contacts	
		Receptacle	Plug	Receptacle	Plug	Receptacle	Plug	Receptacle	Plug
18 contacts		AXR32284P — AXR30274				AXR51188P — AXR30244			
22 contacts				AXR35374P — AXR30394		AXR51228P	AXR30341 AXR30343 AXR30345	AXR35371P	AXR30341 AXR30343 AXR30345
24 contacts						AXR51248P — AXR30444		AXR35471V — AXR30444	
26 contacts						AXR51268P — AXR30541 AXR30545			
50 contacts						AXR5154P — AXR5256S			
						AXR5157P — AXR5257S			

SPECIFICATIONS

1. Characteristics

1) Receptacle–Plug (cable connection type)

Item			Specifications			Condition
			18 contacts	22, 24 and 26 contacts	50 contacts	
Electrical characteristics	Rated Current	Signal contact	0.5 A (1 A can be passed through two terminals connected in series)			
		Battery contact	2 A		—	
	Contact resistance	Signal contact	Max. 110mΩ (Initial)			Measured based on the HP4338B measurement method of JIS C 5402, except for the resistance of the cord on the plug side.
		Battery contact	Max. 50mΩ (Initial)		—	Measured based on the HP4338B measurement method of JIS C 5402, except for the resistance of the terminals on the battery side.
	Insulation resistance		Min. 1,000MΩ (Initial)			Using 500V DC megger (applied for 1 min.)
	Breakdown voltage		150V AC for 1 min.			Rated voltage is applied for one minute and check for short circuit or damage with a detection current of 1 mA.
High frequency characteristics	Nominal impedance		50Ω	—		
	Applicable frequency		DC to 2GHz	—		
Mechanical characteristics	Lever lock strength		Min. 49N {5kgf}			The plug is pulled off with the connectors mated.
Lifetime characteristics	Insertion and removal life of plug and receptacle		Mechanical life: 10,000 times Contact resistance after testing: Max. 110 mΩ High frequency characteristics of coaxial portion: Satisfies high frequency characteristics given above	Mechanical life: 10,000 times Contact resistance after testing: Max. 110mΩ	Mechanical life: 5,000 times (mechanical insertion and removal) Contact resistance after testing: Max. 110mΩ	The connectors are connected and disconnected at a rate of 200 times/hour or less.
Environmental characteristics	Ambient temperature		-35°C to +60°C			No freezing or condensation in low temperatures
	Storage temperature		-40°C to +70°C (The allowable storage temperature is -40°C to +50°C if unopened from original packaging)			No freezing or condensation in low temperatures
	Resistance to soldering heat	Receptacle	Reflow soldering: peak temperature 245°C or less			Surface temperature (shell) from infrared reflow soldering machine
		Plug	Hand soldering: Soldering iron temperature 300°C, 5 sec. or less			
Unit weight			Receptacle 18 contacts/ with 1 coaxial and battery terminal 4 contacts: 1.01 g	Receptacle 22 contacts/ with battery terminal 4 contacts: 0.97 g	Receptacle: 1.42 g	

2) Receptacle–Plug (Board mounting type)

Item			Specifications	Condition
			22, 26 contacts	
Electrical characteristics	Rated current	Signal contact	0.5 A (7 A can be passed through all terminals connected)	—
	Contact resistance	Signal contact	Max. 110 mΩ (Initial) (except for contact resistance)	Measured based on the HP4338B measurement method of JIS C 5402
	Insulation resistance		Min. 1,000MΩ (Initial)	Using 500V DC megger (applied for 1 min.)
	Breakdown voltage		150 V AC for 1 min.	Rated voltage is applied for one minute and check for short circuit or damage with a detection current of 1 mA.
Lifetime characteristics	Insertion and removal life of plug and receptacle		Mechanical life: 5,000 times Contact resistance after testing: Max. 110 mΩ	The connectors are connected and disconnected at a rate of 200 times/hour or less.
Environmental characteristics	Ambient temperature		−35°C to +60°C	No freezing or condensation in low temperatures
	Storage temperature		−40°C to +70°C (The allowable storage temperature is −40°C to +50°C if unopened from original packaging)	No freezing or condensation in low temperatures
	Resistance to soldering heat	Plug	Reflow soldering: peak temperature 245°C or less	Surface temperature (shell) from infrared reflow soldering machine
Unit weight			22 contacts: 1.58 g, 26 contacts: 1.48 g	—

Note) Refer to above table for the characteristics of the receptacle.

2. Material and surface treatment

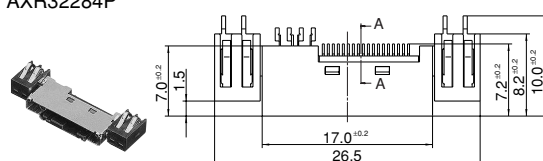
	Portion	Material	Surface
Receptacle	Resin-molding portion	Heat resistant resin (UL94V-0)	—
	Shell	Stainless steel	Sn plating over Cu
	Post/battery contact	Copper alloy	Contact portion: Au plating over Ni Terminal portion: Au plating over Ni (except for end of the terminal)
Plug (cable connection type)	Resin-molding portion	Heat resistant resin (UL94V-0) Only bushing is polyurethane resin (UL94HB)	—
	Shell	Stainless steel	—
	Contact	Copper alloy	Contact portion: Au over Ni Signal wire soldering portion: Au plating over Ni
	Tapping screw	Carbon steel	Rust proofed
	Insulation plate	Phenolic resin or PBT	—
Plug (Board mounting type)	Resin-molding portion	Heat resistant resin (UL94V-0)	—
	Shell	Stainless steel	Sn plating over Cu
	Contact	Copper alloy	Contact portion: Au over Ni Terminal portion: Au plating over Ni

DIMENSIONS

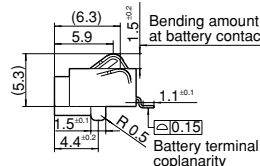
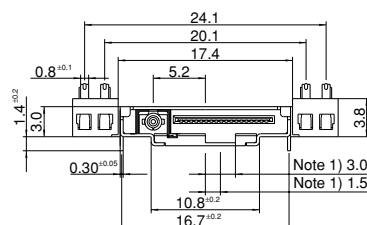
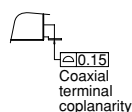
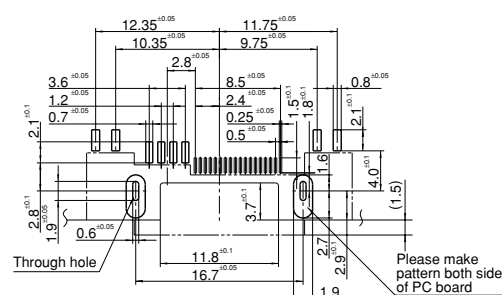
mm General tolerance: ± 0.3

1. Signal cable 18 contacts/Board cutting type

- Receptacle (1 coaxial/battery terminal 4 contacts)
AXR32284P



A-A cross section

Recommended PC board pattern
(TOP VIEW)

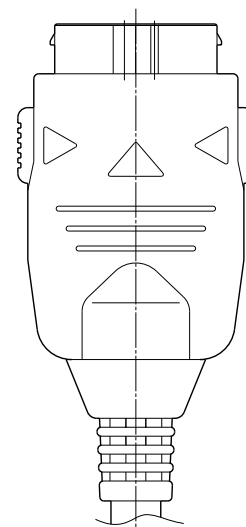
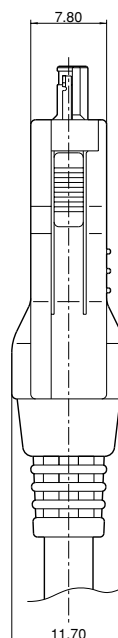
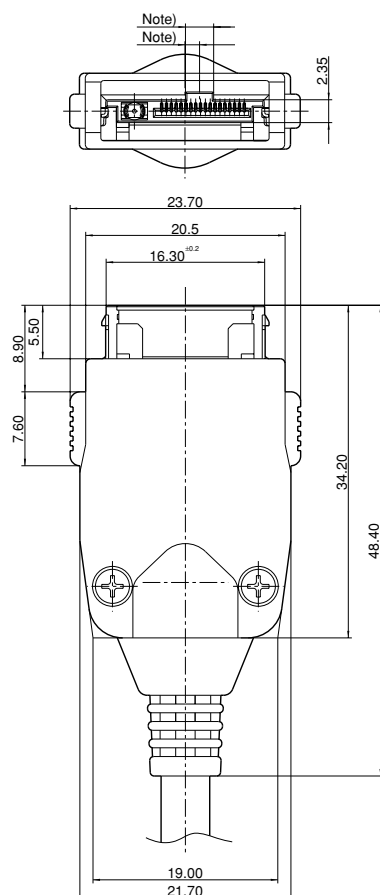
- Notes) 1. The position of the cross-manufacturer mating error prevention key, if requested, can be set for each user when the detailed specifications are being decided.
2. Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

AXR(3/5)

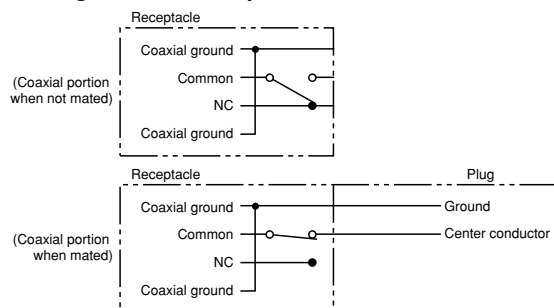
- Plug (cable connection type)
(assembled condition)
AXR30274

mm General tolerance: ± 0.3

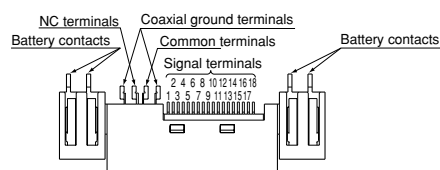
Note) The position of the cross-manufacturer mating error prevention key, if requested, can be set for each user when the detailed specifications are being decided.



Circuit diagram of coaxial portion

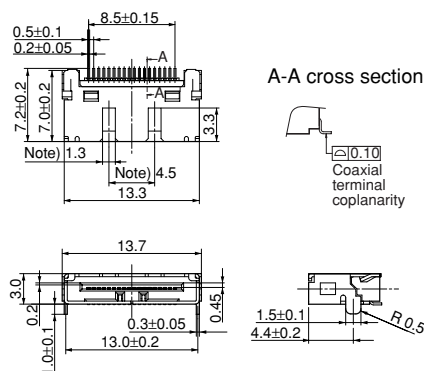


No. of signal terminal

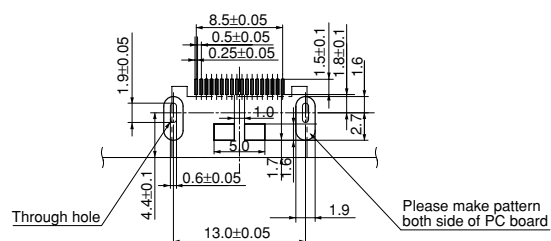


2. Signal cable 18 contacts/On board mounting type

- Receptacle (reverse type)
AXR51188P

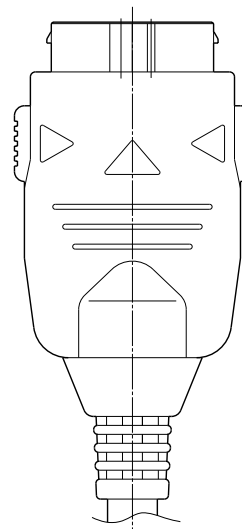
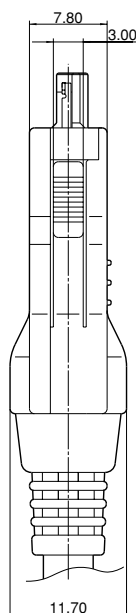
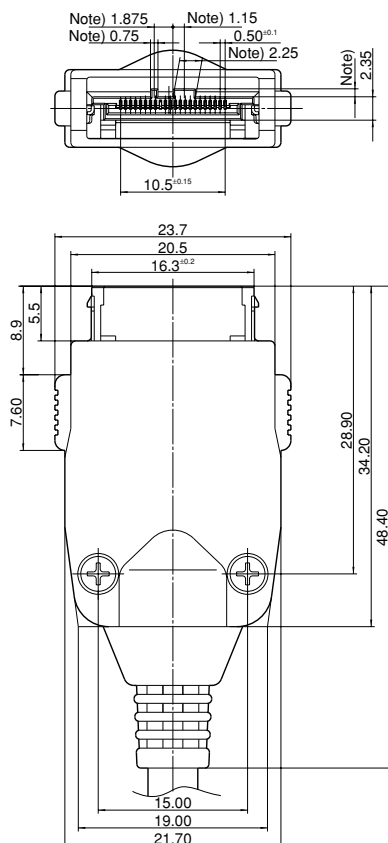


Recommended PC board pattern (TOP VIEW)

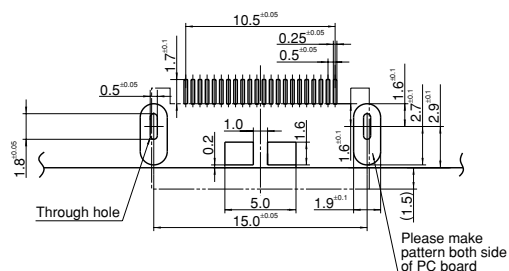
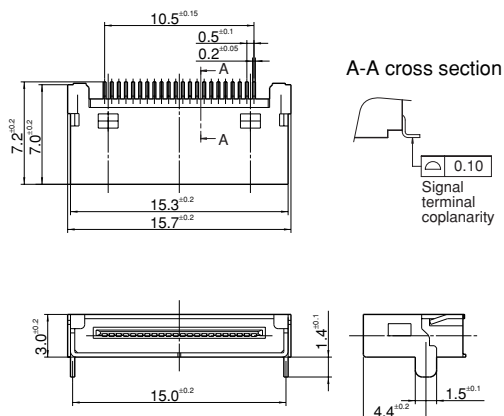


- Notes
1. The position of the cross-manufacturer mating error prevention key, if requested, can be set for each user when the detailed specifications are being decided.
 2. Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

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Recommended PC board pattern
(TOP VIEW)



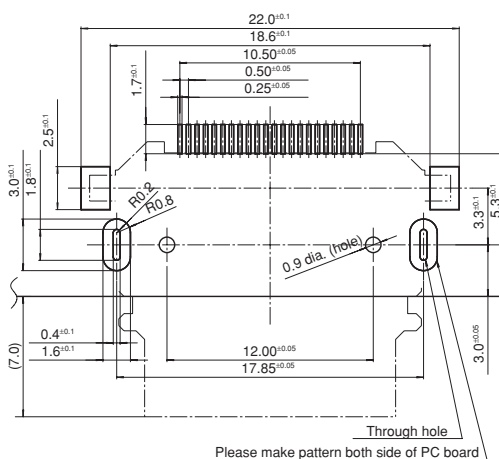
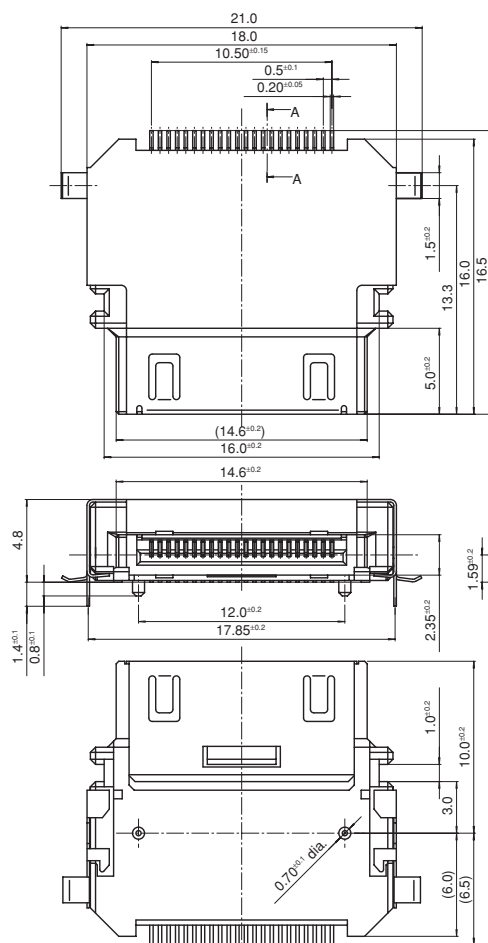
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AXR(3/5)

- Plug (Board mounting type)
AXR30345

mm General tolerance: ± 0.3

Recommended PC board pattern
(TOP VIEW)



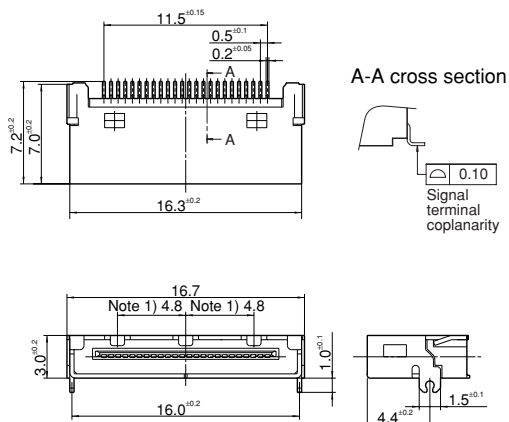
Note) This product is not compatible
with mismatch prevention keys.

A-A cross section

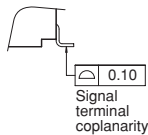


5. Signal cable 24 contacts/On board mounting type

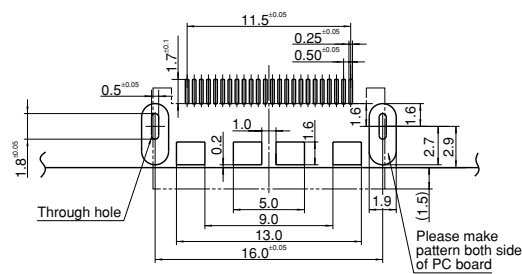
- Receptacle (reverse type)
AXR51248P



A-A cross section



Recommended PC board pattern
(TOP VIEW)



- Notes) 1. The position of the cross-manufacturer mating error prevention key, if requested, can be set for each user when the detailed specifications are being decided.
2. Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

(#) The dimensions for the improper connection prevention key are set by the customer.

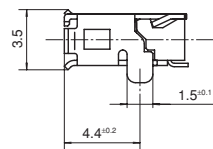
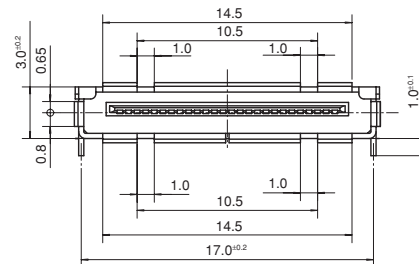
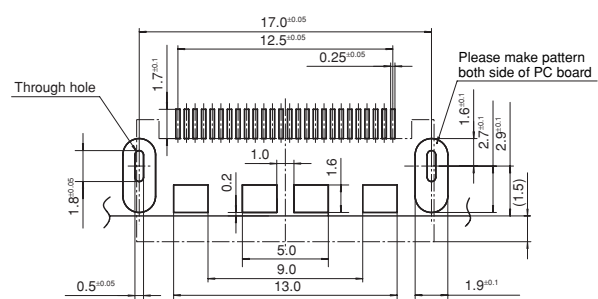
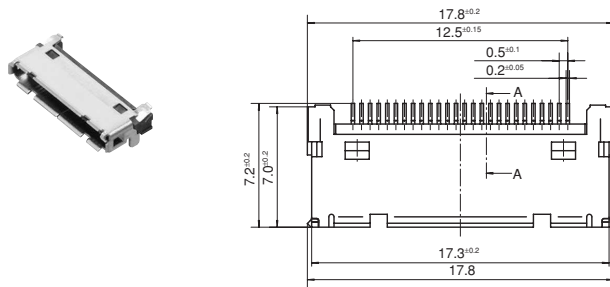
AXR(3/5)

6. Signal cable 26 contacts/On board mounting type

- Receptacle (reverse type)
AXR51268P

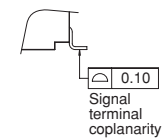
mm General tolerance: ± 0.3

Recommended PC board pattern (TOP VIEW)

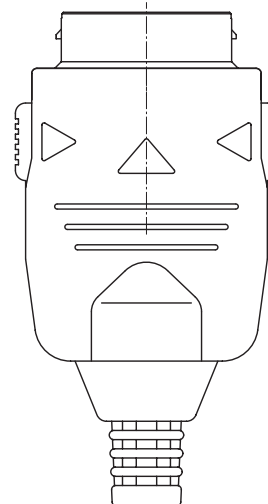
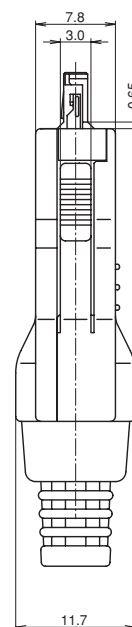
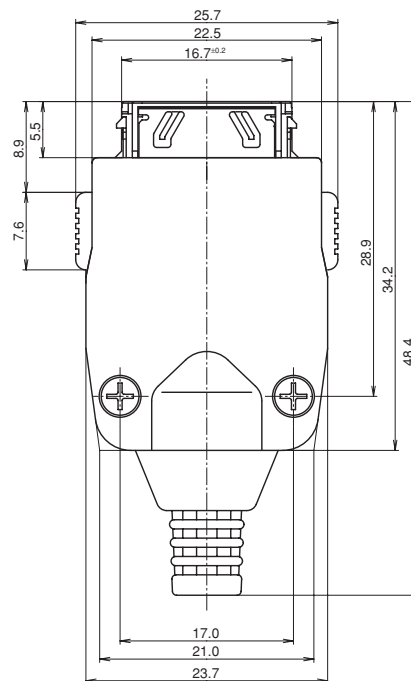
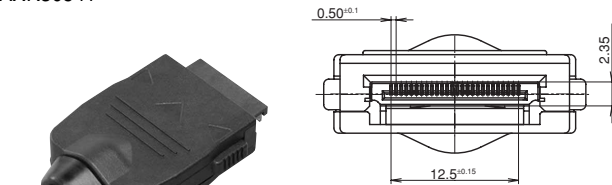


Note) Since product bottom is a metal shell, do not make pattern circuits (to prevent shorting).

A-A cross section



- Plug (cable connection type)
(assembled condition)
AXR30541

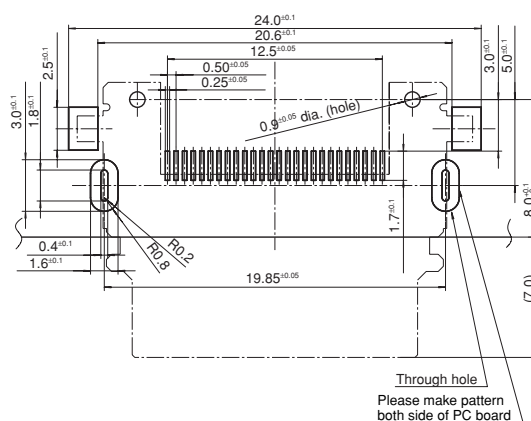
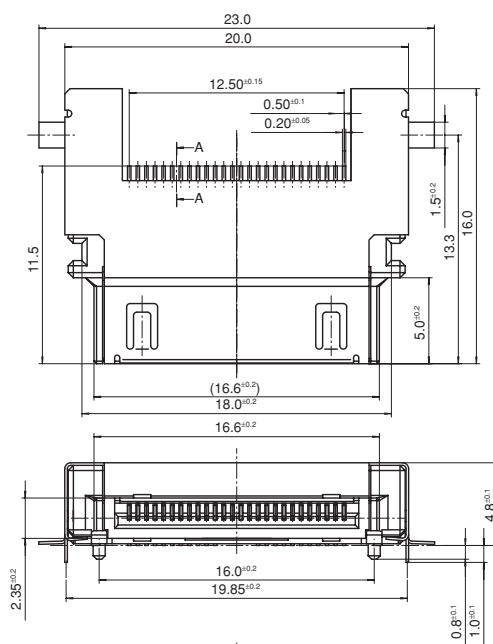
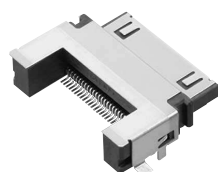


Note) This product is not compatible with mismatch prevention keys.

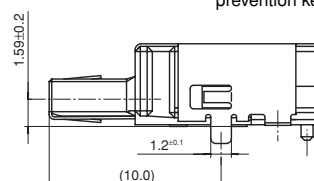
- Plug (Board mounting type)
AXR30545

mm General tolerance: ± 0.3

Recommended PC board pattern (TOP VIEW)



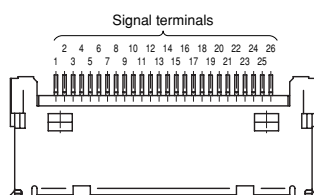
Note) This product is not compatible with mismatch prevention keys.



A-A cross section

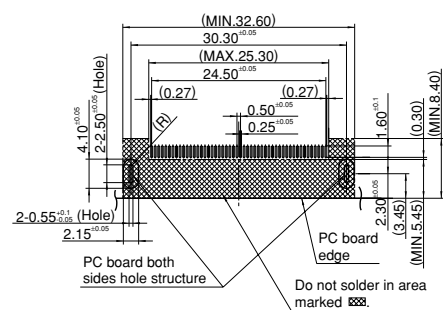


No. of signal terminal



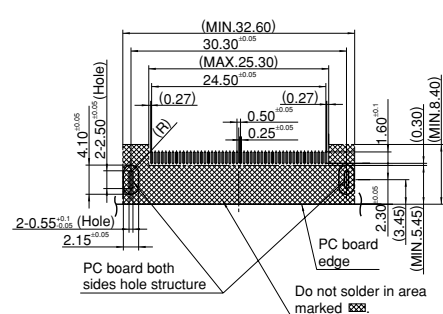
- Receptacle (Standard type)
AXR5154P

Recommended PC board pattern
(TOP VIEW)



1. The values in parenthesis are reference dimensions.
2. To reinforce the shell portion of the receptacle, have the shell guided by the casing in some way. The gap between the device casing and receptacle should be constructed to be very small, for example, under 0.1 mm.
3. The dimensions of the cross-manufacturer mating error prevention key, if requested, can be set for each user.

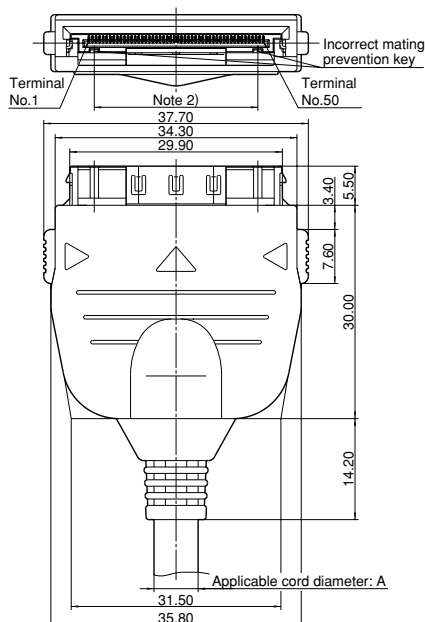
Recommended PC board pattern
(TOP VIEW)



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2. To reinforce the shell portion of the receptacle, have the shell guided by the casing in some way. The gap between the device casing and receptacle should be constructed to be very small, for example, under 0.1 mm.
3. The dimensions of the cross-manufacturer mating error prevention key, if requested, can be set for each user.

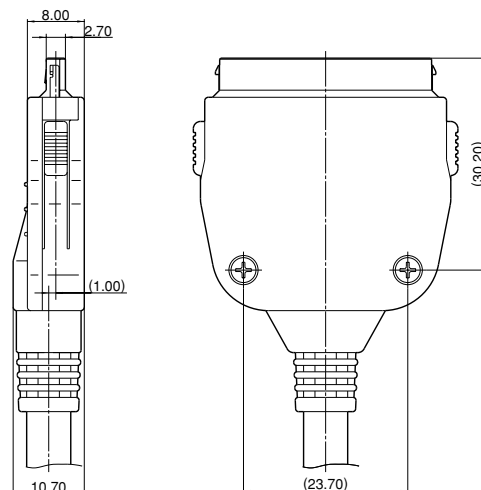
- Plug (cable connection type)
(assembled condition)
AXR5256S
AXR5257S

mm General tolerance: ± 0.3



Part no.	Applicable receptacle	A
AXR5256S (for 50 contacts cable)	AXR5154P	5.5 dia.
AXR5257S (for 50 contacts cable)	AXR5157P	6.2 dia.

Note) Please note that plugs and receptacles other than the above cannot be mated.



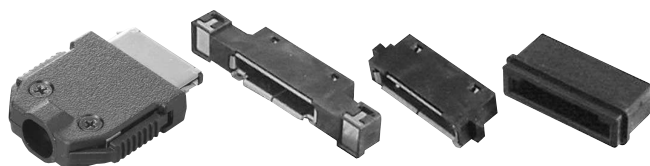
Notes)

1. The values in parenthesis are reference dimensions.
2. The dimensions of the cross-manufacturer mating error prevention key, if requested, can be set for each user.

APPLICATIONS

Products can be made to match your applications, so please contact us if necessary.

1. For W-CDMA



2. For cdma-One



3. SMD type with holding metal



4. With battery and charging terminals



5. With compact battery terminal



6. Difference in battery terminal number



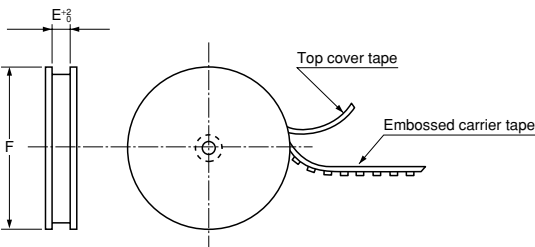
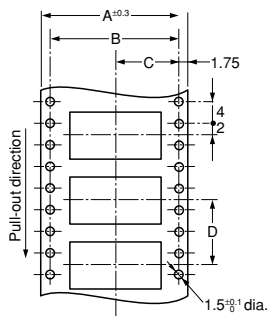
7. Reverse type with cover indication



EMBOSSSED TAPE AND REEL

• Tape dimensions

• Reel dimensions



1. Receptacle

	A	B	C	D	E	F	Quantity per reel
Ultra low profile type system connector 18, 22 and 24 contacts	44.0	40.4	20.2	16.0	44.4	370 dia.	750
I/O connector for portable equipment 18, 22, 24 and 26 contacts	32.0	28.4	14.2	16.0	32.4	370 dia.	1,000
I/O connector for portable equipment 50 contacts	44.0	40.4	20.2	16.0	44.4	370 dia.	750

2. Plug (PC board mounting type)

	A	B	C	D	E	F	Quantity per reel
22 and 26 contacts	44.0	40.4	20.2	24.0	44.4	370 dia.	500

• Connector orientation with respect to direction of progress of embossed tape

Type	Ultra low profile type Receptacle	I/O connector for portable equipment Receptacle	Plug (Board mounting type)
Direction of tape progress ↓			

Regarding general notes, please refer to page 10.