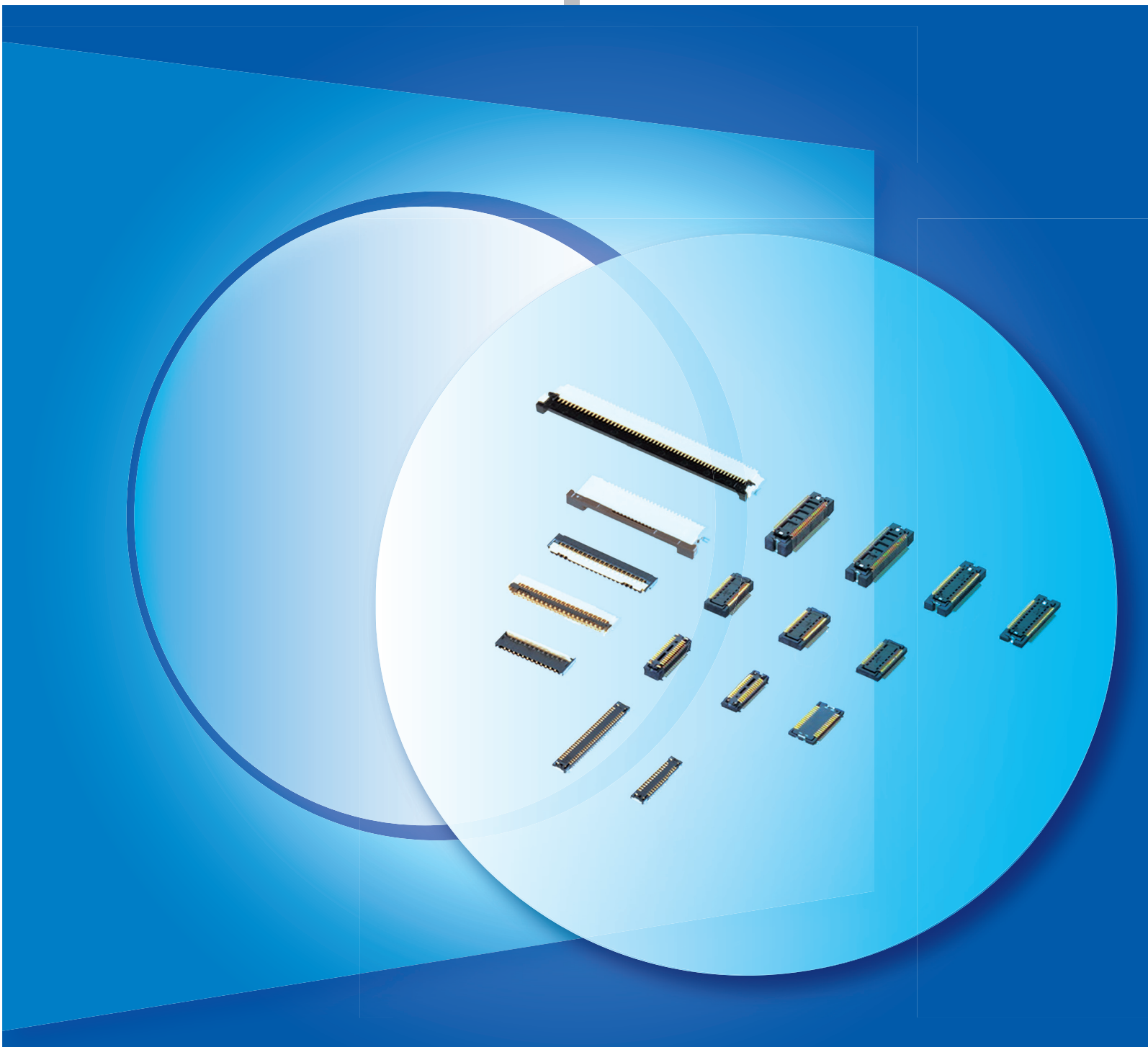
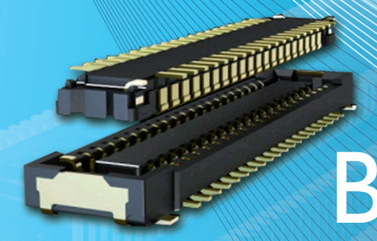
Panasonic
ideas for life

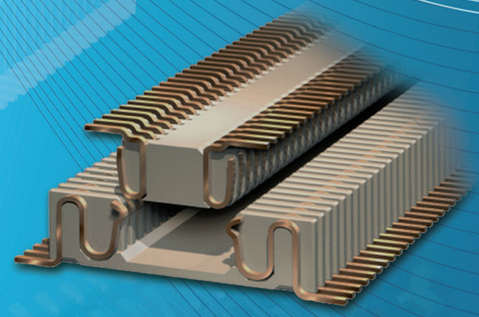
SHORT FORM

CONNECTORS



Contents





Board-to-Board

FPC

Our connectors fit your requirements

Our unique TOUGH CONTACT ADVANCED Four Key Points

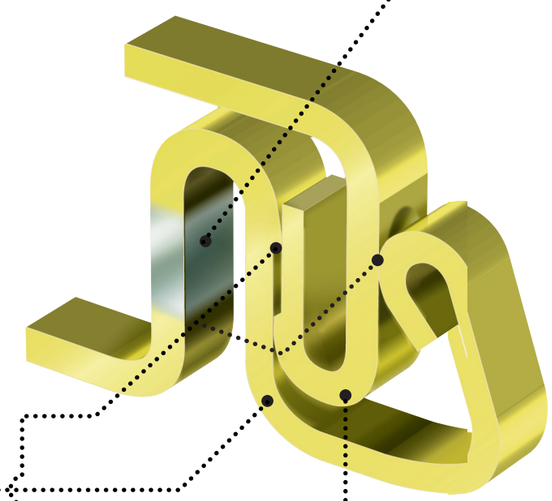
Tough against dropping!

Bellows contact construction improved the ability to withstand twisting and increased resistance to shock of dropping

High precision curved molding that provides the right amount of spring characteristics for contacts, is made possible through precision metal processing, one of our core technologies. A high-level ability to resist shocks has been made possible. The need to withstand the shock of dropping and twisting during insertion has increased in mobile devices.

■ Simulation analysis

We analyzed what the ideal spring shape would be to bring the right spring characteristic to the contact, and then precision molded it using precision metal processing, one of our core technologies.



*Contact image of A4S

Tough against foreign particles and flux!

V notch improves contact reliability (resistance to entry of foreign particles)

By using the edge for the contacting part, contact pressure per unit area has been increased. Compared to contacts up to now, the ability to remove flux and foreign particles has increased. Also, the ability to prevent entry of foreign particles before it happens has increased.

• 2-point contacting • Surface contact to edge contact
• Improved contact movement effect before and after V notch passage • The combination of these effects greatly improves contact reliability (resistance to entry of foreign matter)

■ Product without notch

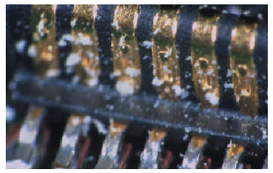
Cross section of the socket side contact

Cross section of the header side contact

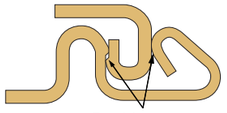
■ V notched product

More effective in eliminating flux and foreign particles, and also more effective in keeping foreign particles from getting inside

■ Evaluation example of plastic powder adhered on post contact surface



■ A4F Contact Construction View



Same effect as V notch attained by double contact. (A4F, F4)

Patent and Design now under application	Japan: Registration of patent (Patent No. 3726836)	Korea: Registration of patent (Patent No. 531938)	Taiwan: Registration of patent (Patent No. I225323)	China and North America: Patent now under application.

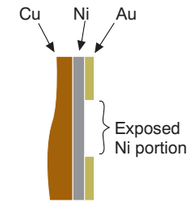
Tough against solder rise!

Anti-solder-rise efficiency increased due to Ni barrier

Exposed nickel is placed on mid part of socket contacts. This contact, while being ultra low in profile, prevents solder rise.

• Influence of solder controlled in contact and contact spring parts.
• Solder remains in the terminals and stable fillet mold is possible.

■ Exposed Ni barrier portion



Cross section of the socket side contact

■ Solder rise after reflow

Solder paste coating conditions:
Metal screen thickness; 120 μm; Open ratio 90% (solder amount 136% of recommended value)
Reflow conditions:
(lead-free solder conditions) temperature profile; 260 C peak temperature, atmosphere;
N2 reflow (oxygen concentration 1,000 ppm)

Tough against corrosive gases!

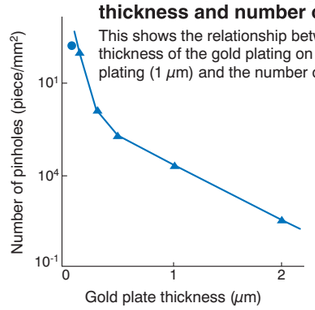
Improved resistance to corrosion by gas, etc., due to porosity treatment

This treatment consists of coating surface with a very thin film to seal pinholes in the gold plating. We have developed this porosity treatment technology, which ensures the same contact reliability for thin gold plating as that of thick gold plating.

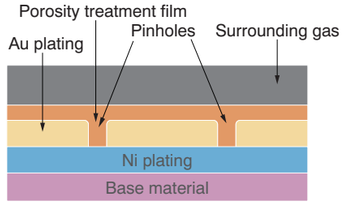
• Improvement in resistance to corrosion
• Improvement in insertion/ removal durability
• Improvement in contact reliability for digital signals

Relationship between gold plate thickness and number of pinholes

This shows the relationship between the thickness of the gold plating on the nickel plating (1 μm) and the number of pinholes.



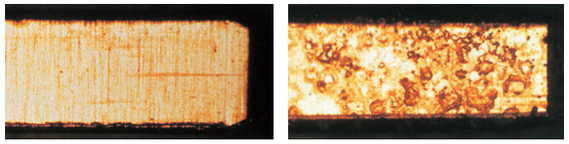
■ Plating technology
(Porosity treatment technology)



■ Improvement of the corrosion resistance

Status of the post' s contact after the sulfur dioxide test

<Porosity-treated product> <Conventional product> Corroded mainly at the pinholes.



Test conditions SO_2 concentration: 10±3 ppm, Humidity: 90 to 95% RH
Temperature: 40±2 C Time: 145 hours

Connector series		Y2B	Y3FT	Y3F	Y3B	Y3BW	Y3BL	Y5B	Y5BW
Part number		AYF21	AYF31	AYF32	AYF33	AYF33	AYF35	AYF53**35	AYF53**65
Contact pitch		0.2mm	0.3mm	0.3mm	0.3mm	0.3mm	0.3mm	0.5mm	0.5mm
Mating height (mm)		0.9	0.9	0.9	0.9	0.9	0.6	1.0	1.0
Pin contacts	2								●
	3								●
	4							●	●
	5							●	
	6							●	●
	7				●		●		
	8				●			●	●
	9				●				
	10							●	●
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	80								
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	100								
	120								
	130								
	160								

A35S series	P35S series	A4F series	A4S series		A35US series	A4US series	F4 series	F4S series	
AXE7/8	AXT1/2	AXE3/4	AXE5/6		AXG7/8	AXE1/2	AXK7L/8L	AXT5/6	
0.35mm	0.35mm	0.4mm	0.4mm		0.4mm	0.4mm	0.4mm	0.4mm	
0.8	1.5	0.6	0.8	1.0	0.8	0.8	0.9	1.0	1.2
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		●	●	●			●	●	
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Connector series		P4S series				P4 series without soldering terminal						P4 series with soldering terminal						P5KL series
Part number		AXT3/4				AXK7/8						AXK7/8						AXK5L/6L
Contact pitch		0.4mm				0.4mm						0.4mm						0.5mm
Mating height (mm)		1.5	2.0	2.5	3.0	1.5	2.0	2.5	3.0	3.5	4.0	1.5	2.0	2.5	3.0	3.5	4.0	1.2
Pin contacts	2																	
	3																	
	4																	
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	70	●				●	●	●							●	●		
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	90	●	●			●		●				●		●	●			
	100	●	●	●	●	●	●	●	●			●						
	120				●													
	130																	
	160																	

Connector series		P5KF series			P5K series		P5KS series									P8 series											
Part number		AXK5F/6F			AXK5/6		AXK5S/6S									AXN1/3/4											
Contact pitch		0.5mm			0.5mm		0.5mm									0.8mm											
Mating height (mm)		1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	9.0	3.0	3.5	4.0	4.5	5.0	5.5	6.0	7.0	8.0	11.5	13.0	14.0
Pin contacts	2																										
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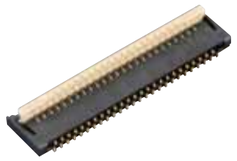
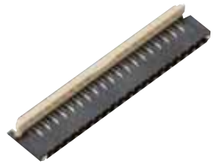
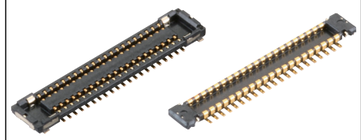
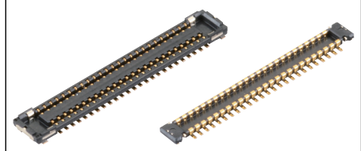
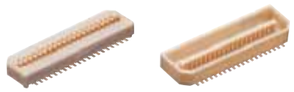
	90																										
	100		●	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●		●	●	●	●		
	120				●	●	●	●																			
	130											●															
	160						●	●																			

Type (Picture scale: DIN A4)	Part number	Features	Mounting method	Contact pitch (mm)	Mating height (mm)	Pin contacts			Rated voltage (VAC/VDC)	Insertion and removal life times	Ambient temperature	CAD data Data sheet
						Number of pin contacts	Rated current/ pin contact (A)	Rated current at total pin contacts (A)				
Board to FPC/ ZIF Connector												
Y2B 	AYF21	• Low profile, space saving design • Top and bottom (double) contacts • Back lock structure • Pattern wiring possible on PC board below connectors	SMD	0.2	0.9	23 / 31 / 41 / 51	0.2	—	50	20	-55°C to +85°C	CAD Data
Y3FT 	AYF31	• Low profile, space saving design • Front lock structure • FPC with tabs, contributing to hold FPC temporarily • Resistant to twisting due to retention fittings • Improved PC board design flexibility	SMD	0.3	0.9	11-51	0.2	—	50	30	-55°C to +85°C	CAD Data
Y3F 	AYF32	• Low profile, space saving design • Front lock structure • FPC without tabs, allowing smooth FPC insertion • Pattern wiring possible on PC board below connectors	SMD	0.3	0.9	11-51	0.2	—	50	30	-55°C to +85°C	CAD Data
Y3B 	AYF33	• Low profile, space-saving design • 0.3mm pitch • Back lock structure temporarily holds the FPC before closing the lock mechanism • Top and bottom (double) contacts • Pattern wiring possible on PC board below connectors	SMD	0.3	0.9	7-51	0.2	—	50	20	-55°C to +85°C	CAD Data
Y3BW 	AYF33	• Low profile, space-saving design • 0.3mm pitch • Back lock structure temporarily holds the FPC before closing the lock mechanism • Notched holding contacts at both ends of the connector ensure the FPC stays in place • Top and bottom (double) contacts • Pattern wiring possible on PC board below connectors	SMD	0.3	0.9	11 / 25 / 51	0.2	—	50	20	-55°C to +85°C	CAD Data
Y3BL 	AYF35	• Low profile, space-saving design • Upper contact • Back lock structure • Compatible with FPC 0.2mm thickness • Pattern wiring possible on PC board below connectors	SMD	0.3	0.6	7 / 39	0.2	—	50	20	-55°C to +85°C	

Type (Picture scale: DIN A4)	Part number	Features	Mounting method	Contact pitch (mm)	Mating height (mm)	Pin contacts			Rated voltage (VAC/VDC)	Insertion and removal life times	Ambient temperature	CAD data Data sheet
						Number of pin contacts	Rated current/ pin contact (A)	Rated current at total pin contacts (A)				
Y5B 	AYF53❒❒35	• Low profile, space saving back lock type with improved lever operabilty • The lineup includes a type with a small number of contacts • Top and bottom (double) contacts	SMD	0.5	1.0	4-50	0.5	—	50	20	-55°C to +85°C	CAD Data
Y5BW 	AYF53❒❒65	• Features a structure to temporarily hold the FPC and a higher holding force • Low profile, space saving back lock type with improved lever operabilty • The lineup includes a type with a small number of contacts • Top and bottom (double) contacts	SMD	0.5	1.0	2-48	0.5	—	50	20	-55°C to +85°C	CAD Data
Board to FPC												
A35US 	AXG7 / AXG8	• Very slim two-piece connector: 2.2mm width • Strong resistance to various environments, TOUGH CONTACT ADVANCED construction • Space saving design	SMD	0.35	0.6	10 / 20 / 42	0.3	5	60	30	-55°C to +85°C	CAD Data
A35S 	AXE7 / AXE8	• Low profile two-piece connector: 0.8 mm mating height • Strong resistance to various environments, TOUGH CONTACT ADVANCED construction • Space saving design • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.35	0.6	24-120	0.3	5	60	50	-55°C to +85°C	CAD Data
A4US 	AXE1 / AXE2	• Very slim two-piece connector: 2.2mm width • Strong resistance to various environments, TOUGH CONTACT ADVANCED construction • Space saving design	SMD	0.4	0.6	10 / 50	0.3	5	60	30	-55°C to +85°C	CAD Data
A4S 	AXE5 / AXE6	• Slim two-piece connector: 2.5mm width • Strong resistance to various environments, TOUGH CONTACT ADVANCED construction • Gull wing terminal structure • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.4	0.8	10-80	0.3	5	60	30	-55°C to +85°C	CAD Data

Type (Picture scale: DIN A4)	Part number	Features	Mounting method	Contact pitch (mm)	Mating height (mm)	Pin contacts: Number of pin contacts	Pin contacts: Rated current/ pin contact (A)	Pin contacts: Rated current at total pin contacts (A)	Rated voltage (VAC/VDC)	Insertion and removal life times	Ambient temperature	CAD data Data sheet
A4F 	AXE3 / AXE4	• Very low profile two-piece connector: 0.6mm mating height • Strong resistance to various environments, TOUGH CONTACT ADVANCED construction • Space saving design • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.4	0.6	10-80	0.3	5	60	50	-55°C to +85°C	CAD Data
F4 	AXK7L / AXK8L	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.4	0.9	10-80	0.3	5	60	50	-55°C to +85°C	CAD Data
F4S 	AXT5 / AXT6	• Strong resistance to various environments, TOUGH CONTACT construction • Bellows-type V notch (double contact) • Ni barrier • Porosity treatment	SMD	0.4	1.0	10-80	0.3	5	60	50	-55°C to +85°C	CAD Data
Board to Board / Board to FPC												
P35S 	AXT1 / AXT2	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.35	1.5	20-100	0.25	4	60	50	-55°C to +85°C	CAD Data
P4 	AXK7 / AXK8	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.4	1.2	10-100	0.5	10	60	50	-55°C to +85°C	CAD Data
P4S 	AXT3 / AXT4	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.4	1.5 / 3.0	10-120	0.3	5	60	50	-55°C to +85°C	CAD Data

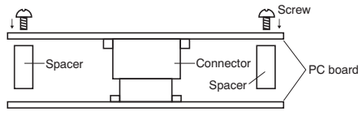
Type (Picture scale: DIN A4)	Part number	Features	Mounting method	Contact pitch (mm)	Mating height (mm)	Pin contacts: Number of pin contacts	Pin contacts: Rated current/ pin contact (A)	Pin contacts: Rated current at total pin contacts (A)	Rated voltage (VAC/VDC)	Insertion and removal life times	Ambient temperature	CAD data Data sheet
P5KL 	AXK5L / AXK6L	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.5	1.2	10-60	0.5	10	60	50	-55°C to +85°C	CAD Data
P5KF 	AXK5F / AXK6F	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch • Ni barrier • Porosity treatment	SMD	0.5	1.5 / 2.0 / 2.5	10-100	0.5	10	60	50	-55°C to +85°C	CAD Data
Board to Board												
P5K 	AXK5 / AXK6	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch (double contact) • Ni barrier • Porosity treatment	SMD	0.5	3.0 / 3.5	20-120	0.5	10	60	50	-55°C to +85°C	CAD Data
P5KS 	AXK5S / AXK6S	• Strong resistance to various environments, TOUGH CONTACT construction • Pattern wiring possible on PC board below connectors • Bellows-type V notch (double contact) • Ni barrier • Porosity treatment	SMD	0.5	4.0 / 4.5 / 5.0 / 5.5 / 6.0 / 6.5 / 7.0 / 8.0 / 9.0	20-160	0.2	16	60	50	-55°C to +85°C	CAD Data
P8 	AXN1 / AXN3 / AXN4	• Bellows-type • Porosity treatment	SMD	0.8	3.0 / 3.5 / 4.0 / 4.5 / 5.0 / 5.5 / 6.0 / 7.0 / 8.0 / 11.5 / 13.0 / 14.0	12-100	0.5	—	60	50 (100 times for 11.5mm type)	-55°C to +85°C	CAD Data
LED lighting connector												
L1 	AYL1	• Low profile, space saving design (1.4mm mating height) • Floating design in three axes: (X: ±0.3mm, Y: ±0.5mm, Z: ±0.3mm) • Insulation distance, min. 1.6mm	SMD	2.4	1.4	2	1.0	—	125	3	-40°C to +105°C	

Notes on using narrow-pitch connectors (common)

Regarding the design of devices and PC board patterns

1. When connecting several connectors together by stacking, make sure to maintain proper accuracy in the design of structure and mounting equipment so that the connectors are not subjected to twisting and torsional forces.
2. With mounting equipment, there may be up to a ±0.2 to 0.3-mm error in positioning. Be sure to design PC boards and patterns while taking into consideration the performance and abilities of the required equipment.
3. Some connectors have tabs embossed on the body to aid in positioning. When using these connectors, make sure that the PC board is designed with positioning holes to match these tabs.
4. To ensure the required mechanical strength when soldering the connector terminals, make sure the PC board meets recommended PC board pattern design dimensions given.
5. For all connectors of the narrow-pitch series, to prevent the PC board from coming off during vibrations or impacts, and to prevent loads from falling directly on the soldered portions, be sure to design some means to fix the PC board in place.

Example) Secure in place with screws



When connecting PC boards, take appropriate measures to prevent the connector from coming off.

6. Notes when using a FPC.

   (1) When the connector is soldered to an FPC board, during its insertion and removal procedures, forces may be applied to the terminals and cause the soldering to come off. It is recommended to use a reinforcement board on the backside of the FPC board to which the connector is being connected. Please make the reinforcement board dimensions bigger than the outer limits of the recommended PC board pattern (should be approximately 1 mm greater than the outer limit).
   Material should be glass epoxy or polyimide, and the thickness should be between 0.2 and 0.3 mm.
   (2) Collisions, impacts, or turning of FPC boards, may apply forces on the connector and cause it to come loose. Therefore, make to design retaining plates or screws that will fix the connector in place.
7. The narrow-pitch connector series is designed to be compact and thin. Although ease of handling has been taken into account, take care when mating the connectors, as displacement or angled mating could damage or deform the connector.

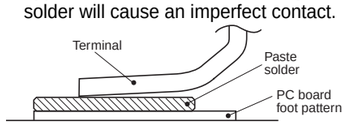
Regarding the selection of the connector placement machine and the mounting procedures

1. Select the placement machine taking into consideration the connector height, required positioning accuracy, and packaging conditions.
2. Be aware that if the catching force of the placement machine is too great, it may deform the shape of the connector body or connector terminals.
3. Be aware that during mounting, external forces may be applied to the connector contact surfaces and terminals and cause deformations.
4. Depending on the size of the connector being used, self alignment may not be possible. In such cases, be sure to carefully position the terminal with the PC board pattern.
5. The positioning bosses give an approximate alignment for positioning on the PC board. For accurate positioning of the connector when mounting it to the PC board, we recommend using an automatic positioning machine.
6. Excessive mounter chucking force may deform the molded or metal part of the connector. Consult us in advance if chucking is to be applied.

Regarding soldering

1. Reflow soldering

1. Measure the recommended profile temperature for reflow soldering by placing a sensor on the PC board near the connector surface or terminals. (The setting for the sensor will differ depending on the sensor used, so be sure to carefully read the instructions that comes with it.)
2. As for cream solder printing, screen printing is recommended.
3. To determine the relationship between the screen opening area and the PC-board foot pattern area, refer to the diagrams in the recommended patterns for PC boards and metal masks. Make sure to use the terminal tip as a reference position when setting. Avoid an excessive amount of solder from being applied, otherwise, interference by the solder will cause an imperfect contact.

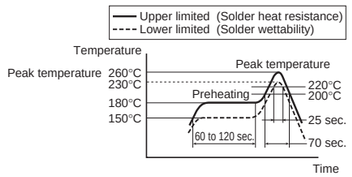


4. Consult us when using a screen-printing thickness other than that recommended.
5. When mounting on both sides of the PC board and the connector is mounting on the underside, use adhesives or other means to ensure the connector is properly fixed to the PC board. (Double reflow soldering on the same side is possible.)
6. N_2 reflow, conducting reflow soldering in a nitrogen atmosphere, increases the solder flow too greatly, enabling wicking to occur. Make sure that the solder feed rate and temperature profile are appropriate.

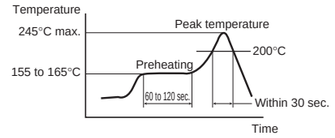
Soldering conditions

Please use the reflow temperature profile conditions recommended below for reflow soldering. Please contact us before using a temperature profile other than that described below (e.g. lead-free solder).

• Narrow-pitch connectors
(except P8 type)



• Narrow-pitch connector (P8)



For products other than the ones above, please refer to the latest product specifications.

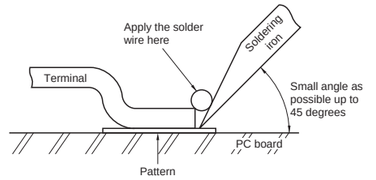
7. The temperatures are measured at the surface of the PC board near the connector terminals. (The setting for the sensor will differ depending on the sensor used, so be sure to carefully read the instructions that comes with it.)
8. The temperature profiles given in this catalog are values measured when using the connector on a resin-based PC board. When performed reflow soldering on a metal board (iron, aluminum, etc.) or a metal table to mount on a FPC, make sure there is no deformation or discoloration of the connector beforehand and then begin mounting.
9. Consult us when using a screen-printing thickness other than that recommended.
10. Some solder and flux types may cause serious solder creeping. Solder and flux characteristics should be taken into consideration when setting the reflow soldering conditions.

2. Hand soldering

1. Set the soldering iron so that the tip temperature is less than that given in the table below.

Product name	Soldering iron temperature
SMD type connectors	300°C within 5 sec. 350°C within 3 sec.

2. Do not allow flux to spread onto the connector leads or PC board. This may lead to flux rising up to the connector inside.
3. Touch the soldering iron to the foot pattern. After the foot pattern and connector terminal are heated, apply the solder wire so it melts at the end of the connector terminals.



4. Be aware that soldering while applying a load on the connector terminals may cause improper operation of the connector.
5. Thoroughly clean the soldering iron.
6. Flux from the solder wire may get on the contact surfaces during soldering operations. After soldering, carefully check the contact surfaces and clean off any solder before use.
7. For soldering of prototype devices during product development, you can perform soldering at the necessary locations by heating with a hot-air gun by applying cream solder to the foot pattern beforehand. However, at this time, make sure that the air pressure does not move connectors by carefully holding them down with tweezers or other similar tool. Also, be careful not to go too close to the connectors and melt any of the molded components.
8. If an excessive amount of solder is applied during manual soldering, the solder may creep up near the contact points, or solder interference may cause imperfect contact.

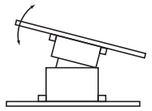
3. Solder reworking

1. Finish reworking in one operation.
2. For reworking of the solder bridge, use a soldering iron with a flat tip. To prevent flux from climbing up to the contact surfaces, do not add more flux.
3. Keep the soldering iron tip temperature below the temperature given in Table A.

Handling Single Components

1. Make sure not to drop or allow parts to fall from work bench
2. Excessive force applied to the terminals could cause warping, come out, or weaken the adhesive strength of the solder. Handle with care.
3. Repeated bending of the terminals may cause terminals to break.
4. Do not insert or remove the connector when it is not soldered. Forcibly applied external pressure on the terminals can weaken the adherence of the terminals to the molded part or cause the terminals to lose their evenness.
5. Excessive prying-force applied to one end may cause product breakage and separation of the solder joints at the terminal.

Excessive force applied for insertion in a pivot action as shown may also cause product breakage.
Align the header and socket positions before connecting them.



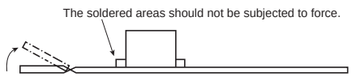
Cleaning flux from PC board

1. To increase the cleanliness of the cleaning fluid and cleaning operations, prepare equipment for cleaning process beginning with boil cleaning, ultrasonic cleaning, and then vapor cleaning.
2. Carefully oversee the cleanliness of the cleaning fluids to make sure that the contact surfaces do not become dirty from the cleaning fluid itself.
3. Since some powerful cleaning solutions may dissolve molded components of the connector and wipe off or discolor printed letters, we recommend aqua pura electronic parts cleaners. Please consult us if you wish to use other types of cleaning fluids.
4. Please note that the surfaces of molded parts may whiten when cleaned with alcohol.

Handling the PC board

• Handling the PC board after mounting the connector

When cutting or bending the PC board after mounting the connector, be careful that the soldered sections are subjected to excessive force.



Storage of connectors

1. To prevent problems from voids or air pockets due to heat of reflow soldering, avoid storing the connectors in areas of high humidity. When storing the connectors for more than six months, be sure to consider storage area where the humidity is properly controlled.
2. Depending on the connector type, the color of the connector may vary from connector to connector depending on when it is produced.

   Some connectors may change color slightly if subjected to ultraviolet rays during storage. This is normal and will not affect the operation of the connector.
3. When storing the connectors with the PC boards assembled and components alreeady set, be careful not to stack them up so the connectors are subjected to excessive forces.
4. Avoid storing the connectors in locations with excessive dust. The dust may accumulate and cause improper connections at the contact surfaces.

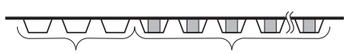
Other Notes

1. These products are made for the design of compact and lightweight devices and therefore the thickness of the molded components has been made very thin. Therefore, be careful during insertion and removal operations for excessive forces applied may damage the products.
2. Dropping of the products or rough mishandling may bend or damage the terminals and possibly hinder proper reflow soldering.
3. Before soldering, try not to insert or remove the connector more than absolutely necessary.
4. When coating the PC board after soldering the connector to prevent the deterioration of insulation, perform the coating in such a way so that the coating does not get on the connector.
5. There may be variations in the colors of products from different production lots. This is normal.
6. The connectors are not meant to be used for switching.
7. Be sure not to allow external pressure to act on connectors when assembling PCBs or moving in block assemblies.

Regarding sample orders to confirm proper mounting

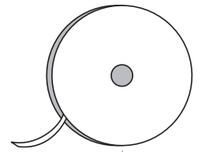
When ordering samples to confirm proper mounting with the placement machine, connectors are delivered in 50-piece units in the condition given right. Consult a sale representative for ordering sample units.

Condition when delivered from manufacturing



Embossed tape amount required for the mounting

Required number of products for sample production (Unit 50 pcs.)



(Delivery can also be made on a reel by customer request.)

Please refer to the latest product specifications when designing your product.

General notes for using FPC connectors

■ **PC board design**
Design the recommended foot pattern in order to secure the mechanical strength in the soldered areas of the terminal.

■ **FPC and equipment design**
Design the FPC based with recommended dimensions to ensure the required connector performance. When back lock type is used, secure enough space for closing the lever and for open-close operation of the lever.
Due to the FPC size, weight, or the reaction force of the routed FPC. Carefully check the equipment design and take required measures to prevent the FPC from being removed due to a fall, vibration, or other impact.

■ **Connector mounting**
Excessive mounter chucking force may deform the molded or metal part of the connector. Consult us in advance if chucking is to be applied.

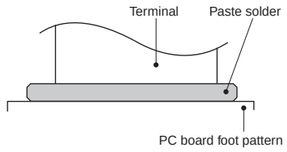
■ **Soldering**

1. Manual soldering.

- Due to the connector's compact size, if an excessive amount of solder is applied during manual soldering, the solder may creep up near the contact points, or solder interference may cause imperfect contact.
- Make sure that the soldering iron tip is heated within the temperature and time limits indicated in the specifications.
- Flux from the solder wire may adhere to the contact surfaces during soldering operations. After soldering, carefully check the contact surfaces and clean off any flux before use.
- Be aware that a load applied to the connector terminals while soldering may displace the contact.
- Thoroughly clean the iron tip.

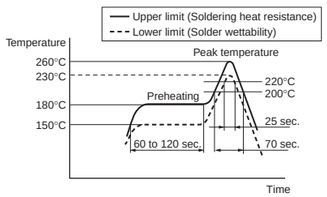
2. Reflow soldering

- Screen-printing is recommended for printing paste solder.
- To achieve the appropriate soldering state, make sure that the reflow temperature, PC board foot pattern, window size and thickness of metal mask are recommended condition.
- Note that excess solder on the terminals prevents complete insertion of the FPC, and that excess solder on the soldering terminals prevents the lever from rotating.



- Consult us when using a screen-printing thickness other than that recommended.
- Depending on the size of the connector being used, self alignment may not be possible. Accordingly, carefully position the terminal with the PC board pattern.
- The recommended reflow temperature profile is given in the figure below

Recommended reflow temperature profile



- The temperature is measured on the surface of the PC board near the connector terminal.
- Certain solder and flux types may cause serious solder creeping. Solder and flux characteristics should be taken into consideration when setting the reflow soldering conditions.
- When performing reflow soldering on the back of the PC board after reflow soldering the connector, secure the connector using, for example, an adhesive. (Double reflow soldering on the same side is possible)

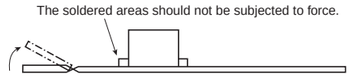
3. Reworking on a soldered portion

- Finish reworking in one operation.
- For reworking of the solder bridge, use a soldering iron with a flat tip. Do not add flux, otherwise the flux may creep to the contact parts.
- Use a soldering iron whose tip temperature is within the temperature range specified in the specifications.

■ **Do not drop or handle the connector carelessly. Otherwise, the terminals may become deformed due to excessive force or applied solderability may be during reflow degrade.**

■ **Don't open/close the lever or insert/remove an FPC until the connector is soldered. Forcibly applied external pressure on the terminals can weaken the adherence of the terminals to the molded part or cause the terminals to lose their evenness. In addition, do not insert an FPC into the connector before soldering the connector.**

■ **When cutting or bending the PC board after mounting the connector, be careful that the soldered sections are subjected to excessive force.**



■ **Other Notes**
When coating the PC board after soldering the connector (to prevent the deterioration of insulation), perform the coating in such a way so that the coating does not get on the connector.
The connectors are not meant to be used for switching.

Please refer to the latest product specifications when designing your product.

Memos

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