

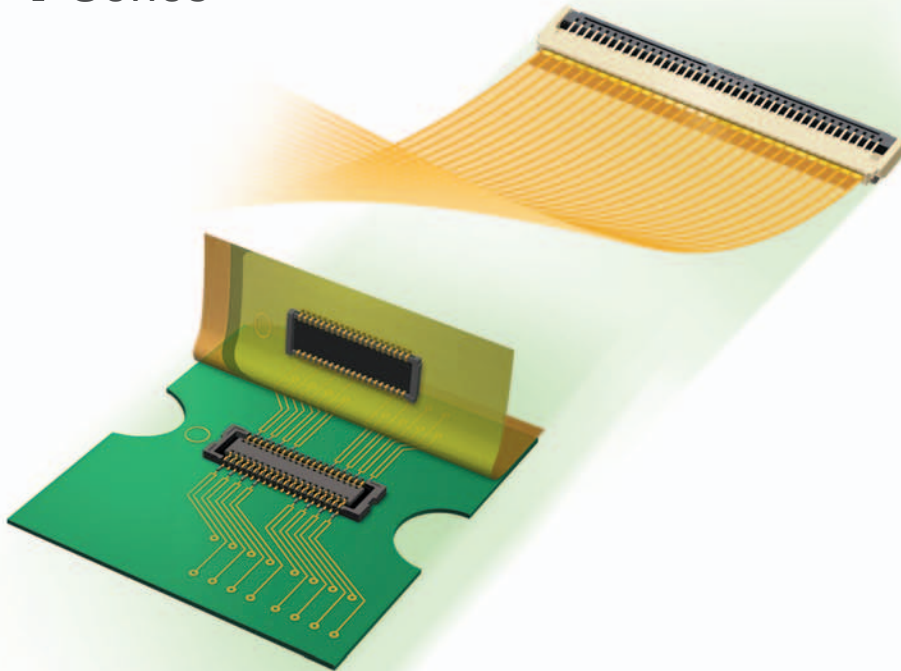
FPC Connectors

XF Series

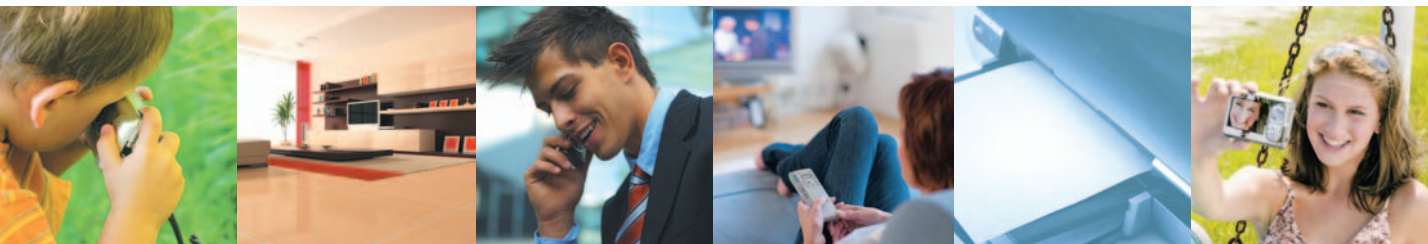
OMRON

Board to FPC Connectors

XB4 Series



Connect to your future Applications.



FPC See How Far FPC Connectors Have Advanced

XF Series

■XF3A

NEW

- 0.3mm-pitch
- Profile of 0.6mm
- Rotary backlock mechanism
- Upper contact

■XF2B

- 0.3mm-pitch
- Profile of 1.2mm
- Rotary backlock mechanism
- Double-sided contact

■XF2L

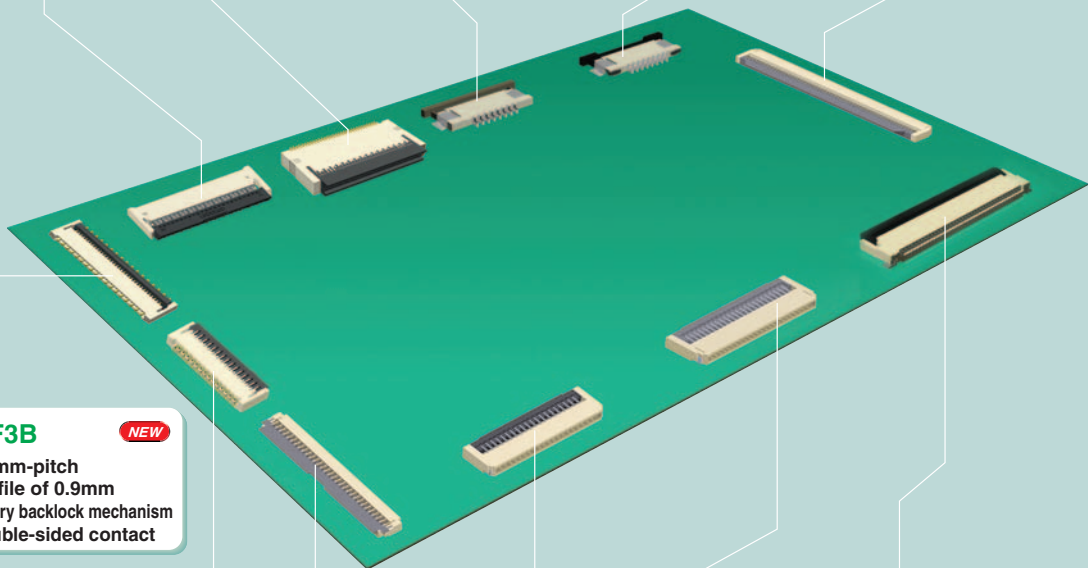
- 0.5mm-pitch
- Profile of 1.2mm
- Slide-locking mechanism
- Lower contact

■XF2L

- 0.5mm-pitch
- Profile of 1.2mm
- Slide-locking mechanism
- Upper contact

■XF2K

- 0.4mm-pitch
- Profile of 0.9mm
- Rotary backlock mechanism
- Double-sided contact



■XF3B

NEW

- 0.3mm-pitch
- Profile of 0.9mm
- Rotary backlock mechanism
- Double-sided contact

■XF2C

- 0.3mm-pitch
- Profile of 0.9mm
- Rotary backlock mechanism
- Upper contact

■XF3H

- 0.3mm-pitch
- Profile of 0.9mm
- Rotary frontlock mechanism
- Lower contact

■XF2U

- 0.5mm-pitch
- Profile of 0.9mm
- Rotary backlock mechanism
- Double-sided contact

■XF2W

- 0.5mm-pitch
- Profile of 1.1mm
- Rotary backlock mechanism
- Double-sided contact

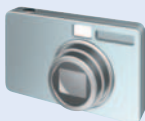
■XF2M

- 0.5mm-pitch
- Profile of 2mm
- Rotary backlock mechanism
- Double-sided contact

Applications



■ Mobile phones



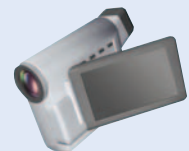
■ Digital cameras



■ Digital music players



■ DVD drives













■ Digital video cameras

INDEX

Product Overview

Model	Part name	Pitch	Stacking height	Width	Page
 XB4A	Plug	0.4mm	0.9mm	4.1mm	P7
 XB4B	Socket			5.0mm	P8

Model	Lock mechanism	Pitch	On-board height	Depth (*4)	Applicable FPC thickness	Contact type	Page
 XF3A	Rotary backlock	0.3mm	0.6mm	3.8mm	0.12mm	Upper contact	P11
 XF3B	Rotary backlock	0.3mm	0.9mm	4.0mm *3	0.2mm	Double-sided contact	P12
 XF2C	Rotary backlock	0.3mm	0.9mm	4.0mm	0.12mm	Upper contact	P13
 XF2B	Rotary backlock	0.3mm	1.2mm	5.5mm	0.2mm	Double-sided contact *1	P14
 XF3H	Rotary frontlock	0.3mm	0.9mm	3.5mm	0.2mm	Lower contact	P15
 XF2K	Rotary backlock	0.4mm	0.9mm	4.0mm	0.2mm	Double-sided contact	P16
 XF2U	Rotary backlock	0.5mm	0.9mm	3.5mm	0.2mm	Double-sided contact	P17
 XF2W	Rotary backlock	0.5mm	1.1mm	3.5mm *3	0.3mm	Double-sided contact	P18
 XF2M	Rotary backlock	0.5mm	2.0mm *2	5.9mm *2	0.3mm	Double-sided contact	P19
 XF2L	Slide lock	0.5mm	1.2mm	3.45mm	0.3mm	Upper/lower contact	P20

*1: Models with 61 pins have upper contacts.
*3: Dimensions differ for the long-lock type.

*2: Specifications for models with 55 pins and those with 60 pins differ.
*4: These dimensions are that the sliders have been locked.

Model Number Legend

* Use this legend when determining the product specifications from the model number. Choose from the model numbers listed in this catalog when ordering.

XB4□-□□35-D

- | | | | | | |
|--|--|-----------------------------------|----------------------|-------------------------------------|--|
| (1) Series Name
0.4-mm Pitch Board to FPC Connector | (2) Classification in Series
A: Plug
B: Socket | (3) Number of Signal Contact Pins | (4) Plating
3: Au | (5) Terminal Shape
SMT terminals | (6) Accessories
D: Without boss and Without hold down |
|--|--|-----------------------------------|----------------------|-------------------------------------|--|

XF□□-□□□□-□□□-□

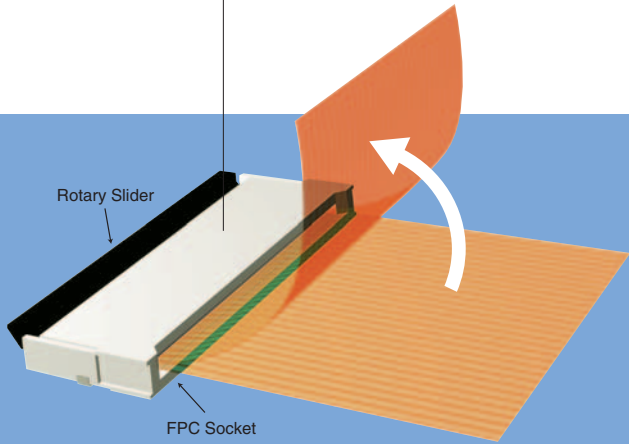
- | | | | | | | | |
|---|-----------------------------------|--|---|--|--|----------------------|--|
| (1) Classification in Series
2B, 2C, 2K, 2L,
2M, 2U, 2W, 3H, 3B, 3A | (2) Number of Signal Contact Pins | (3) Signal Contact Arrangement
1: One-row, double-sided contact
2: One-row, single-sided contact (including upper contact and top entry) | (4) Terminal Shape
4: SMT terminals (top entry)
5: SMT terminals (side entry) | (5) Applicable FPC thickness
1: 0.3mm
3: 0.2mm
4: 0.12mm
5: 0.15mm | (6) Terminal Arrangement
□: Standard
1: Staggered arrangement (forward arrangement)
2: Staggered arrangement (backward arrangement) | (7) Plating
A: Au | (8) Special Specification
E: Easy lock type
H: For multiple pins |
|---|-----------------------------------|--|---|--|--|----------------------|--|

Features of Rotary Backlock Mechanism

Improvement 1

Rotary slider independent of the FPC socket

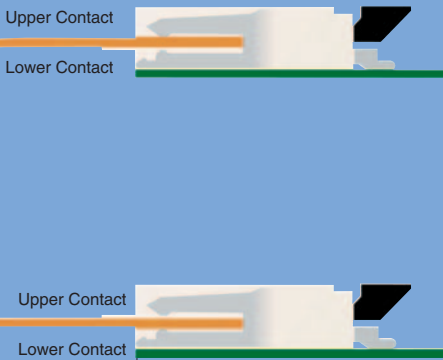
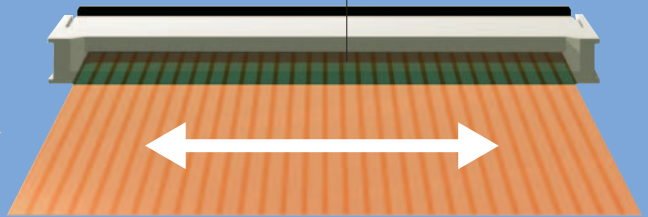
➔ **Slider does not disconnect if the FPC is lifted.**
 High reliability – A mounted FPC will not come off if excess force is applied to it.



Improvement 2

Four-sided housing

➔ **Construction prevents FPC displacement.**
 Mounting reliability is enhanced because the FPC is held in a four-sided housing and is unaffected by the slider operation.



Conventional Rotary Connector

1. Mount the connector.
2. Release the rotary slider.
3. Insert the FPC.
4. Lock the rotary slider.

XF2 Series

1. Mount the connector.
2. Insert the FPC.
3. Lock the rotary slider.

Improvement 3

Double-sided contact

* Except the XF3A, XF2C series and XF2B-61 pin.

➔ **No need to discriminate between the upper and lower FPC contacts.**
 Connectors are the same, so it's not necessary to distinguish between the upper and lower contacts when connecting upper and lower PCBs.

Improvement 4

Delivered with the rotary slider open.

➔ **Reduces the labor required to mount FPCs.**
 Assembly productivity is improved over the conventional rotary locking type because the rotary slider does not need to be released.

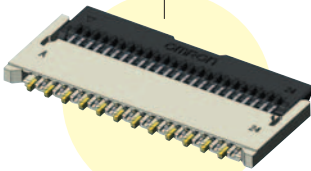
Introduction to New Product

OMRON delivers cutting-edge innovative products a step ahead of customer needs. Please look forward to the continuing development of our new products.

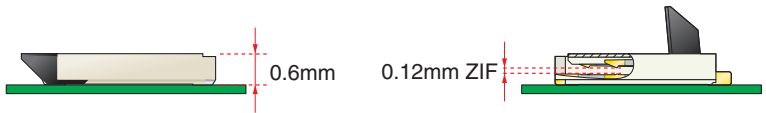
XF3A Ultra-slim FPC Connectors

Ultra-low profile with an on-board height of 0.6mm.

- Ultra-slim construction supports LCR downsizing.
- The rotary back lock ensures operability.
- Halogen free.

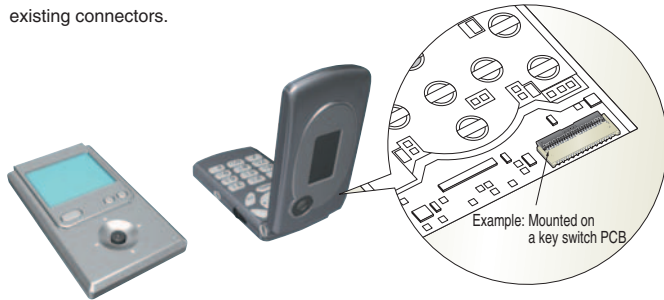


● ZIF structure achieves an on-board height of 0.6 mm



● Contributing to Downsizing of Mobile Devices

Possible to downsize compare with existing connectors.



● Connector Specifications

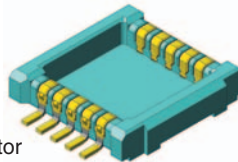
Pitch	0.3mm
On-board height	0.6mm
FPC thickness	0.12mm
Contact orientation	Upper contact
Lock mechanism	Rotary backlock

XB4A/B 0.4mm-pitch Board to FPC Connector

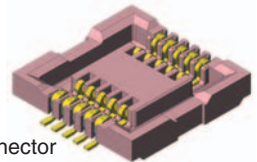
Ultra-low-profile type with high operability

- The ultra-low-profile shape, a sharp "click" and a high removal force
- Freedom in the direction of removal
- Easy insertion performance by self-alignment
- Double contacts ensure highly reliable contact

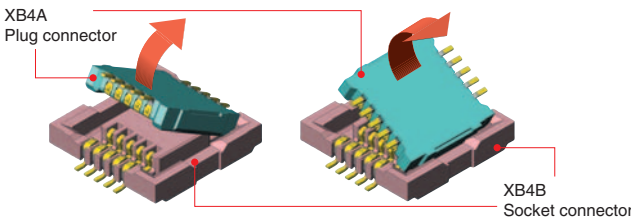
XB4A Plug connector



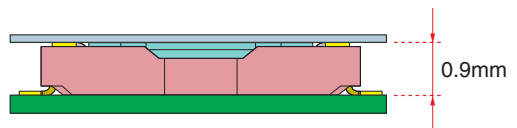
XB4B Socket connector



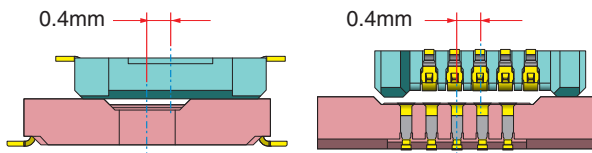
● Twist-resistant design allows removal in all directions



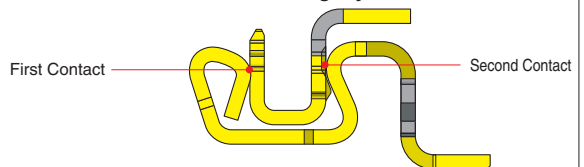
● Ultra-low-profile type with a stacking height of just 0.9 mm



● Featuring the self-alignment structure



● Double contacts ensure highly reliable contact



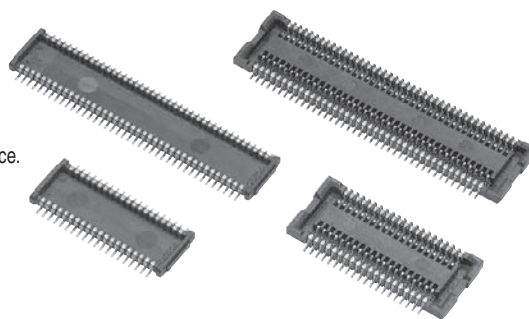
XB4A/XB4B

0.4-mm Pitch Board to FPC Connector

Ultra-low-profile type with a stacking height of 0.9 mm achieves easy operation and high contact reliability.

- The ultra-low-profile shape ensures the feel of a sharp “click” and a high removal force.
- Twist-resistant design allows removal in all directions.
- Easy insertion performance by self-alignment.
- Double contacts ensure highly reliable contact.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.



RoHS Compliant

■ Ratings and Specifications

Rated current	0.3A AC/DC
Rated voltage	50V AC/DC
Contact resistance	60mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Total insertion force	Pin number × 1.7N max.
Total removal force	Pin number × 0.1N min.
Insertion tolerance	50 times
Ambient operating temperature	-30 to 85°C (with no icing at low temperatures)

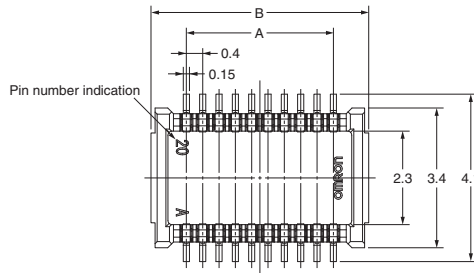
■ Materials and Finish

Housing	LCP resin (UL94-0)/black
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)

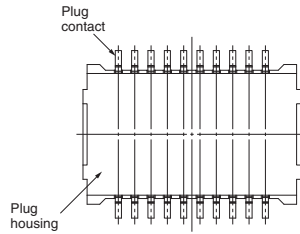
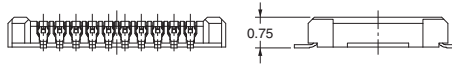
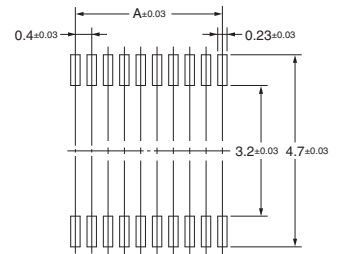
XB4A Plug, SMT terminal

■ **Dimensions**

XB4A-□□35-D



PCB Mating Dimensions (TOP VIEW)



Stacking state (Stacking connector is XB4B.)

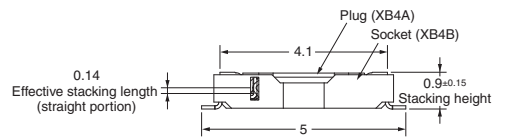


Table of Dimensions

Pins (See *1.)	Model	A	B
24	XB4A-2435-D	4.4	6.1
40	XB4A-4035-D	7.6	9.3
80	XB4A-8035-D	15.6	17.3

Note: Terminal section coplanarity is lower than 0.1.

■ **Ordering Information** (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
24	XB4A-2435-D	3,000
40	XB4A-4035-D	
80	XB4A-8035-D	

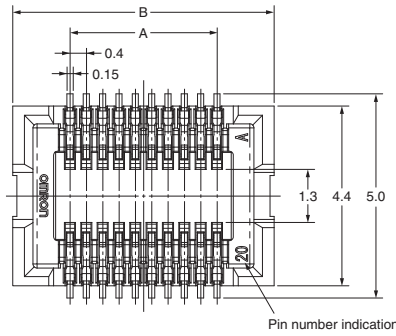
*1. Consult your OMRON representative for inquiries related to pin number specifications.

*2. Order an integer multiple of the quantity per reel.

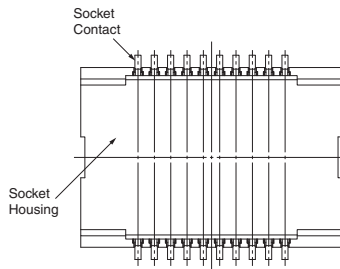
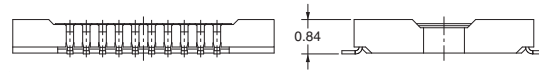
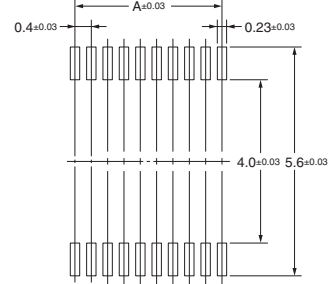
XB4B Socket, SMT Terminal

■ **Dimensions**

XB4B-□□35-D



PCB Mating Dimensions (TOP VIEW)



Stacking state (Stacking connector is XB4A.)

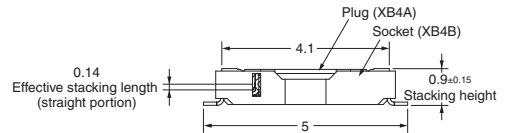


Table of Dimensions

Pins (See *1.)	Model	A	B
24	XB4B-2435-D	4.4	7.2
40	XB4B-4035-D	7.6	10.4
80	XB4B-8035-D	15.6	18.4

Note: Terminal section coplanarity is lower than 0.1.

■ **Ordering Information** (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
24	XB4B-2435-D	3,000
40	XB4B-4035-D	
80	XB4B-8035-D	

*1. Consult your OMRON representative for inquiries related to pin number specifications.

*2. Order an integer multiple of the quantity per reel.

XB4A/XB4B

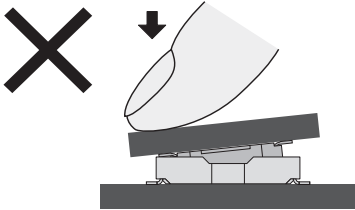
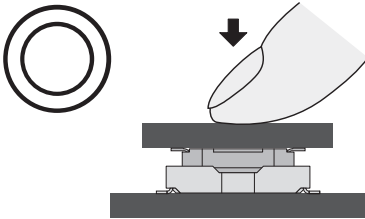
Common Precautions for XB4A/XB4B Connectors

■ Safety Precautions

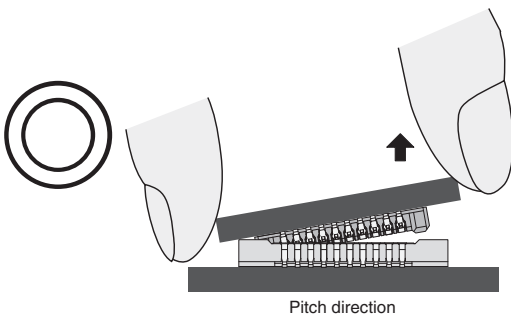
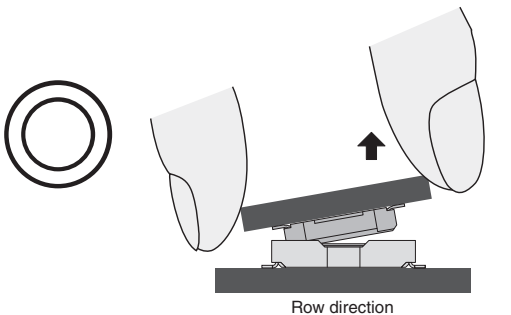
Precautions for Correct Use

● For Operating

- (1) Regarding the connector stacking operation, it should be confirmed there is no extreme displacement and tilt in the stacking contact areas between a plug and a socket before the stacking operation of the connectors.
- (2) Ensure that the connector stackings are fully seated.
 - An incomplete stacking state may cause the failure of contact reliability.
- (3) Do not apply an extreme load when inserting or drawing out the connector.
 - The connector may be damaged, resulting in faulty contacts.
- (4) When stacking the plug and socket, press the back side of printed circuit board mounted with them and then couple with as little twisting force as possible.
 - Doing so may cause the terminal and housing to change shape or the housing to crack.

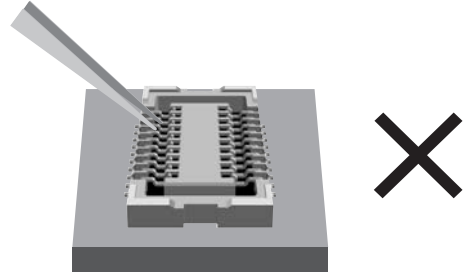


- (5) When drawing out, hold the edge of the printed circuit board near the connector and remove as vertically as possible, as described in the figure below.
 - Drawing out the plug with too much force may have possibility to change shape of terminal solder/housing crack.



- (6) Do not insert a foreign object such as a tweezers into the connector stacking contact area.

- Doing so may cause the plating peel off and deform the shape of the terminal.



● For Mounting

- (1) The reflow conditions are as stated in OMRON's specifications and guidelines.

These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials.
- (2) When mounting the connector by manual soldering, observe the following precautions to ensure contact reliability.
 - Conditions for manual soldering: $350 \pm 10^\circ\text{C}$ 3 ± 1 sec
 - Do not apply an excessive amount of solder. Excessive solder will cause the flux creep.
 - Do not apply the soldering iron to the mounting terminal. Doing so may cause the connectors to change shape.
 - Do not apply the soldering iron to any parts of the connector other than the mount attachments. Doing so may cause the connector to change shape.

● For Designing

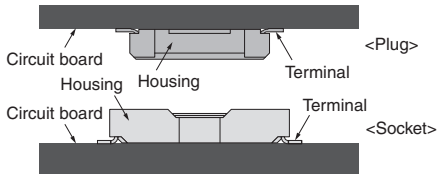
- (1) When mounting the connector to the FPC, design the FPC so that extreme peel force should not be applied directly on to the connector.

If the FPC bends near the connector, or if the FPC is used with extreme peel force directly on to the connector, it may cause a contact loss.
- (2) If the connector-mounted FPC is installed at a location or in any equipment that will subject the FPC to continuous shake or movement, secure the FPC or take any countermeasure against FPC disconnection from the connector.
- (3) Do not use plural connectors on same PCB.
 - Doing so may cause solder and housing crack.
- (4) When locating the connector on the printed circuit board, be sure to allow space for the stacking operation.
- (5) Ensure a metal mask thickness of $t = 0.10$ to 0.15 mm.

The recommended open area of the metal mask is 90% of the printed circuit board's mating dimensions as shown in the dimensional diagrams.

Operating XB4A/XB4B

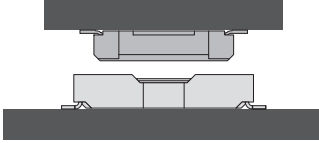
Name of the Parts for Board to Board Connectors



Handling Methods

● How to couple a connector

- (1) Position a plug with a socket.

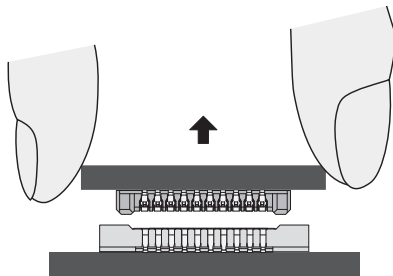
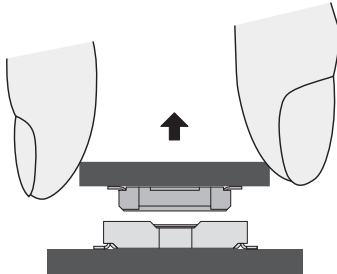


- (2) Insert the connector until it becomes horizontal.



● How to draw out the connector

- (1) Hold the edge of the printed circuit board near the connector and draw out as vertically as possible.



XF3A

Rotary Backlock Connector (0.3-mm Pitch, Upper Contact)

An on-board height of 0.6 mm for the lowest class of profile in the industry.

Rotary Backlock Connectors with a 0.3-mm pitch.

- Wide molding wall on the rear bottom of the connector allows greater freedom in board design.
- Upper contact model.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.

RoHS Compliant

■ Ratings and Specifications

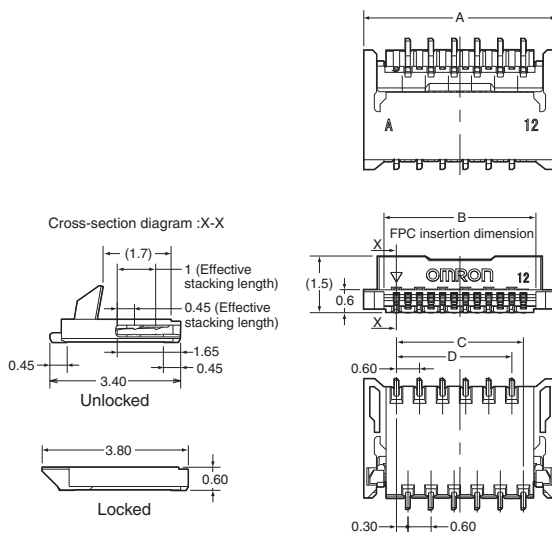
Rated current	0.2A AC/DC
Rated voltage	50V AC/DC
Contact resistance	80mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Materials and Finish

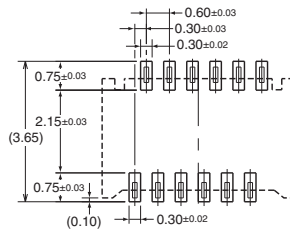
Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)

■ Dimensions

XF3A-□□55-41A



PCB Mating Dimensions (TOP VIEW)



Applicable FPC Dimensions

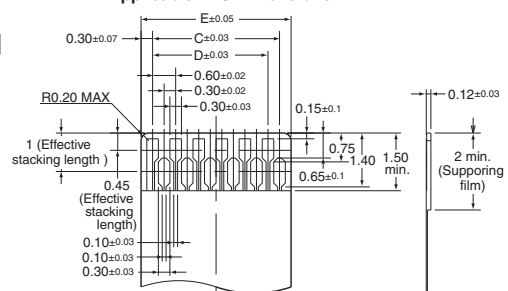


Table of Dimensions

Pins (See *1.)	Model	A	B	C	D	F
8	XF3A-0855-41A	3.8	2.75	2.1	1.8	2.7
12	XF3A-1255-41A	5.0	3.95	3.3	3.0	3.9

■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
8	XF3A-0855-41A	4,000
12	XF3A-1255-41A	

- *1. Consult your OMRON representative for inquiries related to pin number specifications.
*2. Order an integer multiple of the quantity per reel.

[RoHS Compliant Status and Pin Number Line-up Status]

Refer to the following website for the latest information.

<http://www.omron.co.jp/ecb/>

XF3B

Rotary Backlock Connector (0.3-mm Pitch, Double-sided Contact)

Compact body (with a low profile of just 0.9 mm) supports the applicable FPC thickness of 0.2 mm.

- Wide molding wall on the rear bottom of the connector allows greater freedom in board design.
- Upper / lower contact model to enhance the contact structure of lower contact.
- Gold plated with an applicable FPC thickness of 0.2 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.



RoHS Compliant

■ Ratings and Specifications

Rated current	0.2A AC/DC
Rated voltage	50V AC/DC
Contact resistance	80mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Materials and Finish

Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/brown
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)

■ Dimensions

XF3B-□□45-31A
XF3B-□□45-31AE

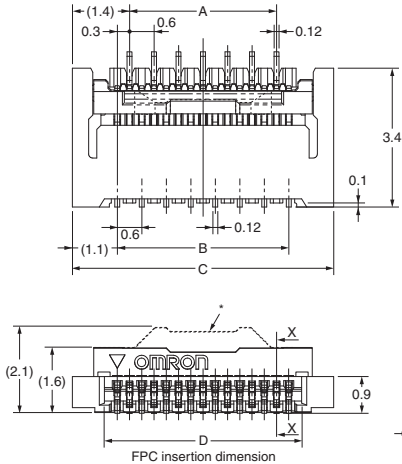
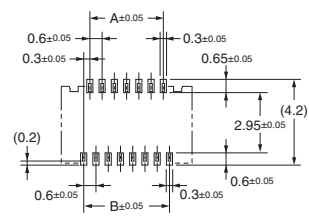


Table of Dimensions

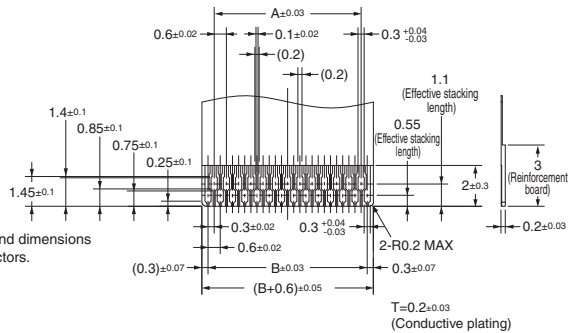
Pins (See *2.)	Model (See *1.)	A	B	C	D
35	XF3B-3545-31A	9.6	10.2	12.4	10.9
67	XF3B-6745-31AE	19.2	19.8	22.0	20.5

* Dotted lines indicate the shape and dimensions of the XF3B-□□45-31AE connectors.

PCB Mating Dimensions (TOP VIEW)



Applicable FPC Dimensions



■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *2.)	Model (See *1.)	Quantity per reel (unit) (See *3.)
35	XF3B-3545-31A	2,000
67	XF3B-6745-31AE	1,500

*1. The end of the model number indicates the slider specification.

None: Standard type E: Easy lock type

*2. Consult your OMRON representative for inquiries related to pin number specifications.

*3. Order an integer multiple of the quantity per reel.

XF2C

Rotary Backlock Connector (0.3-mm Pitch, Upper Contact)

Rotating Backlock Mechanism with 0.3-mm Pitch and Low Profile of 0.9 mm

- Wide molding wall on the rear bottom of the connector allows greater freedom in board design.
- Upper contact model.
- Gold plated with an applicable FPC thickness of 0.12 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.

RoHS Compliant

■ Ratings and Specifications

Rated current	0.2A AC/DC
Rated voltage	50V AC/DC
Contact resistance	80mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	10 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Dimensions

XF2C-□□55-41A

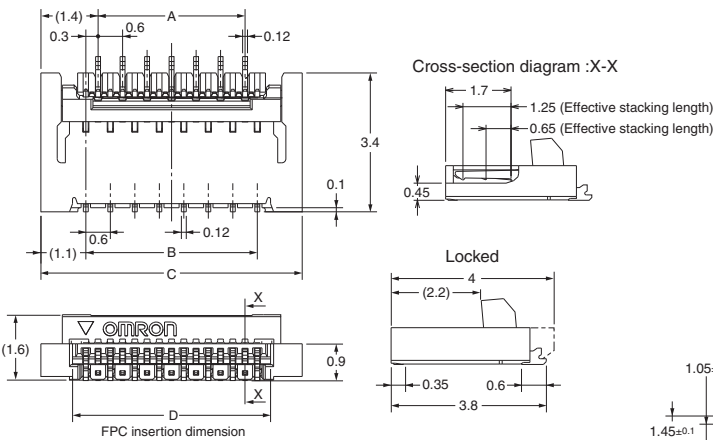


Table of Dimensions

Pins (See *1.)	Model	A	B	C	D
17	XF2C-1755-41A	4.2	4.8	7.0	5.5
21	XF2C-2155-41A	5.4	6.0	8.2	6.7
25	XF2C-2555-41A	6.6	7.2	9.4	7.9
29	XF2C-2955-41A	7.8	8.4	10.6	9.1
35	XF2C-3555-41A	9.6	10.2	12.4	10.9
39	XF2C-3955-41A	10.8	11.4	13.6	12.1
45	XF2C-4555-41A	12.6	13.2	15.4	13.9
51	XF2C-5155-41A	14.4	15.0	17.2	15.7

■ Ordering Information (Consult your trading company for the delivery date.)

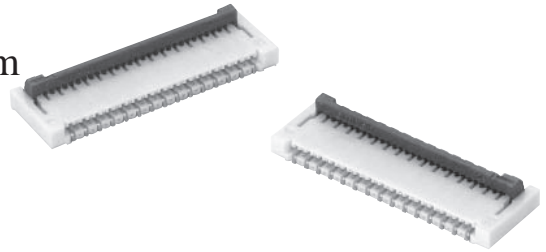
Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
17	XF2C-1755-41A	2,000
21	XF2C-2155-41A	
25	XF2C-2555-41A	
29	XF2C-2955-41A	
35	XF2C-3555-41A	
39	XF2C-3955-41A	
45	XF2C-4555-41A	
51	XF2C-5155-41A	

- *1. Consult your OMRON representative for inquiries related to pin number specifications.
*2. Order an integer multiple of the quantity per reel.

[RoHS Compliant Status and Pin Number Line-up Status]

Refer to the following website for the latest information.

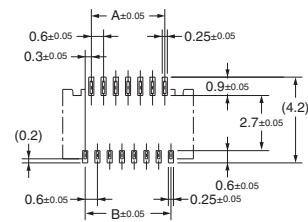
<http://www.omron.co.jp/ecb/>



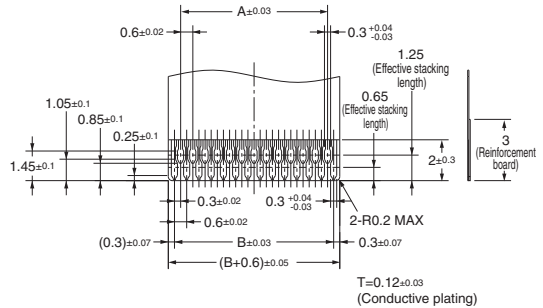
■ Materials and Finish

Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)

PCB Mating Dimensions (TOP VIEW)



Applicable FPC Dimensions



XF2C

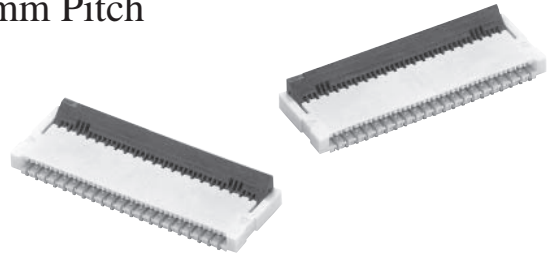
XF2B

Rotary Backlock Connector (0.3-mm Pitch, Double-sided Contact)

Rotary Backlock Mechanism with 0.3-mm Pitch

- Wide molding wall on the rear bottom of the connector allows greater freedom in board design.
- Double-sided contact reduces the number of parts.
- Gold plated with an applicable FPC thickness of 0.2 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.



RoHS Compliant

■ Ratings and Specifications

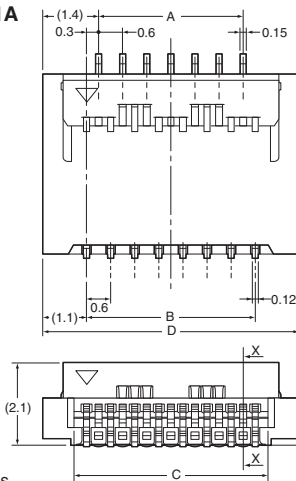
Rated current	0.2A AC/DC
Rated voltage	50V AC/DC
Contact resistance	50mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Materials and Finish

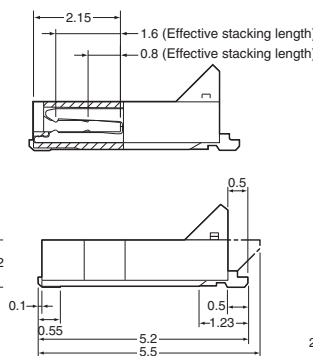
Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)

■ Dimensions

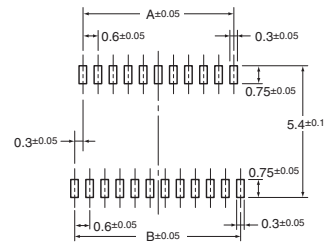
XF2B-□□45-31A



Cross-section diagram :X-X



PCB Mating Dimensions (TOP VIEW)



Applicable FPC Dimensions

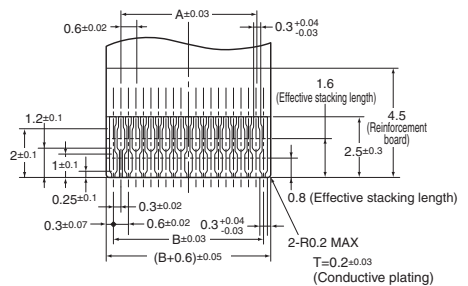


Table of Dimensions

Pins (See *1.)	Model	A	B	C	D
17	XF2B-1745-31A	4.2	4.8	5.5	7.0
21	XF2B-2145-31A	5.4	6.0	6.7	8.2
23	XF2B-2345-31A	6.0	6.6	7.3	8.8
25	XF2B-2545-31A	6.6	7.2	7.9	9.4
27	XF2B-2745-31A	7.2	7.8	8.5	10.0
31	XF2B-3145-31A	8.4	9.0	9.7	11.2
33	XF2B-3345-31A	9.0	9.6	10.3	11.8
35	XF2B-3545-31A	9.6	10.2	10.9	12.4
39	XF2B-3945-31A	10.8	11.4	12.1	13.6
41	XF2B-4145-31A	11.4	12.0	12.7	14.2
45	XF2B-4545-31A	12.6	13.2	13.9	15.4
51	XF2B-5145-31A	14.4	15.0	15.7	17.2
61	XF2B-6155-31A	17.4	18.0	18.7	20.2

■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Pins (See *1.)	Model	Quantity per reel (unit) (See *1.)
17	XF2B-1745-31A	35	XF2B-3545-31A	1,500
21	XF2B-2145-31A	39	XF2B-3945-31A	
23	XF2B-2345-31A	41	XF2B-4145-31A	
25	XF2B-2545-31A	45	XF2B-4545-31A	
27	XF2B-2745-31A	51	XF2B-5145-31A	
31	XF2B-3145-31A	61	XF2B-6155-31A (See *3)	
33	XF2B-3345-31A	—	—	

- *1. Consult your OMRON representative for inquiries related to pin number specifications.
- *2. Order an integer multiple of the quantity per reel.
- *3. Upon contact.

[RoHS Compliant Status and Pin Number Line-up Status]

Refer to the following website for the latest information.
<http://www.omron.co.jp/ecb/>

XF3H

Rotary Frontlock Connector (0.3-mm Pitch, Lower Contact)

Rotating Frontlock Mechanism with a Depth of 3.5-mm and Low Profile of 0.9 mm

- Ultra-slim connector with a depth of 3.5 mm.
- Wide molding wall on the rear bottom of the connector allows greater freedom in board design.
- Slider open locking mechanism makes work efficient.
- Gold plated with an applicable FPC thickness of 0.2 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.

RoHS Compliant

■ Ratings and Specifications

Rated current	0.2A AC/DC
Rated voltage	50V AC/DC
Contact resistance	80mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Dimensions

XF3H-□□55-31A

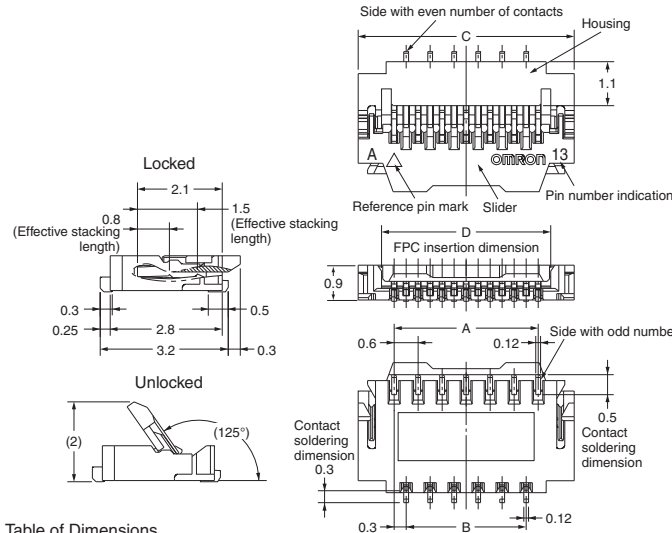


Table of Dimensions

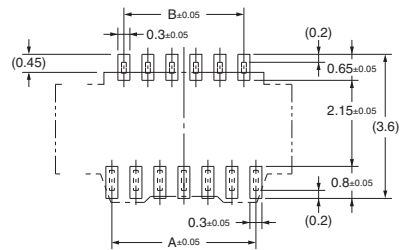
Pins (See *1.)	Model	A	B	C	D	E
13	XF3H-1355-31A	3.6	3.0	5.4	4.23	4.2
25	XF3H-2555-31A	7.2	6.6	9.0	7.83	7.8
31	XF3H-3155-31A	9.0	8.4	10.8	9.63	9.6
35	XF3H-3555-31A	10.2	9.6	12.0	10.83	10.8
39	XF3H-3955-31A	11.4	10.8	13.2	12.03	12.0
45	XF3H-4555-31A	13.2	12.6	15.0	13.83	13.8
51	XF3H-5155-31A	15.0	14.4	16.8	15.63	15.6
57	XF3H-5755-31A	16.8	16.2	18.6	17.43	17.4
61	XF3H-6155-31A	18.0	17.4	19.8	18.63	18.6



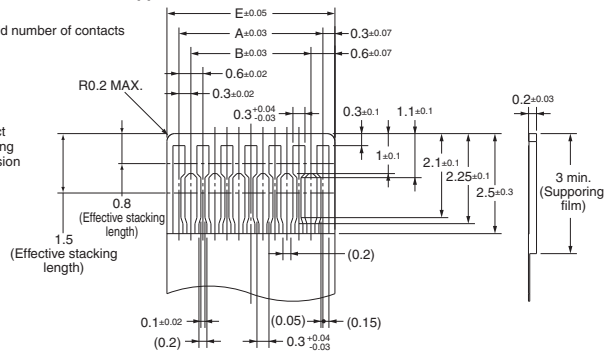
■ Materials and Finish

Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/brown
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)

PCB Mating Dimensions (TOP VIEW)



Applicable FPC Dimensions



■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
13	XF3H-1355-31A	45	XF3H-4555-31A	3,000
25	XF3H-2555-31A	51	XF3H-5155-31A	
31	XF3H-3155-31A	57	XF3H-5755-31A	
35	XF3H-3555-31A	61	XF3H-6155-31A	
39	XF3H-3955-31A	—	—	

*1. Consult your OMRON representative for inquiries related to pin number specifications.

*2. Order an integer multiple of the quantity per reel.

[RoHS Compliant Status and Pin Number Line-up Status]

Refer to the following website for the latest information.

<http://www.omron.co.jp/ecb/>

XF2K

Rotary Backlock Connector (0.4-mm Pitch, Double-sided Contact)

Rotating Backlock Mechanism with 0.4-mm Pitch and Low Profile of 0.9 mm

- Long slider makes it easier to lock and unlock the connector.
- Double-sided contact reduces the number of parts.
- Gold plated with an applicable FPC thickness of 0.2 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction: 900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.



RoHS Compliant

■ Ratings and Specifications

Rated current	0.4A AC/DC
Rated voltage	40V AC/DC
Contact resistance	60mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Materials and Finish

Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/brown
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)
Hold-down	Spring copper alloy/fused-tin plating (2μm)

■ Dimensions

XF2K-□□15-3AE

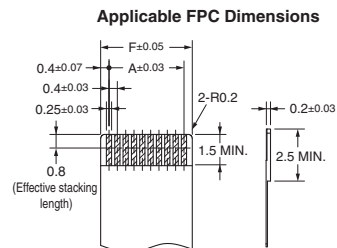
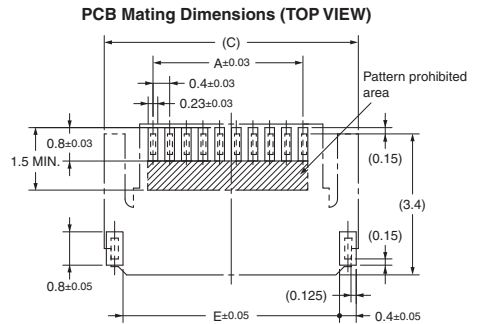
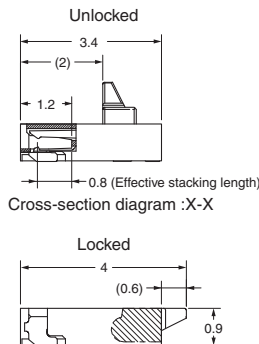
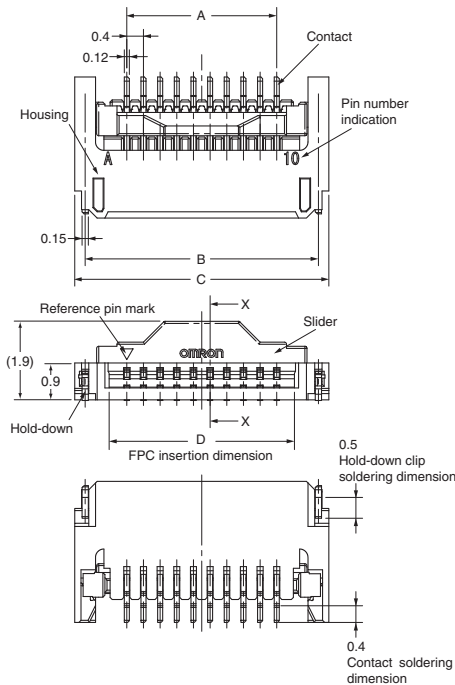


Table of Dimensions

Pins (See *1.)	Model	A	B	C	D	E	F
57	XF2K-5715-3AE	22.4	24.4	24.9	23.3	24.0	23.2

■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
57	XF2K-5715-3AE	2,000

*1. Consult your OMRON representative for inquiries related to pin number specifications.

*2. Order an integer multiple of the quantity per reel.

[RoHS Compliant Status and Pin Number Line-up Status]

Refer to the following website for the latest information.

<http://www.omron.co.jp/ecb/>

XF2U

Rotary Backlock Connector (0.5-mm Pitch, Double-sided Contact)

Rotating Backlock Mechanism with a Depth of 3.5-mm and Low Profile of 0.9 mm

- Ultra-slim connector with a depth of 3.5 mm.
- Double-sided contact reduces the number of parts.
- Wide molding wall on the rear bottom of the connector allows greater freedom in board design.
- Gold plated with an applicable FPC thickness of 0.2 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction:
900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.

RoHS Compliant

■ Ratings and Specifications

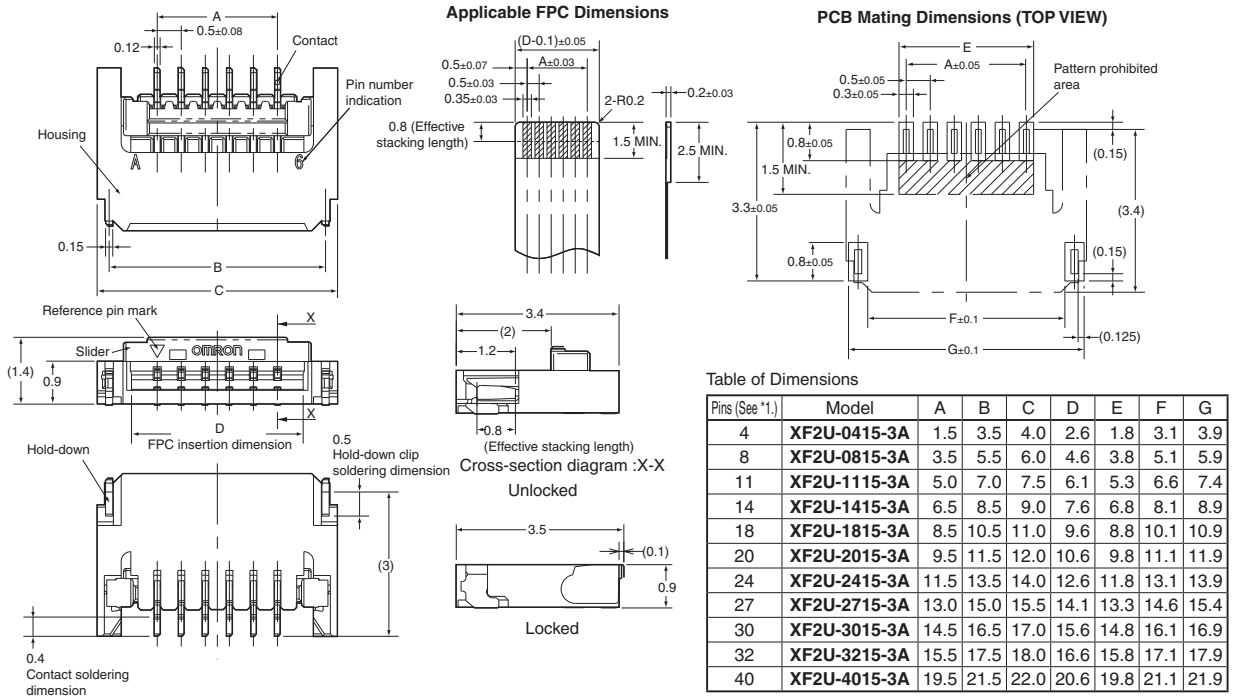
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	60mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Materials and Finish

Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)
Hold-down	Spring copper alloy/fused-tin plating (2μm)

■ Dimensions

XF2U-□□15-3A



■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *1.)	Model	Pins (See *1.)	Model	Quantity per reel (unit) (See *2.)
4	XF2U-0415-3A	24	XF2U-2415-3A	3,000
8	XF2U-0815-3A	27	XF2U-2715-3A	
11	XF2U-1115-3A	30	XF2U-3015-3A	
14	XF2U-1415-3A	32	XF2U-3215-3A	
18	XF2U-1815-3A	40	XF2U-4015-3A	
20	XF2U-2015-3A	—	—	

*1. Consult your OMRON representative for inquiries related to pin number specifications.

*2. Order an integer multiple of the quantity per reel.

[RoHS Compliant Status and Pin Number Line-up Status]

Refer to the following website for the latest information.

<http://www.omron.co.jp/ecb/>

XF2M

Rotary Backlock Connector (0.5-mm Pitch, Double-sided Contact)

Rotary Lock Achieves High Reliability and Superior Work Efficiency.

- Double-sided contact reduces the number of parts.
- Applicable FPC thickness of 0.3 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction:
900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.

RoHS Compliant

■ Ratings and Specifications

XF2M-□□15-1A/1AH

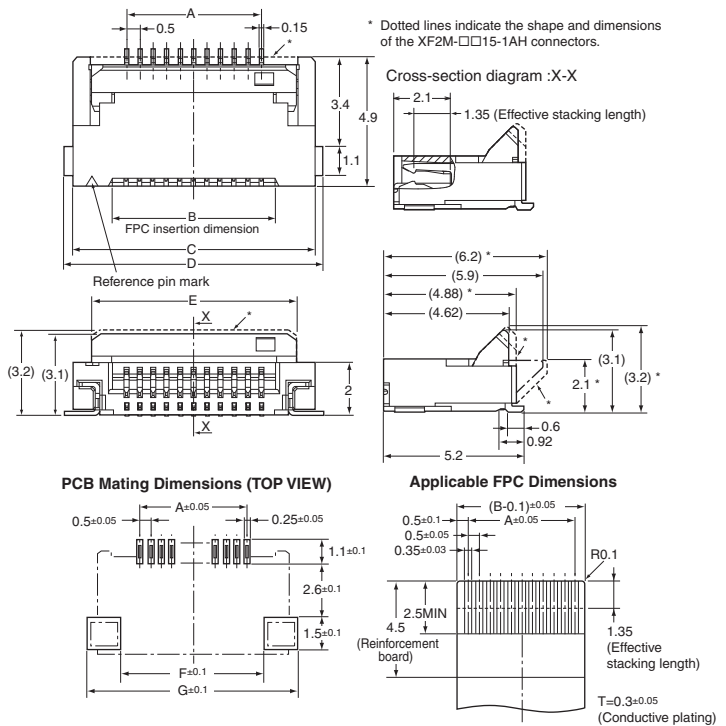
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	50mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Dimensions

XF2M-□□15-1A
XF2M-□□15-1AH

Table of Dimensions

Pins (See *2)	Model (See *1)	A	B	C	D	E	F	G
10	XF2M-1015-1A	4.5	5.6	8.5	9.1	7.1	6.1	9.5
12	XF2M-1215-1A	5.5	6.6	9.5	10.1	8.1	7.1	10.5
14	XF2M-1415-1A	6.5	7.6	10.5	11.1	9.1	8.1	11.5
18	XF2M-1815-1A	8.5	9.6	12.5	13.1	11.1	10.1	13.5
20	XF2M-2015-1A	9.5	10.6	13.5	14.1	12.1	11.1	14.5
22	XF2M-2215-1A	10.5	11.6	14.5	15.1	13.1	12.1	15.5
24	XF2M-2415-1A	11.5	12.6	15.5	16.1	14.1	13.1	16.5
26	XF2M-2615-1A	12.5	13.6	16.5	17.1	15.1	14.1	17.5
30	XF2M-3015-1A	14.5	15.6	18.5	19.1	17.1	16.1	19.5
32	XF2M-3215-1A	15.5	16.6	19.5	20.1	18.1	17.1	20.5
33	XF2M-3315-1A	16.0	17.1	20.0	20.6	18.6	17.6	21.0
34	XF2M-3415-1A	16.5	17.6	20.5	21.1	19.1	18.1	21.5
35	XF2M-3515-1A	17.0	18.1	21.0	21.6	19.6	18.6	22.0
36	XF2M-3615-1A	17.5	18.6	21.5	22.1	20.1	19.1	22.5
38	XF2M-3815-1A	18.5	19.6	22.5	23.1	21.1	20.1	23.5
40	XF2M-4015-1A	19.5	20.6	23.5	24.1	22.1	21.1	24.5
42	XF2M-4215-1A	20.5	21.6	24.5	25.1	23.1	22.1	25.5
45	XF2M-4515-1A	22.0	23.1	26.0	26.6	24.6	23.6	27.0
50	XF2M-5015-1A	24.5	25.6	28.5	29.1	27.1	26.1	29.5
55	XF2M-5515-1AH	27.0	28.1	31.0	31.6	29.6	28.6	32.0
60	XF2M-6015-1AH	29.5	30.6	33.5	34.1	32.1	31.1	34.5



■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *2)	Model (See *1)	Pins (See *2)	Model (See *1)	Pins (See *2)	Model (See *1)	Quantity per reel (unit) (See *3)
10	XF2M-1015-1A	26	XF2M-2615-1A	38	XF2M-3815-1A	1,500
12	XF2M-1215-1A	30	XF2M-3015-1A	40	XF2M-4015-1A	
14	XF2M-1415-1A	32	XF2M-3215-1A	42	XF2M-4215-1A	
18	XF2M-1815-1A	33	XF2M-3315-1A	45	XF2M-4515-1A	
20	XF2M-2015-1A	34	XF2M-3415-1A	50	XF2M-5015-1A	
22	XF2M-2215-1A	35	XF2M-3515-1A	55	XF2M-5515-1AH	
24	XF2M-2415-1A	36	XF2M-3615-1A	60	XF2M-6015-1AH	

*1. The end of the model number indicates the slider specification.

None: Standard type H: For multiple type

*2. Consult your OMRON representative for inquiries related to pin number specifications for the models under development and of other pin numbers not listed.

*3. Order an integer multiple of the quantity per reel.

Note 1: Solder plating product (Specified by -1L at the end of model number) is discontinued since March 2006.

Note 2: Tin plating correspondence Pb free product (specified by -1DL) will be discontinued since March 2009.

[RoHS Compliant Status and Pin Number Line-up Status] Refer to the following website for the latest information. <http://www.omron.co.jp/ecb/>

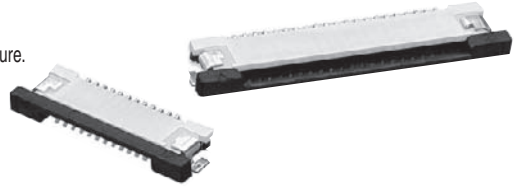
XF2L

ZIF Slide-locking Connector (0.5-mm Pitch)

Greater Freedom in Board Design with a Bottom Wall and the Smallest On-board Area in the Industry

- Smallest on-board area and volume in the industry.
- Low on-board height of only 1.2 mm.
- Highest board design surface efficiency in the industry with a bottom wall preventing terminal exposure.
- Construction with secure slider locking mechanism.
- Applicable FPC thickness of 0.3 mm.
- Halogen Free (See note.)

Note: OMRON uses the following standard to determine halogen-free construction:
900 ppm max. for Br, 900 ppm max. for Cl, and 1,500 ppm max. for Br+Cl.



RoHS Compliant

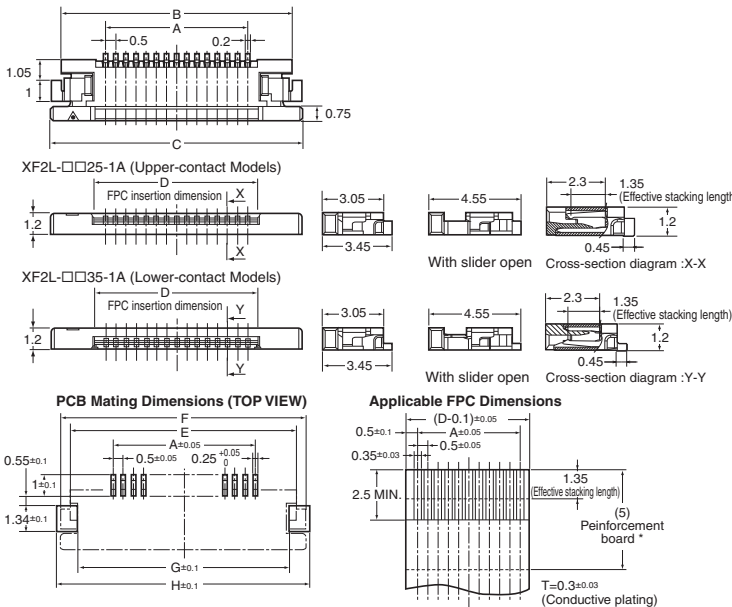
■ Ratings and Specifications

XF2L-□□□5-1A

Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	30mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to 85°C (with no icing or condensation)

■ Dimensions

XF2L-□□□5-1A



■ Materials and Finish

XF2L-□□□5-1A

Ordering Model	XF2L (Upper-contact Models)	XF2L (Lower-contact Models)
Housing	LCP resin (UL94V-0)/natural	
Slider	LCP resin (UL94V-0)/black	LCP resin (UL94V-0)/brown
Contacts	Spring copper alloy/nickel substrate (2μm) Gold-plated contacts (0.15μm)	
Hold-down	Spring copper alloy/fused-tin plating (1.5μm)	

Table of Dimensions

Upper-contact Models

Pins (See *1.)	Model	A	B	C	D	E	F	G	H
4	XF2L-0425-1A	1.5	5.9	6.9	2.6	5.88	6.88	5.28	7.28
6	XF2L-0625-1A	2.5	6.9	7.9	3.6	6.88	7.88	6.28	8.28
7	XF2L-0725-1A	3.0	7.4	8.4	4.1	7.38	8.38	6.78	8.78
8	XF2L-0825-1A	3.5	7.9	8.9	4.6	7.88	8.88	7.28	9.28
9	XF2L-0925-1A	4.0	8.4	9.4	5.1	8.38	9.38	7.78	9.78
10	XF2L-1025-1A	4.5	8.9	9.9	5.6	8.88	9.88	8.28	10.28
12	XF2L-1225-1A	5.5	9.9	10.9	6.6	9.88	10.88	9.28	11.28
13	XF2L-1325-1A	6.0	10.4	11.4	7.1	10.38	11.38	9.78	11.78
18	XF2L-1825-1A	8.5	12.9	13.9	9.6	12.88	13.88	12.28	14.28
21	XF2L-2125-1A	10.0	14.4	15.4	11.1	14.38	15.38	13.78	15.78
26	XF2L-2625-1A	12.5	16.9	17.9	13.6	16.88	17.88	16.28	18.28
30	XF2L-3025-1A	14.5	18.9	19.9	15.6	18.88	19.88	18.28	20.28

Lower-contact Models

Pins (See *1.)	Model	A	B	C	D	E	F	G	H
5	XF2L-0535-1A	2.0	6.4	7.4	3.1	6.38	7.38	5.78	7.78
6	XF2L-0635-1A	2.5	6.9	7.9	3.6	6.88	7.88	6.28	8.28
7	XF2L-0735-1A	3.0	7.4	8.4	4.1	7.38	8.38	6.78	8.78
8	XF2L-0835-1A	3.5	7.9	8.9	4.6	7.88	8.88	7.28	9.28
10	XF2L-1035-1A	4.5	8.9	9.9	5.6	8.88	9.88	8.28	10.28
12	XF2L-1235-1A	5.5	9.9	10.9	6.6	9.88	10.88	9.28	11.28
13	XF2L-1335-1A	6.0	10.4	11.4	7.1	10.38	11.38	9.78	11.78
15	XF2L-1535-1A	7.0	11.4	12.4	8.1	11.38	12.38	10.78	12.78
18	XF2L-1835-1A	8.5	12.9	13.9	9.6	12.88	13.88	12.28	14.28
19	XF2L-1935-1A	9.0	13.4	14.4	10.1	13.38	14.38	12.78	14.78
20	XF2L-2035-1A	9.5	13.9	14.9	10.6	13.88	14.88	13.28	15.28
22	XF2L-2235-1A	10.5	14.9	15.9	11.6	14.88	15.88	14.28	16.28
24	XF2L-2435-1A	11.5	15.9	16.9	12.6	15.88	16.88	15.28	17.28
30	XF2L-3035-1A	14.5	18.9	19.9	15.6	18.88	19.88	18.28	20.28

■ Ordering Information (Consult your trading company for the delivery date.)

Pins (See *1.)	Type	Model	Pins (See *1.)	Type	Model	Pins (See *1.)	Type	Model	Quantity per reel (unit) (See *2.)
4	Upper contact	XF2L-0425-1A	10	Upper contact	XF2L-1025-1A	19	Lower contact	XF2L-1935-1A	3,000
5	Lower contact	XF2L-0535-1A		Lower contact	XF2L-1035-1A	20	Lower contact	XF2L-2035-1A	
6	Upper contact	XF2L-0625-1A	12	Upper contact	XF2L-1225-1A	21	Upper contact	XF2L-2125-1A	
	Lower contact	XF2L-0635-1A		Lower contact	XF2L-1235-1A		Lower contact	XF2L-2235-1A	
7	Upper contact	XF2L-0725-1A	13	Upper contact	XF2L-1325-1A	24	Lower contact	XF2L-2435-1A	
	Lower contact	XF2L-0735-1A		Lower contact	XF2L-1335-1A		26	Upper contact	
8	Upper contact	XF2L-0825-1A	15	Lower contact	XF2L-1535-1A	30		Upper contact	
	Lower contact	XF2L-0835-1A		Upper contact	XF2L-1825-1A		Lower contact	XF2L-3035-1A	
9	Upper contact	XF2L-0925-1A	18	Lower contact	XF2L-1835-1A	—	—	—	

*1. Consult your OMRON representative for inquiries related to pin number specifications.

*2. Order an integer multiple of the quantity per reel.

Note 1: Solder plating product (Specified by -1L at the end of model number) is discontinued since March 2006.

Note 2: Tin plating correspondence Pb free product (specified by -1DL) will be discontinued since March 2009.

[RoHS Compliant Status and Pin Number Line-up Status] Refer to the following website for the latest information. <http://www.omron.com.jp/ecb/>

Common Precautions for XF Connectors

■ Safety Precautions

Precautions for Correct Use

For All Models

● For Operating

- Make sure that the FPC has been inserted correctly.
If the FPC is inserted incorrectly from the customer's design specification, the pin number will not match and it may damage the contacts or cause malfunction of the equipment.

- Insert the FPC fully to the back of the connector.
Not doing so may cause a loss of contact reliability.
- When inserting or drawing out the FPC, applying pressure from up and down, left and right, or at an angle may cause the FPC contacts to be damaged or detached, which may result in contact failure.
- Do not lock or unlock the slider with excessive force.
The connector may be damaged, and cause contact failure.
- Do not use the connector of which the slider has once come off.
- When inserting and drawing out the FPC, make sure that the slider has been unlocked first.

Using the FPC in the following ways may damage the FPC, change the shape of the contacts, or result in contact failure.

- (1) Drawing out the FPC when the slider is still locked.
- (2) Drawing out the FPC by pulling it up and down or from left to right or twisting it sideways.

● For Designing

- When mounting the connector to the FPC, design the FPC so that that extreme peel force should not be applied directly on to the connector.

If the FPC bends near the connector, or if the FPC is used with extreme peel force directly on to the connector, it may cause a contact loss.

- If the connector-mounted FPC is installed at a location or in any equipment that will subject the FPC to continuous shake or movement, secure the FPC or take any countermeasure against FPC disconnection from the connector.
- Use FPCs that conform to the appropriate specifications and size as stated by OMRON.

When using a different FPC, or an FFC, contact OMRON.

- Use the same metal for the FPC plating and the connector plating.
- “Whiskers” may protrude from the FPC film of some lead-free FPCs. Be careful when using these units.
- Ensure a metal mask thickness of $t = 0.12$ to 0.15 mm.

The recommended metal mask open area is 90% of the printed circuit board mating dimensions given in the dimensions diagrams.

● For Mounting

- Do not mount (reflow or manual soldering) the connector to PCB with FPC inserted in the connector. Doing so may result in contact failure.
- The reflow conditions are as stated in OMRON's specifications and guidelines.
These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials.
- When mounting the connector by manual soldering, observe the following precautions to ensure contact reliability.

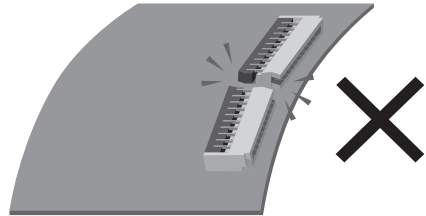
- (1) Conditions for manual soldering: $350 \pm 10^\circ\text{C}$ 3 ± 1 sec

- (2) Do not apply an excessive amount of solder. Excessive solder will cause the flux to rise.
- (3) Do not apply the soldering iron to the mount attachments using force. Doing so may cause the connectors to change shape.
- (4) Do not apply the soldering iron to any parts of the connector other than the mount attachments. Doing so may cause the connector to change shape.

● For Board Mounting

- Be careful of board warping. The connector flatness is 0.1 mm max. A large amount of warping, however, may result in soldering faults.
- Do not apply excessive force on the connector before mounting it. The connector may be damaged, resulting in faulty contacts. Do not insert the FPC and lock the slider before mounting the connector.
- Be careful not to apply an excessive load on the board when performing the following actions. The connector may be damaged, resulting in faulty contacts.

- (1) Dividing multi-cavity boards.
- (2) Securing a board with screws.



● Storage

- (1) Do not store the connectors in locations subject to dust or high humidity.
- (2) Do not store the connectors in locations close to sources of gasses such as ammonia gas or sulfide gas.

Common Precautions for XF Connectors

For Backlock Models

- For Operating
 - Do not lock the slider without an FPC inserted.
Locking the slider without an FPC inserted will decrease the space between upper and lower contacts and cause high insertion force.
 - When locking the slider, apply pressure with your fingertips to both sides of the slider, then twist the slider until it comes away from the unit.
Failing to lock the slider properly may result in contact failure.
 - Do not apply force horizontally to the PCB when locking the slider.
The connector may be damaged, resulting in faulty contacts.
 - When unlocking the slider, place your fingers on either side or on the entire slider and slowly lift the slider up and away.
Do not engage the slider past its initial location during the unlocking process. The connector may be damaged, resulting in faulty contacts.
- For Designing
 - When designing the board, be sure to allow locking and operating space for the slider.
- For Mounting
 - Do not perform reflow or manual soldering with the FPC inserted in the connector and the slider in the locked position. Doing so may result in contact failure.

For Frontlocking Models

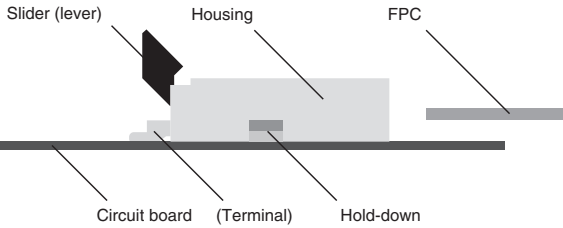
- For Operating
 - When unlocking the slider, use your fingernail to rotate and lift the slider. The slider cannot be opened to an angle of more than 125 degrees. Do not apply force on the slider beyond that point. The connector may be damaged, resulting in faulty contacts.
When locking the slider, apply pressure with your fingertips to the center of the slider, then twist the slider until it comes away from the unit. Failing to lock the slider properly may result in contact failure.

For Slidelocking Models

- For Operating
 - When locking the slider, apply pressure to both sides or the entire slider, then push the slider all the way in.
Not doing so may result in contact failure.
- For Designing
 - When designing the board, be sure to allow unlocking and operating space for the slider.

Operating the XF Rotary Backlock

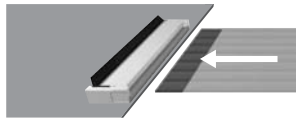
Name of the Part for FPC connector



Handling Methods

● For Inserting the FPC

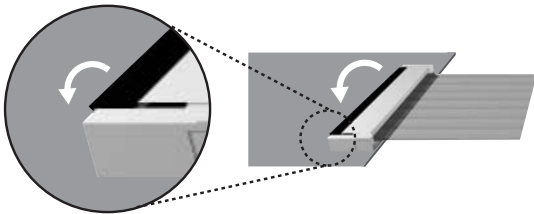
(1) Insert the FPC fully to the back of the connector.



The slider (lever) shown open

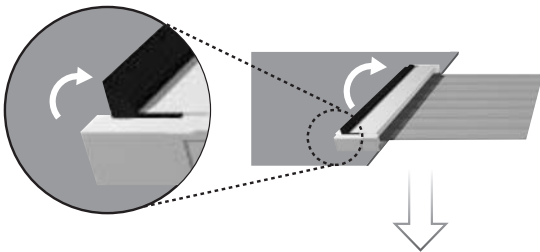


(2) Activate the slider (lever) and lock the FPC in place.

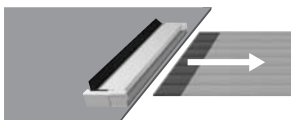


The slider (lever) shown locked

(1) Move the slider (lever) upwards to disengage the locking mechanism.



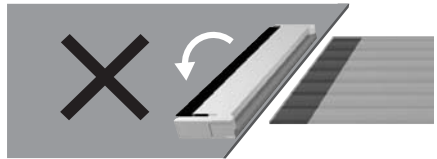
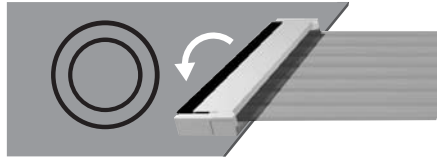
(2) Once the lock has been disengaged, pull the FPC out.



Precautions during Use

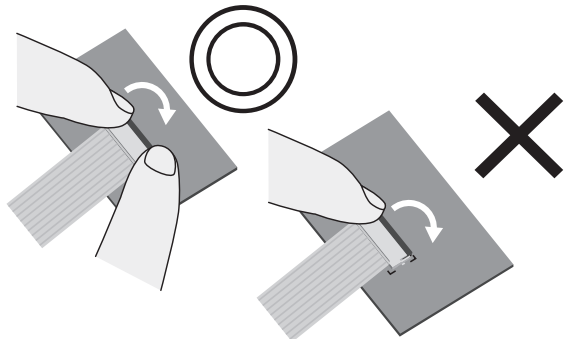
● For Operating

(1) Do not lock the slider (lever) without an FPC inserted. Locking the slider (lever) without an FPC inserted will increase the force required to insert an FPC.



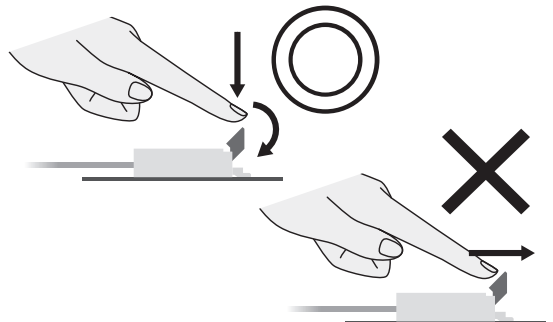
(2) Do not lock or unlock the slider (lever) with excessive force. The connector may be damaged, resulting in faulty contacts. Do not use the slider (lever) again if it becomes detached.

(3) When locking the slider (lever), apply pressure with your fingertips to both sides of the slider (lever) and then twist the slider (lever) until it comes away from the unit. Failing to lock the slider (lever) properly may result in contact failure.



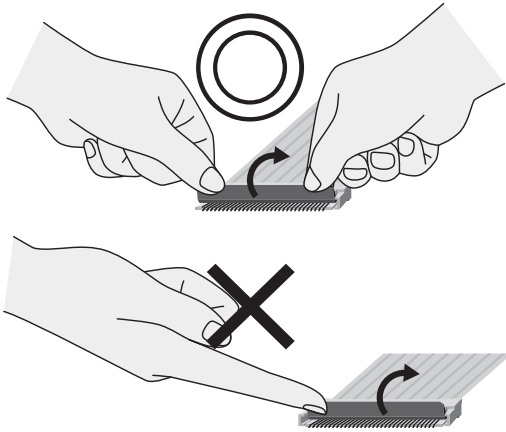
Do not apply force horizontally to the PCB when locking the slider (lever).

The connector may be damaged, resulting in faulty contacts.



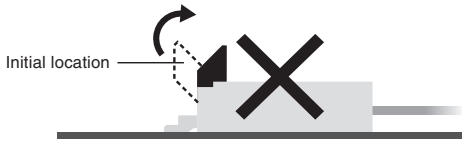
Operating the XF Rotary Backlock

(4) When unlocking the slider (lever), place your fingers on either side of the entire slider (lever) and slowly lift the slider (lever) up and away.



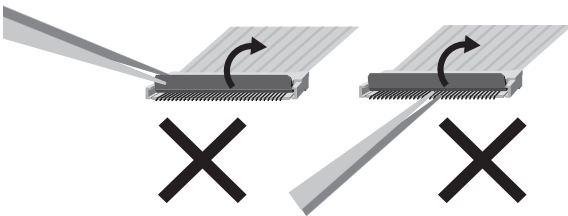
Do not engage the slider past its initial location during the unlocking process.

The connector may be damaged, resulting in faulty contacts.

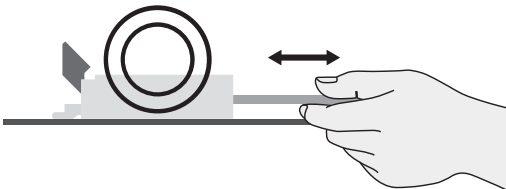


Performing the following action may cause the terminals to change shape or otherwise cause contact failures.

• Using tweezers to unlock the slider (lever).

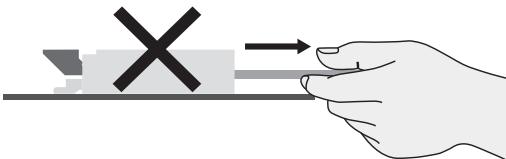


(5) When inserting and drawing out the FPC, be sure to check that the slider (lever) has been unlocked first.

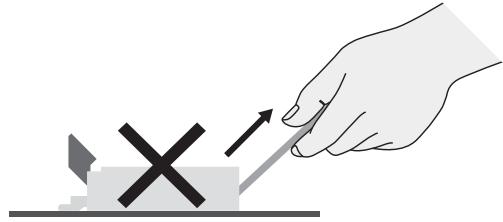


Using the FPC in the following ways may damage the FPC, change the shape of the contacts, or result in contact failure.

• Drawing out the FPC when the slider (lever) is still locked.



• Drawing out the FPC by pulling it up and down or from left to right or twisting it sideways.



(6) Make sure that the FPC has been inserted correctly.

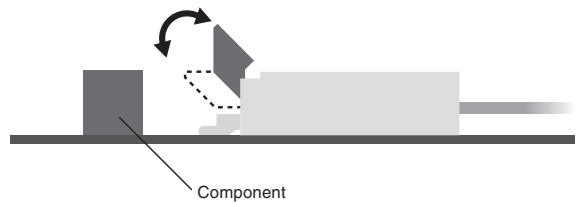
If the FPC is inserted incorrectly from the customer's design specification, the pin number will not match and it may damage the contacts or cause malfunction of the equipment.

• For Mounting

- (1) Do not perform reflow or manual soldering with the FPC inserted in the connector and the slider (lever) in the locked position. Doing so may result in contact failure.
- (2) The reflow conditions are as stated in OMRON's specifications and guidelines. These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials.

• For Designing

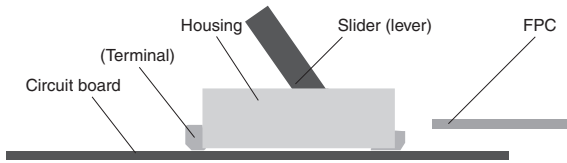
- (1) Design the FPC so that extreme peel force should not be applied directly on to the connector. If the FPC bends near the connector, or if the FPC is used with extreme peel force directly on to the connector, it may cause a contact loss.
- (2) If the FPC is installed at a location or in any equipment that will subject the FPC to continuous shake or movement, secure the FPC.
- (3) Use FPCs that conform to the appropriate specifications and size as stated by OMRON. When using a different FPC, or an FFC, contact OMRON.
- (4) Use the same metal for the FPC plating and the connector plating.
- (5) "Whiskers" may protrude from the FPC film of some lead-free FPCs. Be careful when using these units.
- (6) When designing the board, be sure to allow locking and operating space for the slider (lever).



(7) Make sure that the metal mask thickness is within the appropriate specifications and size as stated by OMRON. The recommended metal mask open area is 90% of the printed circuit board mating dimensions given in the dimensions diagrams.

Operating the XF Rotary Frontlock

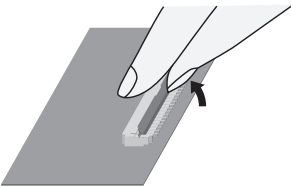
Name of the Part for FPC connector



Handling Methods

● For Inserting the FPC

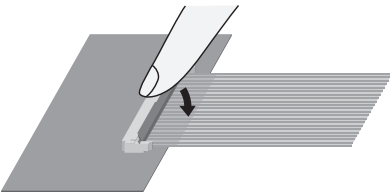
- (1) When unlocking the slider, use your fingernail to rotate and lift the slider.



- (2) Securely insert the FPC so that it is perpendicular to the connector and horizontal to the connector.

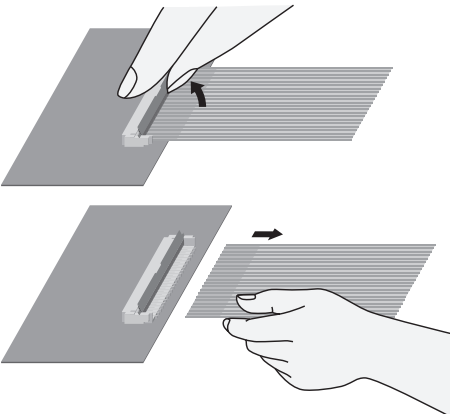


- (3) When locking the slider, apply pressure with your fingertips to the center of the slider, then twist the slider until it comes away from the unit.



● For Drawing Out the FPC

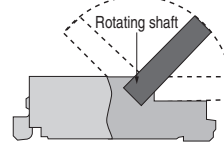
- (1) Unlock the slider by pushing it up, then remove the FPC.



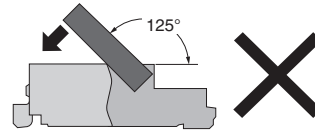
Precautions during Use

● For Operating

- (1) The slider mechanism rotates around a rotary shaft. Operate the slider in a rotating movement.

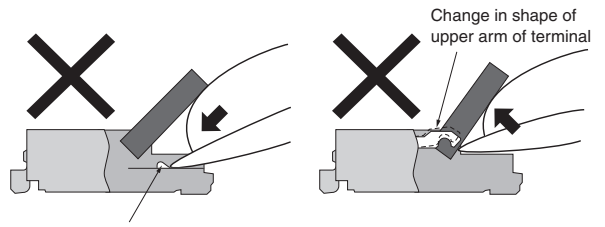


- (2) The slider cannot be opened to an angle of more than 125 degrees. Do not apply force on the slider beyond that point. The connector may be damaged, resulting in faulty contacts. Do not use the connector of which the slider has once come off.



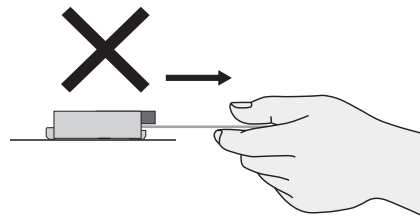
- (3) Lock and unlock the slider using the center of the slider. Using the end of the slider may result in incomplete locking, damage, or contact failure.

- (4) As shown in the following figure, do not touch the terminals with your fingernail or fingers if using the slider without the FPC inserted. Doing so may cause the terminals to change shape and result in contact failure.

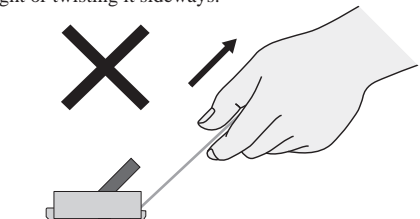


- (5) Using the FPC in the follow ways may damage the FPC, change the shape of the contacts, or result in contact failure.

- Drawing out the FPC when the slider (lever) is still locked.



- Drawing out the FPC by pulling it up and down or from left to right or twisting it sideways.



- (6) Make sure that the FPC has been inserted correctly.

If the FPC is inserted incorrectly from the customer's design specification, the pin number will not match and it may damage the contacts or cause malfunction of the equipment.

Operating the XF Rotary Frontlock

- For Mounting

- (1) Do not perform reflow or manual soldering with the FPC inserted in the connector. Doing so may result in contact failure.
- (2) The reflow conditions are as stated in OMRON's specifications and guidelines. These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials.

- For Designing

- (1) Design the FPC so that extreme peel force should not be applied directly on to the connector. If the FPC bends near the connector, or if the FPC is used with extreme peel force directly on to the connector, it may cause a contact loss.
- (2) If the FPC is installed at a location or in any equipment that will subject the FPC to continuous shake or movement, secure the FPC.
- (3) Use FPCs that conform to the appropriate specifications and size as stated by OMRON. When using a different FPC, or an FFC, contact OMRON.
- (4) Use the same metal for the FPC plating and the connector plating.
- (5) "Whiskers" may protrude from the FPC film of some lead-free FPCs. Be careful when using these units.
- (6) Make sure that the metal mask thickness is within the appropriate specifications and size as stated by OMRON. The recommended metal mask open area is 90% of the printed circuit board mating dimensions given in the dimensions diagrams.

Cat. No. G011-E1-07 **In the interest of product improvement, specifications are subject to change without notice.**

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