Product News

OMRON

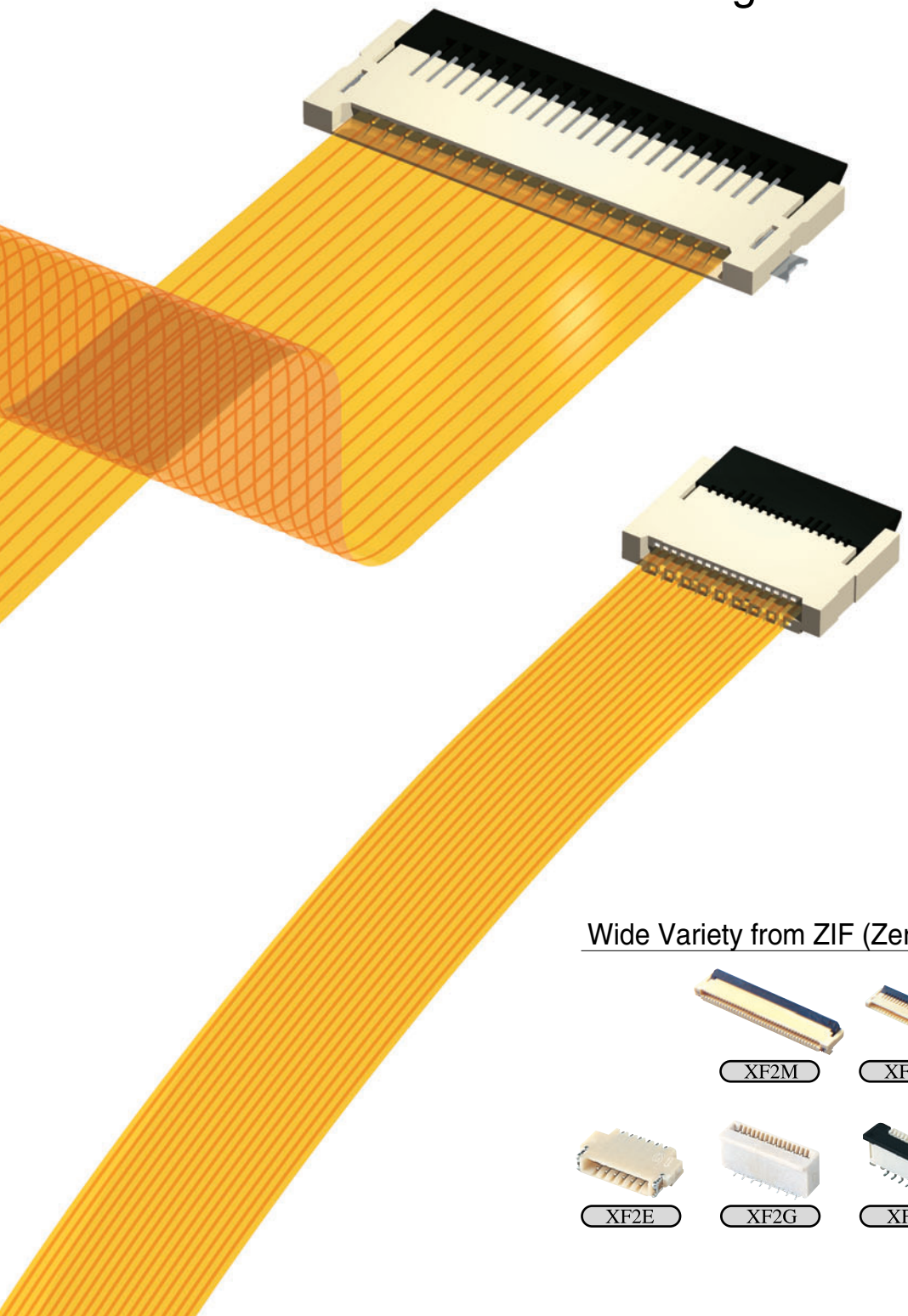
XF2

FPC Connectors

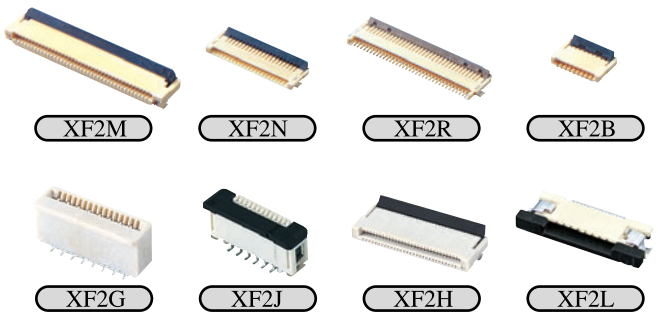
Low-profile FPC connectors with 0.3/0.5 mm-pitch

Series Additions

Original backlock mechanism ensures greater work efficiency and higher reliability.



Wide Variety from ZIF (Zero Insertion Force) to Non-ZIF



FPC See How Far FPC Connectors Have Advanced

FPC connectors must offer easy operation and secure mounting in tight work spaces. The unique construction of the XF2 Series solves all FPC mounting problems and significantly enhances work efficiency and reliability.

Meeting the rapidly increasing need for smaller dimensions, slimmer profiles, and greater functionality:

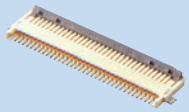
The Backlock Solution

0.5mm-pitch

Low Profile

XF2N

Low profile of 0.9 mm
Applicable FPC thickness,
t = 0.2 mm



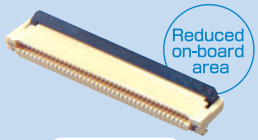
XF2R

Low profile of 0.9 mm
Applicable FPC thickness,
t = 0.12 mm

General-purpose Types

XF2H

Lineup of 10 to 53-pin types Applicable FPC thickness, t = 0.3 mm



XF2M

On-board area reduced by approx. 27% (compared to existing OMRON models)
Applicable FPC thickness, t = 0.3 mm

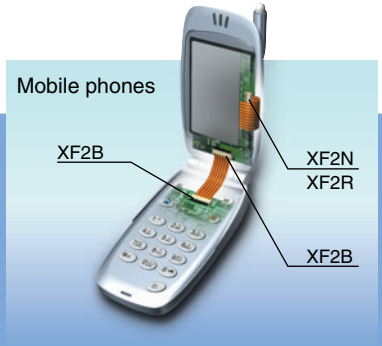
0.3mm-pitch

Narrow Pitch

XF2B

0.3 mm-pitch with zigzag terminal arrangement
Applicable FPC thickness,
t = 0.2 mm

●Applications



Locking Types

XF2M
Reduced On-board Area
- 0.5 mm-pitch
- On-board profile of 2 mm
- Rotary backlock mechanism
- Double-sided contacts
- SMT terminals

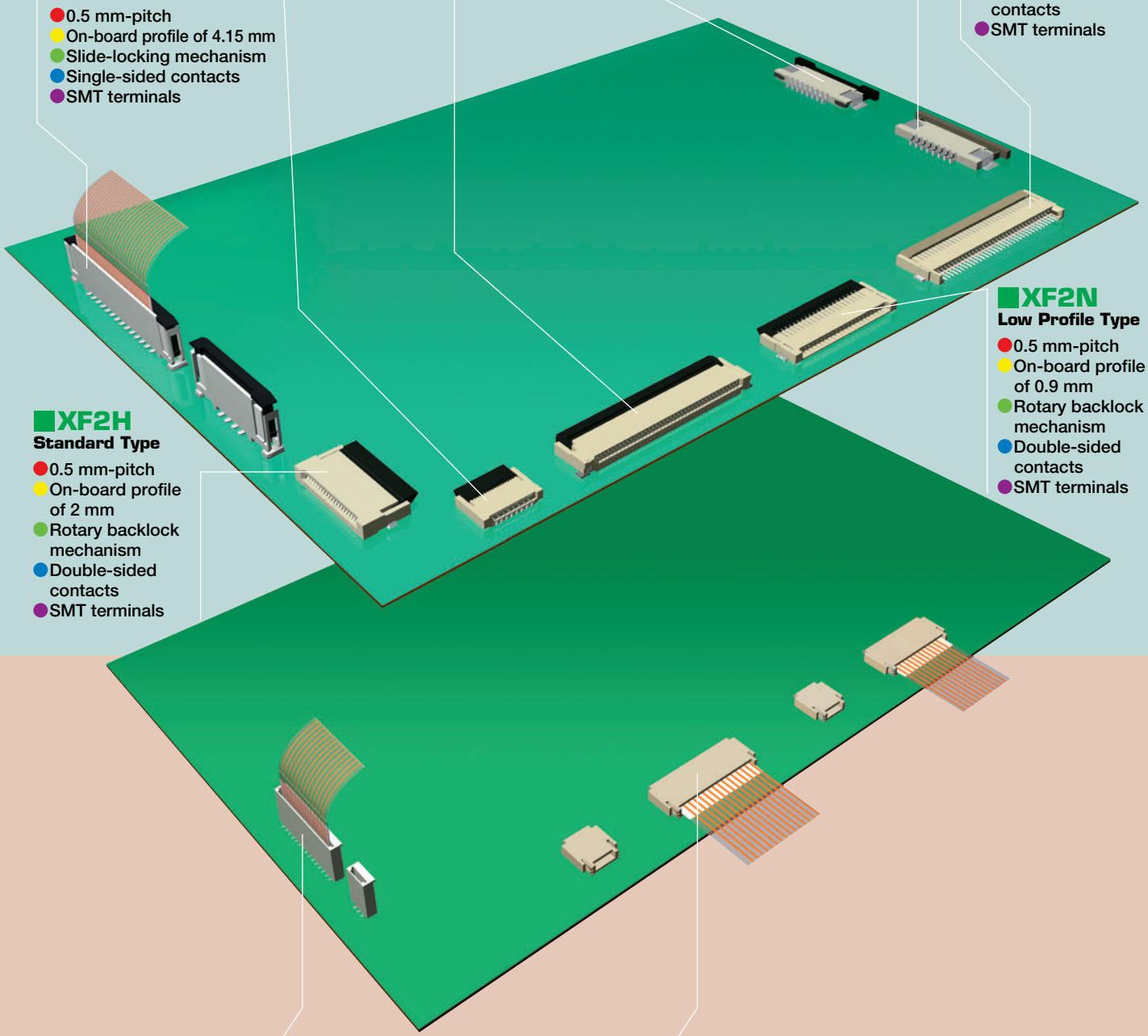
XF2L
Smallest On-board Area in the Industry
- 0.5 mm-pitch
- On-board profile of 1.2 mm
- Slide-locking mechanism
- Lower-contact type
- SMT terminals

XF2B
0.3 mm-pitch Type
- 0.3 mm-pitch
- On-board profile of 1.2 mm
- Rotary backlock mechanism
- Double-sided contacts
- SMT terminals

XF2L
Smallest On-board Area in the Industry
- 0.5 mm-pitch
- On-board profile of 1.2 mm
- Slide-locking mechanism
- Upper-contact type
- SMT terminals

XF2R
Low Profile Type
- 0.5 mm-pitch
- On-board profile of 0.9 mm
- Rotary backlock mechanism
- Double-sided contacts
- SMT terminals

XF2J
Top Entry, ZIF Type
- 0.5 mm-pitch
- On-board profile of 4.15 mm
- Slide-locking mechanism
- Single-sided contacts
- SMT terminals



XF2N
Low Profile Type
- 0.5 mm-pitch
- On-board profile of 0.9 mm
- Rotary backlock mechanism
- Double-sided contacts
- SMT terminals

XF2H
Standard Type
- 0.5 mm-pitch
- On-board profile of 2 mm
- Rotary backlock mechanism
- Double-sided contacts
- SMT terminals

XF2G
Top Entry, Non-ZIF Type
- 0.5 mm-pitch
- On-board profile of 4.15 mm
- Single-sided contacts
- SMT terminals

XF2E
Low Profile, Non-ZIF Type
- 0.8 mm-pitch
- On-board profile of 1.5 mm
- Double-sided contacts
- SMT terminals

N-ZIF

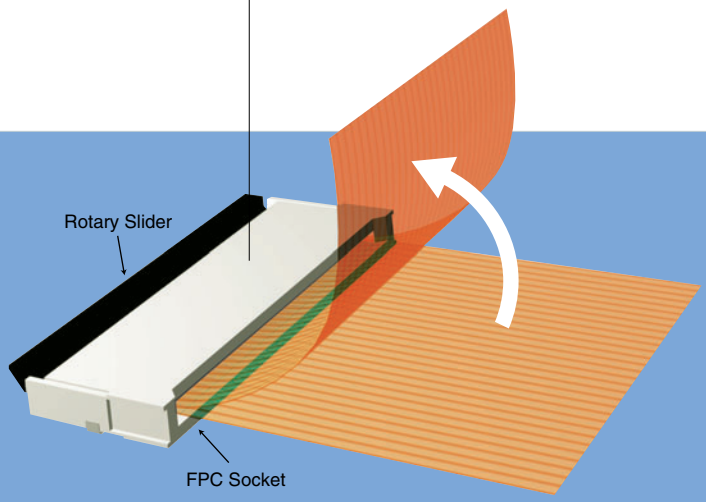
Features of Rotary Backlock Mechanism

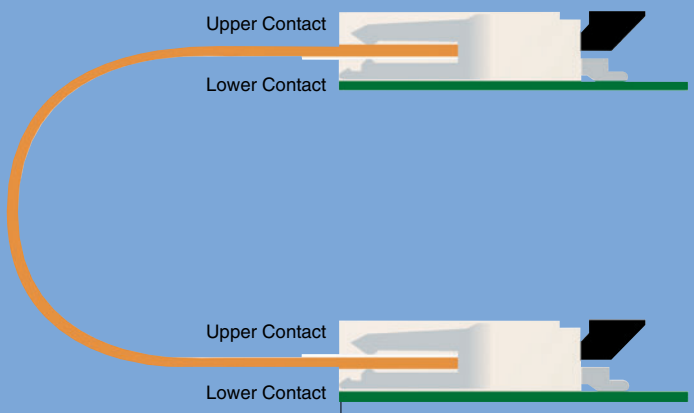
Improvement 1

Rotary slider independent of the FPC socket.

➡ Slider does not disconnect if the FPC is lifted.

High reliability. A mounted FPC will not come away if excess force is applied to it.



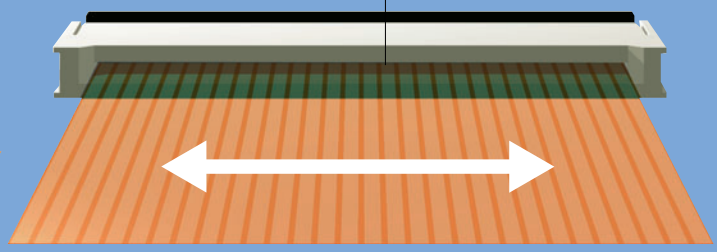


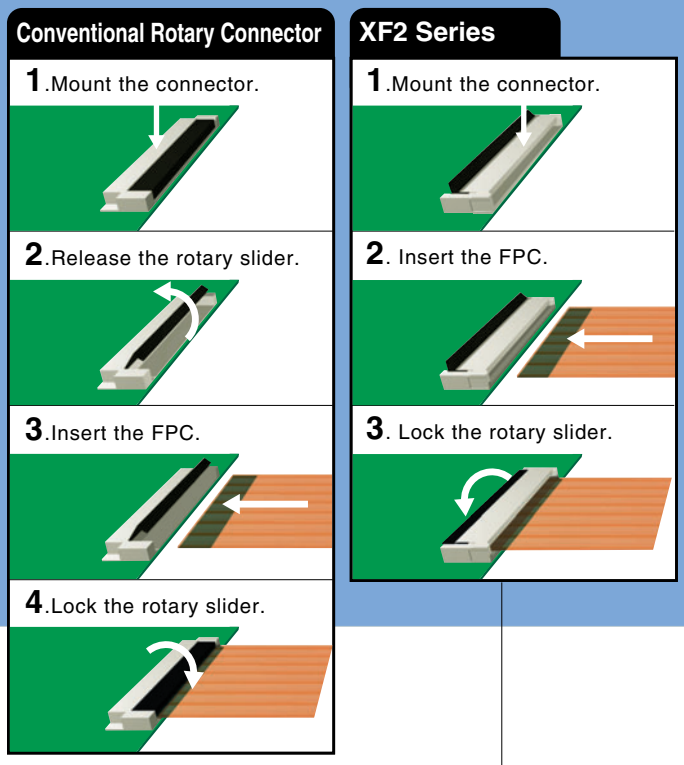
Improvement 2

Four-shrouded FPC housing.

➡ Construction prevents FPC positional displacement.

Enhanced mounting reliability as the FPC is held in a four-shrouded housing and is unaffected by the slider operation.





Improvement 3

Double-sided contacts

➡ No need to discriminate between the FPC upper and lower contacts.

Connector commonality makes it unnecessary to distinguish between the upper and lower contacts when connecting upper and lower PCBs.

Improvement 4

Delivered with the rotary slider open (released).

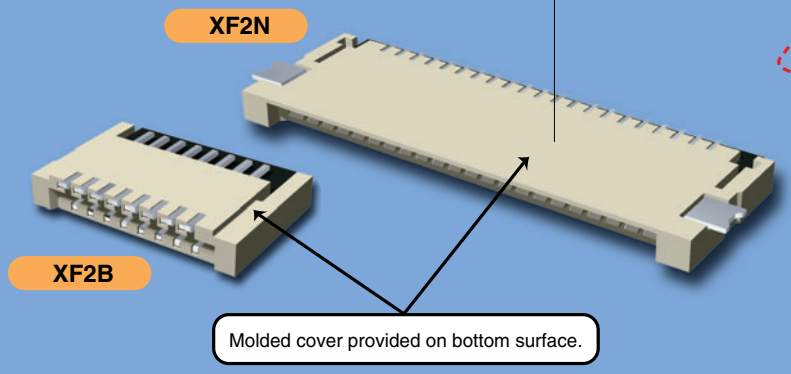
➡ Reduces the labor required to mount FPCs.

Assembly productivity is better than with the conventional rotary locking type, as release of the rotary slider is unnecessary.

XF2B/XF2N

PCB design freedom increased with bottom wall and low profile.

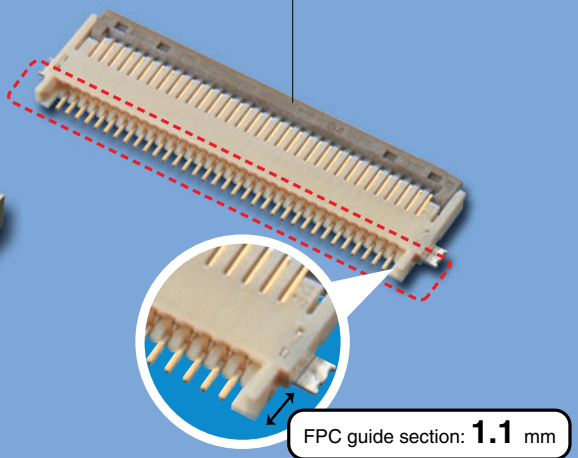
The provision of a bottom wall eliminates exposure of terminals on the reverse side of the connector. The XF2N and XF2B have low on-board profiles of 0.9 mm and 1.2 mm respectively and the XF2B boasts a narrow pitch of 0.3 mm, contributing to downsizing of devices.

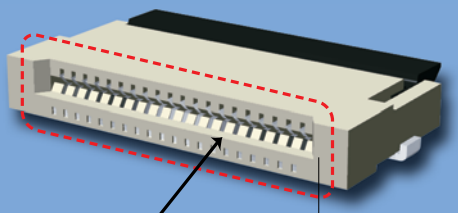


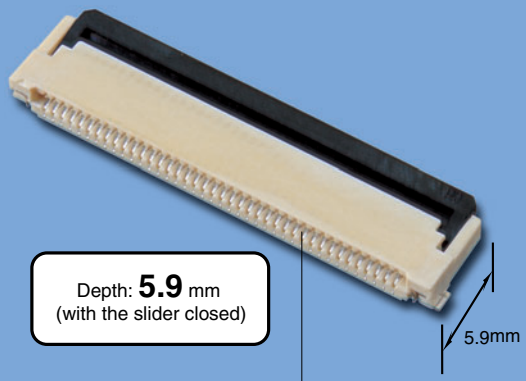
XF2R

Improved FPC insertion sensation.

The provision of an FPC guide section makes FPC insertion easier and improves work efficiency. The effective interface length has been increased to ensure greater reliability.







XF2H

Meeting a wide range of applications with a variety of models with between 10 and 53 pins.

Backed by reliability proved by many years of success and a new type of rotary lock construction, a broad range of models can be used to handle a wide range of applications.

XF2M

On-board mounting area approx. 27% less than the XF2H.

The depth has been significantly reduced to contribute to product downsizing.

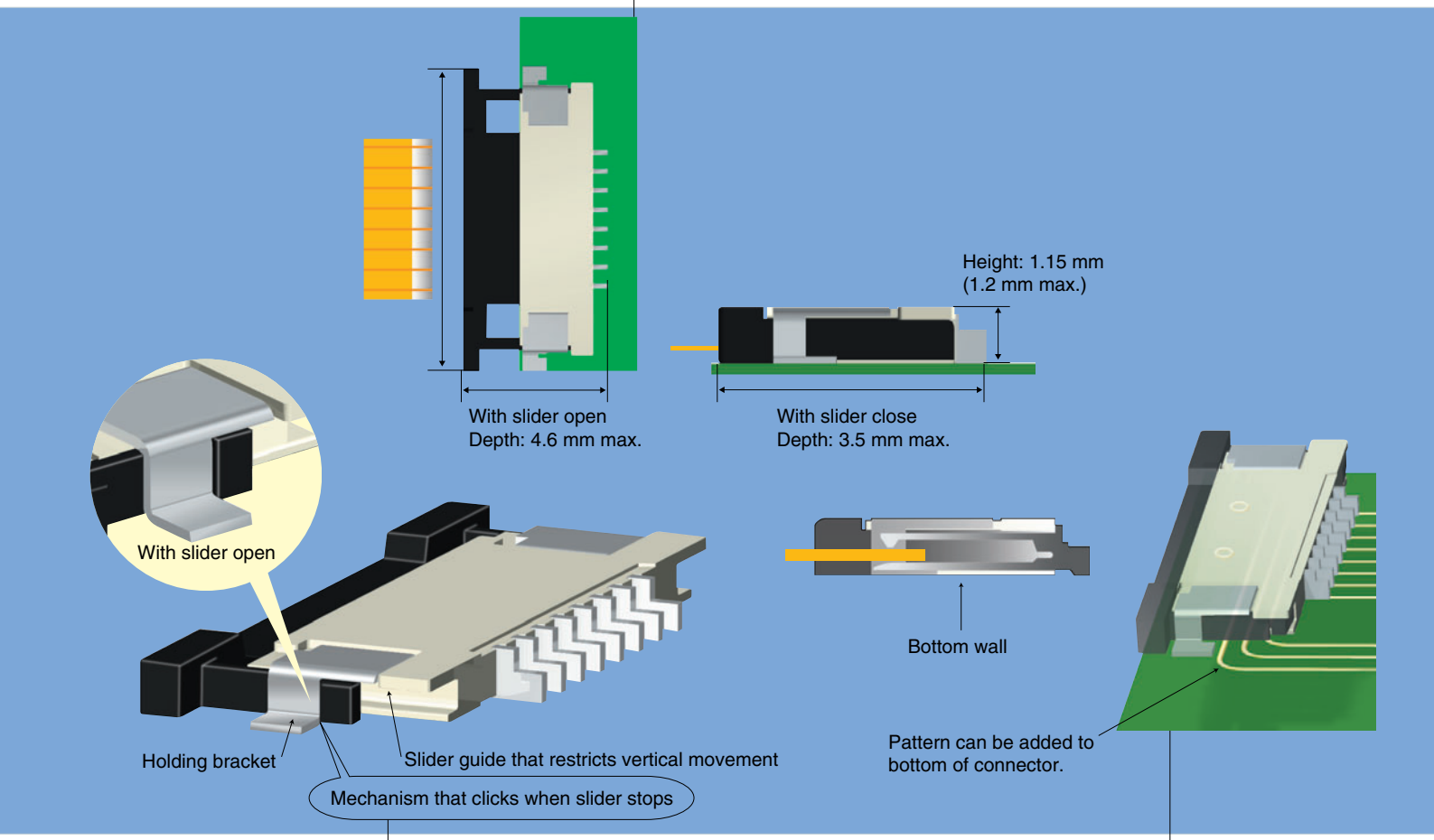
Features of XF2L Slide-locking Mechanism

Improvement 1

Occupies the smallest on-board area and volume in the industry.

➡ Smallest on-board area and volume in the industry achieves reduced equipment size, thickness, and weight.

Ultra-compact size: 18.9 mm (W) Å~ 3.5 mm (D) Å~ 1.2 mm (H)*1 for 30-pin models.
*1: A maximum of 1.2 mm including tolerance.



Improvement 2

Unique slider mechanism for stability and reliability.

➡ Employs slider guide to restrict vertical movement and holding bracket to securely lock the slider.

The slider guide prevents rattling when the slider is opened and closed to allow smooth operation. The holding bracket prevents the slider from becoming detached after the connector has been assembled.

Improvement 3

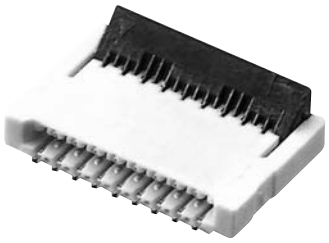
Highest board design efficiency in the industry.

➡ Wall on reverse side of connector enhances freedom of board design.

The wall on the reverse side of the connector prevents terminals from protruding. Circuit patterns can be added to the connector's mounting surface to allow greater freedom of design.

Rotary Backlock Type (0.3 mm-pitch) | XF2B

Rotary Backlock Mechanism and 0.3 mm-pitch Design



- Wall provided on reverse side of connector to allow greater freedom of board design.
- Double-sided (upper and lower) contact structure enables component reductions.
- Applicable FPC thickness, t = 0.2 mm. Gold-plated type.
- Use FPCs with the construction recommended by OMRON. (Refer to specifications for details.)

■ Specifications

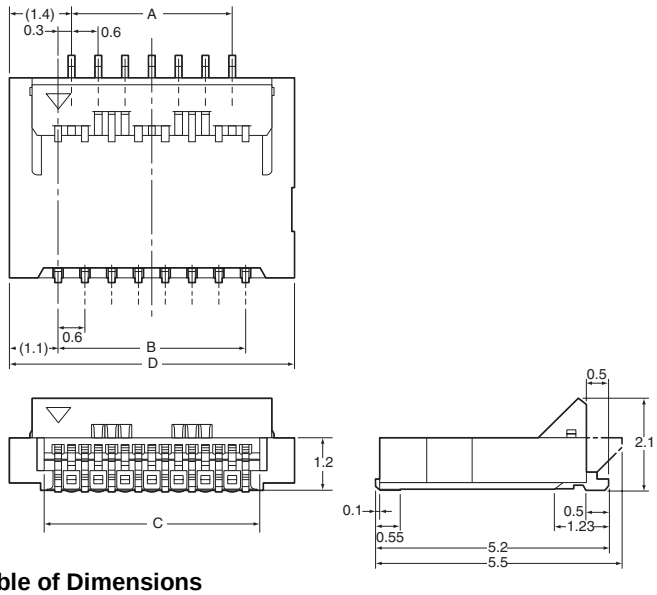
Rated current	0.2A AC/DC
Rated voltage	50V AC/DC
Contact resistance	50mΩ max. (at 20 mV max., 100 mA max.)
Insulation resistance	100MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to +85°C (with no icing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

■ Materials/Finish

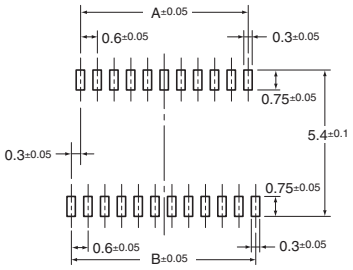
Housing	LCP resin (UL94V-0) / natural
Slider	LCP resin (UL94V-0) / black
Contact	Spring copper alloy/nickel substrate (2μm), gold-plated contacts (0.15μm)

■ Dimensions

XF2B-□□45-31A



Printed Circuit Board Matching Dimensions (Top View)



Applicable FPC Dimensions

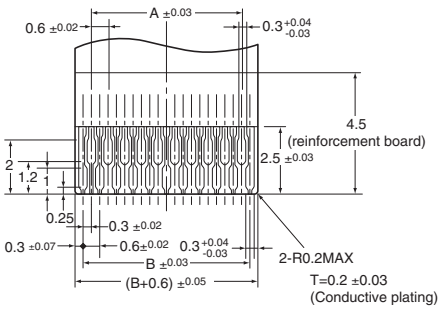


Table of Dimensions

Pins	Model	A	B	C	D
17	XF2B-1745-31A	4.2	4.8	5.5	7.0
23	XF2B-2345-31A	6.0	6.6	7.3	8.8

■ Ordering Information

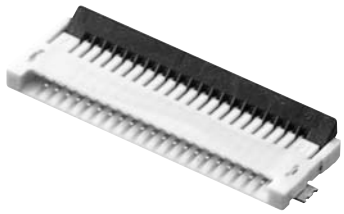
Pins note 1	Model	Quantity per reel note 2
17	**XF2B-1745-31A**	1,500
23	**XF2B-2345-31A**	

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

Low-profile Rotary Backlock Type (0.5 mm-pitch)

XF2N

Greater Freedom of Board Design with 0.9-mm Profile and Bottom Wall



- Backlock mechanism makes FPC mounting significantly easier.
- Double-sided (upper and lower) contact structure enables component reductions.
- Applicable FPC thickness, t = 0.2 mm. Gold-plated type.
- Use FPCs with the construction recommended by OMRON. (Refer to specifications for details.)

■ Specifications

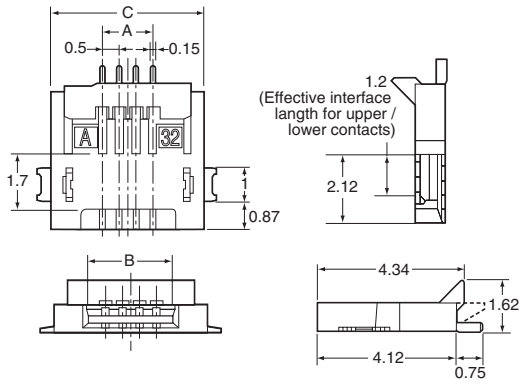
Rated current	0.3A AC/DC
Rated voltage	50V AC/DC
Contact resistance	40mΩmax. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩmin. (at 250 V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to +85°C (with no icing or condensation)

■ Materials/Finish

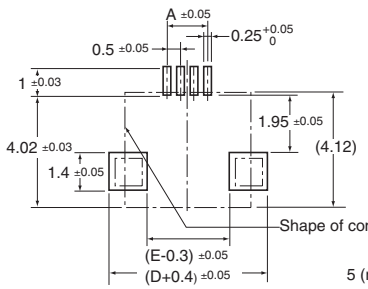
Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contact	Spring copper alloy/nickel substrate (1.5μm), gold-plated contacts (0.15μm)
Hold-down	Spring copper alloy/fused-tin plating (1.5μm)

■ Dimensions

XF2N-□□15-3



Printed Circuit Board Matching Dimensions (Top View)



Applicable FPC Dimensions

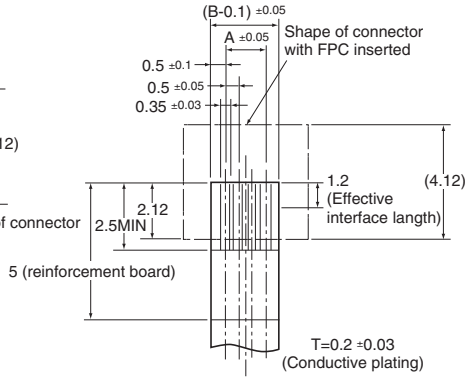


Table of Dimensions

Pins	Model	A	B	C	D	E
21	XF2N-2115-3	10.0	11.1	13.0	13.8	11.8
32	XF2N-3215-3	15.5	16.6	18.5	19.3	17.3

■ Ordering Information

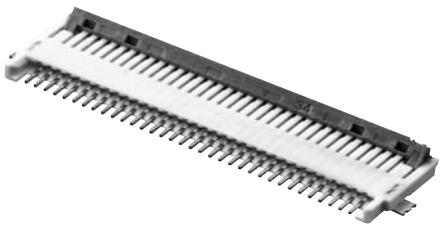
Pins note 1	Model	Quantity per reel note 2
21	**XF2N-2115-3**	3,000
32	**XF2N-3215-3**	

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

Low-profile Rotary Backlock Type (0.5 mm-pitch)

XF2R

FPC Insertion Sensation and Work Efficiency Significantly Improved with 0.9-mm Profile and FPC Guide Section



- FPC insertion sensation greatly improved with 1.1-mm FPC guide section.
- The effective interface length for terminals has been increased to 1.4 mm to ensure stability in applications with a lot of movement.
- Double-sided (upper and lower) contact structure enables component reductions.
- Applicable FPC thickness, t = 0.12 mm. Gold-plated type.
- Use FPCs with the construction recommended by OMRON. (Refer to specifications for details.)

■ Specifications

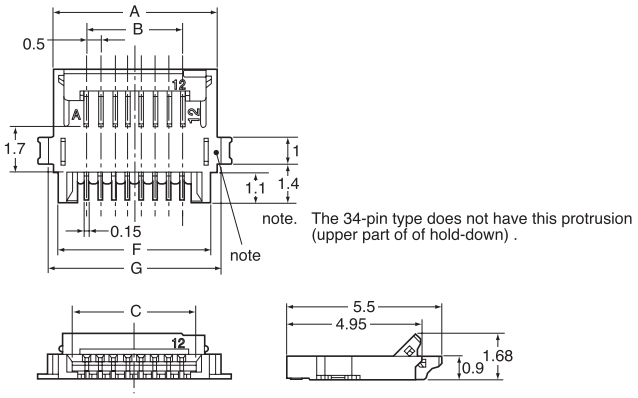
Rated current	0.3A AC/DC
Rated voltage	50V AC/DC
Contact resistance	40mΩmax. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to +85°C (with no icing or condensation)

■ Materials/Finish

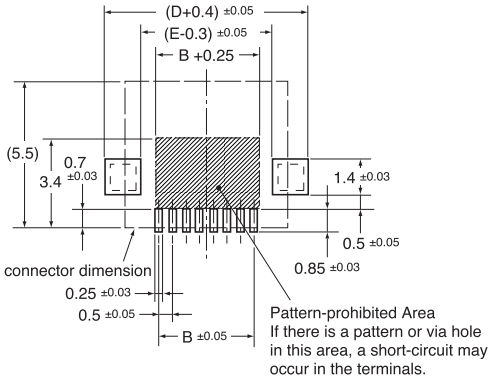
Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/brown
Contact	Spring copper alloy/nickel substrate (1.5 μm), gold-plated contacts (0.15 μm)
Hold-down	Spring copper alloy/fused-tin plating (1.5 μm)

■ Dimensions

XF2R-□□15-4A



Printed Circuit Board Matching Dimensions (Top View)



Applicable FPC Dimensions

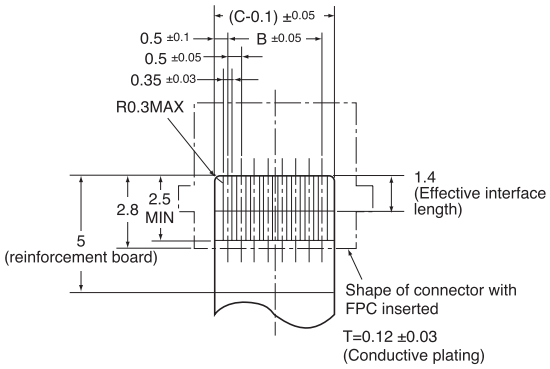


Table of Dimensions

Pins	Model	A	B	C	D	E	F	G
6	XF2R-0615-4A	5.0	2.5	3.6	6.1	4.1	4.55	5.35
9	XF2R-0915-4A	6.5	4.0	5.1	7.6	5.6	6.05	6.85
18	XF2R-1815-4A	11.0	8.5	9.6	12.1	10.1	10.55	11.35
24	XF2R-2415-4A	14.0	11.5	12.6	15.1	13.1	13.55	14.35
34	XF2R-3415-4A	19.0	16.5	17.6	20.1	18.1	18.55	—
40	XF2R-4015-4A	22.0	19.5	20.6	23.1	21.1	21.55	22.35

■ Ordering Information

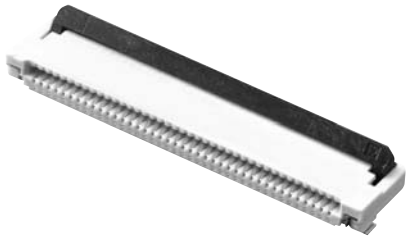
Pins note 1	Model	Pins note 1	Model	Quantity per reel note 2
6	**XF2R-0615-4A**	24	XF2R-2415-4A	3,000
9	**XF2R-0915-4A**	34	XF2R-3415-4A	
18	**XF2R-1815-4A**	40	XF2R-4015-4A	

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

Reduced-area Rotary Backlock Type (0.5 mm-pitch)

XF2M

Reduced-area Type Requires Approx. 27% Less On-board mounting area than the XF2H



- Short body with depth of 5.9 mm (with slider closed).
- Environment-friendly type that eliminates lead from solder is available as a standard product.
- Double-sided (upper and lower) contact structure enables component reductions.
- Applicable FPC thickness, t = 0.3 mm.

■ Specifications

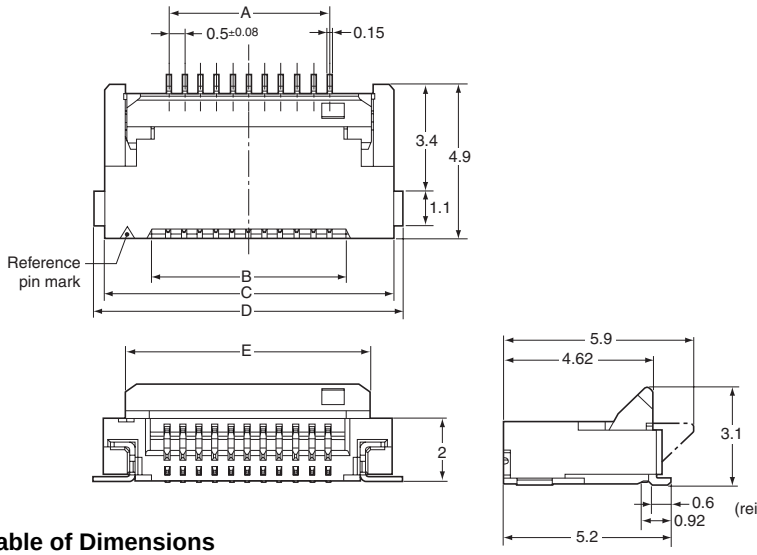
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	40mΩ max. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to +85°C (with no icing or condensation)

■ Materials/Finish

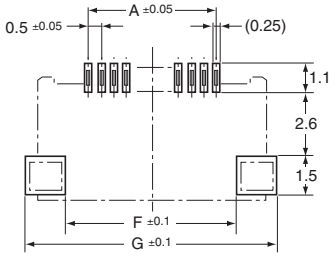
Housing	LCP resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contact	Spring copper alloy/nickel substrate (2μm), tin-alloy plating (2μm)
Hold-down	Spring copper alloy/fused-tin plating (1.5μm)

■ Dimensions

XF2M-□□15-1F



Printed Circuit Board Matching Dimensions (Top View)



Applicable FPC Dimensions

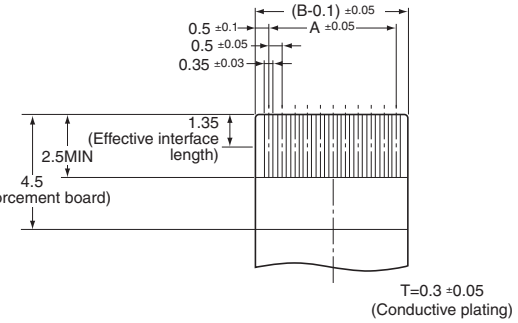


Table of Dimensions

Pins	Model	A	B	C	D	E	F	G
40	XF2M-4015-1F	19.5	20.6	23.5	24.1	22.1	21.1	24.5
50	XF2M-5015-1F	24.5	25.6	28.5	29.1	27.1	26.1	29.5

■ Ordering Information

Pins note 1	Model	Quantity per reel note 2
40	**XF2M-4015-1F**	1,500
50	**XF2M-5015-1F**	

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

Standard Rotary Backlock Type (0.5 mm-pitch) | XF2H

New rotary lock concept achieves high reliability and superior work efficiency.

- The unique rotary lock construction significantly improves work efficiency during FPC mounting.
- Double-sided contacts maintain a stable contact force. Discrimination between FPC upper and lower contacts in unnecessary.
- Applicable FPC thickness, t = 0.3 mm.

■ Specifications

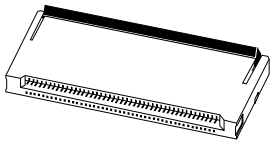
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	30mΩ max. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	20 times
Ambient operating temperature	-30 to +85°C (with no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

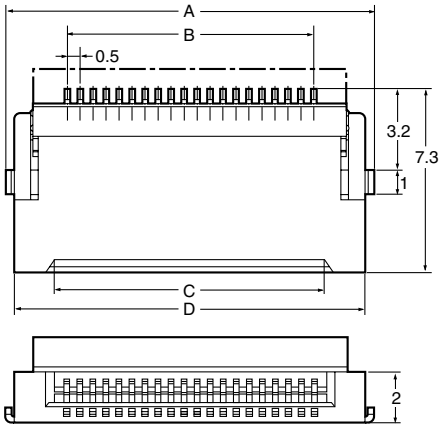
■ Materials/Finish

Housing	PA6T resin (UL94V-0)/natural
Slider	LCP resin (UL94V-0)/black
Contact	Spring copper alloy/nickel substrate (2μm), tin-alloy plating (2μm)
Hold-down	Spring copper alloy/fused-tin plating (1.5μm)

■ Dimensions

XF2H-□□15-1LW





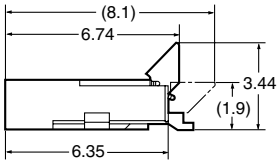
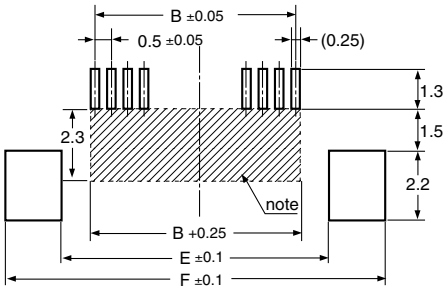


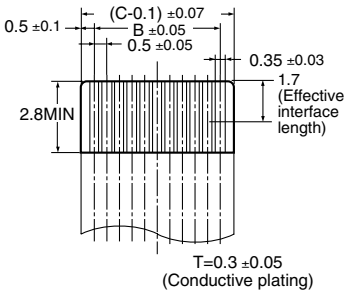
Table of Dimensions

Pins	Model	A	B	C	D	E	F
10	XF2H-1015-1LW	9.1	4.5	5.6	8.5	6.5	10.1
12	XF2H-1215-1LW	10.1	5.5	6.6	9.5	7.5	11.1
13	XF2H-1315-1LW	10.6	6.0	7.1	10.0	8.0	11.6
14	XF2H-1415-1LW	11.1	6.5	7.6	10.5	8.5	12.1
18	XF2H-1815-1LW	13.1	8.5	9.6	12.5	10.5	14.1
20	XF2H-2015-1LW	14.1	9.5	10.6	13.5	11.5	15.1
21	XF2H-2115-1LW	14.6	10.0	11.1	14.0	12.0	15.6
22	XF2H-2215-1LW	15.1	10.5	11.6	14.5	12.5	16.1
24	XF2H-2415-1LW	16.1	11.5	12.6	15.5	13.5	17.1
25	XF2H-2515-1LW	16.6	12.0	13.1	16.0	14.0	17.6
26	XF2H-2615-1LW	17.1	12.5	13.6	16.5	14.5	18.1
28	XF2H-2815-1LW	18.1	13.5	14.6	17.5	15.5	19.1
30	XF2H-3015-1LW	19.1	14.5	15.6	18.5	16.5	20.1
32	XF2H-3215-1LW	20.1	15.5	16.6	19.5	17.5	21.1
33	XF2H-3315-1LW	20.6	16.0	17.1	20.0	18.0	21.6
34	XF2H-3415-1LW	21.1	16.5	17.6	20.5	18.5	22.1
35	XF2H-3515-1LW	21.6	17.0	18.1	21.0	19.0	22.6
36	XF2H-3615-1LW	22.1	17.5	18.6	21.5	19.5	23.1
38	XF2H-3815-1LW	23.1	18.5	19.6	22.5	20.5	24.1
40	XF2H-4015-1LW	24.1	19.5	20.6	23.5	21.5	25.1
42	XF2H-4215-1LW	25.1	20.5	21.6	24.5	22.5	26.1
45	XF2H-4515-1LW	26.6	22.0	23.1	26.0	24.0	27.6
50	XF2H-5015-1LW	29.1	24.5	25.6	28.5	26.5	30.1
53	XF2H-5315-1LW	30.6	26.0	27.1	30.0	28.0	31.6

Printed Circuit Board Matching Dimensions (Top View)



Applicable FPC Dimensions



note
Pattern-prohibited Area
If there is a pattern or via hole in this area, a short-circuit may occur in the terminals.

■ Ordering Information

Pins note 1	Model	Pins note 1	Model	Pins note 1	Model	Quantity per reel note 2
10	**XF2H-1015-1LW**	24	**XF2H-2415-1LW**	35	**XF2H-3515-1LW**	1,500
12	**XF2H-1215-1LW**	25	**XF2H-2515-1LW**	36	**XF2H-3615-1LW**	
13	**XF2H-1315-1LW**	26	**XF2H-2615-1LW**	38	**XF2H-3815-1LW**	
14	**XF2H-1415-1LW**	28	**XF2H-2815-1LW**	40	**XF2H-4015-1LW**	
18	**XF2H-1815-1LW**	30	**XF2H-3015-1LW**	42	**XF2H-4215-1LW**	
20	**XF2H-2015-1LW**	32	**XF2H-3215-1LW**	45	**XF2H-4515-1LW**	
21	**XF2H-2115-1LW**	33	**XF2H-3315-1LW**	50	**XF2H-5015-1LW**	
22	**XF2H-2215-1LW**	34	**XF2H-3415-1LW**	53	**XF2H-5315-1LW**	

note 1. Consult your OMRON representative for enquiries related to pin-number specifications.
note 2. Order an integer multiple of the quantity per reel.
We will also accept small lot orders (for 100 or 500 units). When ordering, please specify model numbers that end with -R100 for 100 units or -R500 for 500 units.

ZIF Slide-locking Type (0.5 mm-pitch)

XF2L

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

- Occupies the smallest on-board area and volume in the industry.
- Low on-board profile of only 1.2 mm max.
- Highest efficiency with board design surfaces in the industry with bottom wall preventing terminal exposure.
- Construction employs secure locking mechanism.
- Applicable FPC thickness, t = 0.3 mm.

■ Specifications

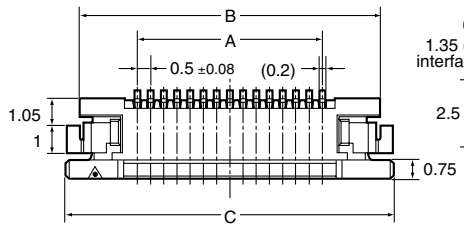
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	30mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	30 times
Ambient operating temperature	-30 to +85°C (with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

■ Materials/Finish

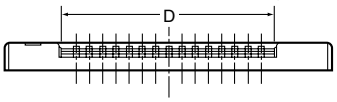
Model Ordering	XF2L (Upper-contact Type)	XF2L (Lower-contact Type)
Housing	LCP resin (UL94V-0)/natural	
Slider	LCP resin (UL94V-0)/ black	LCP resin (UL94V-0)/ brown
Contact	Spring copper alloy/nickel substrate (2 μm), tin-alloy plating (2 μm)	
Hold-down	Spring copper alloy/fused-tin plating (1.5 μm)	

■ Dimensions

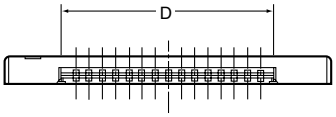
XF2L-□□□5-1



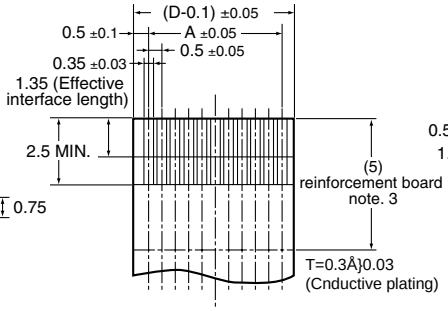
XF2L-□□25-1 (Upper-contact Type)

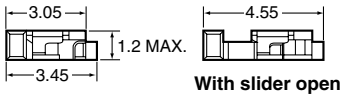


XF2L-□□35-1 (Lower-contact Type)

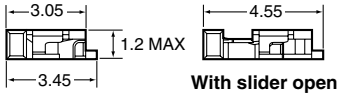


Applicable FPC Dimensions



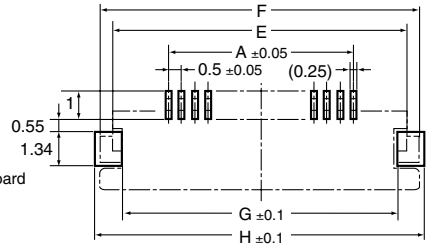


With slider open

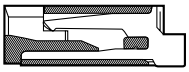


With slider open

Printed Circuit Board Matching Dimensions (Top View)



XF2L-□□25-1 (Cross Section of Upper-contact Type)



XF2L-□□35-1 (Cross Section of Lower-contact Type)

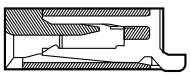


Table of Dimensions

Upper-contact Type

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

Lower-contact Type

Pins	Model	A	B	C	D	E	F	G	H
5	XF2L-0535-1	2.0	6.4	7.4	3.1	6.38	7.38	5.78	7.78
6	XF2L-0635-1	2.5	6.9	7.9	3.6	6.88	7.88	6.28	8.28
7	XF2L-0735-1	3.0	7.4	8.4	4.1	7.38	8.38	6.78	8.78
8	XF2L-0835-1	3.5	7.9	8.9	4.6	7.88	8.88	7.28	9.28
10	XF2L-1035-1	4.5	8.9	9.9	5.6	8.88	9.88	8.28	10.28
12	XF2L-1235-1	5.5	9.9	10.9	6.6	9.99	10.88	9.28	11.28
13	XF2L-1335-1	6.0	10.4	11.4	7.1	10.38	11.38	9.78	11.78
15	XF2L-1535-1	7.0	11.4	12.4	8.1	11.38	12.38	10.78	12.78
18	XF2L-1835-1	8.5	12.9	13.9	9.6	12.88	13.88	12.28	14.28
19	XF2L-1935-1	9.0	13.4	14.4	10.1	13.38	14.38	12.78	14.78
20	XF2L-2035-1	9.5	13.9	14.9	10.6	13.88	14.88	13.28	15.28
22	XF2L-2235-1	10.5	14.9	15.9	11.6	14.88	15.88	14.28	16.28
24	XF2L-2435-1	11.5	15.9	16.9	12.6	15.88	16.88	15.28	17.28
30	XF2L-3035-1	14.5	18.9	19.9	15.6	18.88	19.88	18.28	20.28

■ Ordering Information

Pins note 1	Type	Model	Pins note 1	Type	Model	Pins note 1	Type	Model	Quantity per reel note 2
4	Upper-contact	**XF2L-0425-1**	10	Upper-contact	**XF2L-1025-1**	19	Lower-contact	**XF2L-1935-1**	3,000
5	Lower-contact	**XF2L-0535-1**		Lower-contact	**XF2L-1035-1**	20	Lower-contact	**XF2L-2035-1**	
6	Upper-contact	**XF2L-0625-1**	12	Upper-contact	**XF2L-1225-1**	21	Upper-contact	**XF2L-2125-1**	
	Lower-contact	**XF2L-0635-1**		Lower-contact	**XF2L-1235-1**	22	Lower-contact	**XF2L-2235-1**	
7	Upper-contact	**XF2L-0725-1**	13	Upper-contact	**XF2L-1325-1**	24	Lower-contact	**XF2L-2435-1**	
	Lower-contact	**XF2L-0735-1**		Lower-contact	**XF2L-1335-1**	26	Upper-contact	**XF2L-2625-1**	
8	Upper-contact	**XF2L-0825-1**	15	Lower-contact	**XF2L-1535-1**	30	Upper-contact	**XF2L-3025-1**	
	Lower-contact	**XF2L-0835-1**	18	Upper-contact	**XF2L-1825-1**		Lower-contact	**XF2L-3035-1**	
9	Upper-contact	**XF2L-0925-1**		Lower-contact	**XF2L-1835-1**	—	—	—	

note 1. Consult your OMRON representative for enquiries related to pin-number and lead-free plating specifications.
note 2. Order an integer multiple of the quantity per reel.
note 3. Use polyimide and thermoset adhesive for reinforcement film material.

ZIF Slide-locking Type (0.5 mm-pitch)

XF2J

Top-entry ZIF Connector

- Low on-board profile of only 4.15 mm.
- Adhesion face on top of the connector suits automatic mounting.
- Models with reverse terminal arrangement also available.
- Applicable FPC thickness, t = 0.3 mm.

■ Specifications

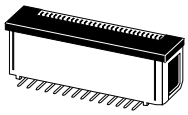
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	30mΩ max. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	30 times
Ambient operating temperature	-30 to +85°C (with no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

■ Materials/Finish

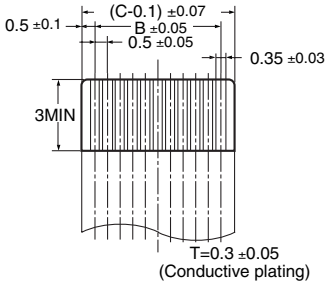
Housing	PA46 resin (UL94V-0)/natural
Slider	PPS resin (UL94V-0)/black LCP resin (UL94V-0)/black
Contact	Spring copper alloy/nickel substrate (2μm), tin-alloy plating (2μm)
Hold-down	Spring copper alloy/fused-tin plating (1.5μm)

■ Dimensions

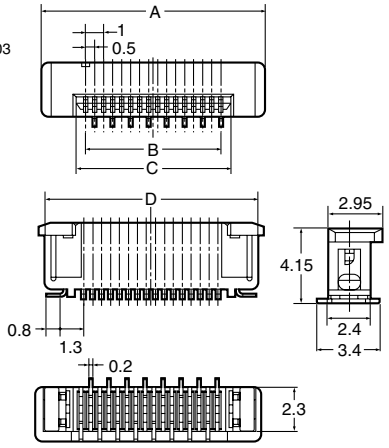
XF2J-□□ 24-11



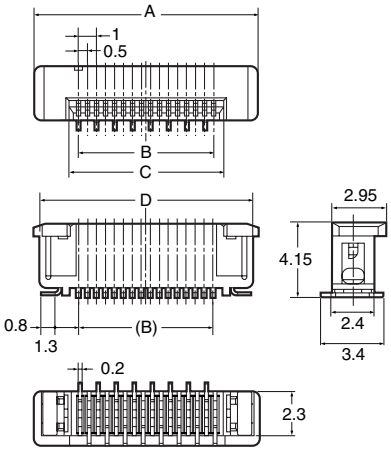
Applicable FPC Dimensions



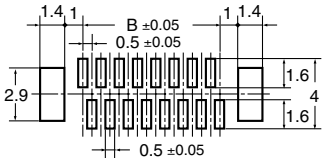
Standard Terminal Arrangement



Reverse Terminal Arrangement



Printed Circuit Board Matching Dimensions (Top View)



Printed Circuit Board Matching Dimensions (Top View)

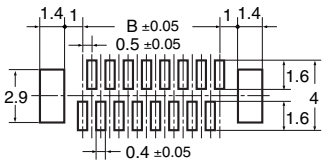


Table of Dimensions

Pins	Model		A	B	C	D
	Standard Terminal Arrangement	Reverse Terminal Arrangement				
6	XF2J-0624-11	XF2J-0624-12	7.5	2.5	3.6	6.9
8	XF2J-0824-11	XF2J-0824-12	8.5	3.5	4.6	7.9
10	XF2J-1024-11	XF2J-1024-12	9.5	4.5	5.6	8.9
12	XF2J-1224-11	XF2J-1224-12	10.5	5.5	6.6	9.9
14	XF2J-1424-11	—	11.5	6.5	7.6	10.9
16	XF2J-1624-11	XF2J-1624-12	12.5	7.5	8.6	11.9
18	XF2J-1824-11	XF2J-1824-12	13.5	8.5	9.6	12.9
20	XF2J-2024-11	XF2J-2024-12	14.5	9.5	10.6	13.9
22	XF2J-2224-11	XF2J-2224-12	15.5	10.5	11.6	14.9
24	XF2J-2424-11	XF2J-2424-12	16.5	11.5	12.6	15.9
26	XF2J-2624-11	—	17.5	12.5	13.6	16.9
28	XF2J-2824-11	—	18.5	13.5	14.6	17.9
30	XF2J-3024-11	—	19.5	14.5	15.6	18.9

■ Ordering Information

Pins note 1	Model		Quantity per reel note 2
	Standard Terminal Arrangement	Reverse Terminal Arrangement	
6	**XF2J-0624-11**	**XF2J-0624-12**	1,000
8	**XF2J-0824-11**	**XF2J-0824-12**	
10	**XF2J-1024-11**	**XF2J-1024-12**	
12	**XF2J-1224-11**	**XF2J-1224-12**	
14	**XF2J-1424-11**	**—**	
16	**XF2J-1624-11**	**XF2J-1624-12**	
18	**XF2J-1824-11**	**XF2J-1824-12**	
20	**XF2J-2024-11**	**XF2J-2024-12**	
22	**XF2J-2224-11**	**XF2J-2224-12**	
24	**XF2J-2424-11**	**XF2J-2424-12**	
26	**XF2J-2624-11**	**—**	
28	**XF2J-2824-11**	**—**	
30	**XF2J-3024-11**	**—**	

note 1. Consult your OMRON representative for enquiries related to pin-number and lead-free plating specifications.
note 2. Order an integer multiple of the quantity per reel.
note 3. We will also accept small lot orders (for 100 or 500 units). When ordering, please specify model numbers that end with -R100 for 100 units or -R500 for 500 units.

Non-ZIF Type (0.5 mm-pitch)

XF2G

Top-entry ZIF Connector

- Low on-board profile of only 4.15 mm.
- Adhesion face on top of the connector suits automatic mounting.
- Applicable FPC thickness, t = 0.3 mm.

■ Specifications

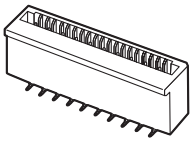
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	30mΩ max. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	250V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	10 times
Ambient operating temperature	-30 to +85°C (with no icing or condensation)

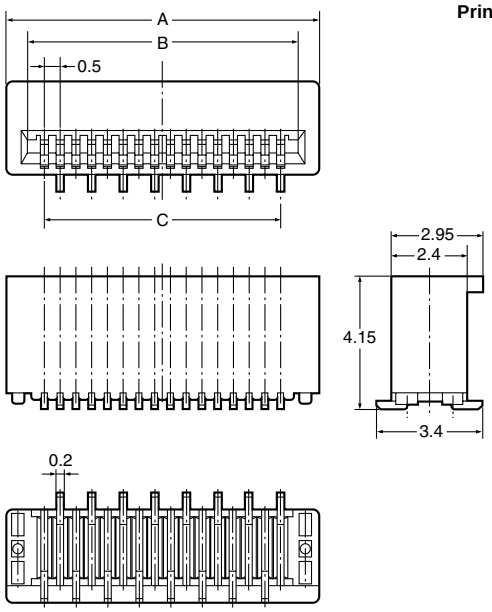
■ Materials/Finish

Housing	PA46 resin (UL94V-0)/natural
Contact	Spring copper alloy/nickel substrate (2μm), tin-alloy plating (2μm)

■ Dimensions

XF2G-□□14-11





Printed Circuit Board Matching Dimensions (Top View)

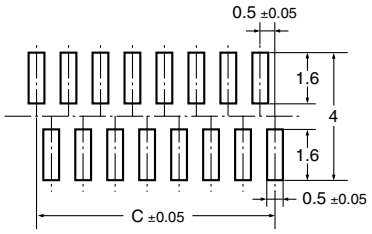
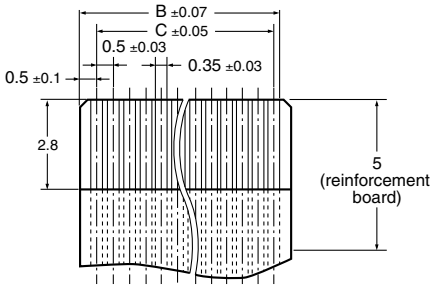


Table of Dimensions

Pins	Model	A	B	C
6	XF2G-0614-11	4.9	3.5	2.5
14	XF2G-1414-11	8.9	7.5	6.5
16	XF2G-1614-11	9.9	8.5	7.5
24	XF2G-2414-11	13.9	12.5	11.5
26	XF2G-2614-11	14.9	13.5	12.5

Applicable FPC Dimensions



■ Ordering Information

Pins note 1	Model	Quantity per reel note 2
6	**XF2G-0614-11**	1,000
14	**XF2G-1414-11**	
16	**XF2G-1614-11**	
24	**XF2G-2414-11**	
26	**XF2G-2614-11**	

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

Non-ZIF Type (0.8 mm-pitch)

XF2E

- Low on-board profile of only 1.5 mm.
- Double-sided contacts maintain a stable contact force. Discrimination between FPC upper and lower contacts in unnecessary.
- Applicable FPC thickness, t = 0.3 mm..

■ Specifications

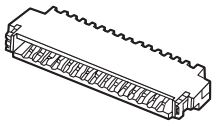
Rated current	0.5A AC/DC
Rated voltage	50V AC/DC
Contact resistance	30mΩ max. (at 20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 250V DC)
Withstand voltage	500V AC for 1 min. (leakage current: 1 mA max.)
Insertion tolerance	10 times
Ambient operating temperature	-30 to +85°C (with no icing or condensation)

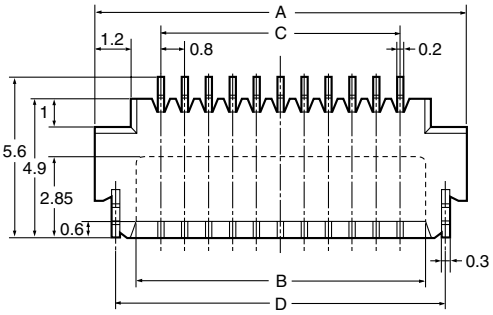
■ Materials/Finish

Housing	Glass-filled modified PA resin (UL94V-0)/milk white
Contact	Spring copper alloy/nickel substrate (2μm), tin-alloy plating (2 μm)
Hold-down	Copper-alloy/copper substrate (2μm), tin-alloy plating (2 μm)

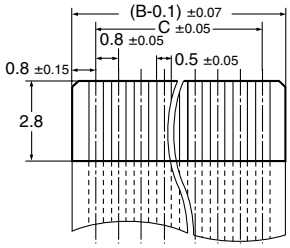
■ Dimensions

XF2E-□□15-1

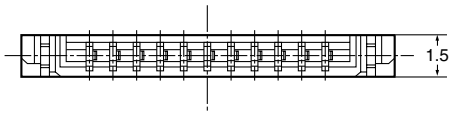




Applicable FPC Dimensions



T=0.3 ±0.05
(Conductive plating)



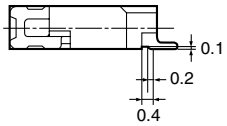
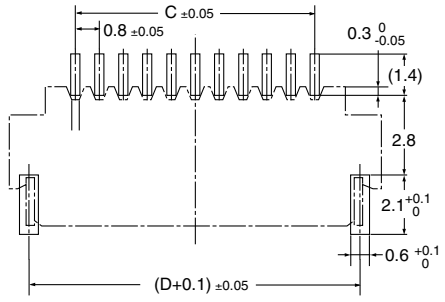


Table of Dimensions

Pins	Model	A	B	C	D
5	XF2E-0515-1	7.6	4.9	3.2	6.2
6	XF2E-0615-1	8.4	5.7	4.0	7.0
7	XF2E-0715-1	9.2	6.5	4.8	7.8
8	XF2E-0815-1	10.0	7.3	5.6	8.6
9	XF2E-0915-1	10.8	8.1	6.4	9.4
10	XF2E-1015-1	11.6	8.9	7.2	10.2
12	XF2E-1215-1	13.2	10.5	8.8	11.8
15	XF2E-1515-1	15.6	12.9	11.2	14.2
17	XF2E-1715-1	17.2	14.5	12.8	15.8
20	XF2E-2015-1	19.6	16.9	15.2	18.2

Basic Pattern Dimensions (Reference)



■ Ordering Information

Pins note 1	Model	Pins note 1	Model	Quantity per reel note 2
5	**XF2E-0515-1**	10	**XF2E-1015-1**	4,000
6	**XF2E-0615-1**	12	**XF2E-1215-1**	
7	**XF2E-0715-1**	15	**XF2E-1515-1**	
8	**XF2E-0815-1**	17	**XF2E-1715-1**	
9	**XF2E-0915-1**	20	**XF2E-2015-1**	

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

Common Precautions for XF2 Connectors

■ Precautions

Correct Use

Backlock Types

Do not lock the slider without an FPC inserted. Locking the slider without an FPC inserted will cause a decrease in the dimensions between the contacts and consequently an increase in the force required to insert an FPC.

- When designing the board, be sure to allow locking space for the slider (i.e., space for the slider when it is locked).
- The connector has a double-sided contact structure and so be sure to insert the FPC with the correct orientation.
- When locking the slider, press it down securely with your fingers at both ends.
  Failing to lock the slider properly may result in contact failure.
- Unlocking the Slider
  Unlock the slider manually. Place your index fingers at both ends of the slider and lift it up. Do not apply excessive force when lifting the slider. Doing so may result in the slider being damaged or detached. If the slider becomes detached, it may not be able to hold the FPC and contact failure may result.

All Models

- Insert the FPC right to the back of the connector. Failing to do so may result in a loss of contact reliability.
- After mounting (and locking) the FPC, do not bend or pull it with excessive force. Doing so may result in FPC disconnection.
- When bending the FPC after mounting to the PCB, do not bend it excessively near the place where it enters the connector. Doing so may result in a loss of contact reliability.
- In applications where the connector may frequently be exposed to shock or vibration, or where, as part of a mechanism, connected parts may move, secure the FPC and make sure that it is not subjected to a direct load.
- Do not perform reflow or manual soldering with the FPC inserted in the connector. Doing so may result in a loss of contact reliability.
- Unlock the slider before removing the FPC.
- Use an FPC with the structure recommended by OMRON.
- Do not perform reflow or manual soldering with the slider locked. Doing so may result in a loss of contact reliability.
- Observe a metal mask thickness of t = 0.12 to 0.15 mm.
- Metal mask open area ratio: 90% of the printed circuit board matching dimensions in the dimensions diagrams.

Recommended Reflow Conditions

	Standard reflow conditions	Reflow conditions for lead-free solder (backlock type only)
Preheating temperature	150 ± 10°C	150 to 180°C
Time	60 to 120 s	60 to 120 s
Soldering temperature	200 to 240°C	230 to 250°C
Time (10 s max. at the maximum temperature 240°C)	30 s max.	30 s max.

Storage

1. Do not store in locations subject to dust or high humidity levels.
2. Do not store in locations close to sources of gases such ammonia gas or sulphide gas.

Certain Terms and Conditions of Sale

1. Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all catalogs, manuals or other documents, whether electronic or in writing, relating to the sale of goods or services (collectively, the "Goods") by Omron Electronics LLC and its subsidiary companies ("Seller"). Seller hereby objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms. Please contact your Omron representative to confirm any additional terms for sales from your Omron company.
2. Prices. All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment.
3. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's payment terms and (ii) Buyer has no past due amounts owing to Seller.
4. Orders. Seller will accept no order less than $200 net billing.
5. Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Goods.
6. Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Goods sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
7. Financial. If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Goods sold hereunder and stop any Goods in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
8. Cancellation; Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.
9. Force Majeure. Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
10. Shipping; Delivery. Unless otherwise expressly agreed in writing by Seller:
    a. Shipments shall be by a carrier selected by Seller;
    b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
    c. All sales and shipments of Goods shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Goods shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Goods until the full purchase price is paid by Buyer;
    d. Delivery and shipping dates are estimates only.
    e. Seller will package Goods as it deems proper for protection against normal handling and extra charges apply to special conditions.
11. Claims. Any claim by Buyer against Seller for shortage or damage to the Goods occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Goods from Seller in the condition claimed.
12. Warranties. (a) Exclusive Warranty. Seller's exclusive warranty is that the Goods will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). Seller disclaims all other warranties, express or implied. (b) Limitations. SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE GOODS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Seller further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Goods or otherwise of any intellectual property right. (c) Buyer Remedy. Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Good or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Good; provided that in no event shall Seller be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Goods unless Seller's analysis confirms that the Goods were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any goods by Buyer must be approved in writing by Seller before shipment. Seller shall not be liable for the suitability or unsuitability or the results from the use of Goods in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.
13. Damage Limits; Etc. SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE GOODS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Seller exceed the individual price of the Good on which liability is asserted.
14. Indemnities. Buyer shall indemnify and hold harmless Seller, its affiliates and its employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Seller is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Goods. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Seller and defend or settle any action brought against Seller to the extent that it is based on a claim that any Good made to Buyer specifications infringed intellectual property rights of another party.
15. Property; Confidentiality. The intellectual property embodied in the Goods is the exclusive property of Seller and its affiliates and Buyer shall not attempt to duplicate it in any way without the written permission of Seller. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Seller. All information and materials supplied by Seller to Buyer relating to the Goods are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
16. Miscellaneous. (a) Waiver. No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller. (b) Assignment. Buyer may not assign its rights hereunder without Seller's written consent. (c) Amendment. These Terms constitute the entire agreement between Buyer and Seller relating to the Goods, and no provision may be changed or waived unless in writing signed by the parties.
    (d) Severability. If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (e) Setoff. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (f) As used herein, "including" means "including without limitation".

Certain Precautions on Specifications and Use

1. Suitability of Use. Seller shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Good in the Buyer's application or use of the Good. At Buyer's request, Seller will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Good. This information by itself is not sufficient for a complete determination of the suitability of the Good in combination with the end product, machine, system, or other application or use. The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of this Good, nor is it intended to imply that the uses listed may be suitable for this Good:
    (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
    (ii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
    (iii) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Good.

    NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE SELLER'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
2. Programmable Products. Seller shall not be responsible for the user's programming of a programmable Good, or any consequence thereof.
3. Performance Data. Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Seller's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Seller's Warranty and Limitations of Liability.
4. Change in Specifications. Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Good may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Seller's representative at any time to confirm actual specifications of purchased Good.
5. Errors and Omissions. The information in this catalog has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors, or omissions.

OMRON

Complete "Terms and Conditions of Sale" for product purchase and use are on Omron's website at www.omron.com/oei – under the "About Us" tab, in the Legal Matters section.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

OMRON®

OMRON ELECTRONIC COMPONENTS LLC
55 East Commerce Drive, Suite B
Schaumburg, IL 60173-5302
847-882-2288

OMRON CANADA, INC.
885 Milner Avenue
Toronto, Ontario M1B 5V8
416-286-6465

OMRON ON-LINE
Global - http://www.omron.com
USA - http://www.omron.com/oei
Canada - http://www.omron.ca

Cat. No. G011-E1-02 06/04 Specifications subject to change without notice Printed in USA