OMRON ELECTRONIC COMPONENTS LLC
PRODUCT, MARKETING, AND BUSINESS NEWS

MARKETING UPDATE

NO: CON-004 **PRODUCT:** XF2H FPC Connectors
DATE: May 2005 **TYPE:** Discontinuation Notice

XF2H FPC Connectors will be Discontinued March 31, 2006; Replaced by XF2M Series

The XF2H series FPC connectors will be discontinued March 31, 2006 for two key reasons:

1. They have solder tinned (PbSn) leads that do not comply with RoHS directives
2. The nylon resin body does not withstand the higher temperatures of Pb-free soldering processes.

Use the XF2M series to replace them. Please confirm your customers' specifications, as there are critical differences between XF2H and XF2M series in dimensions and FPC insertion point.

Discontinued Parts and Suggested Replacement

Models are available with 10, 14, 18, 20, 22, 24, 26, 30, 32, 33, 34, 35, 36, 40, 42, 45 and 50 pins.

Discontinued Model	Recommended Replacement Model
Type XF2H series	Type XF2M-☐☐15-1DL (Sn Plating/Pb Free) Type XF2M-☐☐15-1A (Au Plating/Pb Free)

Notes:

1. As of Feb. 2005, there were no plans to make XF2M models with 12, 13, 21, 25, 28, 38, 53 pins.
2. Type XF2M-☐☐15-1L (SnPb Plating/non-Pb Free) are available now, but also will be discontinued March 2006 at same time as XF2H.

Parts Affected by Discontinuation

XF2H-1015-1L	XF2H-2515-1LW	XF2H-3615-1LW-R100
XF2H-1015-1LW	XF2H-2515-1LW-R100	XF2H-3615-1W
XF2H-1015-1LW-R100	XF2H-2615-1A	XF2H-3815-1L
XF2H-1215-1LW	XF2H-2615-1LW	XF2H-3815-1LW
XF2H-1215-1LW-R100	XF2H-2615-1LW-R100	XF2H-3815-1LW-R100
XF2H-1315-1LW	XF2H-2815-1LW	XF2H-4015-1FL
XF2H-1315-1LW-R100	XF2H-2815-1LW-R100	XF2H-4015-1LW
XF2H-1415-1LW	XF2H-3015-1FL	XF2H-4015-1LW-R100
XF2H-1415-1LW-R100	XF2H-3015-1L	XF2H-4215-1L
XF2H-1815-1LW	XF2H-3015-1LW	XF2H-4215-1LW
XF2H-1815-1LW-R100	XF2H-3015-1LW-R100	XF2H-4215-1LW-R100
XF2H-2015-1A	XF2H-3215-1LW	XF2H-4515-1A
XF2H-2015-1FL	XF2H-3215-1LW-R100	XF2H-4515-1LW
XF2H-2015-1LW	XF2H-3315-1LW	XF2H-4515-1LW-R100
XF2H-2015-1LW-R100	XF2H-3315-1LW-R100	XF2H-4515-1W
XF2H-2015-1W	XF2H-3415-1LW	XF2H-5015-1FL
XF2H-2115-1LW	XF2H-3415-1LW-R100	XF2H-5015-1LW
XF2H-2115-1LW-R100	XF2H-3515-1LW	XF2H-5015-1LW-R100
XF2H-2215-1LW	XF2H-3515-1LW-R100	XF2H-5015-1W
XF2H-2215-1LW-R100	XF2H-3615-1FL	XF2H-5315-1L
XF2H-2415-1LW	XF2H-3615-1L	XF2H-5315-1LW
XF2H-2415-1LW-R100	XF2H-3615-1LW	XF2H-5315-1LW-R100

Key Features and Benefits of XF2M

- **Space-savings**: By shortening the depth to **5.9mm**, mounting area is reduced about 27% compare to type XF2H.
- **High heat resistance**: The molding material (LCP resin) can withstand lead-free soldering process temperatures as well as improves the heat-resistant characteristic for boards with dense component spacing.
- **Choice of RoHS-compliant contact materials:**
  Type XF2M-☐☐15-1DL (Sn Plating/Pb Free)
  Type XF2M-☐☐15-1A (Au Plating/Pb Free)
  "☐☐" shows the number of pins of the connector

Available XF2M models

The "•" indicates products that are available now.

The XF2M connectors are available in small quantity reels (100 pieces) by adding "-R100" at the end of parts number. (Example: XF2M-1015-1L-R100)

Pins	Type XF2M	(Type XF2H)
10	•	•
12	Not yet available	•
13	Not yet available	•
14	Available soon	•
18	•	•
20	•	•
21	Not yet available	•
22	•	•

Pins	Type XF2M	(Type XF2H)
24	•	•
25	Not yet available	•
26	Not yet available	•
28	Not yet available	•
30	•	•
32	•	•
33	•	•
34	•	•

Pins	Type XF2M	(Type XF2H)
35	•	•
36	•	•
38	Not yet available	•
40	•	•
42	Available soon	•
45	•	•
50	•	•
53	Not yet available	•

Replacement of XF2H Connector With XF2M

1. Mounting on the PCB

The XF2M connectors are more compact and have a different PCB layout pattern than XF2H models. Two solutions for mounting are shown in Figures 4 and 5 on the next page:

- Pattern for XF2M connectors (Fig. 4) only
- Common pattern for both XF2M/XF2H connectors (Fig. 5).

Strength Tests for Each Mounting Pattern

The strength tests for three mounting patterns on a PCB (shown in Figs. 1-3) meet our company reference judging standards.

[Test method]
- Horizontal direction: Load is horizontally given to a connector once it is mounted on the board.
- Vertical direction: After inserting FPC in the state of mounting, and it is pulled vertically.

[Judging standard]
- Horizontal direction: More than 30N
- Vertical direction: More than 10N or FPC pulls out.

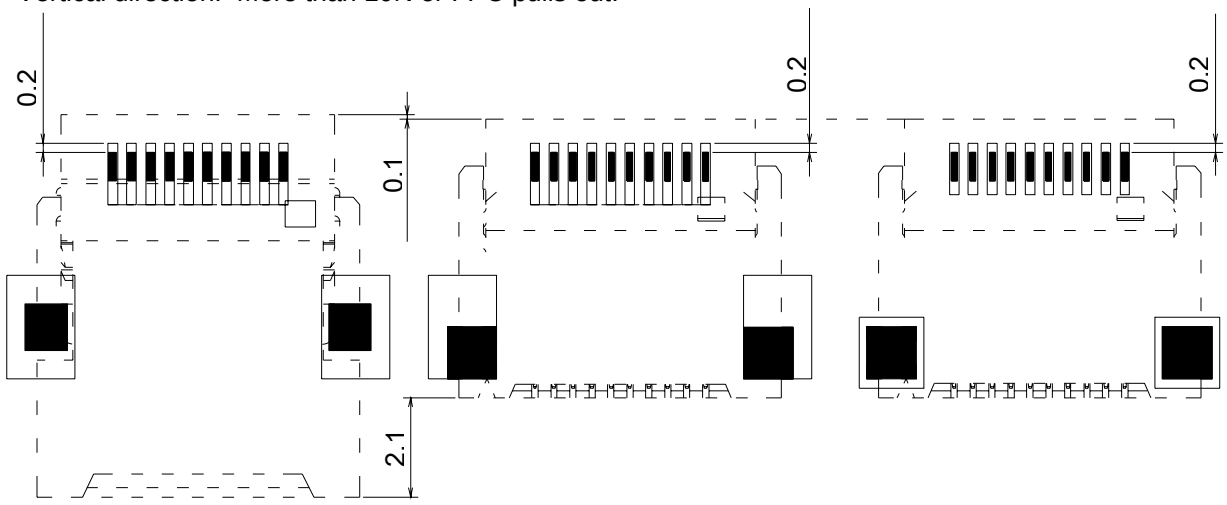

Fig 1. XF2H Mounting (XF2H pattern)

Fig 2. XF2M Mounting (XF2H pattern)

Fig 3. XF2M Mounting (XF2M pattern)

XF2M Pattern

Dimensions: mm

Pins	A	F	G
10	4.5	6.1	9.5
(14)	6.5	8.1	11.5
18	8.5	10.1	13.5
20	9.5	11.1	14.5
22	10.5	12.1	15.5
24	11.5	13.1	16.5
26	12.5	14.1	17.5
30	14.5	16.1	19.5
32	15.5	17.1	20.5
33	16.0	17.6	21.0
34	16.5	18.1	21.5
35	17.0	18.6	22.0
36	17.5	19.1	22.5
40	19.5	21.1	24.5
(42)	20.5	22.1	25.5
45	22.0	23.6	27.0
50	24.5	26.1	29.5

Note: The number of pins shown in ( ) in the table are not available as of Feb. 2005.

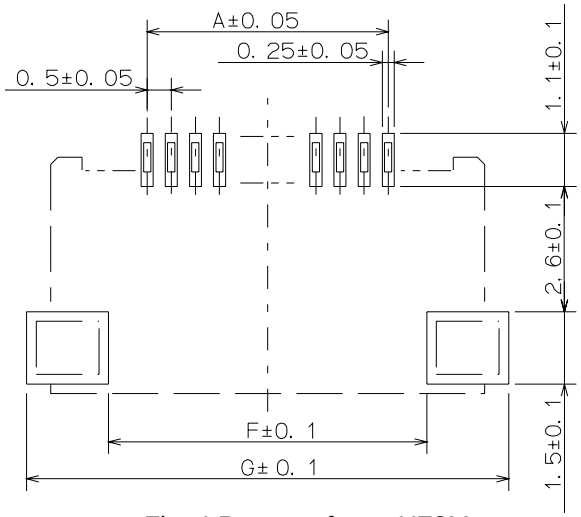

Fig. 4 Pattern of type XF2M

Type XF2M/XF2H common pattern

Dimensions: mm

Pins	A	B	C	D
10	4.5	4.75	6.5	10.1
(12)	5.5	5.75	7.5	11.1
(13)	6.0	6.25	8.0	11.6
(14)	6.5	6.75	8.5	12.1
18	8.5	8.75	10.5	14.1
20	9.5	9.75	11.5	15.1
(21)	10.0	10.25	12.0	15.6
22	10.5	10.75	12.5	16.1
24	11.5	11.75	13.5	17.1
(25)	12.0	12.25	14.0	17.6
26	12.5	12.75	14.5	18.1
(28)	13.5	13.75	15.5	19.1
30	14.5	14.75	16.5	20.1
32	15.5	15.75	17.5	21.1
33	16.0	16.25	18.0	21.6
34	16.5	16.75	18.5	22.1
35	17.0	17.25	19.0	22.6
36	17.5	17.75	19.5	23.1
(38)	18.5	18.75	20.5	24.1
40	19.5	19.75	21.5	25.1
(42)	20.5	20.75	22.5	26.1
45	22.0	22.25	24.0	27.6
50	24.5	24.75	26.5	30.1
(53)	26.0	26.25	28.0	31.6

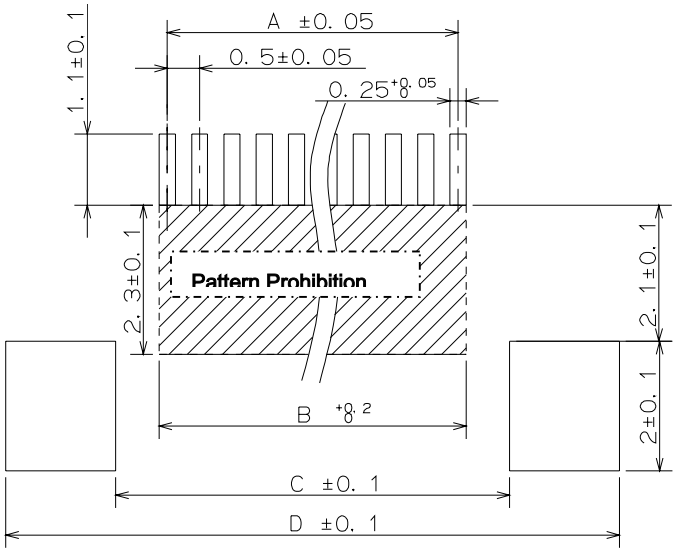

Fig. 5. Type XF2M/XF2H common

Notes:
1. The shaded “Pattern Prohibition” area shows the recommended board layout used with XF2H connectors. (It is unnecessary to use this with XF2M models.) If a pattern or a via hole, etc. are within the limits of this, a short circuit may occur with the terminal parts of connector. Be careful not to design a pattern in this Pattern Prohibition area.
2. The number pins in ( ) shown in table above were not available as of Feb. 2005.

The connector mounting state in common pattern of XF2H/M

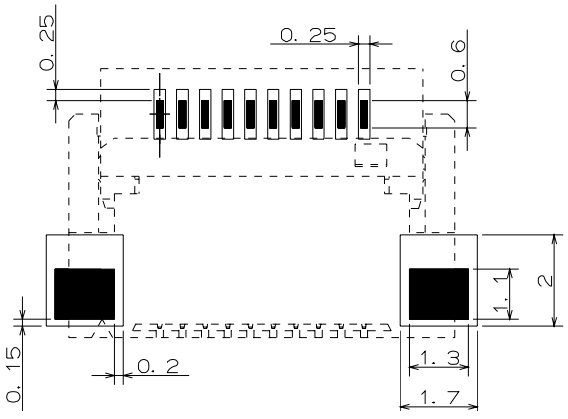

Figure 6. Type XF2M Mounting (common pattern)

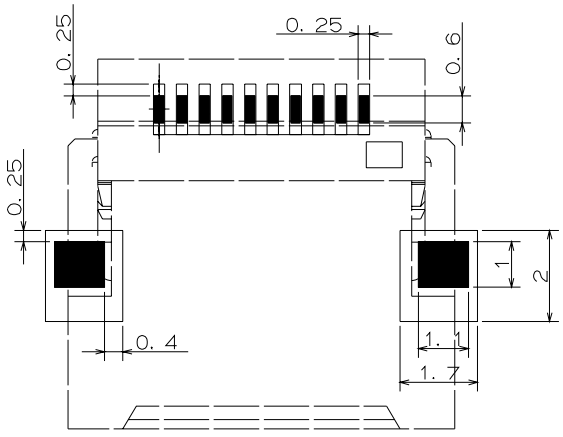

Figure 7. Type XF2H Mounting (common pattern)

2. FPC Insertion Points

The effective mating length and the FPC insertion depth of XF2H differ from XF2M.
FPC insertion point becomes as in Figs. 8-10 by setup of a PCB pattern.
Use the FPC insertion point shown in Figs. 11 and 12 for XF2M/XF2H common pattern layouts.

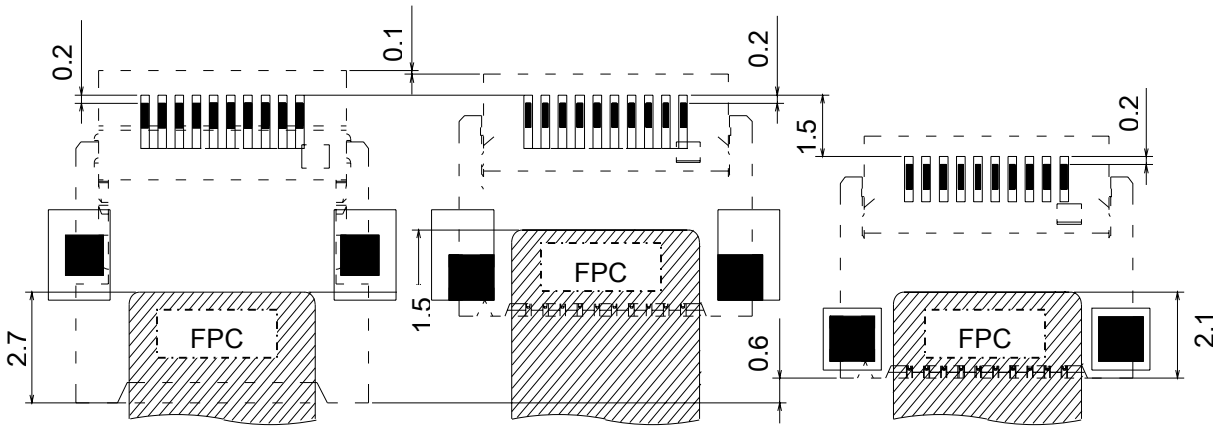

Fig 8. XF2H Mounting (XF2H pattern)

Fig 9. XF2M mounting (XF2H pattern)

Fig 10. XF2M mounting (XF2M pattern)

[The FPC insertion point at the time of common pattern mounting]

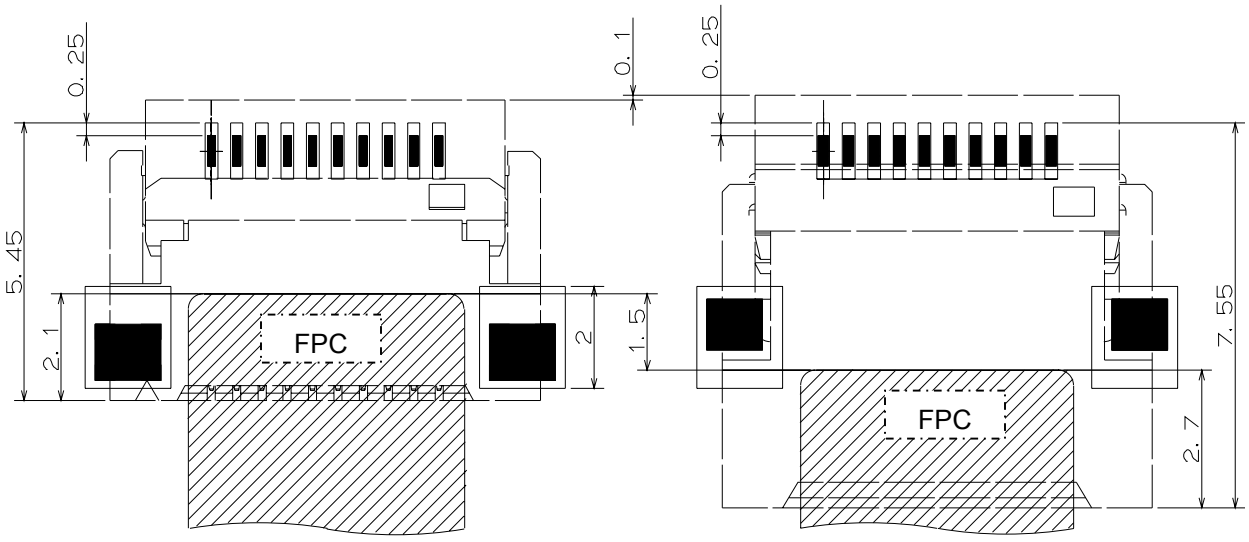

Fig 11. XF2M Mounting (common pattern)

Fig 12. XF2H mounting (common pattern)