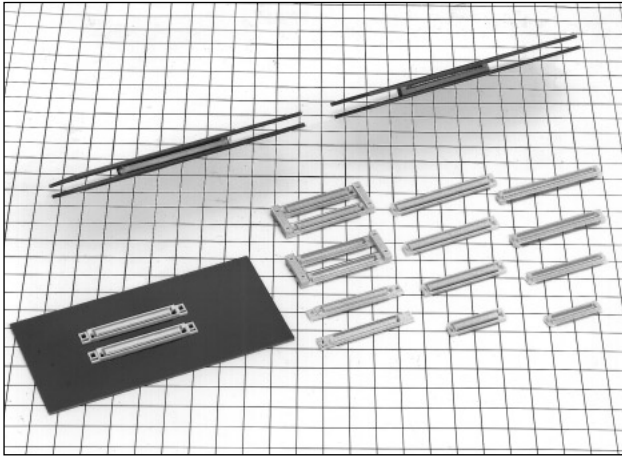


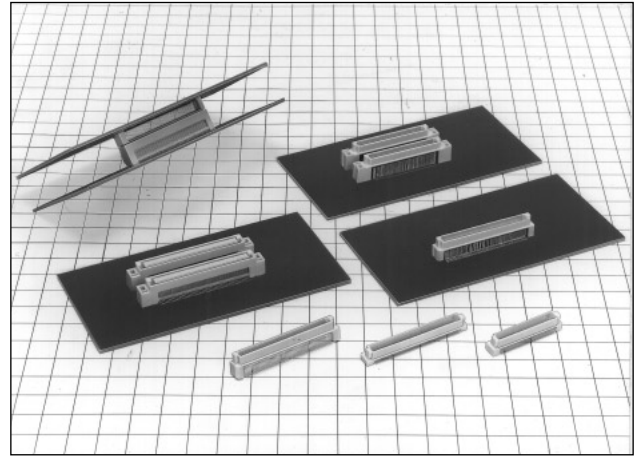
# 0.6mm Pitch Stacking Height 3mm to 16mm Connector

## FX8, FX8C Series

FX8 Series



FX8C Series



Note that FX8 series and FX8C series are not mated with each other.

### ■Features

#### 1. Stacking Height 3mm to 16mm available

The board to board stacking height can correspond to 3mm~16mm.

#### 2. SMT Coplanarity

The coplanarity of the SMT solder area lead is maintained at the high accuracy of less than 0.1mm.

#### 3. Mating Guide

The very small and guide rib is provided, and secures  $\pm 0.6\text{mm}$  self-alignment, considering the mating operativity into accounts.

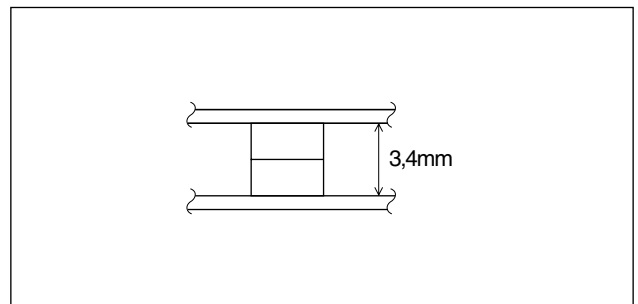
#### 4. Mis-insertion Prevention

The boss prevents mis-insertion in the board to cause due to the boss position and boss diameter.

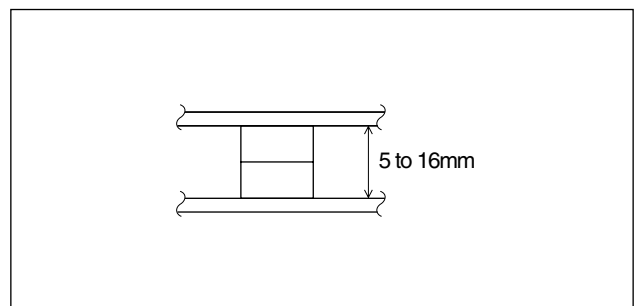
#### 5. Two-piece Connection Product

In order to enhance the mating reliability for the fine pitch connector using two-pieces, the two-pieces of connectors are combined by our unique method, and can secure the mount position accuracy. In such a new concept, the two-piece connected product is prepared at every number of contacts (The standard mating pitch for the two-piece interconnected product in two rows is 11mm.)

#### ●Stacking Height 3,4mm-FX8 Series



#### ●Stacking Height 5 to 16mm-FX8C Series



### ■Applications

Note pc, business equipments, which require miniaturization or light-weight

## FX8C Series

### Product Specifications

Rating	Current rating 0.4A	Operating Temperature Range -55°C to +85°C Note 1.	Storage Temperature Range -10°C to +60°C Note 2.
	Voltage rating 100V AC	Operating Humidity Range 40% to 80%	Storage Humidity Range 40% to 70%

Item	Specification	Condition
1. Insulation Resistance	100M ohms min.	250V DC
2. Withstanding voltage	No flashover or insulation breakdown.	300V AC/1 minute
3. Contact Resistance	80m ohms max.	100mA
4. Vibration	No electrical discontinuity of 1μs or more	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
5. Humidity (Steady state)	Contact resistance: 100m ohms max. Insulation resistance: 100M ohms min.	96 hours at temperature of 40°C and humidity of 90% to 95%
6. Temperature Cycle	Contact resistance: 100m ohms max. Insulation resistance: 100M ohms min.	(-55°C: 30 minutes, 15 to 35°C: 2 to 3 minutes 85°C: 30 minutes, 15 to 35°C: 2 to 3 minutes) 5 cycles
7. Durability (Mating/un-mating)	Contact resistance: 100m ohms max.	50 cycles
8. Resistance to Soldering heat	No deformation of components affecting performance.	Reflow: At the recommended temperature profile Manual soldering: 300°C for 3 seconds

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

### Material

Part	Material	Finish		Remarks
Insulator	PBS	Light brown		UL94V-0
Header Contact	Phosphor bronze	Contact area Lead area	Gold plated Tin-lead plated	_____
Receptacle Contact	Phosphor bronze	Contact area Lead area	Gold plated Tin-lead plated	_____

Note : The black dots on the insulator will not affect performance.

### Ordering Information

#### Single Product

**FX8C** - **120** **P** - **SV** **1** **(22)**  
 ① ② ③ ④ ⑤ ⑥

① Series Name : FX8C	⑤ Product height variation Blank : Standard (Minimum low profile)
② Number of Contacts :60, 80, 90, 120, 140	1: +1mm . . . . . 3:+3mm
③ Connector type P :Header S :Receptacle	⑥ Packaging Type Blank: Tray packaging (21) : Tube packaging (22) : Embossed tape package
④ Contact type SV :Board vertical type	

\*The embossed tape packaging product is 60 and 80 contacts only.

\*The packing of the FX8C-\*\*P-SV6 type is the tray packaging and the tube packaging only.

#### two-piece Connection Product

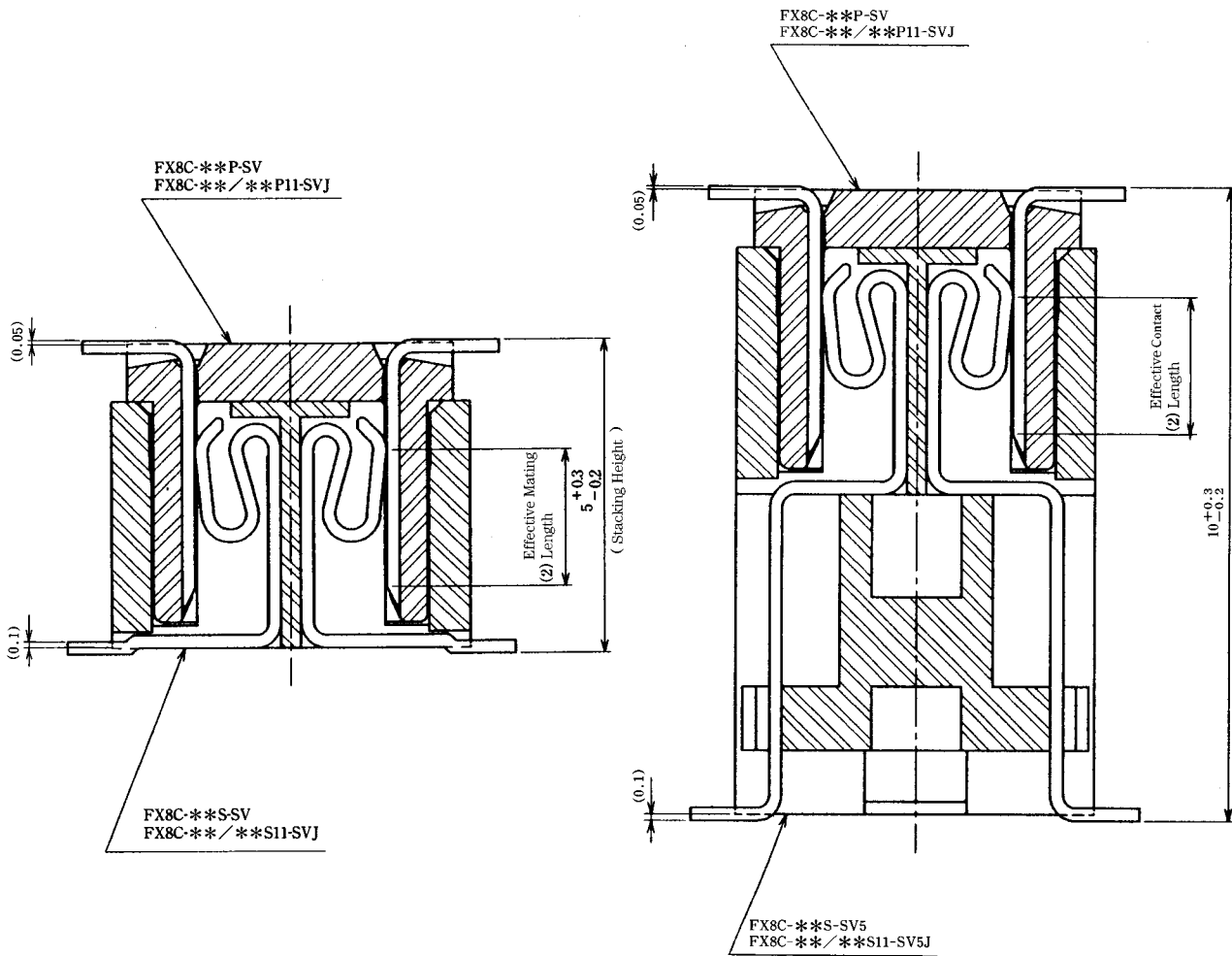
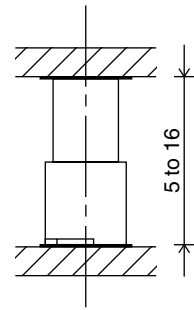
**FX8C** - **120/120** **P** **11** - **SV** **1** **J**  
 ① ② ③ ④ ⑤ ⑥ ⑦

① Series Name :FX8C	④ Connector to Connector Pitch
② Number of Contacts: 60×2, 80×2, 90×2, 100×2, 120×2, 140×2 Example: 120/120 = 240 contacts	⑤ Contact type SV : Board vertical type
③ Connector Type : P : Header S : Receptacle	⑥ Product Height Variation Blank : Standard (Minimum lot profile) 1: +1mm . . . . . 3: +3mm
	⑦ J: two-piece connection product

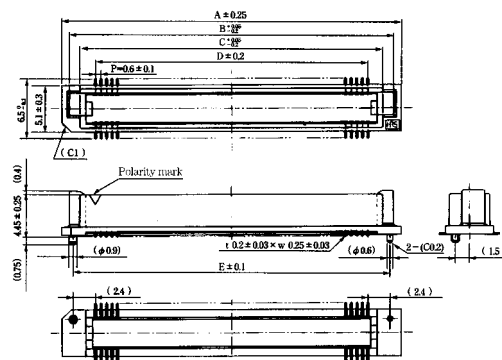
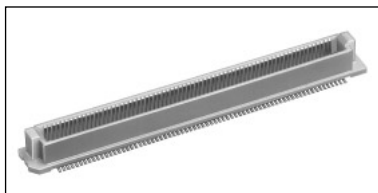
\*The standard packaging of the two-piece connection product is the tray packaging.

## ◆ Stacking Height Variation

Header	Receptacle	FX8C-***S-SV FX8C-**/**S11-SVJ	FX8C-***S-SV5 FX8C-**/**S11-SV5J
FX8C-***P-SV FX8C-**/**P11-SVJ		5mm	10mm
FX8C-***P-SV1 FX8C-**/**P11-SV1J		6mm	11mm
FX8C-***P-SV2 FX8C-**/**P11-SV2J		7mm	12mm
FX8C-***P-SV4 FX8C-**/**P11-SV4J		9mm	14mm
FX8C-***P-SV6 FX8C-**/**P11-SV6J		11mm	16mm



## Header (Single Product) [FX8C-\*\*-P-SV]



Unit:mm

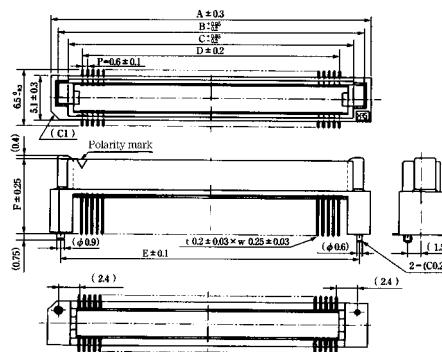
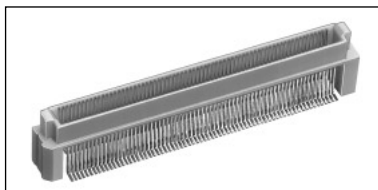
Part Number	CL No.	Number of Contacts	A	B	C	D	E	Tube packaging Quantity (Pieces)
FX8C- 60P-SV(**)	578-0501-9-**-	60	24.60	23.00	20.70	17.40	22.20	21
FX8C- 80P-SV(**)	578-0503-4-**-	80	30.60	29.00	26.70	23.40	28.20	17
FX8C-100P-SV(**)	578-0505-0-**-	100	36.60	35.00	32.70	29.40	34.20	14
FX8C-120P-SV(**)	578-0506-2-**-	120	42.60	41.00	38.70	35.40	40.20	12
FX8C-140P-SV(**)	578-0507-5-**-	140	48.60	47.00	44.70	41.40	46.20	10

\*\*Blank: Tray packaging product 21: Tube packaging product  
 22: Embossed tape packaging product

Note1: To order the tube packaging product, please determine the quantity for delivery, multiplying the tube packaging product by an integer.

Note 2: The embossed tape packaging product is prepared for 60 and 80 contacts only. In addition, the product will be procured per reel unit. Please refer to the delivery form item on page A245 for details.

[FX8C-\*\*-P-SV1]  
 [FX8C-\*\*-P-SV2]  
 [FX8C-\*\*-P-SV4]  
 [FX8C-\*\*-P-SV6]



Unit: mm

Part Number	CL No.	Number of Contacts	A	B	C	D	E	F	Tube packaging Quantity (Pieces)
FX8C- 60P-SV1(**)	578-0521-6-**-	60	24.60	23.00	20.70	17.40	22.20	5.45	21
FX8C- 60P-SV2(**)	578-0541-3-**-							6.45	
FX8C- 60P-SV4(**)	578-0581-8-**-							8.45	
FX8C- 60P-SV6(**)	578-0601-3-**-							10.45	
FX8C- 80P-SV1(**)	578-0523-1-**-	80	30.60	29.00	26.70	23.40	28.20	5.45	17
FX8C- 80P-SV2(**)	578-0543-9-**-							6.45	
FX8C- 80P-SV4(**)	578-0583-3-**-							8.45	
FX8C- 80P-SV6(**)	578-0603-9-**-							10.45	
FX8C-100P-SV1(**)	578-0525-7-**-	100	36.60	35.00	32.70	29.40	34.20	5.45	14
FX8C-100P-SV2(**)	578-0545-4-**-							6.45	
FX8C-100P-SV4(**)	578-0585-9-**-							8.45	
FX8C-100P-SV6(**)	578-0605-4-**-							10.45	
FX8C-120P-SV1(**)	578-0526-0-**-	120	42.60	41.00	38.70	35.40	40.20	5.45	12
FX8C-120P-SV2(**)	578-0546-7-**-							6.45	
FX8C-120P-SV4(**)	578-0586-1-**-							8.45	
FX8C-120P-SV6(**)	578-0606-7-**-							10.45	
FX8C-140P-SV1(**)	578-0527-2-**-	140	48.60	47.00	44.70	41.40	46.20	5.45	10
FX8C-140P-SV2(**)	578-0547-0-**-							6.45	
FX8C-140P-SV4(**)	578-0587-4-**-							8.45	
FX8C-140P-SV6(**)	578-0607-0-**-							10.45	

\*\* Blank : Tray packaging product 21: Tube packaging product 22: Embossed tape packaging product

Note1: To order the tube packaging product, please determine a quantity for delivery, multiplying the tube packaging product by an integer.

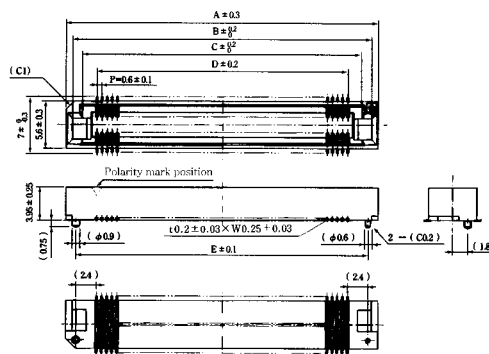
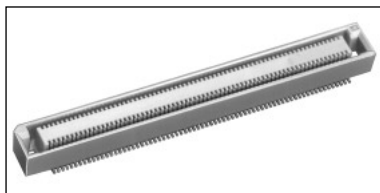
Note2: The embossed tape packaging product is prepared for 60 and 80 contacts only. In addition, the product will be sold per reel unit.

Please refer to the packaging specification item on page A245 for details.

Note3: The locator material is installed between leads for the FX8C-P-SV6 type.

## ■ Receptacle (Single Product)

[FX8C-\*\*-S-SV]



Unit:mm

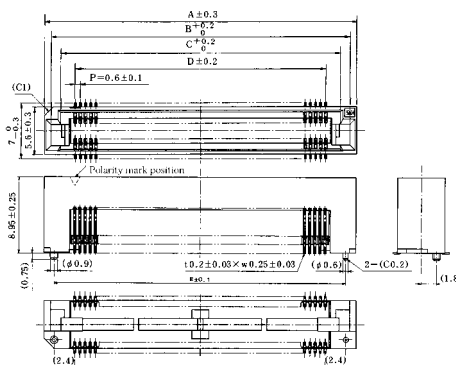
Part Number	CL No.	Number of Contacts	A	B	C	D	E	Tube packaging Quantity (Pieces)
FX8C- 60S-SV(**)	578-0801-2-**-	60	24.60	23.05	20.80	17.40	22.20	21
FX8C- 80S-SV(**)	578-0803-8-**-	80	30.60	29.05	26.80	23.40	28.20	17
FX8C-100S-SV(**)	578-0805-3-**-	100	36.60	35.05	32.80	29.40	34.20	14
FX8C-120S-SV(**)	578-0806-6-**-	120	42.60	41.05	38.80	35.40	40.20	12
FX8C-140S-SV(**)	578-0807-9-**-	140	48.60	47.05	44.80	41.40	46.20	10

\*\*Blank: Tray packaging product 21: Tube packaging product 22: Embossed tape packaging product

Note1: To order the tube packaging product, please determine a quantity for delivery, multiplying the tube packaging product by an integer.

Note2: The embossed tape packaging product is prepared for 60 and 80 contacts only. In addition, the product will be procured per reel unit. Please refer to the packaging specification item on page A245 for details.

[FX8C-\*\*-S-SV5]



Unit:mm

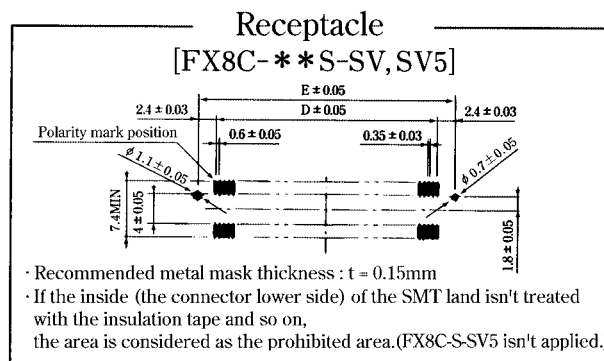
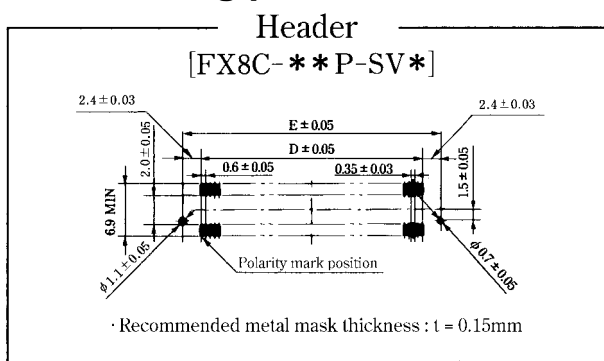
Part Number	CL No.	Number of Contacts	A	B	C	D	E	Tube packaging Quantity (Pieces)
FX8C- 60S-SV5(**)	578-0821-0-**-	60	24.60	23.05	20.80	17.40	22.20	21
FX8C- 80S-SV5(**)	578-0823-5-**-	80	30.60	29.05	26.80	23.40	28.20	17
FX8C-100S-SV5(**)	578-0825-0-**-	100	36.60	35.05	32.80	29.40	34.20	14
FX8C-120S-SV5(**)	578-0826-3-**-	120	42.60	41.05	38.80	35.40	40.20	12
FX8C-140S-SV5(**)	578-0827-6-**-	140	48.60	47.05	44.80	41.40	46.20	10

\*\*Blank: Tray packaging product 21: Tube packaging product 22: Embossed tape packaging product

Note1: To order the tube packaging product, please determine a quantity for delivery, multiplying the tube packaging product by an integer.

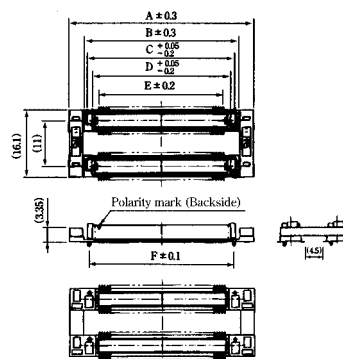
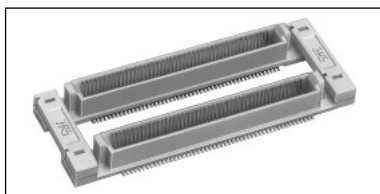
Note2: The embossed tape package product is prepared for 60 and 80 contacts only. In addition, the product will be procured per reel unit. Please refer to the packaging specification item on page A245 for details.

## ◆ PCB mounting pattern



## Header (two-pieces Connection Product)

[FX8C-\*/\*/\*\*P11-SVJ]

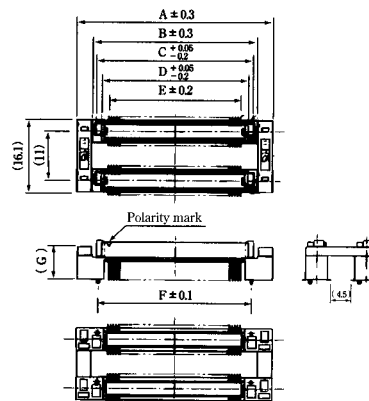
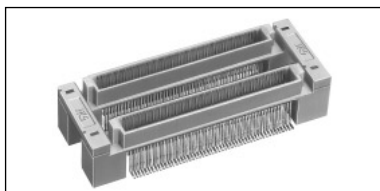


Unit:mm

Part Number	CL No.	Number of Contacts	A	B	C	D	E	F
FX8C- 60/ 60P11-SVJ	578-0651-1	60×2	31.70	24.70	23.00	20.70	17.40	22.20
FX8C- 80/ 80P11-SVJ	578-0653-7	80×2	37.70	30.70	29.00	26.70	23.40	28.20
FX8C-100/100P11-SVJ	578-0655-2	100×2	43.70	36.70	35.00	32.70	29.40	34.20
FX8C-120/120P11-SVJ	578-0656-5	120×2	49.70	42.70	41.00	38.70	35.40	40.20
FX8C-140/140P11-SVJ	578-0657-8	140×2	55.70	48.70	47.00	44.70	41.40	46.20

Note: The two-piece connection product is packaged by tray.

[FX8C-\*/\*/\*\*P11-SV1J]  
 [FX8C-\*/\*/\*\*P11-SV2J]  
 [FX8C-\*/\*/\*\*P11-SV4J]  
 [FX8C-\*/\*/\*\*P11-SV6J]



Unit: mm

Part Number	CL No.	Number of Contacts	A	B	C	D	E	F	G	H
FX8C- 60/ 60P11-SV1J	578-0671-9	60×2	31.70	24.70	23.00	20.70	17.40	22.20	4.35	5.45
FX8C- 60/ 60P11-SV2J	578-0691-6								5.35	6.45
FX8C- 60/ 60P11-SV4J	578-0731-9								7.35	8.45
FX8C- 60/ 60P11-SV6J	578-0751-6								9.35	10.45
FX8C- 80/ 80P11-SV1J	578-0673-4	80×2	37.70	30.70	29.00	26.70	23.40	28.20	4.35	5.45
FX8C- 80/ 80P11-SV2J	578-0693-1								5.35	6.45
FX8C- 80/ 80P11-SV4J	578-0733-4								7.35	8.45
FX8C- 80/ 80P11-SV6J	578-0753-1								9.35	10.45
FX8C-100/100P11-SV1J	578-0675-0	100×2	43.70	36.70	35.00	32.70	29.40	34.20	4.35	5.45
FX8C-100/100P11-SV2J	578-0695-7								5.35	6.45
FX8C-100/100P11-SV4J	578-0735-0								7.35	8.45
FX8C-100/100P11-SV6J	578-0755-7								9.35	10.45
FX8C-120/120P11-SV1J	578-0676-2	120×2	49.70	42.70	41.00	38.70	35.40	40.20	4.35	5.45
FX8C-120/120P11-SV2J	578-0696-0								5.35	6.45
FX8C-120/120P11-SV4J	578-0736-2								7.35	8.45
FX8C-120/120P11-SV6J	578-0756-0								9.35	10.45
FX8C-140/140P11-SV1J	578-0677-5	140×2	55.70	48.70	47.00	44.70	41.40	46.20	4.35	5.45
FX8C-140/140P11-SV2J	578-0697-2								5.35	6.45
FX8C-140/140P11-SV4J	578-0737-5								7.35	8.45
FX8C-140/140P11-SV6J	578-0757-2								9.35	10.45

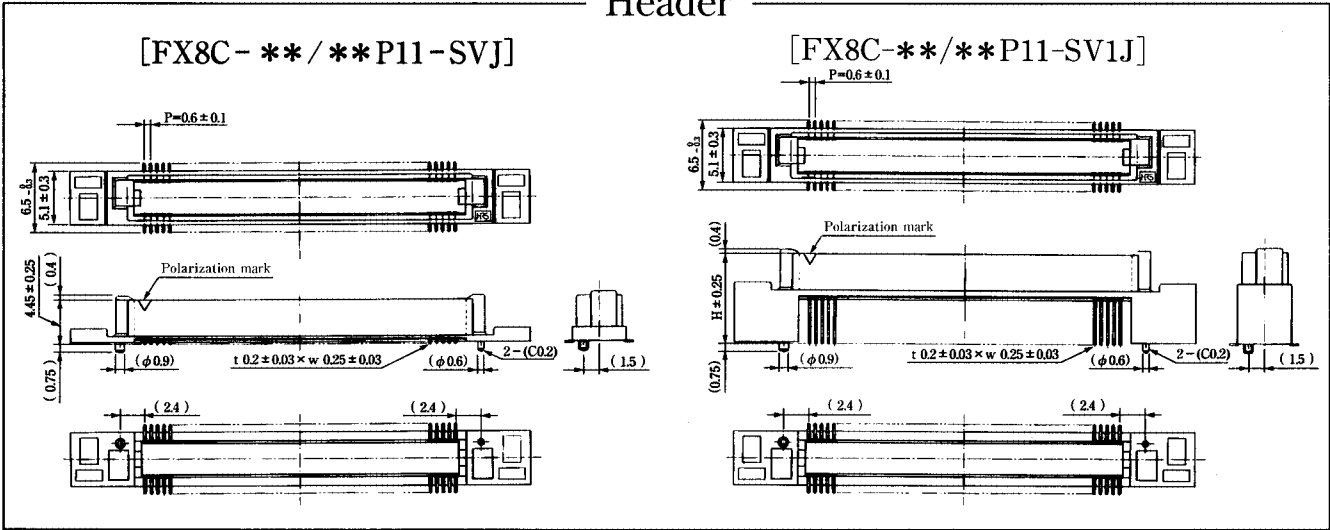
Note1: The two-piece connection product is packaged by tray.

Note2: The locator material is installed between leads for the FX8C-\*/\*/\*\*P1-SV6J type.

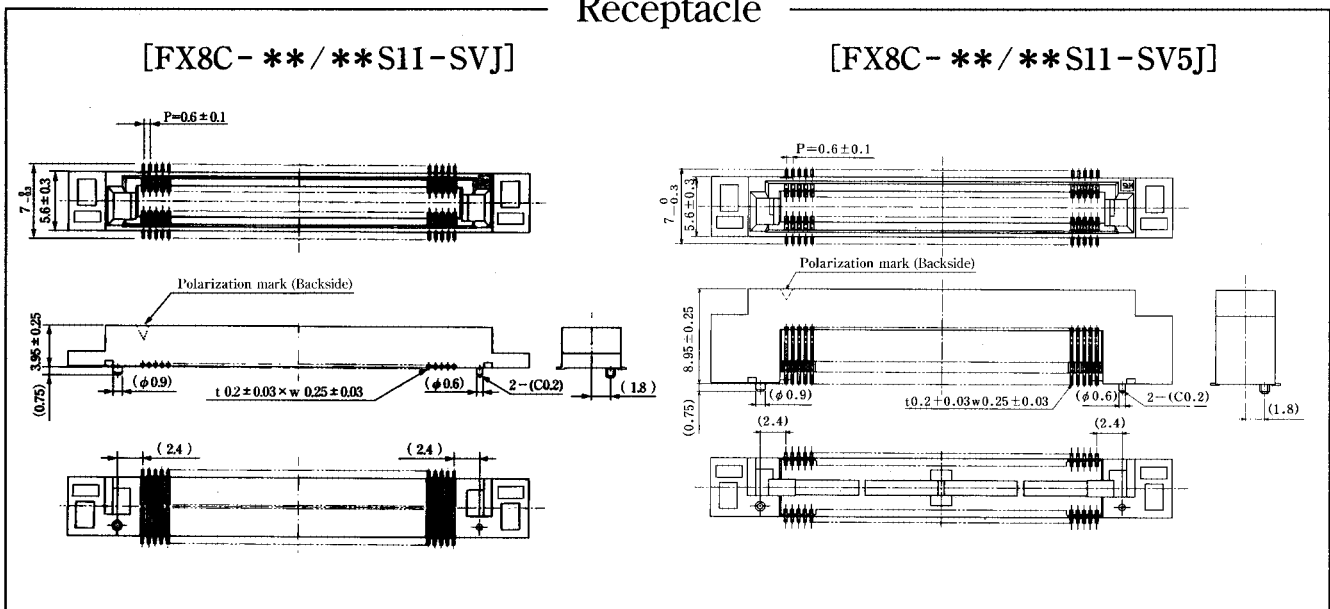


## ◆ Detailed Figure After Joint Removal (Single Product in two-piece Connection Product)

### Header



### Receptacle





## ◆ Connector Precautions

### 1. Tolerance Clearance on Mating Side

The effective contact length of the product is set to 2.0mm. Please use the product so as to set to less than 12mm the clearance between the header and the receptacle in the mating process..

### 2. Fixation Between Mounting Boards

If this product is fixed only by mating force, Please consider the fixing method so as not to apply loads such as vibration, shock and so on.

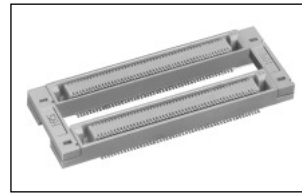
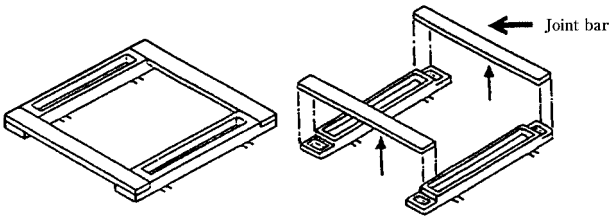
### 3. Stacking General Tolerance in Mating

Stack      Amm  $\longrightarrow$  A  $\begin{matrix} +0.3 \\ -0.2 \end{matrix}$  mm

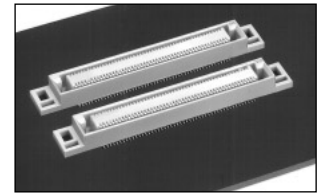
Note: Please Note that the above tolerance of the stacking height doesn't include the solder paste thickness.

### 4. Handling Two-piece Connection Product

Both joint bar edges of the two-piece connection product are fixed by joints, while the mating process can't be performed in that state. Before the mating process, please remove the joint bars as if pull it up. (Don't remove the joint bars before mounting on the board. )

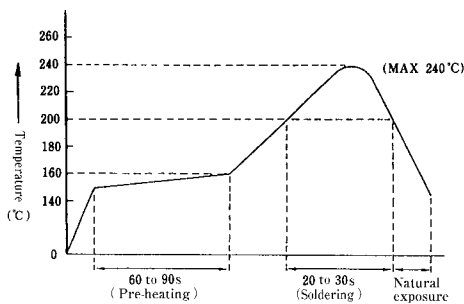


Before removing joint bar



After removing joint bar

### 5. Mounting Temperature Profile (Reference)



#### Applicable Conditions

Reflow system

:IR reflow

Solder

:Paste type 63 Sn/37 Pb  
(Flux content 11 wt%)

Test board

:Glass epoxy 161mm x 100mm x 1.6 mm

Metal mask thickness

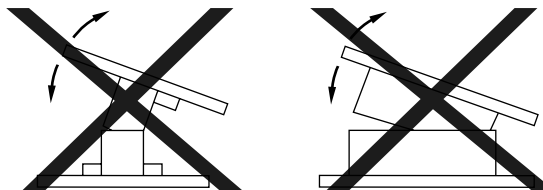
:0.15 mm

Recommended temperature profile.

The temperature may be slightly changed according to the solder paste type and amount.

### 6. Cautions

This product is made as the thin formed product in order to be miniaturized.



## ◆Packaging Type

Packaging Type	Number of Contacts	60 contacts	80 contacts	100 contacts	120 contacts	140 contacts
Tube packaging	Packaged Product Pieces	21 pieces	17 pieces	14 pieces	12-pieces	10pieces
	Sales Unit	Deliver the multiplied pieces. (Example) In case of 20 contacts,21 pieces, 4two-pieces,...				
	Total Tube Length	550mm±2mm				
Embossed Tape Packaging	Tape Width	44mm		56mm		72mm
	Product Pitch	12mm				
	Emboss Reel Diameter	Refer to the table on page A246 in this catalog.				
	Packaged Product Pieces	Refer to the table on page A246 in this catalog.				
	Sales Unit	Per reel				

\*The above packaging type is , as listed for the single product only.

In addition, the packaging type of the two-piece connection product is the tray packaging.

## ◆Packaging Specification

### [Tube packaging]

#### ●Header

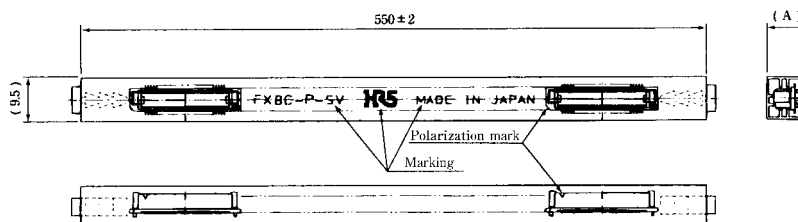
[FX8-\*\*\*P-SV (21)]

[FX8-\*\*\*P-SV1 (21)]

[FX8-\*\*\*P-SV2 (21)]

[FX8-\*\*\*P-SV4 (21)]

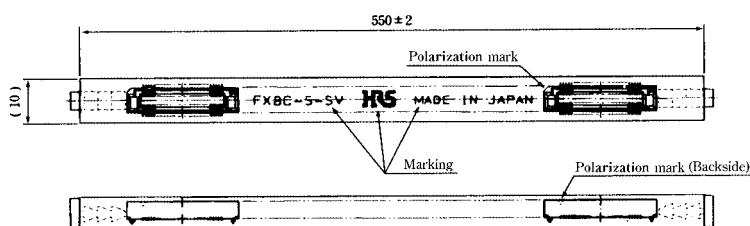
[FX8-\*\*\*P-SV6 (21)]



#### ●Receptacle

[FX8C-\*\*\*S-SV (21)]

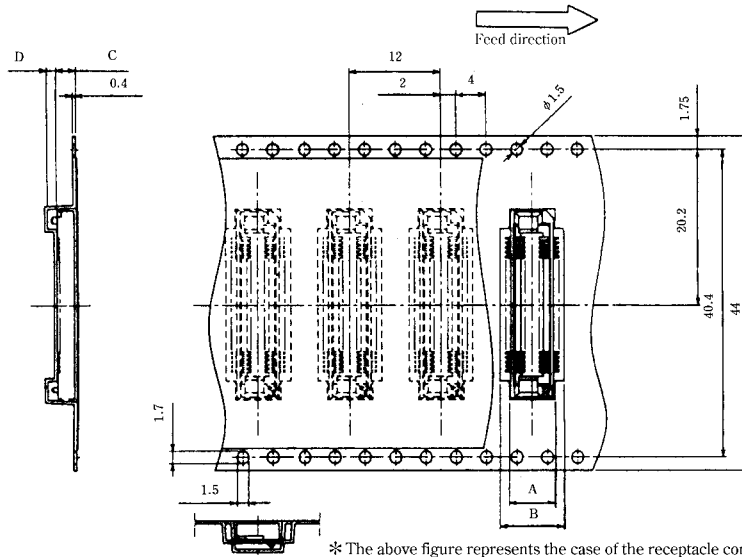
[FX8C-\*\*\*S-SV5 (21)]



P/S	Part Number	A
Header	FX8C-***P-SV (21)	9
	FX8C-***P-SV1 (21)	10
	FX8C-***P-SV2 (21)	11
	FX8C-***P-SV4 (21)	13
	FX8C-***P-SV6 (21)	15
Receptacle	FX8C-***S-SV (21)	7.4
	FX8C-***S-SV5 (21)	12.4

## [Embossed Tape Package]

### ●Carrier Size Pattern



\* The above figure represents the case of the receptacle connector.

Unit: mm

P/S	Part Number	A	B	C	D	E	Product Pieces
Header	FX8C-**-P-SV (22)	5.5	7.9	5.2	1.2	φ370	1000 pieces
	FX8C-**-P-SV1 (22)	5.5	7.9	6.2	1.2	φ370	1000 pieces
	FX8C-**-P-SV2 (22)	5.5	7.9	7.2	1.2	φ330	500 pieces
	FX8C-**-P-SV4 (22)	5.5	7.9	9.2	1.2	φ370	500 pieces
	FX8C-**-P-SV6 (22)	5.5	7.9	11.2	1.2	φ370	500 pieces
Receptacle	FX8C-**-S-SV (22)	6.0	8.4	4.3	1.2	φ330	1000 pieces
	FX8C-**-S-SV5 (22)	6.0	8.4	9.3	1.2	φ370	500 pieces

\*\* : Number of Contacts

### ●Reel State Size Pattern (FREE)

