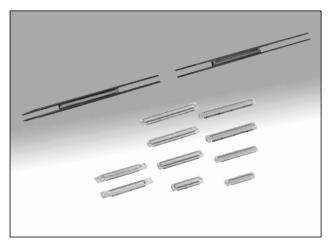


# 0.6mm Pitch Stacking Height 3mm to 16mm Connector

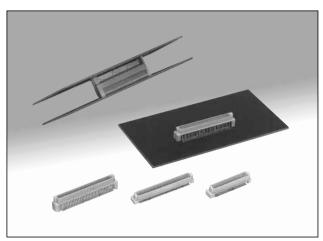
## FX8, FX8C Series

FX8 Series



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

#### **FX8C Series**



## ■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.

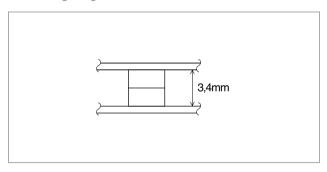
#### 3. Mating Guide

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

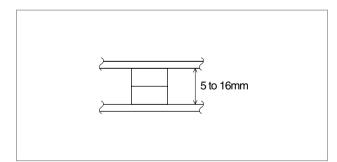
#### 4. Mis-insertion Prevention

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

#### 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

Detina	Current rating 0.4A	Operating Temperature Range -55°C to +85°C Note 1.	Storage Temperature Range −10°C to +60°C Note 2.
Rating	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 1 $\mu$ s 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℃: 30 minutes, 15 to 35℃: 2 to 3minutes) 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: 360°C for 5 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.

Note 3: Slight variations in color of the plastic compounds do not affect form, fit or function of the connector.

Note 4: FX8C-\*P-SV(\*),FX8C-\*S-SV(\*) is gold plated.

Note 5: Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

## **■**Material

Part	Material	Fin	nish	Remarks
Insulator	PBS	Light	brown	UL94V-0
Header Contact	Phosphor bronze	Contact area Lead area	Gold plated Tin plated(Note 4)	<del></del>
Receptacle Contact	Phosphor bronze	Contact area Lead area	Gold plated Tin plated(Note 4)	

# **■**Ordering Information

Single Product

Series Name:	FX8C	5 Product height variation Blank : Standard (Minimum low profile		
2 Number of Con	tacts :60, 80, 90, 120, 140	1: +1mm · · · · · 3:+3mm		
3 Connector type	P :Header	Packaging Type		
	S :Receptacle	(71) : Tray packaging		
Contact type	SV :Board vertical type	(91) : Tube packaging		
		(92) : Embossed tape package		

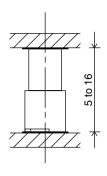
two-piece Connection Product

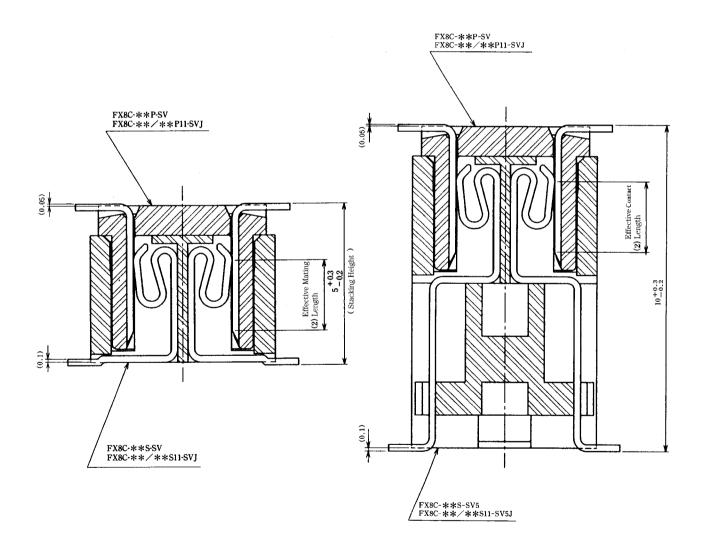
`		•	0 0 0
① Series Name :FX8	BC .	4 Connector to Co	onnector Pitch
2 Number of Contacts	s: 60×2, 80×2, 90×2,	<b>6</b> Contact type	SV : Board vertical type
	100×2, 120×2, 140×2	6 Product Height Variati	on Blank : Standard (Minimum lot profile)
	Example: 120/120 = 240 contacts		1:+1mm · · · · · 3:+3mm
3 Connector Type :	P : Header	J: two-piece con	nection product
	S : Receptacle		

<sup>\*</sup>The standard packaging of the two-piece connection product is the tray packaging.

# **●**Stacking Height Variation

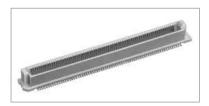
Receptacle	FX8C-**S-SV FX8C-**/**S11-SVJ	FX8C-**S-SV5 FX8C-**/**S11-SV5J
FX8C-**P-SV FX8C-**/**P11-SVJ	5mm	10mm
FX8C-**P-SV1 FX8C-**/**P11-SV1J	6mm	11mm
FX8C-**P-SV2 FX8C-**/**P11-SV2J	7mm	12mm
FX8C-**P-SV4 FX8C-**/**P11-SV4J	9mm	14mm
FX8C-**P-SV6 FX8C-**/**P11-SV6J	11mm	16mm

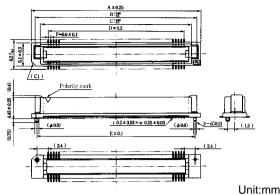




The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information. All non-Rolf-X8, urtx 820 series of its of its contact your Hirose sales representative.

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





Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	Tube packaging Quantity (Pieces)	RoHS
FX8C- 60P-SV(92)	578-0501-9-92	60	24.60	23.00	20.70	17.40	22.20	21	
FX8C- 80P-SV(92)	578-0503-4-92	80	30.60	29.00	26.70	23.40	28.20	17	
FX8C-100P-SV(92)	578-0505-0-92	100	36.60	35.00	32.70	29.40	34.20	14	YES
FX8C-120P-SV(92)	578-0506-2-92	120	42.60	41.00	38.70	35.40	40.20	12	
FX8C-140P-SV(92)	578-0507-5-92	140	48.60	47.00	44.70	41.40	46.20	10	

\*\*71: Tray packaging product 91: Tube packaging product

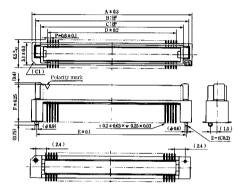
92 : Embossed tape packaging product
Note 1: To order the tube packaging product, please determine the quantity for delivery, multiplying the tube packaging product by an integer.

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 A182 for details.

Note 3: Tray packaging product is not for board placement with automatic equipment.







Unit: mm

Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	F	Tube packaging Quantity (Pieces)	RoHS
FX8C- 60P-SV1(92)	578-0521-6-92							5.45		
FX8C- 60P-SV2(92)	578-0541-3-92	60	24.60	23.00	20.70	17.40	22.20	6.45	21	
FX8C- 60P-SV4(92)	578-0581-8-92		24.00	23.00	20.70	17.40	22.20	8.45		
FX8C- 60P-SV6(92)	578-0601-3-92							10.45		
FX8C- 80P-SV1(92)	578-0523-1-92							5.45		
FX8C- 80P-SV2(92)	578-0543-9-92	80	20.00	29.00 26.70	00.70	3.40 28.20	6.45	47		
FX8C- 80P-SV4(92)	578-0583-3-92	80	30.60	29.00	26.70	23.40	28.20	8.45	17	
FX8C- 80P-SV6(92)	578-0603-9-92							10.45		
FX8C-100P-SV1(92)	578-0525-7-92	100			35.00 32.70 29.40		5.45			
FX8C-100P-SV2(92)	578-0545-4-92		20.00	25.00		70 20 40	24.20	6.45	14	YES
FX8C-100P-SV4(92)	578-0585-9-92	100	36.60	35.00		32.70   29.40	29.40 34.20	8.45	- 14	ILS
FX8C-100P-SV6(92)	578-0605-4-92							10.45		
FX8C-120P-SV1(92)	578-0526-0-92							5.45		
FX8C-120P-SV2(92)	578-0546-7-92	100	40.00	44.00	20.70	25.40	40.00	6.45	12	
FX8C-120P-SV4(92)	578-0586-1-92	120	42.60	41.00	38.70	35.40	40.20	8.45		
FX8C-120P-SV6(92)	578-0606-7-92							10.45		
FX8C-140P-SV1(92)	578-0527-2-92							5.45		
FX8C-140P-SV2(92)	578-0547-0-92	4.40	40.00	47.00	44.70	44.40	40.00	6.45	40	
FX8C-140P-SV4(92)	578-0587-4-92	140	48.60	47.00	44.70	41.40	46.20	8.45	10	
ote 5 FX8C-140P-SV6(93)	578-0607-0-93							10.45		

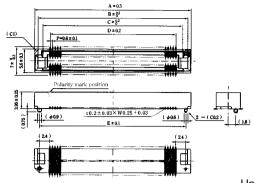
\*\* 71: Tray packaging product 91: Tube packaging product 92: Embossed tape packaging product Note 1: To order the tube packaging product, please determine a quantity for delivery, multiplying the tube packaging product by an integer. Note 2: The embossed tape packaging product is prepared for 60 and 80 contacts only. In addition, the product will be sold per reel unit.

Please refer to the packaging specification item on page A182 for details. Note 3: The locator material is installed between leads for the FX8C-P-SV6 type.

Note 4: Tray packaging product is not for board placement with automatic equipment. Note 5: (93) spec is with vacuum pick-up tape, embossed tape packaging product.

# **■**Receptacle (Single Product) [FX8C-\*\*S-SV]





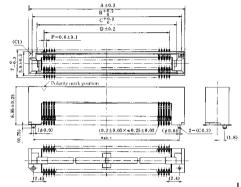
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Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	Tube packaging Quantity (Pieces)	RoHS
FX8C- 60S-SV(92)	578-0801-2-92	60	24.60	23.05	20.80	17.40	22.20	21	
FX8C- 80S-SV(92)	578-0803-8-92	80	30.60	29.05	26.80	23.40	28.20	17	
FX8C-100S-SV(92)	578-0805-3-92	100	36.60	35.05	32.80	29.40	34.20	14	YES
FX8C-120S-SV(92)	578-0806-6-92	120	42.60	41.05	38.80	35.40	40.20	12	
FX8C-140S-SV(92)	578-0807-9-92	140	48.60	47.05	44.80	41.40	46.20	10	

- \*\* 71: Tray packaging product 91: Tube packaging product 92: Embossed tape packaging product Note 1: To order the tube packaging product, please determine a 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 packaging specification item on page A182 for details.
- Note 3: Tray packaging product is not for board placement with automatic equipment.

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



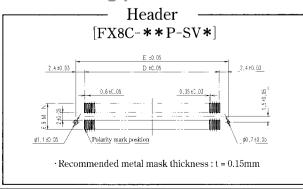


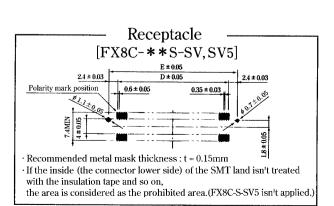
Unit:mm

Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	Tube packaging Quantity (Pieces)	RoHS
FX8C- 60S-SV5(92)	578-0821-0-92	60	24.60	23.05	20.80	17.40	22.20	21	
FX8C- 80S-SV5(92)	578-0823-5-92	80	30.60	29.05	26.80	23.40	28.20	17	
FX8C-100S-SV5(92)	578-0825-0-92	100	36.60	35.05	32.80	29.40	34.20	14	YES
FX8C-120S-SV5(92)	578-0826-3-92	120	42.60	41.05	38.80	35.40	40.20	12	
FX8C-140S-SV5(92)	578-0827-6-92	140	48.60	47.05	44.80	41.40	46.20	10	

- \*\* 71: Tray packaging product 91: Tube packaging product 92: Embossed tape packaging product
- Note 1: To order the tube packaging product, please determine a quantity for delivery multiplying the tube packaging product by an integer.
- Note 2: 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 A182 for details.
- Note 3: Tray packaging product is not for board placement with automatic equipment.

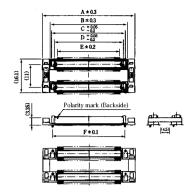
# PCB mounting pattern





# **■**Header (two-pieces Connection Product) [FX8C-\*\*/\*\*P11-SVJ]





Unit:mm

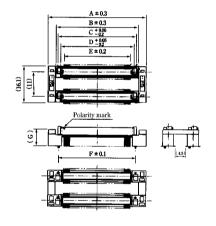
Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	F	RoHS
FX8C- 60/ 60P11-SVJ(71)	578-0651-1-71	60×2	31.70	24.70	23.00	20.70	17.40	22.20	
FX8C- 80/ 80P11-SVJ(71)	578-0653-7-71	80×2	37.70	30.70	29.00	26.70	23.40	28.20	
FX8C-100/100P11-SVJ(71)	578-0655-2-71	100×2	43.70	36.70	35.00	32.70	29.40	34.20	YES
FX8C-120/120P11-SVJ(71)	578-0656-5-71	120×2	49.70	42.70	41.00	38.70	35.40	40.20	
FX8C-140/140P11-SVJ(71)	578-0657-8-71	140×2	55.70	48.70	47.00	44.70	41.40	46.20	

Note 1: The two-piece connection product is packaged by tray.

Note 2: Tray packaging product is not for board placement with automatic equipment.

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





Unit: mm

Part Number	CL No.	Number of Contacts	Α	В	С	D	E	F	G	Н	RoHS
FX8C- 60/ 60P11-SV1J(71)	578-0671-9-71		31.70	24.70	23.00	20.70	17.40	22.20	4.35	5.45	
FX8C- 60/ 60P11-SV2J(71)	578-0691-6-71	60×2							5.35	6.45	
FX8C- 60/ 60P11-SV4J(71)	578-0731-9-71	00/2							7.35	8.45	
FX8C- 60/ 60P11-SV6J(71)	578-0751-6-71								9.35	10.45	
FX8C- 80/ 80P11-SV1J(71)	578-0673-4-71	80×2						28.20	4.35	5.45	
FX8C- 80/ 80P11-SV2J(71)	578-0693-1-71		37.70 30.70	00.70	.70 29.00	26.70	23.40		5.35	6.45	YES
FX8C- 80/ 80P11-SV4J(71)	578-0733-4-71			30.70					7.35	8.45	
FX8C- 80/ 80P11-SV6J(71)	578-0753-1-71								9.35	10.45	
FX8C-100/100P11-SV1J(71)	578-0675-0-71	100×2	43.70 3			32.70	29.40	34.20	4.35	5.45	
FX8C-100/100P11-SV2J(71)	578-0695-7-71			36.70	35.00				5.35	6.45	
FX8C-100/100P11-SV4J(71)	578-0735-0-71								7.35	8.45	
FX8C-100/100P11-SV6J(71)	578-0755-7-71								9.35	10.45	
FX8C-120/120P11-SV1J(71)	578-0676-2-71								4.35	5.45	
FX8C-120/120P11-SV2J(71)	578-0696-0-71	100.40	40.70	40.70	44.00	20.70	05.40	40.00	5.35	6.45	
FX8C-120/120P11-SV4J(71)	578-0736-2-71	120×2	49.70	42.70	41.00	38.70	35.40	40.20	7.35	8.45	
FX8C-120/120P11-SV6J(71)	578-0756-0-71								9.35	10.45	
FX8C-140/140P11-SV1J(71)	578-0677-5-71				47.00	44.70	41.40		4.35	5.45	
FX8C-140/140P11-SV2J(71)	578-0697-2-71	140>/2	EE 70	40.70				46.20	5.35	6.45	
FX8C-140/140P11-SV4J(71)	578-0737-5-71	140×2	55.70	48.70					7.35	8.45	
FX8C-140/140P11-SV6J(71)	578-0757-2-71								9.35	10.45	

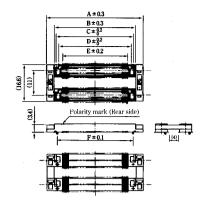
Note 1: The two-piece connection product is packaged by tray.

Note 2: Tray packaging product is not for board placement with automatic equipment.

Note 3: The locator material is installed between leads for the FX8C-\*\*/\*\*P11-SV6J type.

# ■Receptacle (two-piece Connection Product) [FX8C-\*\*/\*\*\$11-\$VJ]





Unit:mm

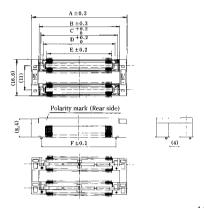
Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	F	RoHS
FX8C-060/060S11-SVJ(71)	578-0901-7-71	60×2	31.70	24.60	23.05	20.80	17.40	22.20	
FX8C-080/080S11-SVJ(71)	578-0903-2-71	80×2	37.70	30.60	29.05	26.80	23.40	28.20	
FX8C-100/100S11-SVJ(71)	578-0905-8-71	100×2	43.70	36.60	35.05	32.80	29.40	34.20	YES
FX8C-120/120S11-SVJ(71)	578-0906-0-71	120×2	49.70	42.60	41.05	38.80	35.40	40.20	
FX8C-140/140S11-SVJ(71)	578-0907-3-71	140×2	55.70	48.60	47.05	44.80	41.40	46.20	

Note 1: The two-piece connection product is packaged by tray.

Note 2: Tray packaging product is not for board placement with automatic equipment.

## [FX8C-\*\*/\*\*S11-SV5J]





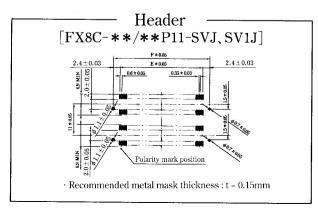
Unit:mm

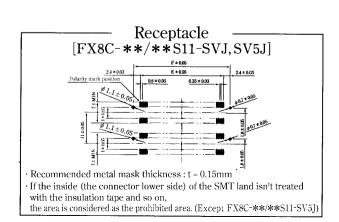
Part Number	CL No.	Number of Contacts	Α	В	С	D	Е	F	RoHS
FX8C-060/060S11-SV5J(71)	578-0921-4-71	60×2	31.70	24.60	23.05	20.80	17.40	22.20	
FX8C-080/080S11-SV5J(71)	578-0923-0-71	80×2	37.70	30.60	29.05	26.80	23.40	28.20	
FX8C-100/100S11-SV5J(71)	578-0925-5-71	100×2	43.70	36.60	35.05	32.80	29.40	34.20	YES
FX8C-120/120S11-SV5J(71)	578-0926-8-71	120×2	49.70	42.60	41.05	38.80	35.40	40.20	
FX8C-140/140S11-SV5J(71)	578-0927-0-71	140×2	55.70	48.60	47.05	44.80	41.40	46.20	

Note 1: The two-piece connection product is packaged by tray.

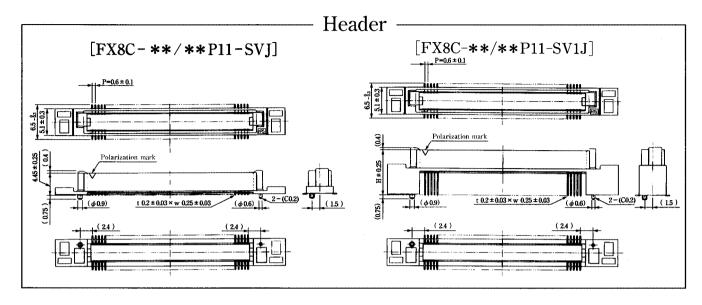
Note 2: Tray packaging product is not for board placement with automatic equipment.

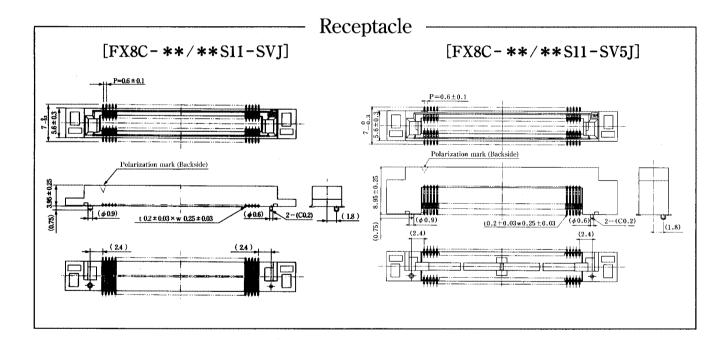
# **▶** PCB mounting pattern





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





## **◆**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.

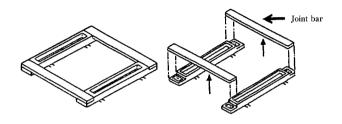
### 3. Stacking General Tolerance in Mating

Stack Amm 
$$\longrightarrow$$
 A  $^{+0.3}_{-0.2}$  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.)



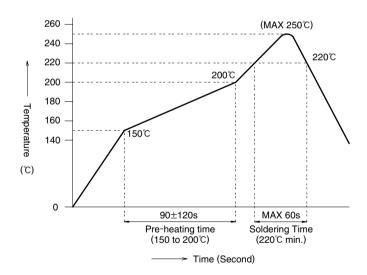




Before removing joint bar

After removing joint bar

## 5. Mounting Temperature Profile (Reference)



## **HRS test conditions**

Test boardGlass epoxy 161mm×100mm×1.6mm thick

Solder method :Reflow Solder composition :Paste,

96.5%Sn/3%Ag/0.5%Cu

Metal mask : 0.15mm thick Reflow cycles : 2 cycles

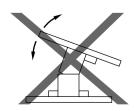
The temperature profile is based on the above conditions.

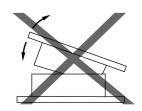
In individual applications the actual temperature may vary, depending on solder paste type,

volume/thickness and board size/thickness. Consult your solder paste and equipment manufacturer for specific recommendations.

#### 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				
	Packaged Product Pieces	21 pieces	17 pieces	14 pieces	12-pieces	10pieces				
Tube packaging	Sales Unit	Deliver the multiplied pieces. (Example) In case of 20 contacts,21 pieces, 4two-pieces,								
	Total Tube Length	550mm±2mm								
	Tape Width	44mm		56mm		72mm				
	Product Pitch	12mm								
Embossed Tape Packaging	Emboss Reel Diameter	Refer to the table on page A183 in this catalog.								
	Packaged Product Pieces	Refer to the table on page A183 in this catalog.								
	Sales Unit	Per reel								

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

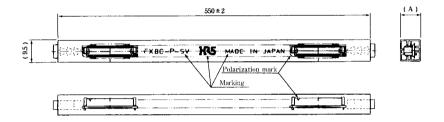
In addition, the packaging type of the two-piece connection product is the tray packaging.

# **●** Packaging Specification

# [Tube packaging]

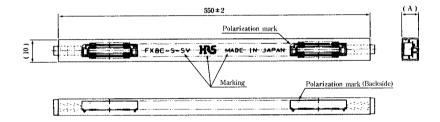
## ●Header

[FX8-\*\*P-SV (91)] [FX8-\*\*P-SV1 (91)] [FX8-\*\*P-SV2 (91)] [FX8-\*\*P-SV4 (91)] [FX8-\*\*P-SV6 (91)]



## Receptacle

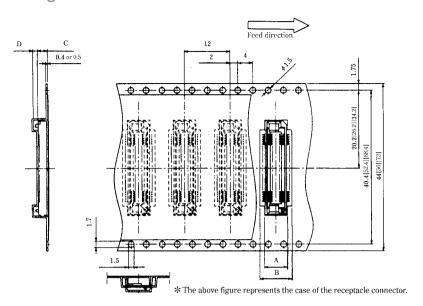
[FX8C-\*\*S-SV (91)] [FX8C-\*\*S-SV5 (91)]



P/S	Part Number	А
	FX8C-**P-SV (91)	9
	FX8C-**P-SV1 (91)	10
Header	FX8C-**P-SV2 (91)	11
	FX8C-**P-SV4 (91)	13
	FX8C-**P-SV6 (91)	15
Decenteele	FX8C-**S-SV (91)	7.4
Receptacle	FX8C-**S-SV5 (91)	12.4

# [Embossed Tape Package]

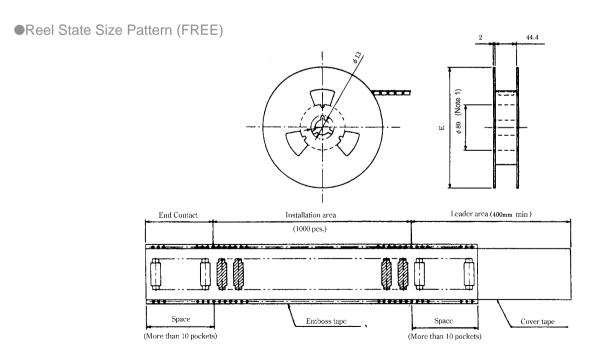
## Carrier Size Pattern



Unit: mm

P/S	Part Number	Α	В	С	D	Е	Product Pieces	
	FX8C-**P-SV (92)	5.5	7.9	5.2	1.2	φ370	1000 pieces	
	FX8C-**P-SV1 (92)	5.5	7.9	6.2	1.2	φ370	1000 pieces	
Header	FX8C-**P-SV2 (92)	5.5	7.9	7.2	1.2	φ330	500 pieces	
	FX8C-**P-SV4 (92)	5.5	7.9	9.2	1.2	φ370	500 pieces	Note 2
	FX8C-**P-SV6 (92)	5.5	7.9	11.2	1.2	φ370	500 pieces	
Dogantagle	FX8C-**S-SV (92)	6.0	8.4	4.3	1.2	<i>φ</i> 330	1000 pieces	Note 1
Receptacle	FX8C-**S-SV5 (92)	6.0	8.4	9.3	1.2	φ370	500 pieces	Note 2

\*\*: Number of Contacts



Note 1: E dimension for FX8C-140S-SV(92) is  $\phi$ 370, core dia. is  $\phi$ 100.

Note 2: E dimension for FX8C-120P-SV2(92), FX8C-120S-SV5(92), FX8C-140S-SV5(92) is  $\phi$ 380.