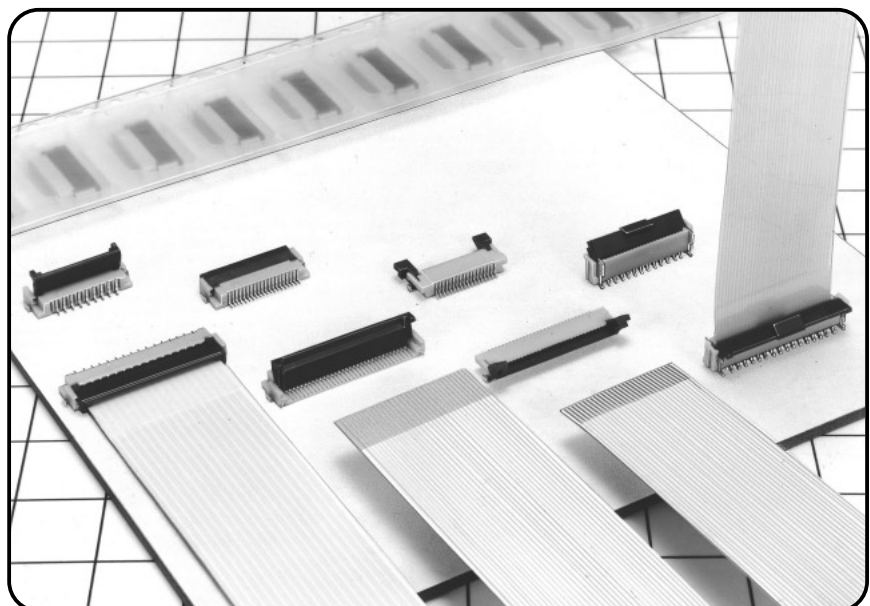
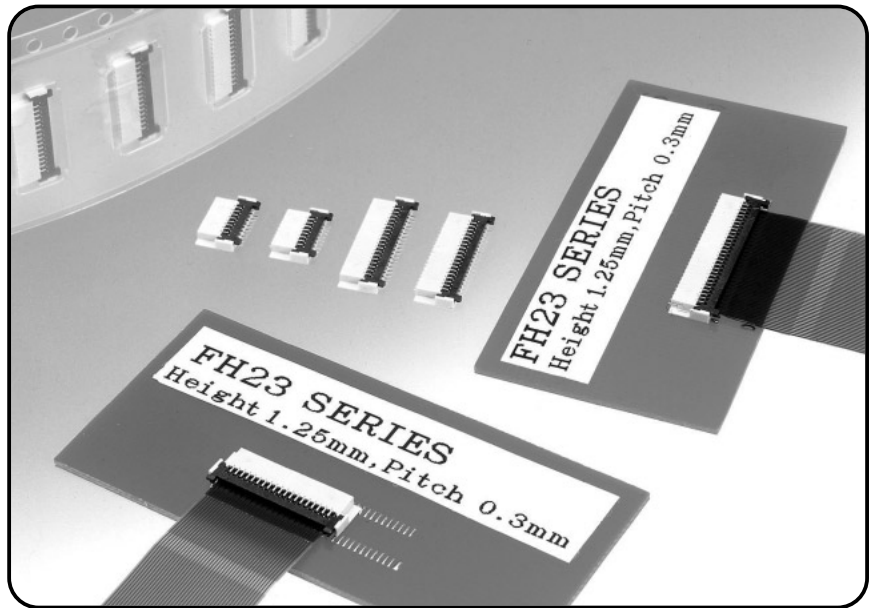


# FPC/FFC Connectors



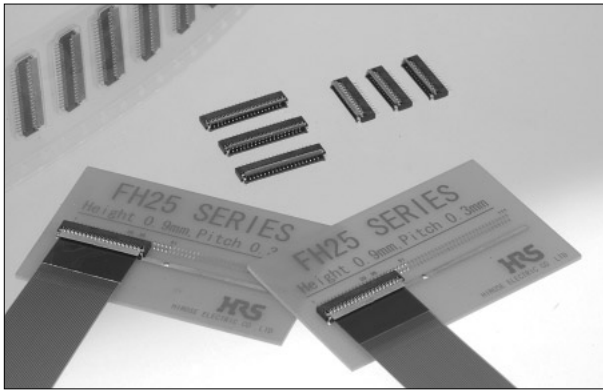
# FPC/FFC Connectors



Contact Pitch (mm)	Height from board (mm)	Applicable FPC/FFC thickness (mm)	Terminal	Series Name	Page
0.3mm	0.9	0.2	Staggered row	FH25	151
	1			FH26	151
	1.25			FH23	152
	1.8			FH18	152
0.3/0.4/0.5mm	3	0.3		FH16	153
0.4mm	1.2	0.2	Single row	FH27	153
0.5mm	0.9	0.2,0.3		FH19	154
	1.3	0.17		FH17	154
	2.55	0.3		FH28	155
0.5/1.0mm	2			FH12	155

## 0.3mm pitch, 0.9mm above the board, FPC connectors

### FH25 Series



#### Features

- Low profile 0.3mm pitch flexible printed circuit (FPC) connectors.
- All bottom surface of the connector with no pattern-prohibited area (i.e., over-molding structure).
- The 0.3mm width staggered pin design with a mounting pitch of 0.6mm ensures mounting area reduction and easy mounting.
- Only slight force is required to lock the flip-lock (one-touch rotating system) zero insertion force (ZIF) structure.
- FPC 0.2mm thickness applicable, standard FPC thickness in the market despite its low profile.

#### Applications

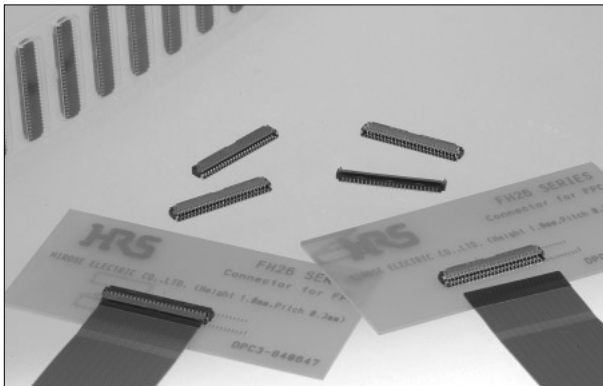
Mobile phone, LCD application, Digital video camera (DVC), Digital camera (DSC), PDA, Camera module, Compact electronic equipment

#### Specifications

Item	Requirements
No. of Positions	21-27-33-39-45-51
Current rating (A)	0.15
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.6
Contact Pitch (mm)	0.3
Contact Layout	Double row
Operating Temperature Range (°C)	-55 to 85
Insulator	LCP (UL94V-0, Color: Black, Dark brown)
Applicable FPC/FFC (mm)	0.2
Remarks	FPC connector

## 0.3mm pitch, 1mm above the board, FPC connectors

### FH26 Series



#### Features

- Space saving design: connector height is 1.0mm and depth of mounting area is 3.2mm.
- The soldering leads are on 0.6mm terminal spacing, existing on front and back of the connector, for easy solderability on the PCB.
- Board area under the connector is available for PCB patterning.
- Flip lock actuator allows easy insertion of FPC.
- Metal FPC insertion guide makes easy to insert FPC.

#### Applications

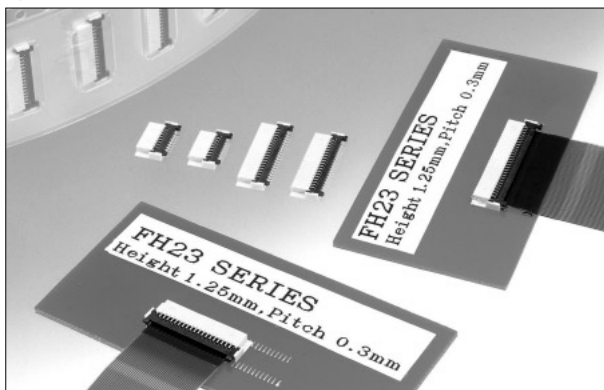
Mobile phone, LCD application, Digital video camera (DVC), Digital camera (DSC), PDA, Camera module, Compact electronic equipment

#### Specifications

Item	Requirements
No. of Positions	13-21-23-25-27-33-35-39-41-45-51-57-71
Current rating (A)	0.2
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.6
Contact Pitch (mm)	0.3
Contact Layout	Double row
Operating Temperature Range (°C)	-55 to 85
Insulator	LCP (UL94V-0, Color: Black, Dark brown)
Applicable FPC/FFC (mm)	0.2
Remarks	FPC connector

## 0.3mm pitch, 1.25mm above the board, FPC connectors

### FH23 Series



#### Features

- HIROSE's unique low insertion force (LIF) design improves the Flexible Printed Circuit (FPC) holding force after insertion.
- Provided with an flexible printed circuit (FPC) temporary hold mechanism, thus preventing the shift of the flexible printed circuit (FPC) and connector after flexible printed circuit (FPC) insertion.
- The staggered pin design with a mounting pitch of 0.6mm ensures ease of mounting.
- Only slight force is required to lock the flip-lock (one-touch rotating type) zero insertion force (ZIF) structure.

#### Applications

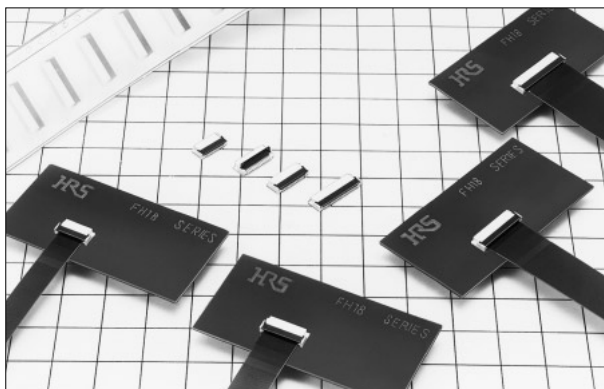
Mobile Phones, LCD units, DVC units, DSC units, PDA units, Camera modules, Compact equipment

#### Specifications

Item	Requirements
No. of Positions	15-17-21-23-25-27-31-33-39-45-51-61-71
Current rating (A)	0.3
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.6
Contact Pitch (mm)	0.3
Contact Layout	Double row
Operating Temperature Range (°C)	-55 to 85
Insulator	LCP (UL94V-0, Color: Black, beige)
Applicable FPC/FFC (mm)	0.2
Remarks	FPC connector

## 0.3mm pitch FPC connectors

### FH18 Series



#### Features

- Low profile 0.3mm pitch flexible printed circuit (FPC) connectors.
- A combination of non-ZIF and zero insertion force (ZIF) contacts improves an increase in reliability and workability at the time of flexible printed circuit (FPC) insertion.
- Only slight force is required to lock the flip-lock (one-touch rotating type) zero insertion force (ZIF) structure.
- The staggered pin design with a mounting pitch of 0.6mm ensures ease of mounting.
- Embossed tape packaging allows automatic mounting.

#### Applications

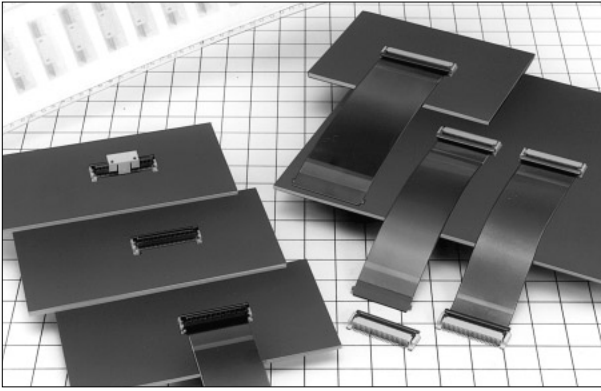
Digital camcorders, Digital still cameras, Cameras, PDA units, Mobile Phones, LCD units, CD-ROM drives, DVD-ROM drives, MD players, Compact equipment

#### Specifications

Item	Requirements
No. of Positions	17-21-25-27-39-45-51
Current rating (A)	0.15
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.6
Contact Pitch (mm)	0.3
Contact Layout	Double row
Operating Temperature Range (°C)	-40 to 85
Insulator	LCP (UL94V-0, Color: Black, beige)
Applicable FPC/FFC (mm)	0.2
Remarks	FPC connector

## High density FPC connectors (0.3mm/0.4mm/0.5mm pitch)

### FH16 Series



#### Features

- The FH16 series is a fine pitch of 0.3mm, 0.4mm, and 0.5mm ensures high density mounting of multipole connectors.
- Only slight force is required to lock the flip-lock (one-touch rotating type) zero insertion force (ZIF) structure.
- The locking mechanism clicks, thus making it possible to confirm secure flexible printed circuit (FPC) connections.
- Prevents flexible printed circuit (FPC) from falling out and oblique mating.
- The staggered pin design with a mounting pitch of 0.6mm ensures ease of mounting.

#### Applications

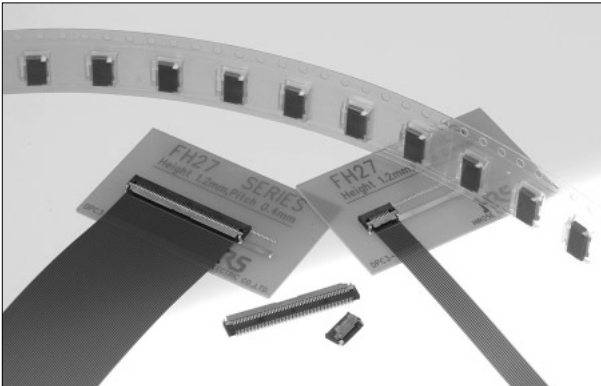
Notebook PCs, CD-ROM drives, Digital cameras, Printers, Compact equipment

#### Specifications

Item	Requirements
No. of Positions	50-60-64-80-90-96
Current rating (A)	0.15-0.3-0.4
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.6-0.8-1
Contact Pitch (mm)	0.3-0.4-0.5
Contact Layout	Double row
Operating Temperature Range (°C)	-40 to 70
Insulator	Polyamide, LCP (UL94V-0, Color: Beige), PPS (UL94V-0, Color: Dark brown)
Applicable FPC/FFC (mm)	0.3
Remarks	FPC connector

## 0.4mm pitch, 1.2mm above the board, FPC connectors

### FH27 Series



#### Features

- Low profile 0.4mm pitch flexible printed circuit (FPC) connectors.
- Higher current capacity than 0.3mm pitch FPC.
- Function to prevent flexible printed circuit (FPC) from falling out.
- FPC of 0.2mm thickness is applicable and easy to insert.
- Only slight force is required to lock the flip-lock (one-touch rotating system) zero insertion force (ZIF) structure.

#### Applications

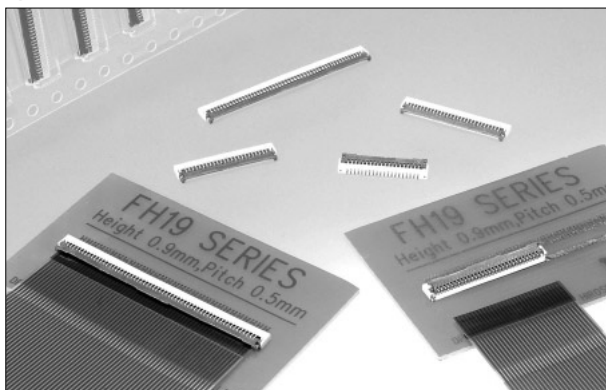
Mobile phone, LCD application, Digital video camera (DVC), Digital camera (DSC), PDA, Camera module, Compact electronic equipment

#### Specifications

Item	Requirements
No. of Positions	10-40-50-54-57-60
Current rating (A)	0.4
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.4
Contact Pitch (mm)	0.4
Contact Layout	Single row
Operating Temperature Range (°C)	-55 to 85
Insulator	LCP (UL94V-0, Color: Black, beige)
Applicable FPC/FFC (mm)	0.2
Remarks	FPC connector

## 0.5mm pitch, 0.9mm above the board, FPC/FFC connectors

### FH19 Series



#### Features

- Low profile 0.5mm pitch flexible printed circuit (FPC) connectors.
- The embossed tape reels made of paper.
- All bottom surface of the connector with no pattern-prohibited area (i.e., over-molding structure).
- Only slight force is required to lock the flip-lock (one-touch rotating type) zero insertion force (ZIF) structure.
- Accepting 0.2mm and 0.3mm thick flexible printed circuit (FPC), flexible flat cable (FFC), thus ensuring ease of insertion.

#### Applications

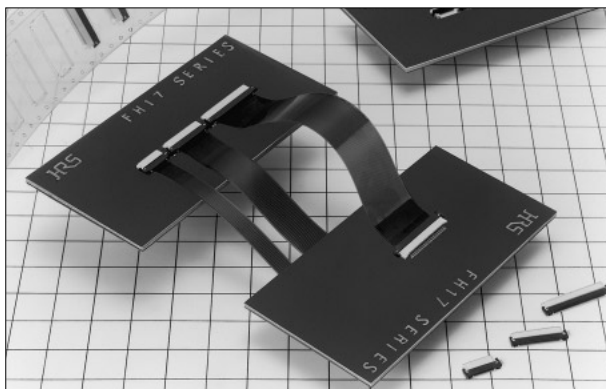
Mobile Phones, LCD units, DVC units, DSC units, PDA units, Camera modules, Compact equipment

#### Specifications

Item	Requirements
No. of Positions	4·5·6·8·9·10·12·13·14·15·16·17·18·20·21·22·24·26·27·30·32·40·45·50
Current rating (A)	0.5
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.5
Contact Pitch (mm)	0.5
Contact Layout	Single row
Operating Temperature Range (°C)	-55 to 85
Insulator	LCP (UL94V-0, Color: Beige), PPS (UL94V-0, Color: Black, dark brown)
Applicable FPC/FFC (mm)	0.2·0.3
Remarks	FPC/FFC connector

## 0.5mm pitch FPC connectors

### FH17 Series



#### Features

- Low profile 0.5mm pitch flexible printed circuit (FPC) connectors. An ultra miniature version of the FH12 Series.
- Only slight force is required to lock the flip-lock (one-touch rotating type) zero insertion force (ZIF) structure.
- PCB drop-in type as a variation is available.
- Conforming to the thin type flexible printed circuit (FPC) now being used for small size electronic devices such as cameras.
- Embossed tape packaging allows automatic mounting.

#### Applications

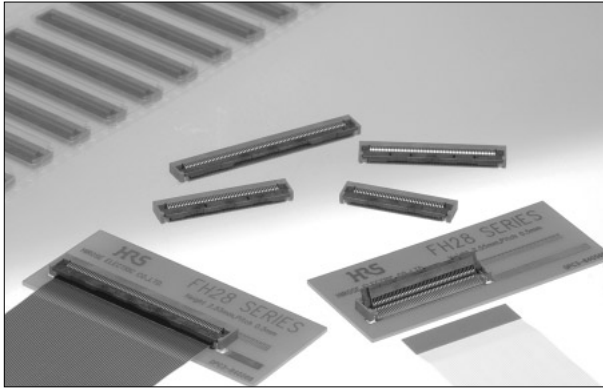
Mobile Phones, LCD-related applications, CD-ROM drives, Camera, Compact equipment

#### Specifications

Item	Requirements
No. of Positions	8·10·15·20·24·30
Current rating (A)	0.4
PCB Mount Type	SMT
Contact Plating	Tin-lead
Terminal Pitch (mm)	0.5
Contact Pitch (mm)	0.5
Contact Layout	Single row
Operating Temperature Range (°C)	-40 to 70
Insulator	LCP (UL94V-0, Color: Black, beige), PPS (UL94V-0, Color: Black)
Applicable FPC/FFC (mm)	0.17
Remarks	FPC connector

## 0.5mm pitch, 2.55mm above the board, FPC/FFC connectors

### FH28 Series



#### Features

- Stabilized connection quality by easy FPC positioning and high FPC retention force by robust lock structure.
- Greatly enhanced FPC/FFC retention force.
- Easy-to-use 0.3 mm thick FPC/FFC.
- High FPC operational reliability, achieved by user-friendly actuator operation.

#### Applications

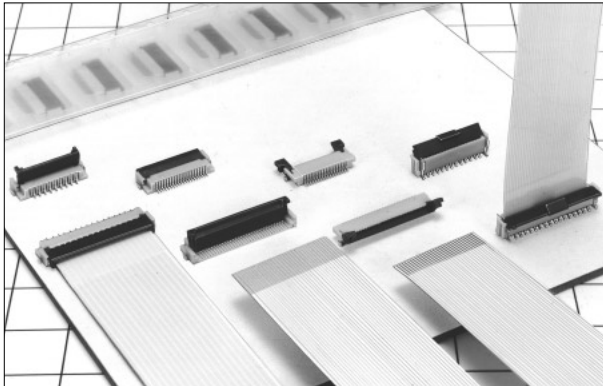
LCD, PDP, HDD, FPC multipole connection equipment

#### Specifications

Item	Requirements
No. of Positions	34·40·48·50·55·60·62·64·80
Current rating (A)	0.5
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.5
Contact Pitch (mm)	0.5
Contact Layout	Single row
Operating Temperature Range (°C)	-40 to 85
Insulator	LCP (UL94V-0, Color: Black, Gray)
Applicable FPC/FFC (mm)	0.3
Remarks	FPC/FFC connector

## 0.5mm and 1mm pitch FPC/FFC connectors

### FH12 Series



#### Features

- Only slight force is required to lock the flip-lock (one-touch rotating type) zero insertion force (ZIF) structure.
- The locking mechanism clicks, thus making it possible to confirm flexible printed circuit (FPC) and flexible flat cable (FFC) connections.
- One-touch zero insertion force (ZIF) structure reduces working space, thus making mounting possible in the center of the PCB.
- Upper, lower, and vertical contact types for flexible printed circuit (FPC) and flexible flat cable (FFC) connections are available.
- Models of 1mm pitch type as well as 0.5mm pitch type are available.

#### Applications

LCDs, Mobile Phones, CD-ROM drives, Compact equipment

#### Specifications

Item	Requirements
No. of Positions	4·5·6·7·8·9·10·11·12·13·14·15·16·17·18·19·20·22·24·25·26·28·29·30·32·33·34·36·40·42·45·49·50·53
Current rating (A)	0.4
PCB Mount Type	SMT
Contact Plating	Gold, tin-lead
Terminal Pitch (mm)	0.5·1·2
Contact Pitch (mm)	0.5,1
Contact Layout	Single row
Operating Temperature Range (°C)	-40 to 70
Insulator	Polyamide (UL94V-0, Color: Beige), PPS (UL94V-0, Color: Dark brown)
Applicable FPC/FFC (mm)	0.18·0.3
Remarks	FPC/FFC connector