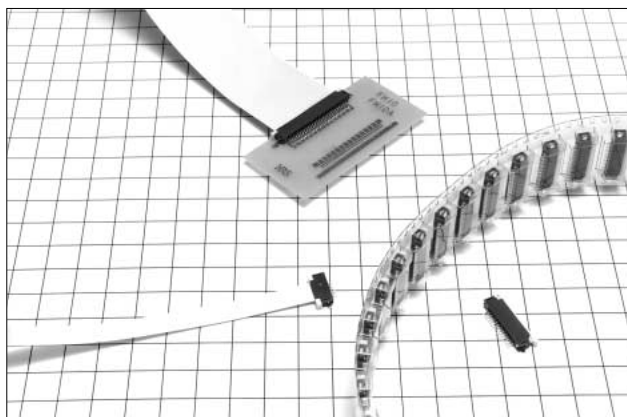


1mm Pitch FPC/FFC Connector

FH10A Series



■Features

1. ZIF Mechanism

ZIF mechanism allows a stable contact to slightly insert FPC and FFC connectors and push movable members, so that mounting serviceability can be secured.

2. 1mm Pitch Connector Suitable to SMT

This connector is installed in the board with high density, and automatic mountable SMT type, while the contact pitch is 1mm.

3. Products Packaged in Embossed Tapes

Products packaged in embossed tapes are available, correspondent to automatic mounting.

■Applications

HDD, facsimiles, printers, VTR, crystal liquid modules, etc.

■Product Specifications

Rating	Rated Current: 0.5A Rated Voltage: 50V AC	Operating Temperature Range: -55~+85°C (Note 1) Operating Humidity Range: Relative humidity, 90% max. (Not dewed)	Storage Temperature Range: -10~+60°C (Note 2) Storage Humidity Range: Relative humidity, 90% max. (Not dewed)
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Applicable FPC	t=0.3±0.5 Solder plating
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Item	Specification	Condition
1. Insulation Resistance	500MΩ min	Measured at 100V DC
2. Withstand voltage	Neither short or breakdown should occur	500V AC for 1 minute
3. Contact Resistance	25mΩ max. * FPC conductor resistance included	Measured at 100A
4. Mechanical operation	Contact resistance : 25mΩ max. No part should be broken, cracked or loosened	30 cycles
5. Vibration	Electrical discontinuity, 1μs min. No part should be broken, cracked or loosened	Frequency: 10~55Hz and full amplitude 1.52mm in 3 directions for 2 hours, respectively
6. Shock	Electrical discontinuity, 1μs min. No part should be broken, cracked or loosened	Acceleration: 490m/S ² , duration: 11ms, sine half-wave in 3 directions for 3 times, respectively
7. Moisture Resistance in Steady State	Contact resistance: 25mΩ max. Insulation resistance: 50MΩ min. No part should be broken, cracked or loosened	Exposed to temperature 40°C and humidity 90~95% for 96 hours
8. Temperature Cycle	Contact resistance: 25mΩ max. Insulation resistance: 50MΩ min. No part should be broken, cracked or loosened	Temperature: -40°C→+15~35→+85→+15~+35°C Time: 30→5~30 max.→ 5 minutes 5 cycles under conditions as follows
9. Resistance to Soldering heat	Neither appearance should be deformed nor contact remarkably loosened.	Reflow: According to recommended temperature profile Automatic soldering: 350±5 for 3 seconds

Note 1. Temperature rise included when energized

Note 2. This storage indicates a long-term storage state for the unused product before board mounted. The operating temperature and humidity ranges are applied to the non-energized state after the connector has been installed in the board.

Note 3. The above standards represent this series. The individual formal agreement should be based on the "Specification"

Material

Part	Material	Finish	Remarks
Insulator	PBT	Natural	UL94V-0
Contact	Phosphor bronze	Solder plating	—

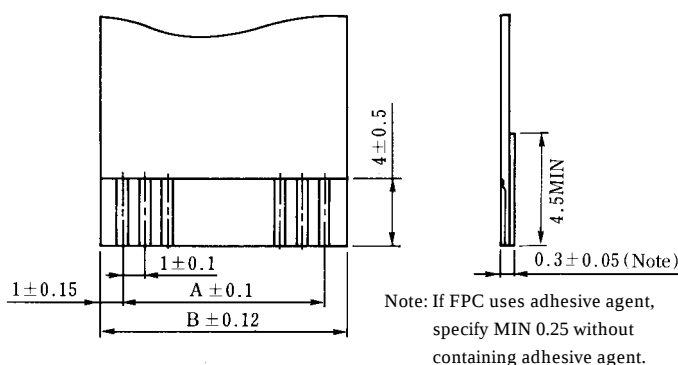
Ordering Information

Please determine the specific product. If needed, please select and order the product from the product No. as listed on catalog page D12 and D13.

FH 10A - 10 S - 1 SH B (02)
q w e r t y u i

q Series Name : FH	y Contact Style : SH : SMT type
w Series No. : 10A	u Positioning boss : No symbol : Without boss B : With boss
e Number of Contacts: 6 to 30	
r Contact alignment: Single	i Package style : No symbol...Tube : packaging (02)...Embossed tape packaging
t Contacts Pitch : 1mm	

FPC · FFC Dimensions



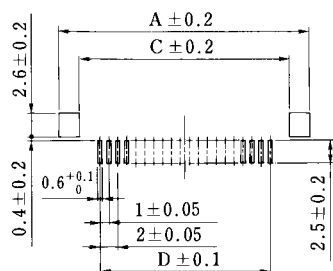
Unit : mm

Size	A	B
Number of Contacts		
6	5	7
7	6	8
8	7	9
9	8	10
10	9	11
11	10	12
12	11	13
13	12	14
14	13	15
15	14	16
16	15	17
17	16	18
18	17	19

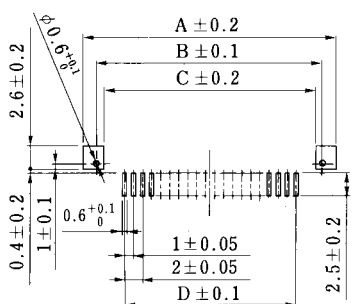
Size	A	B
Number of Contacts		
19	18	20
20	19	21
21	20	22
22	21	23
23	22	24
24	23	25
25	24	26
26	25	27
27	26	28
28	27	29
29	28	30
30	29	31

PCB Footprints

Without boss



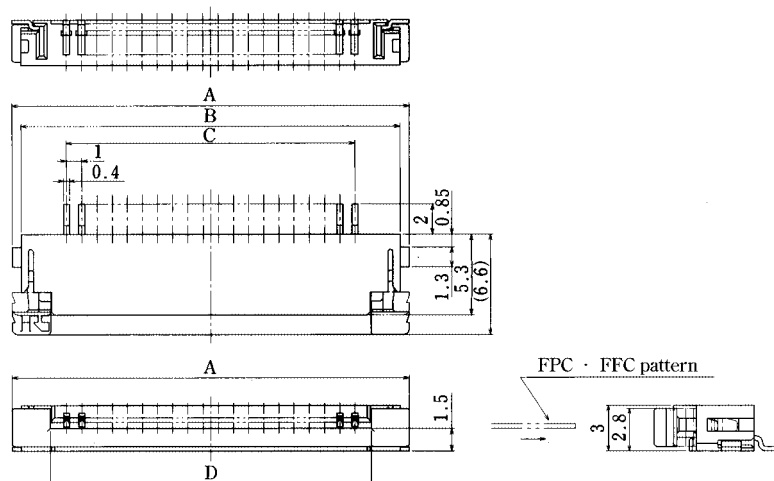
With Boss



Unit : mm

Size	A	B	C	D
Number of Contacts				
6	14	10.9	9.4	5
7	15	11.9	10.4	6
8	16	12.9	11.4	7
9	17	13.9	12.4	8
10	18	14.9	13.4	9
11	19	15.9	14.4	10
12	20	16.9	15.4	11
13	21	17.9	16.4	12
14	22	18.9	17.4	13
15	23	19.9	18.4	14
16	24	20.9	19.4	15
17	25	21.9	20.4	16
18	26	22.9	21.4	17
19	27	23.9	22.4	18
20	28	24.9	23.4	19
21	29	25.9	24.4	20
22	30	26.9	25.4	21
23	31	27.9	26.4	22
24	32	28.9	27.4	23
25	33	29.9	28.4	24
26	34	30.9	29.4	25
27	35	31.9	30.4	26
28	36	32.9	31.4	27
29	37	33.9	32.4	28
30	38	34.9	33.4	29

■Without Boss Type



Unit:mm

Product No.	HRS No.	Number of Contacts	A	B	C	D	Tube packed Quantity (pcs.)
FH10A- 6S-1SH	CL586-0495-2	6	12.2	11	5	7.15	39
FH10A- 7S-1SH	CL586-0496-5	7	13.2	12	6	8.15	36
FH10A- 8S-1SH	CL586-0497-8	8	14.2	13	7	9.15	33
FH10A- 9S-1SH	CL586-0498-0	9	15.2	14	8	10.15	31
FH10A-10S-1SH	CL586-0499-3	10	16.2	15	9	11.15	29
FH10A-11S-1SH	CL586-0500-0	11	17.2	16	10	12.15	27
FH10A-12S-1SH	CL586-0501-3	12	18.2	17	11	13.15	26
FH10A-13S-1SH	CL586-0502-6	13	19.2	18	12	14.15	25
FH10A-14S-1SH	CL586-0503-9	14	20.2	19	13	15.15	23
FH10A-15S-1SH	CL586-0504-1	15	21.2	20	14	16.15	22
FH10A-16S-1SH	CL586-0505-4	16	22.2	21	15	17.15	21
FH10A-17S-1SH	CL586-0506-7	17	23.2	22	16	18.15	20
FH10A-18S-1SH	CL586-0507-0	18	24.2	23	17	19.15	19
FH10A-19S-1SH	CL586-0508-2	19	25.2	24	18	20.15	19
FH10A-20S-1SH	CL586-0509-5	20	26.2	25	19	21.15	18
FH10A-21S-1SH	CL586-0510-4	21	27.2	26	20	22.15	17
FH10A-22S-1SH	CL586-0511-7	22	28.2	27	21	23.15	17
FH10A-23S-1SH	CL586-0512-0	23	29.2	28	22	24.15	16
FH10A-24S-1SH	CL586-0513-2	24	30.2	29	23	25.15	15
FH10A-25S-1SH	CL586-0514-5	25	31.2	30	24	26.15	15
FH10A-26S-1SH	CL586-0515-8	26	32.2	31	25	27.15	14
FH10A-27S-1SH	CL586-0516-0	27	33.2	32	26	28.15	14
FH10A-28S-1SH	CL586-0517-3	28	34.2	33	27	29.15	14
FH10A-29S-1SH	CL586-0518-6	29	35.2	34	28	30.15	13
FH10A-30S-1SH	CL586-0519-9	30	36.2	35	29	31.15	13

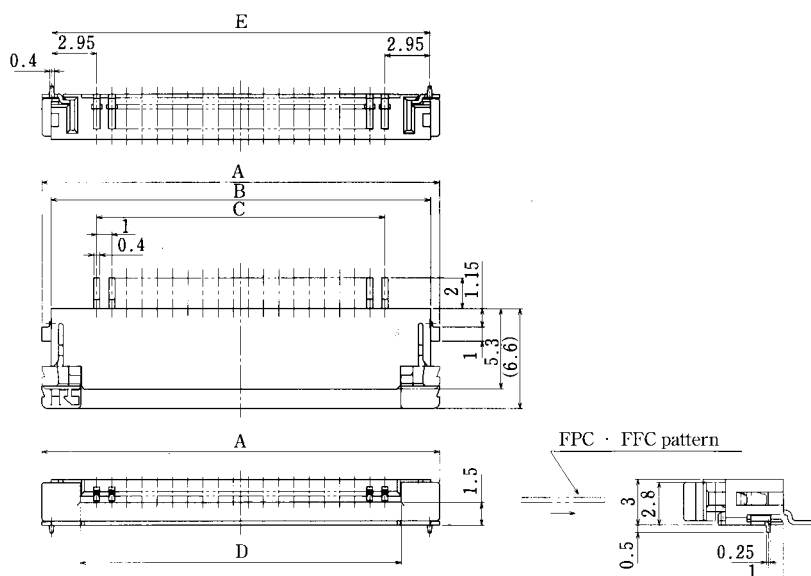
Note 1. Please order the products, thus multiplying the tube packaging quantity by an integer.

Note 2. The emboss package specification is also provided. If needed, please contact Hirose Sales Department.

(Number of contacts: 8, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 30 and others will be sequentially specified.)

In addition, the emboss package contains 1,000 pcs./reel.

■With Boss Type



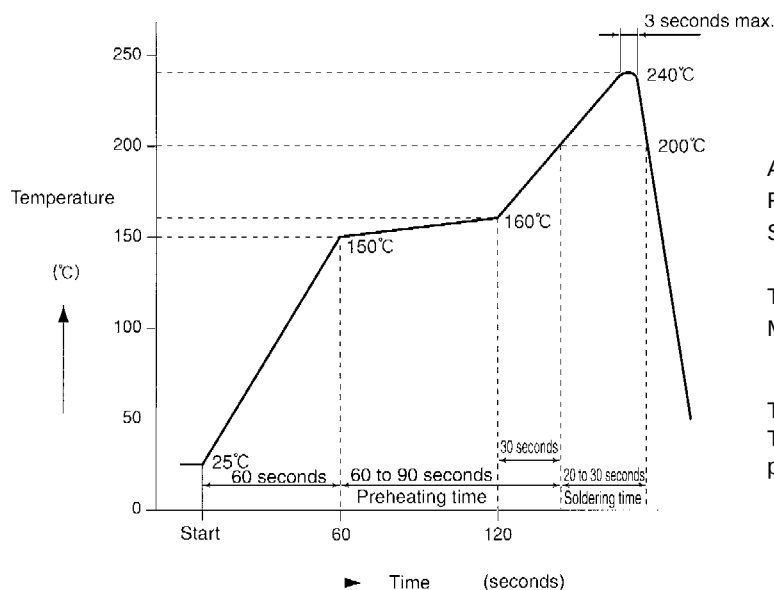
Unit: mm

Product No.	HRS No.	Number of Contacts	A	B	C	D	E	Tube packed Quantity (pcs.)
FH10A- 6S-1SHB	CL586-0470-1	6	12.2	11	5	7.15	10.9	39
FH10A- 7S-1SHB	CL586-0471-4	7	13.2	12	6	8.15	11.9	36
FH10A- 8S-1SHB	CL586-0472-7	8	14.2	13	7	9.15	12.9	33
FH10A- 9S-1SHB	CL586-0473-0	9	15.2	14	8	10.15	13.9	31
FH10A-10S-1SHB	CL586-0474-2	10	16.2	15	9	11.15	14.9	29
FH10A-11S-1SHB	CL586-0475-5	11	17.2	16	10	12.15	15.9	27
FH10A-12S-1SHB	CL586-0476-8	12	18.2	17	11	13.15	16.9	26
FH10A-13S-1SHB	CL586-0477-0	13	19.2	18	12	14.15	17.9	25
FH10A-14S-1SHB	CL586-0478-3	14	20.2	19	13	15.15	18.9	23
FH10A-15S-1SHB	CL586-0479-6	15	21.2	20	14	16.15	19.9	22
FH10A-16S-1SHB	CL586-0480-5	16	22.2	21	15	17.15	20.9	21
FH10A-17S-1SHB	CL586-0481-8	17	23.2	22	16	18.15	21.9	20
FH10A-18S-1SHB	CL586-0482-0	18	24.2	23	17	19.15	22.9	19
FH10A-19S-1SHB	CL586-0483-3	19	25.2	24	18	20.15	23.9	19
FH10A-20S-1SHB	CL586-0484-6	20	26.2	25	19	21.15	24.9	18
FH10A-21S-1SHB	CL586-0485-9	21	27.2	26	20	22.15	25.9	17
FH10A-22S-1SHB	CL586-0486-1	22	28.2	27	21	23.15	26.9	17
FH10A-23S-1SHB	CL586-0487-4	23	29.2	28	22	24.15	27.9	16
FH10A-24S-1SHB	CL586-0488-7	24	30.2	29	23	25.15	28.9	15
FH10A-25S-1SHB	CL586-0489-0	25	31.2	30	24	26.15	29.9	15
FH10A-26S-1SHB	CL586-0490-9	26	32.2	31	25	27.15	30.9	14
FH10A-27S-1SHB	CL586-0491-1	27	33.2	32	26	28.15	31.9	14
FH10A-28S-1SHB	CL586-0492-4	28	34.2	33	27	29.15	32.9	14
FH10A-29S-1SHB	CL586-0493-7	29	35.2	34	28	30.15	33.9	13
FH10A-30S-1SHB	CL586-0494-0	30	36.2	35	29	31.15	34.9	13

Note: Please order the products, thus multiplying the tube packaging quantity by an integer.

(ex.: in case of 6 contacts, 39 contacts, 78 contacts, 117 contacts....)

◆ Recommended Temperature Profile



Applicable condition

Reflow method : IR reflow
 Solder : Paste type 63Sn/37Pb
 (Flux content: 11wt%)
 Test board : Glass epoxy · 40×80×1.6mm
 Metal mask thickness : 0.15mm

This temperature profile is a recommendation.
 The profile may be slightly changed according to the solder paste type and amount.