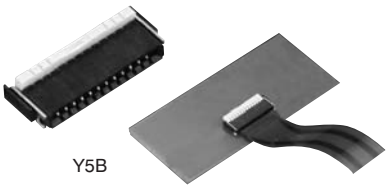
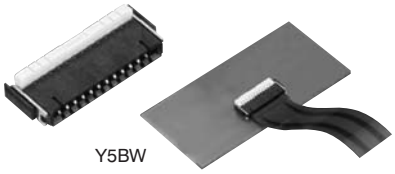
Panasonic
ideas for life

For FPC/FFC*

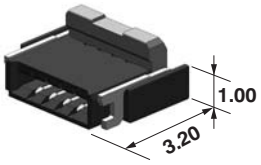
FPC connectors (0.5mm pitch) Back lock

Y5B/Y5BW Series


Y5B


Y5BW

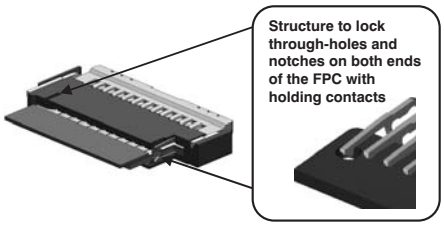
Low profile and space saving body of 1.0 mm high and 3.20 mm deep (3.70 mm including the lever)
Y5B and Y5BW can have a minimum of four and two contacts respectively, contributing to the miniaturization and thickness reduction of target equipment.



Unit: mm

4 contacts (Y5B: minimum)

• Wiring patterns can be located underneath the connector.
• Man-hours for assembly can be reduced by delivering the connectors with their levers opened.
• Y5BW features advanced functionality, including a structure to temporarily hold the FPC and a higher holding force.
The FPC holding contacts located on both ends of the connector facilitate positioning of FPC and further enhance the FPC holding force.



Applicable FPC shapes


With notches **With through-holes**

(1) The holding contacts lock the FPC by its through-holes or notches, allowing users to confirm the completion of the FPC insertion operation.
(2) The inserted FPC can be temporarily held until the lever is closed.
(3) When the lever is closed, the holding contacts lock the FPC by its through-holes and notches, enhancing the FPC holding force.

* (Y5BW is compatible with FPC only.)

FEATURES

• Low profile, space saving back lock type with improved lever operability
• Mechanical design freedom achieved by top and bottom double contacts
• Wide selection, including a type with a small number of contacts

APPLICATIONS

A wide range of digital equipment, including mobile phones, PCs, DSCs, and DVCs. Ideal for their touch panels and LCD backlights, which require connectors with a small number of contacts.

ORDERING INFORMATION

AYF 5 3 □□ □ 5

53: FPC Connector 0.5 mm pitch (Back lock)

Number of contacts (2 digits)

Function
3: Top and bottom double contacts (Y5B)
6: Top and bottom double contacts, lock holding type (Y5BW)

Surface treatment (Contact portion / Terminal portion)
5: Au plating/Au flash plating (Ni barrier)

PRODUCT TYPES

Height	Y5B		Y5BW		Packing	
	Number of contacts	Part number	Number of contacts	Part number	Inner carton (1-reel)	Outer carton
1.0 mm	4	AYF530435	2	AYF530265	5,000 pieces	10,000 pieces
	5	AYF530535	3	AYF530365		
	6	AYF530635	4	AYF530465		
	8	AYF530835	6	AYF530665		
	10	AYF531035	8	AYF530865		
	12	AYF531235	10	AYF531065		
	14	AYF531435	12	AYF531265		
	16	AYF531635	14	AYF531465		
	24	AYF532435	22	AYF532265		
	28	AYF532835	26	AYF532665		
	50	AYF535035	48	AYF534865		

Notes: 1. Order unit;
For mass production: in 1-inner carton (1-reel) units
Samples for mounting check: in 50-connector units. Please contact our sales office.
2. Please contact are sales office for connectors having a number of contacts other than those listed above.

SPECIFICATIONS

1. Characteristics

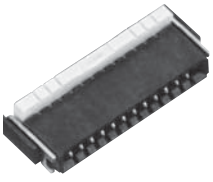
Item		Specifications	Conditions
Electrical characteristics	Rated current	0.5A/contact	
	Rated voltage	50V AC/DC	
	Insulation resistance	Min. 1,000MΩ (initial)	Using 250V DC megger (applied for 1 min.)
	Breakdown voltage	250V AC for 1 min.	No short-circuiting or damage at a detection current of 1 mA when the specified voltage is applied for one minute.
	Contact resistance	Max. 80mΩ	Based on the contact resistance measurement method specified by JIS C 5402.
Mechanical characteristics	FPC holding force	Y5B: Min. 0.2N/contacts × contacts (initial) Y5BW: Min. 0.2N/contacts × contacts + 2.0N (initial)	Measurement of the maximum force applied until the inserted compatible FPC is pulled out in the insertion axis direction while the connector lever is closed
	Contact holding force	Min. 0.2N/contacts	Y5B: Measuring the maximum force. As the contact is axially pull out. Y5BW: Measuring the maximum force. As the contact and holding terminal are axially pull out.
	Soldering terminal holding force	Min. 0.2N/contacts	Measuring the maximum force. As the soldering terminal is axially pull out.
Environmental characteristics	Ambient temperature	–55°C to +85°C	No freezing at low temperatures. No dew condensation.
	Storage temperature	–55°C to +85°C (product only) –40°C to +50°C (emboss packing)	
	Thermal shock resistance (with FPC inserted)	5 cycles, insulation resistance min. 100MΩ, contact resistance max. 100mΩ	Sequence 1. –55 $^{0}_{-3}$°C, 30 minutes 2. ~ , Max. 5 minutes 3. 85 $^{+3}_{0}$°C, 30 minutes 4. ~ , Max. 5 minutes
	Humidity resistance (with FPC inserted)	120 hours, insulation resistance min. 100MΩ, contact resistance max. 100mΩ	Bath temperature 40±2°C, humidity 90 to 95% R.H.
	Saltwater spray resistance (with FPC inserted)	24 hours, insulation resistance min. 100MΩ, contact resistance max. 100mΩ	Bath temperature 35±2°C, saltwater concentration 5±1%
	H_2S resistance (with FPC inserted)	48 hours, contact resistance max. 100mΩ	Bath temperature 40±2°C, gas concentration 3±1 ppm, humidity 75 to 80% R.H.
	Soldering heat resistance	Peak temperature: 260°C or less	Reflow soldering
		300°C within 5 sec. 350°C within 3 sec.	Soldering iron
Lifetime characteristics	Insertion and removal life	20 times	Repeated insertion and removal: min. 10 sec./time
Unit weight		Y5B (50 contacts): 0.16 g	

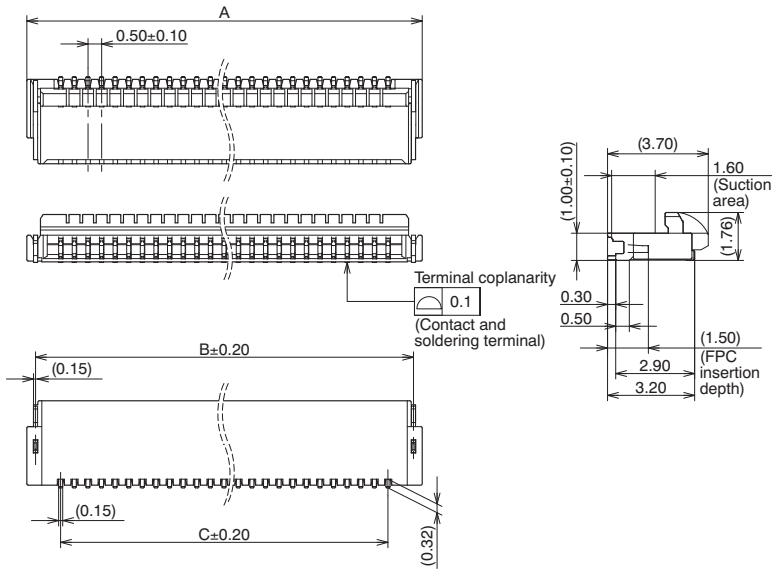
2. Material and surface treatment

Part name	Material	Surface treatment
Molded portion	Housing: LCP resin (UL94V-0) Lever: LCP resin (UL94V-0)	—
Contact	Copper alloy	Contact portion; Base: Ni plating, Surface: Au plating Terminal portion; Base: Ni plating, Surface: Au plating
Holding contact portion	Copper alloy	Terminal portion; Base: Ni plating, Surface: Au plating
Soldering terminal portion	Copper alloy	Base: Ni plating, Surface: Au plating

DIMENSIONS (Unit: mm)

Y5B

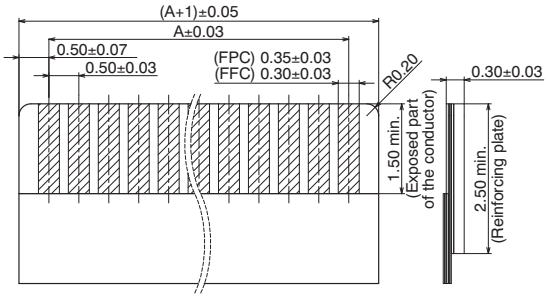




Number of contacts/ dimension	A	B	C
4	4.00	3.36	1.50
5	4.50	3.86	2.00
6	5.00	4.36	2.50
8	6.00	5.36	3.50
10	7.00	6.36	4.50
12	8.00	7.36	5.50
14	9.00	8.36	6.50
16	10.00	9.36	7.50
24	14.00	13.36	11.50
28	16.00	15.36	13.50
50	27.00	26.36	24.50

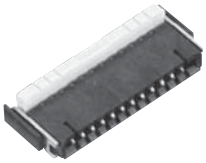
Y5B RECOMMENDED FPC/FFC DIMENSIONS

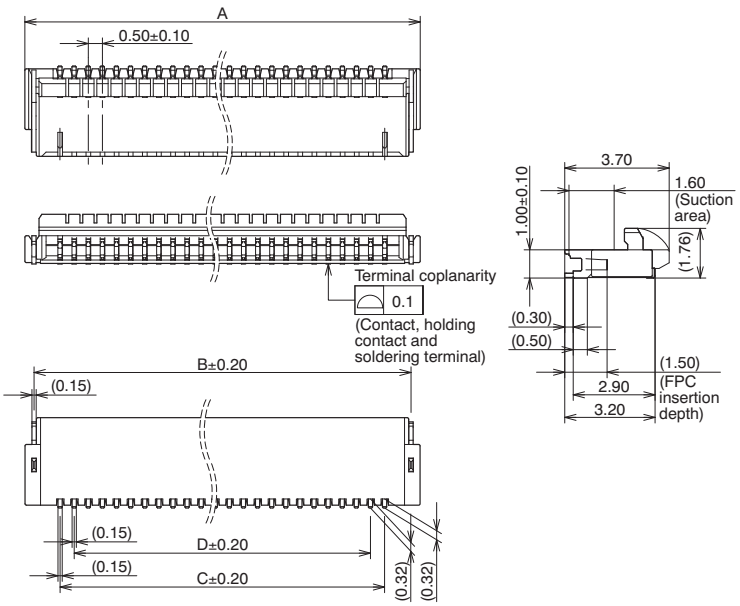
The conductive parts should be based by Ni plating and then Au plating.



Number of contacts/ dimension	A
4	1.50
5	2.00
6	2.50
8	3.50
10	4.50
12	5.50
14	6.50
16	7.50
24	11.50
28	13.50
50	24.50

Y5BW



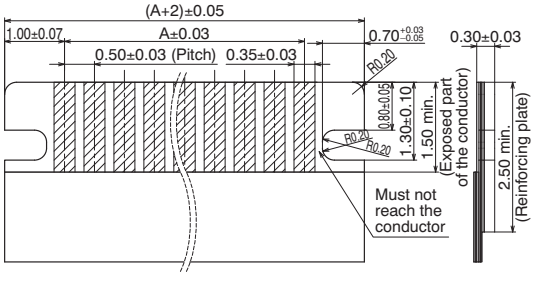


Number of contacts/ dimension	A	B	C	D
2	4.00	3.36	1.50	0.50
3	4.50	3.86	2.00	1.00
4	5.00	4.36	2.50	1.50
6	6.00	5.36	3.50	2.50
8	7.00	6.36	4.50	3.50
10	8.00	7.36	5.50	4.50
12	9.00	8.36	6.50	5.50
14	10.00	9.36	7.50	6.50
22	14.00	13.36	11.50	10.50
26	16.00	15.36	13.50	12.50
48	27.00	26.36	24.50	23.50

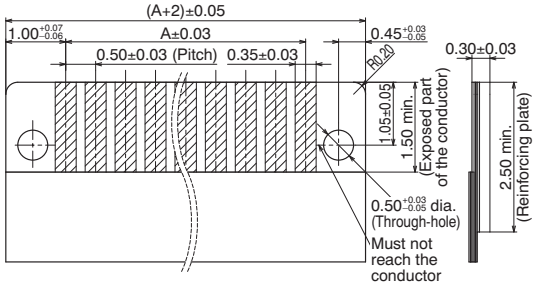
Y5BW RECOMMENDED FPC DIMENSIONS

The conductive parts should be based by Ni plating and then Au plating.

Notches type



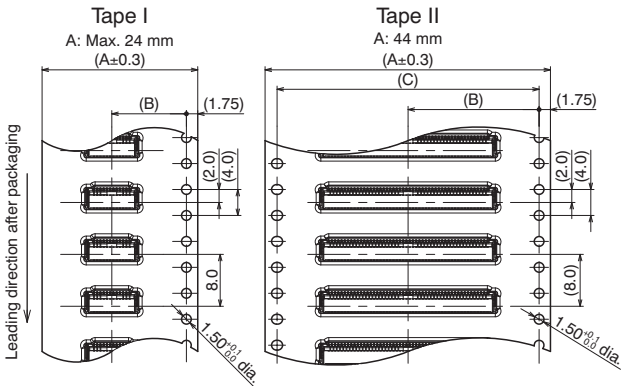
Through-holes type



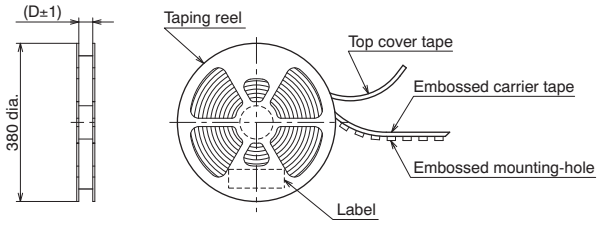
Number of contacts/ dimension	A
2	0.50
3	1.00
4	1.50
6	2.50
8	3.50
10	4.50
12	5.50
14	6.50
22	10.50
26	12.50
48	23.50

EMBOSSED TAPE DIMENSIONS (Unit: mm) (Common for respective contact type)

• Specifications for taping



• Specifications for the plastic reel
(In accordance with EIAJ ET-7200B.)



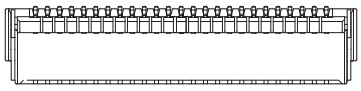
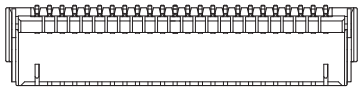
• Y5B Dimension table (Unit: mm)

Number of contacts	Type of taping	A	B	C	D	Quantity per reel
4 to 10 contacts	Tape I	16.0	7.5	–	17.4	5,000
12 to 28 contacts	Tape I	24.0	11.5	–	25.4	5,000
50 contacts	Tape II	44.0	20.2	40.4	45.4	5,000

• Y5BW Dimension table (Unit: mm)

Number of contacts	Type of taping	A	B	C	D	Quantity per reel
2 to 8 contacts	Tape I	16.0	7.5	–	17.4	5,000
10 to 26 contacts	Tape I	24.0	11.5	–	25.4	5,000
48 contacts	Tape II	44.0	20.2	40.4	45.4	5,000

• Connector orientation with respect to embossed tape feeding direction

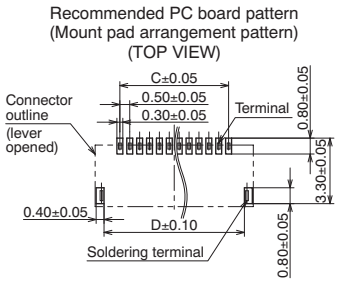
Type / Direction of tape progress	Y5B	Y5BW
		

NOTES

1. Recommended PC board and metal mask patterns

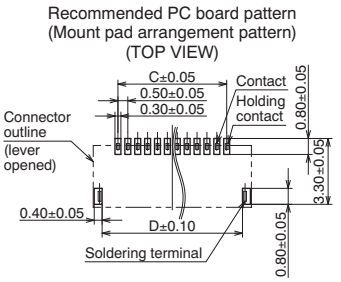
Appropriate control of solder amount is required to minimize solder bridges and other defects for connectors with 0.3 mm or 0.5 mm pitch terminals, which require high-density mounting. Refer to the recommended PC board pattern.

• Y5B



Number of contacts/ dimension	C	D
4	1.50	3.10
5	2.00	3.60
6	2.50	4.10
8	3.50	5.10
10	4.50	6.10
12	5.50	7.10
14	6.50	8.10
16	7.50	9.10
24	11.50	13.10
28	13.50	15.10
50	24.50	26.10

• Y5BW



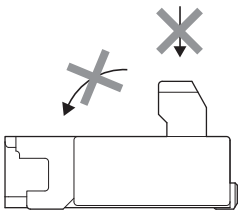
Number of contacts/ dimension	C	D
2	1.50	3.10
3	2.00	3.60
4	2.50	4.10
6	3.50	5.10
8	4.50	6.10
10	5.50	7.10
12	6.50	8.10
14	7.50	9.10
22	11.50	13.10
26	13.50	15.10
48	24.50	26.10

2. Precautions for insertion/removal of FPC

Do not apply an excessive load to the lever in the opening direction beyond its open position; otherwise, the lever may be deformed or removed.

Do not open/close the lever without an FPC inserted; otherwise, the terminals may be deformed, and the FPC insertion force may increase.

Do not apply an excessive load to the lever in a direction perpendicular to the lever rotation axis or in the lever opening direction; otherwise, the terminals may be deformed, and the lever may be removed.



These connectors are of the back lock type, which has the FPC insertion section on the opposite side of the lever. Be careful not to make a mistake in the FPC insertion position or the lever opening/closing position. Otherwise, a contact failure or connector breakage may occur.

These connectors have top and bottom double contacts. Do not insert an FPC upside down. Inserting an FPC in a direction opposite to that you intended may cause an operation failure or malfunction.

Fully open the lever to insert an FPC.

Completely insert the FPC horizontally. An FPC inserted at an excessive angle to the board may cause the deformation of metal parts, FPC insertion failures, and FPC circuit breakages. Insert the FPC to the full depth of the connector without altering the angle.

To close the lever, turn down the lever by pressing the entire lever or both sides of the lever with the balls of fingers.

Be careful. If pressure to the lever is applied unevenly, such as to an edge only, it may deform or break. Also, make sure that the lever is closed completely. Not doing so will cause a faulty connection.

Avoid applying an excessive load to the top of the lever during or after closing the lever. Otherwise, the terminals may be deformed.

When opening the lever to remove the FPC, ensure that the lever will not go over the initial position; otherwise, the lever may be removed.

Remove the FPC at parallel with the lever fully opened. If the lever is closed, or if the FPC is forcedly pulled, the product or FPC may break.

If a lever is accidentally detached during the handling of a connector, do not use the connector any longer.

After an FPC is inserted, carefully handle it so as not to apply excessive stress to the base of the FPC.

3. Cautions for using Y5BW

The holding contacts cannot be used as conductors.

The holding contacts are located on both ends of the contacts, and the shape of the soldered portions is the same as that of the other contacts. Therefore, be careful to avoid any confusion.

For Cautions for Use, see the “NOTES FOR USING FPC CONNECTORS” in the Connector Technical Information. For other details, please verify with the product specification sheets.