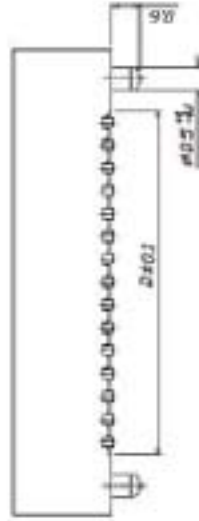


P.C.B PATTERN



HGH	PLUG(H)	SOCKET(H)
3.0	0.8	2.2
3.5	1.3	2.2
4.0	1.0	3.0
4.5	1.0	3.5
5.0	2.0	3.0
5.5	2.0	3.5
6.0	2.0	4.0
6.5	2.0	4.5

PN	A	B	C	D	E
10	6.20	2.00	2.00	3.90	2.90
12	5.70	2.50	3.40	4.40	3.00
14	6.20	3.00	3.00	4.90	3.50
16	6.70	3.50	4.40	5.40	4.00
18	7.20	4.00	4.90	5.90	4.50
20	7.70	4.50	5.40	6.40	5.00
22	8.20	5.00	5.90	6.90	5.50
24	8.70	5.50	6.40	7.40	6.00
26	9.20	6.00	6.90	7.90	6.50
28	9.70	6.50	7.40	8.40	7.00
30	10.20	7.00	7.90	8.90	7.50
32	10.70	7.50	8.40	9.40	8.00
34	11.20	8.00	8.90	9.90	8.50

PN	A	B	C	D	E
36	11.70	8.50	9.40	10.40	9.00
38	12.20	9.00	9.90	10.90	9.50
40	12.70	9.50	10.40	11.40	10.00
42	13.20	10.00	10.90	11.90	10.50
44	13.70	10.50	11.40	12.40	11.00
46	14.20	11.00	11.90	12.90	11.50
48	14.70	11.50	12.40	13.40	12.00
50	15.20	12.00	12.90	13.90	12.50
52	15.70	12.50	13.40	14.40	13.00
54	16.20	13.00	13.90	14.90	13.50
56	16.70	13.50	14.40	15.40	14.00
58	17.20	14.00	14.90	15.90	14.50
60	17.70	14.50	15.40	16.40	15.00
62	18.20	15.00	15.90	16.90	15.50
64	18.70	15.50	16.40	17.40	16.00
66	19.20	16.00	16.90	17.90	16.50
68	19.70	16.50	17.40	18.40	17.00
70	20.20	17.00	17.90	18.90	17.50
72	20.70	17.50	18.40	19.40	18.00
74	21.20	18.00	18.90	19.90	18.50
76	21.70	18.50	19.40	20.40	19.00
78	22.20	19.00	19.90	20.90	19.50
80	22.70	19.50	20.40	21.40	20.00
82	23.20	20.00	20.90	21.90	20.50
84	23.70	20.50	21.40	22.40	21.00
86	24.20	21.00	21.90	22.90	21.50
88	24.70	21.50	22.40	23.40	22.00
90	25.20	22.00	22.90	23.90	22.50
92	25.70	22.50	23.40	24.40	23.00
94	26.20	23.00	23.90	24.90	23.50
96	26.70	23.50	24.40	25.40	24.00
98	27.20	24.00	24.90	25.90	24.50
100	27.70	24.50	25.40	26.40	25.00

TOLERANCES	REV:	REVISIONS
X. +0.5mm	0	DESCRIPTION
X. X -0.5mm		NEW (REV: 0)
X. XX +0.3mm		DATE: 2006.05.17
X. XXX +0.2mm		
X. XXXX +0.05mm		
METRIC (mm)		

COMPONENT NO:	
PART NO:	SBB-050
CHECKED:	
DRAWN:	Engle
DATE:	2006.05.17

TITLE:	Board to Board Connector
REQUIRED DOCUMENTS:	0.5mm XPin Female SMT
SCALE:	1:1
DRAWING:	BB-050
FILE:	E:\ENC\BB-050
SHELLT:	1/1
THIRD ANGLE PROJECTION	

XMULTIPLE
 XMULTIPLE TECHNOLOGIES, INC.

TECHNICAL SPECIFICATION

1. GENERAL SPECIFICATIONS

1.1 Design and construction

This connector is designed two contacts 0.5mm pitch board to board and used SMD

1.1.1 Products drawings title are : 0.5mm board to board connector

1.1.2 Packaging

- This connector is delivered in a tape & reel

1.1.2.1 Tape and reel

- In the case of delivery by tape & reel external diameter is 331mm and internal diameter is 13.6mm
- The quantity per reel is 1,500 pieces
- The drawing direction is defined in LWBTB5-1/2

1.1.2.2 Marking on packaging

A label is stuck on the carton box with the following notes,
Maker name * Maker country * Customer name * Description *
Quantity per box * Delivery date

1.2 Contents

1.2.1 Scope

This specification cover the requirements for board to board connector

1.2.2 Numbering systems of product (Ordering information of product)

LWBP05-00C-H(0.0)

LWBS05-00C-H(0.0)

* LWBP05 : Linkwork Board to Board Plug 0.5mm Pitch

* LWBS05 : Linkwork Board to Board Socket 0.5mm Pitch

TECHNICAL SPECIFICATION

* Stacking Height (H)

Plug -	3.0t	: 0.8mm
	3.5t	: 1.3mm
	4.0t	: 1.0mm
	4.5t	: 1.0mm
	5.0t	: 2.0mm
	5.5t	: 2.0mm
	6.0t	: 2.0mm
	6.5t	: 2.0mm

Socket -	3.0t	: 2.2mm
	3.5t	: 2.2mm
	4.0t	: 3.0mm
	4.5t	: 3.5mm
	5.0t	: 3.0mm
	5.5t	: 3.5mm
	6.0t	: 4.0mm
	6.5t	: 4.5mm

* Number of contacts (C)

10 : 10 Contacts ~ 100 : 100 Contacts

1.3 List of materials used and coating

- 1.3.1 Heat Resistant Plastic (UL 94V-0), Natural Color
- 1.3.2 Contact in copper alloy
- 1.3.3 Contact coating plated Au over 0.03□ Nickel
- 1.3.4 Soldering pins are plated Au over 0.03□ Nickel

2. ELECTRICAL PERFORMANCES

- 2.1 **Rated Current** : Max. 0.5A (Each Pin), Max. 16A (All Pin can carry)
- 2.2 **Rated Voltage** : AC / DC 60 V
- 2.3 **Contact Resistance** : Max. 60 mohms
- 2.4 **Insulation Resistance** : Min. 1,000 mohms (Using 500V DC)
- 2.5 **Breakdown Voltage** : 250V AC for 1 minute

TECHNICAL SPECIFICATION

3. MECHANICAL PERFORMANCES

3.1 Ambient temperature

The connector is able to range of -55 °C to +85 °C (No freezing at low temperatures)

3.2 Storage temperature range

Applicable to the products kept in our standard packaging of -40 °C to +60 °C
(No freezing at low temperatures)

3.3 Contact forces

- Composite force : Max. 0.785N (Number of contacts ; Initial)
- Composite removal force : Max. 0.0588N (Number of contacts)
- Post holding force : Min. 0.0098N / Contacts
Measures the maximum load in the post axial direction until removal.

4. ENVIRONMENTAL PERFORMANCES

4.1 Terminal shock resistance (plug and socket mated)

After 5 cycles

- Contact Resistance Max, 60 mohms
- Insulation Resistance Min, 100 mohms
- Conditions : Confirmed to
MIL-STD-202F method 107G

Order	Temperature(°C)	Time
1	-55 + (+0 / -3)	30
2	25 + (+10 / -5)	Max, 5
3	85 + (+3 / -0)	30
4	25 + (+10 / -5)	Max, 5

4.2 Humidity resistance (plug and socket mated) : After 120 hours

- Contact Resistance Max, 60 mohms
- Insulation Resistance Min, 100 mohms
- Conditions : Bath temperature 40±2 °C, Humidity 90% to 95% R.H.

TECHNICAL SPECIFICATION

4.3 Salt water spray resistance (plug and socket mated) : After 24 hours

- Contact Resistance Max, 60 mohms
- Insulation Resistance Min, 100 mohms
- Conditions : Bath temperature $35\pm 2^{\circ}\text{C}$, Salt water concentration $5\pm 1\%$

4.4 H₂S resistance (plug and socket mated) : After 48 hours

- Contact Resistance Max, 60 mohms
- Conditions : Bath temperature $40\pm 2^{\circ}\text{C}$, Gas concentration $3\pm 1\text{ppm}$, Humidity 75% to 80% R.H.

4.5 Soldering temperature resistance

- Max, Peak temperature of 260°C (Infrared reflow soldering)
- 280°C within 5second (Soldering iron)
- Solder paste thickness : Recommendation $t = 0.15\text{mm}$

4.6 Life time characteristics : 50 times

- Contact Resistance Max, 60 mohms

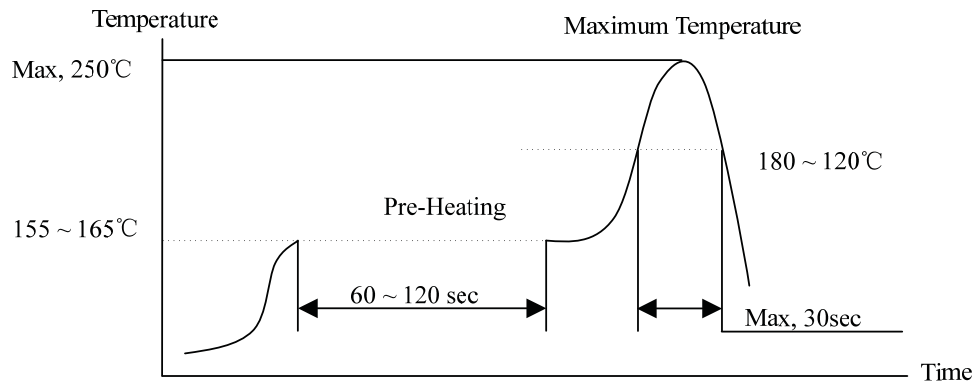
1. About Safety Remarks

1. Do not use these connectors outside the specification ranges for the rates current breakdown voltage and other environmental conditions or the connectors may make damages to the circuit by generating an abnormal level of heat, giving off smoke or catching fire.
2. To prevent an accident, please refer specifications and / or the operation manuals before start using connectors. In the case connector has to be used outside the specification. Please consult us.

2. Remarks

1. Regarding PCB design
Refer the recommended PCB pattern for keeping the strength of soldering.
2. Connector placement
When the placement machine has excessive keeping force the housing will be transformation.
Please check the placement machine.
3. When soldering by hand or reworking, do not put solder flux to connector terminal portion and PC board.
Doing so may cause contact problems by flux.
4. Soldering
 - 4.1 Manual soldering
 - These connector is low profile type. When too many solder is provided by hand, solder goes up to contact area. Please pay attentions.
 - Please use the soldering iron under specification's temperature and times.
 - In case of exercise care not to contaminate the card contacts with solder flux from the soldering iron tip. And make sure that the card contacts are not contaminated to dispersed solder flux with a magnifying Glass and so on.
 - Please pay attentions. Not to deform terminals when mating or unmating connectors without mounting to PCBs. Do not apply an excessive force to terminals or the connection between terminals and a housing may lose.
 - Please soldering iron is cleaning
 - 4.2 Reflow soldering
 - Please use screen soldering regarding cream solder printing.
 - When use screen soldering, open window of screen is smaller than recommended PCB pattern (Open window area is 80% of recommended PCB pattern)

- When applying the different thickness of a screen, Please consult us.
- There may be a case of difficult self-alignment depending on the connector size. In that case, Please pay attentions to align terminals solder pads.
- The following diagram shows the recommended reflow soldering temperature profile.



The recommended conditions for the reflow temperature profile

- Infrared reflow soldering is able to passed two times.
- The temperature measured on the PCB surface near connector terminals.
- After reflow soldering, in case of PCB surface the reverse side using reflow soldering for example an adhesive and so on connector of fixed disposition.

4.3 Rework of soldering portion

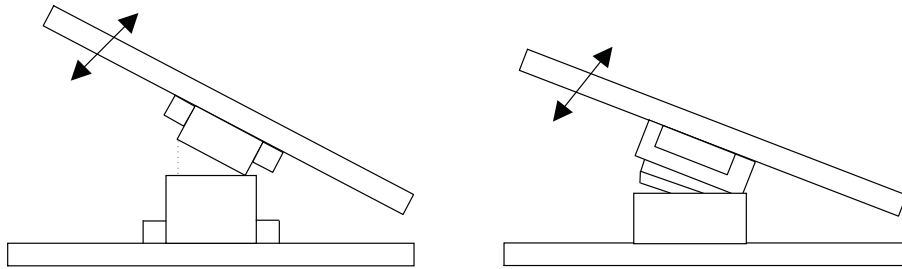
- Rework is one time.
- In case of soldering rework of bridges. Please use a flat-head soldering iron and do not use supplementary solder flux.
- Please use the soldering iron under specification's temperature.

5. Preventing vibration and shock

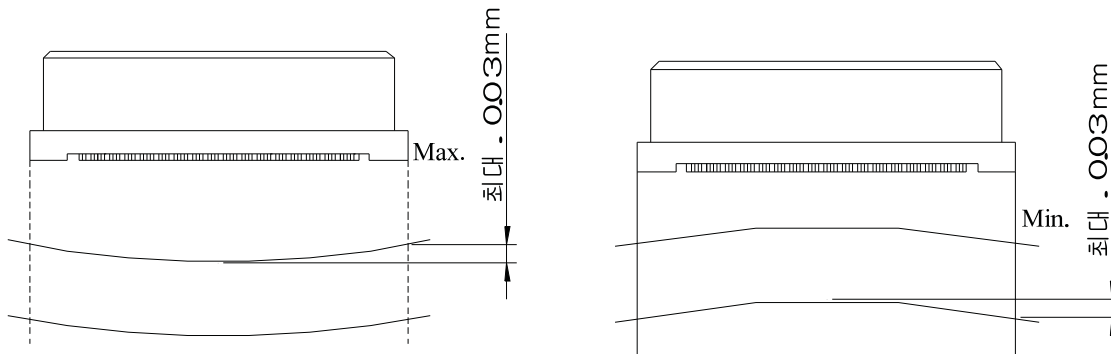
In order to secure the PCB connection even when a shock applied. Please keep a connector away from the influence of the shock by fixing the PCB to the enclosure or any other means.

6. Since excessive force on the terminals will cause deformation and the integrity of the soldering will be lost during reflow soldering, avoid dropping or rough handling of the product.

7. Be careful not to deform the terminals or brackets when inserting or removing the connector before soldering. Do not put excessive force to terminals. Doing so may loosen the fixation of terminals and molding parts.
8. These models are made very thin so that they may be smaller in size and light in weight than before. Take care not to give than excessive force and insert by sliding when mating them together or unmating them ; Otherwise, breakage may result. To prevent damage from incorrect insertions, Please confirm correct position before mating connector.

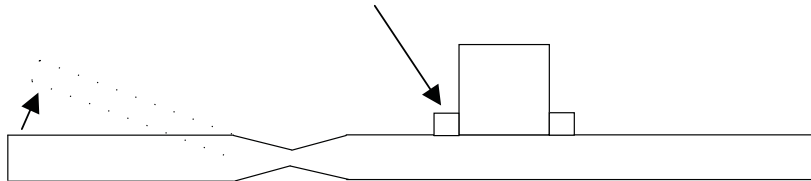


9. Keep the PCB warp 0.03mm or below as against the overall length of the connector.



10. Applied the connector with positioning projection. Though this connector has positioning tab for outline setting, Please recommend to assemble by an automatic placement machine.
11. When cutting the PCB after mounting the connector, Please assure soldered terminals are not affected by the stress.

The stress should not affect the terminals soldered



12. When mounting connectors FPC Board : Due to its flexibility, a FPC board may make the connector terminal soldering connection weak. In order to strengthen the connection and prevent the peeling off of terminal soldering, a stiffener is strongly recommended to be attached to backside or the connector are. The size of stiffener should be bigger than the recommended PCB pattern area shown in the drawing. (Out dimension +3mm Min) In case glass-fiber PCB thickness is 0.3mm Min. The force to the connector occurred by drop, shock or wiring of FPC may make the connector disconnected.
13. Other cautions
 - After soldering is no coating. In case of using coating, Please Do not stick to the terminal.
 - Connector does not have switching fundamentally.

3. We declare the following

In the manufacturing process for the products being provided to your company,
The following materials are used at all.

1. OZONE – Depleting materials ;
 - CFC : 11, 12, 13, 111, 112, 113, 114, 115, 211, 212, 213, 214, 215, 216, 217
 - Haron : 1211, 1301, 2402
 - Carbon : Tetrachloride
 - Methyl : Chloroform
2. Polybrominated flame retardans ;
 - PBBOs, PBDO, PBDPO, PBDPE, DBDO, BODO, TBDO, PBBs
3. Heavy metal ;
 - Mercury, Cadmium, Hexahydric, Chromium. Lead (Excluding solder)

QUALITY CONTROL PROCEDURE CHART

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No.	Flow Sheet			Process	Material	Inspection
	Mold	Press	Main			
1	▽	▽		Income	PA9T	Weight
2	◇	◇		Molding	-	Surface (Burr, Color), Dimension
3	◇	◇		Income	C5210H	Weight, Surface
4		▽	▽	Pressing	-	Surface, Dimension
5		◇	◇	Plating (Au - Ni)	-	Plating thickness (Manufacture Certification)
6			○	Ass'y	-	Surface, Dimension
7			◇	1 st Pressing	-	Surface, Dimension
8			◇	Lead Cutting	-	Surface
9			◇	2 nd Pressing	-	Surface, Dimension
10			◇	Cap Ass'y	-	Surface, Dimension, Position
11			◇	Final product Inspection	-	Surface , Dimension, Electrical
12			○	Packing	-	Lot Control
13			▽	Shipment Preparation		Surface

