

No. CHM-1-2170		Date issued: June 24, 2005
Title of Document: HANDLING MANUAL		Date revised: November 2, 2012
Revision No. R3		Issued by: Osaka Engineering Center
Title Subject: ACH CONNECTOR (Normal Type)		

This handling manual describes the important and required operation points of the ACH connector. Be sure to read through this manual before using and follow it strictly. Keep it at the place where you can check and see it anytime when required.

C O N T E N T S

	Page
1. Model Number and Part Name.....	2
1-1 Model number	2
1-2 Part name.....	4
2. PC Board Pattern Layout	5
3. Precautions for Soldering Operation	6
3-1 Reflow soldering method.....	6
4. Handling Precautions	7
4-1 Mating operation	7
4-2 Unmating operation.....	8
4-3 Handling of wire	9

Prepared by: <i>T.Sawano</i>	Checked by: <i>H.Torikai</i>	Reviewed by: <i>K.Ichimi</i>	Approved by: <i>Y.Ushiro</i>
-------------------------------------	-------------------------------------	-------------------------------------	-------------------------------------

Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	-------------------	----------------

1. Model Number and Part Name

1-1 Model number

Part name		Type/Circuit No./Wire size	Model No.	
Header	Taping product	Standard type	No.1, 4 & 5	BM**B-ACH()S-A-GAN-ETF (LF)(SN)
			No.2 & 3	BM**B-ACH()S-GAN-ETF (LF)(SN)
		Halogen-free type	No.2 & 3	BM**B-ACHKS-GAN-TF(HF)
			No.4	BM04B-ACHKS-A-GAN-TF(HF)
	Loose piece product	Standard type	No.1, 4 & 5	BM**B-ACH()S-A-GAN (LF)(SN)
			No.2 & 3	BM**B-ACH()S-GAN (LF)(SN)
Halogen-free type		No.2 & 3	BM**B-ACHKS-GAN(HF)	
		No.4	BM04B-ACHKS-A-GAN(HF)	
Socket	Housing	Standard type	No.1, 4 & 5	ACHR**V-A-()
			No.2 & 3	ACHR**V-()
		Halogen-free type	No.2 & 3	ACHR**V-K(HF)
			No.4	ACHR-04V-A-K(HF)
	Contact	Type 003 (Standard type)	#28 ~ #30	SACH-003G-P0.2
		Type 003B (For thin wire)	#30 ~ #32	SACH-003G-P0.2B

Note₁: " ** " denotes the two-digit circuit number.

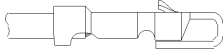
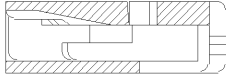
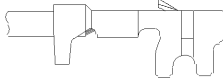
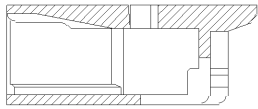
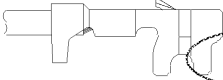
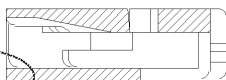
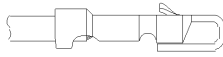
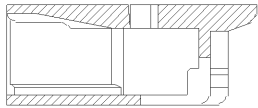
Note₂: An alphabet in "()" denotes the color.

Note₃: The ACH connector is supplied on the embossed-tape (4,500 pcs./reel).

Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	-------------------	----------------

Precautions for connector combination

The ACH connector has the normal type and the H-type which counterpart header is for common use. The H-type has the design that is easy to mate because the pushing area is expanded. But, the configuration of the socket contact and housing is different between the normal type and the H-type; the normal type and the H-type cannot be combined.

Combination		Illustration	Contact	Housing	Allowable combination
①	Contact	Normal type			○
	Housing	Normal type	SACH-003G-P0.2 SACH-003G-P0.2B	ACHR-***V-()-()	
②	Contact	H-type			○
	Housing	H-type	SACH-003G-P0.2H	ACHR-***V-H-()	
③	Contact	H-type			✕
	Housing	Normal type	The contact hits the wall of the mating entrance and it cannot be inserted in the housing.		
			SACH-003G-P0.2H	ACHR-***V-()-()	
④	Contact	Normal type			✕
	Housing	H-type	*The contact can be inserted in housing but not be retained.		
			SACH-003G-P0.2 SACH-003G-P0.2B	ACHR-***V-H-()	

As shown in the above table, combine the same type contact and housing in using.

Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	----------------	-------------

1-2 Part name

Circuit	Socket	Header
No.1		
No.2 and 3		
No.4 and 5		

Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	----------------	-------------

2. PC Board Pattern Layout

Circuit	Layout	Remarks						
No.1		<p>The pattern layout of the solder tab is different from that for the No.2 and 3 circuits.</p>						
No.2 and 3		<table border="1" data-bbox="1098 974 1455 1086"> <thead> <tr> <th>Circuits</th> <th>Dimension-A</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>1.2</td> </tr> <tr> <td>3</td> <td>2.4</td> </tr> </tbody> </table> <p>The pattern layout of the solder tab is different from that for the No.1, 4 and 5 circuits.</p>	Circuits	Dimension-A	2	1.2	3	2.4
Circuits	Dimension-A							
2	1.2							
3	2.4							
No.4 and 5		<table border="1" data-bbox="1098 1630 1455 1742"> <thead> <tr> <th>Circuits</th> <th>Dimension-B</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>3.6</td> </tr> <tr> <td>5</td> <td>4.8</td> </tr> </tbody> </table> <p>The pattern layout of the solder tab is different from that for the No.2 and 3 circuits.</p>	Circuits	Dimension-B	4	3.6	5	4.8
Circuits	Dimension-B							
4	3.6							
5	4.8							

Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	-------------------	----------------

3. Precautions for Soldering Operation

3-1 Reflow soldering method

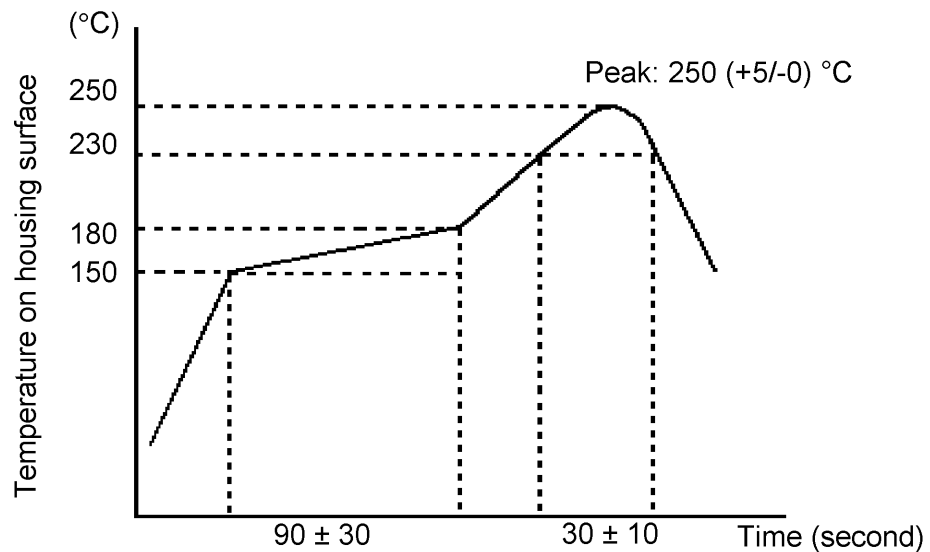
We recommend soldering on the basis of the following temperature profile.

As the recommended reflow temperature condition varies depending on solder paste, PC boards, etc. to be used, soldering check is necessary before the use.

The following configuration of the metal mask is recommended for mounting operation;

- Blanking part: same area as pad area on PC board
- Thickness: 0.1 to 0.15 mm

When the metal mask more than 0.15 mm in thickness is used, the area of the blanking part should be smaller than the pad area on a PC board, and the amount of solder should be properly adjusted.



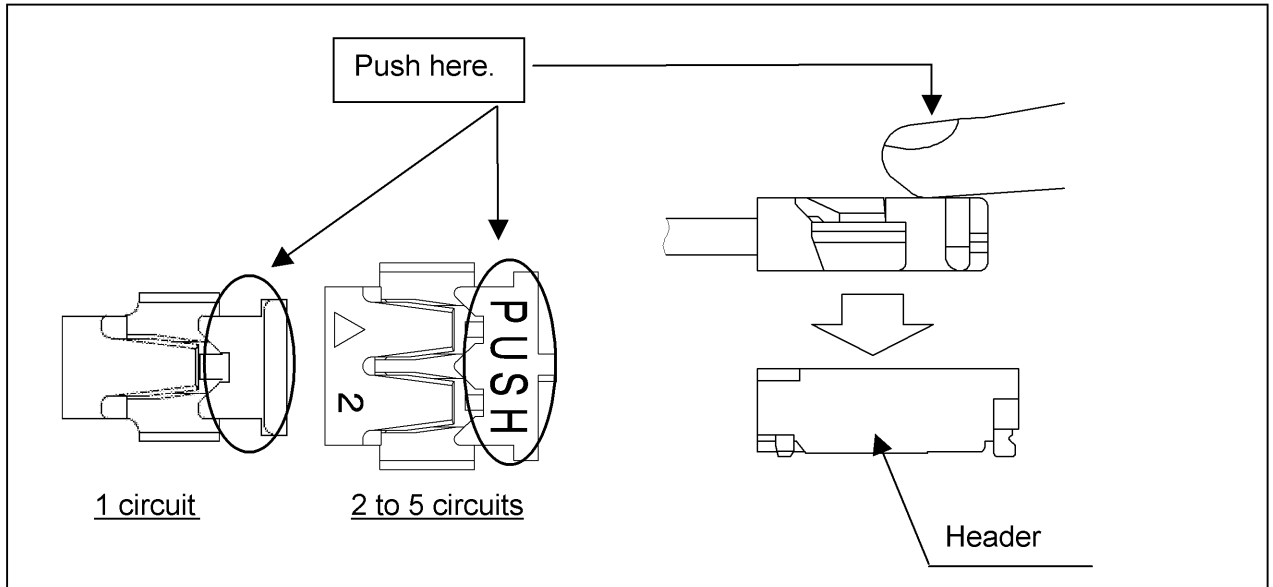
Temperature profile of reflow soldering

Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	----------------	-------------

4. Handling Precautions

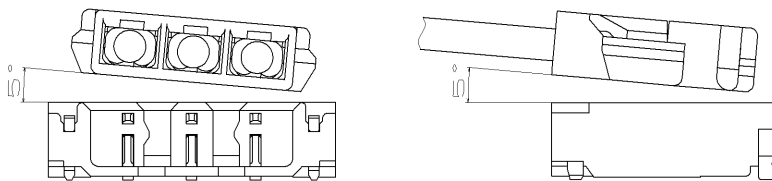
4-1 Mating operation

Mate the socket with the header on the mating axis.
 Push the "PUSH" part of the socket housing and check secure mating.

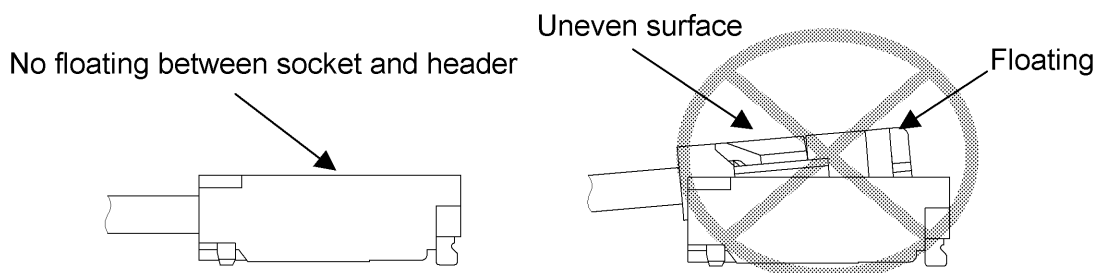


Precautions

- ① Mate the connector with the counterpart as parallel as possible (MAX. 5°).
 Do not mate the connectors by force by pushing one end of the socket or prying wires, because the housing may damage or the contact may be deformed.

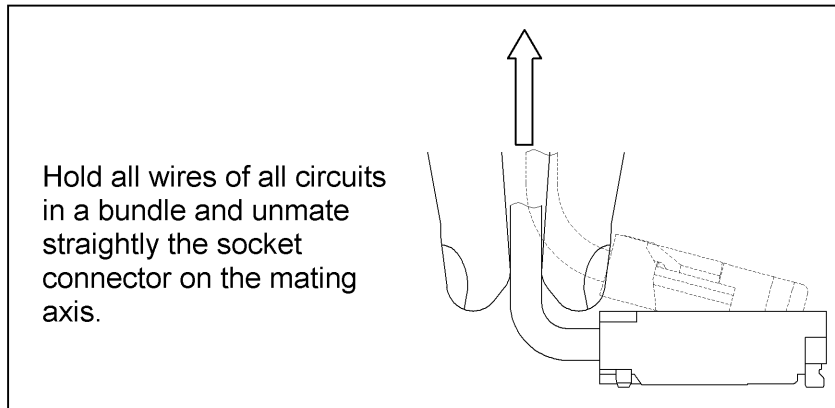


- ② After mating the connectors, check secure mating, referring to the following.
 In case of insufficient mating, retry the mating, referring to item 4-2.
 (When the socket floats a little from the header due to insufficient mating, push it in without removing.)



4-2 Unmating operation

Hold all wires of all circuits in a bundle and unmate straightly the socket connector on the mating axis.

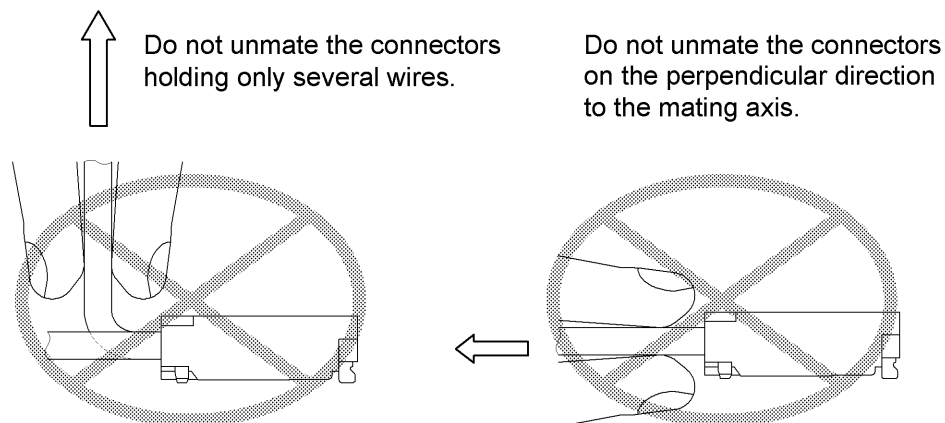


Unmate the connector by holding wires at the angle within 15 degrees to the mating axis.



Precautions

Do not unmate the connectors holding only several wires or on the perpendicular direction to the mating axis because such handling may cause connector troubles such as the deformation of the contact or cracks or cuts on the housing.



Title: HANDLING MANUAL ACH CONNECTOR (Normal Type)	No. CHM-1-2170	Rev. No. R3
---	-------------------	----------------

4-3 Handling of wire

Handle the wires with care so as not to apply a larger load than tension due to wire bend to the connector.

Provide a space above the connector and form the wire by bending not to apply tension to the connector as below.

