



Title of Document:	HANDLING MANUAL	Issue No. CHM-1-2053	Rev. 3
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This handling manual describes operation points of crimping, assembling etc. for further reliability and performance of the connector's features of SMT type header for ZH, ZR connectors.

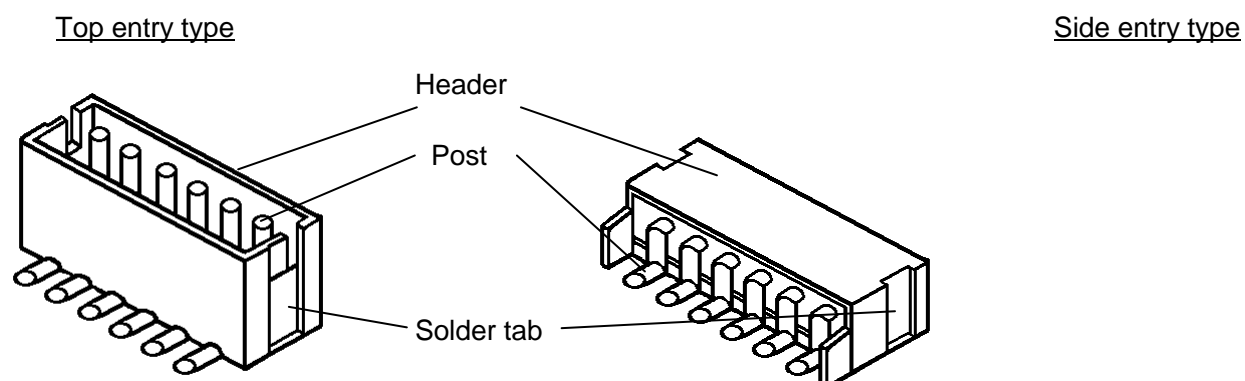
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1. Construction and Name

Before processing and assembly, be sure to understand the construction and the name of each part.



2. Model Number

Part name		Model No.
Header (SMT type)	Top entry type	B*B-ZR-SM4-TF (LF)(SN)
	Side entry type	S*B-ZR-SM4A-TF (LF)(SN)

Note₁: Figures in "*" denote the circuit number. *: 2 ~13

Note₂: (LF)(SN) as identification part number indicating lead-free product shall be displayed on a label.

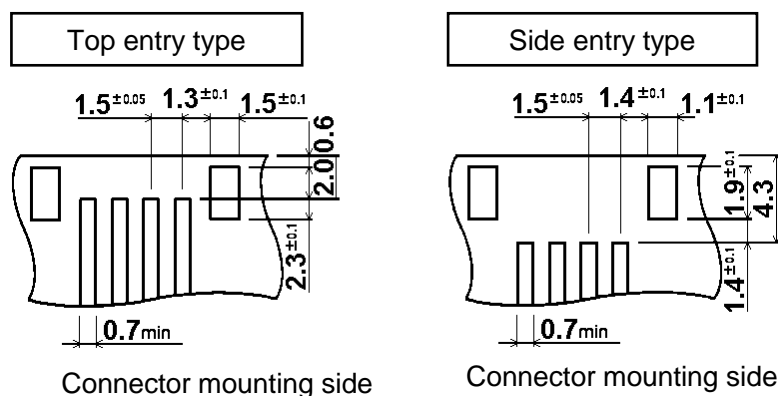
Note₃: Although the lead-free plating of this product is re-flow tin plating which ensures maximum effectiveness for retarding whisker growth, it is not possible to completely eliminate whisker problems.

Applicable socket

Part name		Model No.
Crimping type	Contact	SZH-002T-P0.5 SZH-003T-P0.5
	Housing	ZHR-*
Insulation displacement type	Socket	For AWG#30
		For AWG#28
		*ZR-3H-P *ZR-8M-P

Note₄: Figures in "*" denote the circuit number. *: 2 ~13

3. Applicable PC Board Layout



Note₅: Tolerances for PC board size are non-cumulative ± 0.05 mm for all centers.

4. Header

4.1. Reflow soldering method

We recommend soldering at lower temperature profile than that of described in item "Resistance to Soldering Heat" of the product specification. As the recommended reflow temperature condition varies depending on soldering materials such as paste, conduct soldering according to the material condition. The testing PC board shall be 0.8mm-thick glass base epoxy resin one.

When bridge trouble appears in process of reflow soldering and repair is conducted by hand, strictly conduct item 4-2 "Soldering by hand and repairing."

[Precautions]

Considering the handling of this connector in mating operation, tenacious heat-resistant polyamide resin is used for the material of the wafer. But 'blister' may generate on the outer surface of the wafer during reflow soldering, depending on the condition of water absorption in the wafer and the condition of reflow soldering. However, because 'blister' does not cause the change of the physical property of the resin, it does not affect the connector performances.

<Metal mask thickness>

We recommend using the following metal mask when soldering:

- Blanking part: Same area as pad area on PC board
- Thickness: 150 μ m

4.2. Soldering by hand and repairing

When soldering by using a soldering iron or repairing solder bridge and others, keep in mind the following points, the header resin may deteriorate due to heating.

Soldering iron:	Use a soldering iron with small heat capacity (40W max.). Temperature of soldering iron tip: 350 °C
Soldering time:	Conduct soldering operation quickly within 3 seconds.
Soldering method:	Do not press the soldering iron tip on the connector contact lead part nor apply such an abnormal force as lateral load. If done, dismount and change the connector, and conduct soldering again. Do not reuse the dismantled connector.

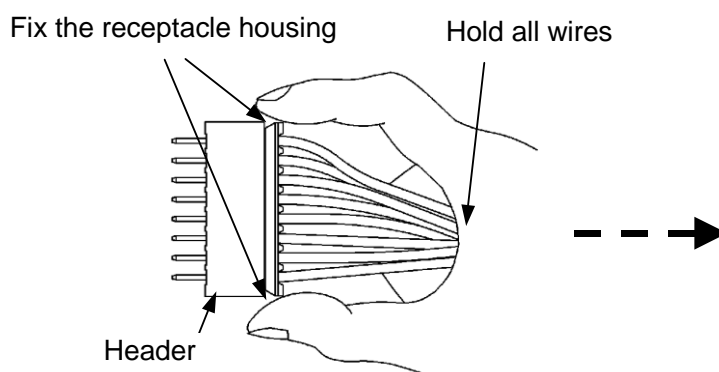
5. Mating and Unmating Connector

5.1. Mating the connector

Hold the receptacle housing securely and insert it into the header straightly against to the header post until clicking.

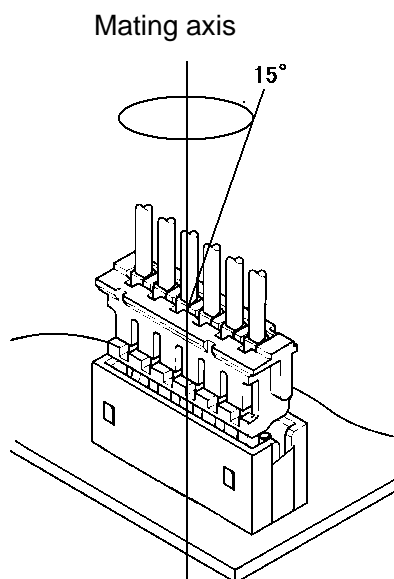
5.2. Unmating the connector

Hold all wires securely and fix the receptacle housing by fingers not to pry, and then, withdraw it on the mating axis.

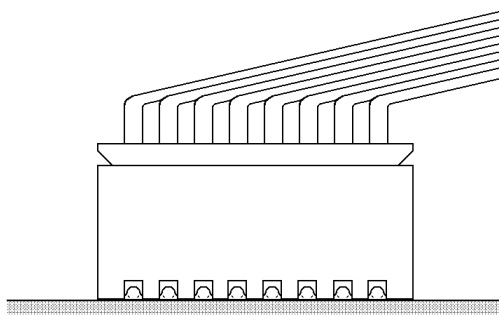


5.3. Prying

As prying withdrawal may deform the header post and damage the receptacle housing, do not conduct prying withdrawal. When withdrawal operation on the mating axis is difficult, conduct prying withdrawal within 15 degrees against the mating axis.

**5.4. Wire handling**

When handling wires, such consideration as keeping enough length and fixing wires is necessary not to apply such a larger one other than a load of wire buckling level.

**6. Recommended Storage Condition**

Keep this embossed-taping product in the following ambience.

Storage temperature: 5 °C ~ 35 °C

Relative humidity: 60% max.

Storage period: Within 6 months after supplying to customer

As for the stored products for long period or under high temperature and high humidity, we recommend baking before soldering.

We recommend baling under the following condition.

Temperature: 50 °C ~ 55 °C

Period: More than 20 hours