Title of Document: **HANDLING MANUAL**	Issue No. CHM-1-2585	Rev. 1
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This handling manual describes the important and necessary points for using the MQ connector.
Be sure to read it through before use.

C O N T E N T S

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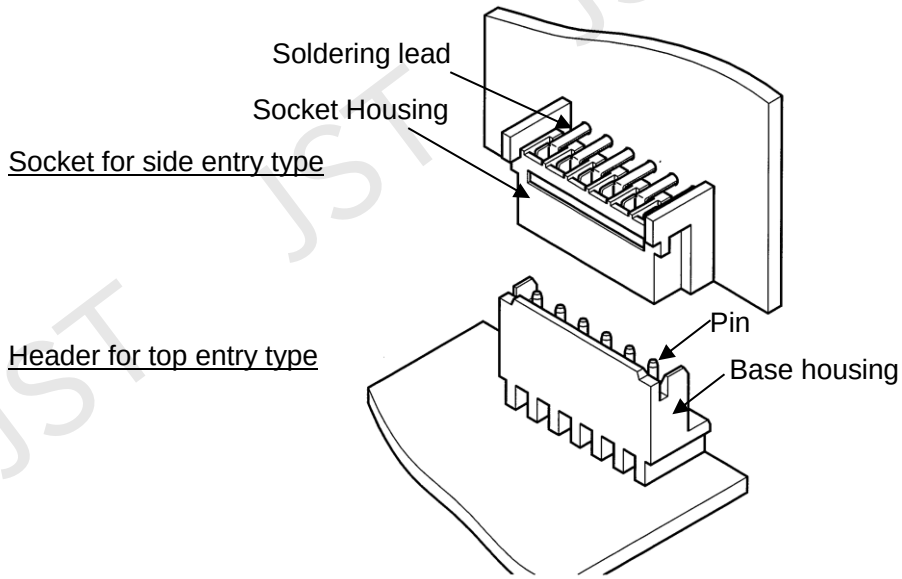
1. Mechanism and Part Name

The MQ connector is composed of the socket and the header.
In processing and assembling, check for the mechanism and the names of each part.



2. Model Number

Product Name			Model Number
Standard type	Socket	Top entry type	∗MQ-BT
		Side entry type	∗MQ-ST
	Header	Top entry type	B∗P-MQ (LT)(SN)
Low insertion force type	Socket	Top entry type	∗MQ-BT-L
		Side entry type	∗MQ-ST-L
	Header	Top entry type	B∗P-MQ-C (LF)(SN)

Note$_1$: "∗" denotes the circuit number.
Note$_2$: "(LF)(SN)" is the identification mark for a lead-free product.

3. Storage

3-1 Storing the connectors

Recommended storage condition: Temperature: 5 – 35 ˚C, Relative humidity 60 % or less
(Under packaging like the state of JST shipment)

Keep off direct sunlight, places exposing to such corrosive gas as industrial gas (generate from a stove and whatnot) and ammonia gas (generate from a toilet and whatnot) and dusty place.
Also, keep the storage room from condensation.

Note that the resin molding part may break due to transportation and handling, such as processing and mating, under dry or low temperature condition.
After unpacking, return the products in the original package to store.

3-2 Storing the crimped contacts

Not leaving the crimped contact to stand in a place exposed to high humidity and direct sunshine, and not placing them directly on the ground. Keep them in a clean storage room.

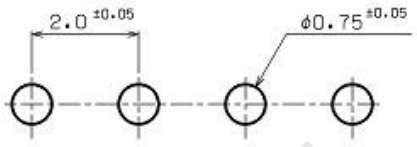
4. Applicable PC Board

4-1 Thickness

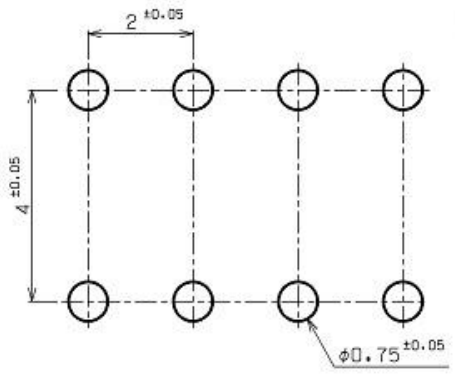
Use PC boards with 1.2 mm or 1.6 mm in thickness.

4-2 PC board layout

Refer to the following PC board's layout. (Common to the socket and the header)
The tolerances for the PC board are non-cumulative ±0.05 mm for all centers.
Note3: The PC board's hole diameter is the reference value of the drilling hole for paper-based epoxy resin PC board.
The proper hole diameter may vary depending on drilling method, the material of the PC board and others.



Top entry type



Side entry type

5. Soldering

① MQ connector raised from the PC board

The MQ connector socket and header have the mechanism to prevents it from detaching during the insertion into PC boards. However, if the connector is raised from the PC boards due to an external load and vibration, gently push it back to ensure that it is in close contact with the PC board surface before soldering.

② Flux
Use rosin flux.
Avoid using inorganic flux because it may damage the connector

③ Dip-soldering
Solder the connector within 3 to 5 seconds at the temperature of 245 to 265 °C.

④ Manual soldering and repairing
When soldering with a soldering iron or soldering repair for bridge troubles is conducted, keep in mind the following points to avoid overheating which may affect the housing resin.

Soldering iron:	350°C at the tip of the iron
Soldering time:	Within 3 seconds as quick as possible
Soldering method:	Do not apply an external load, such as pushing down the pin with the iron's tip, to the pin during soldering.

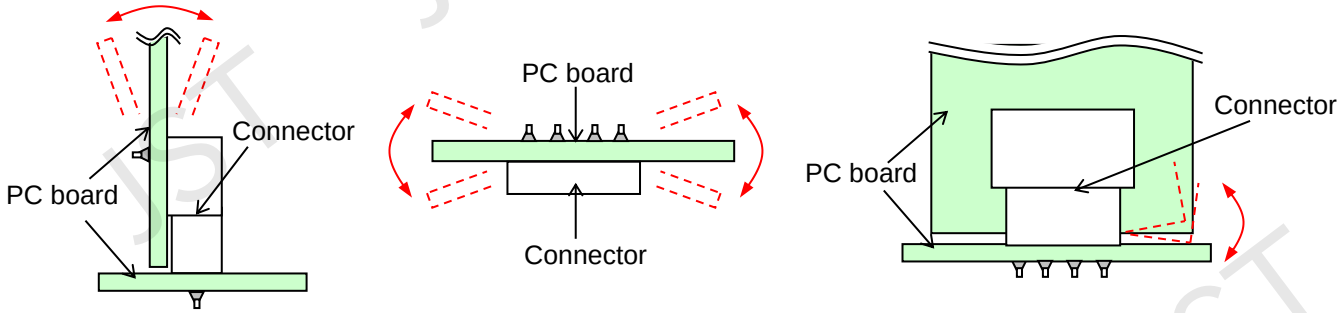
⑤ Cleaning
The MQ connector socket and header are not affected by a standard flux cleaning agent.
However, if the contaminated cleaning agent with flux or something remains in the socket or the header, it may lead to poor contact and other defects.

6. Handling Precautions

6-1 Assembly method

A large load can easily be applied to the MQ connector during the assembly work because the PC board where it is mounted is held during the assembly work.
Please consider the following points during the assembly process.

① Mating on the same axis
Mate the connector on the same axis. If it is difficult to mate and unmate the connector on the same axis, do the operation within 10 degrees. Mating the connector at an angle greater than 10° (known as prying) may deform the contact and the post, and affect the connector performance.



② Do not apply an external load to the PC board before fixing.
After mating the connector, fix the PC board as quickly as possible. If the PC board remains unfixed, the weights of the PC board and the mounted components or an external load on the production line may act as prying effect.

6-2 Others

Never use the contaminated connector with foreign objects, such as seasoning, detergent, and fruit juice, because using such a connector may cause electrical discontinuity, corrosion, and the like.
Never spray insecticide (in particular, fuming one) in the place where the connectors are stored.