

F²MC-8L

QFP-48 PROBE and PROBE HEADER for MB89R907A series

MB2144-226-01

OPERATION MANUAL

PREFACE

Thank you for purchasing the MB2144-226-01 (QFP-48*¹ probe header for MB89R907A series).
The MB2144-226-01 probe header connects an emulator for the F²MC*²-8L to a user system.
The MB2144-226-01 is used with the MB2144-210A (sold separately) universal cable assembly.
This manual explains the handling and operation of the probe header (MB2144-226-01). Read this manual carefully before using these products.

*1: The FPT-48P-M13 is the package for the probe and probe header.

*2: F²MC is the abbreviation of FUJITSU Flexible Microcontroller.

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1. Checking the Delivered Product and Accessories

Before using the MB2144-226-01, confirm that the following components are included in the product package.

- MB2144-226-01 (probe header) : 1
- TQSOCKET048SAW* : 1
- TQPACK048SA* : 1
- Operation manual in Japanese: 1
- Operation manual in English (this manual): 1

*: Manufactured by Tokyo Eletech Corporation.

2. Handling Precautions

- The bypass capacitor for the microcontroller (MCU) and power supply, the jumper plug for switching the C terminal and 2 connectors for connection with the universal cable assembly are mounted on the probe header. Be sure to read Section 3, "Using the Products," before using the probe header to prevent incorrect cable connection, which could cause incorrect operation or product failure.
- The MB2144-226-01 is precision-manufactured to improve dimensional accuracy and to ensure reliable contact. The product is therefore sensitive to mechanical shock, and must be handled carefully. To ensure correct use in the appropriate environment, use the products only as instructed in Section 3, "Using the Products".
- Because ports 0 and 1 of the MCU are connected with cables, they are susceptible to noise. If ports 0 and 1 are used as input ports, drive the element connected to the ports with a current of 1 to 2 mA when the port outputs an L level voltage. Be careful not to read ports only with a pull-down resistor connected, because the values may not be correctly read.

3. Using the Products

■ Setting the jumper plug to switch the C terminal

The jumper plug for switching the C terminal on the probe header is used to switch the C terminal capacitive-termination.

A 0.1 μF capacitor is mounted on the probe header to perform C terminal capacitive-termination. Depending on the operating environment, change the setting of the jumper plug to select whether C terminal capacitive-termination is performed on a user system or on the probe header.

When the product is delivered, side PT (C terminal capacitive-termination is done on the user system) is connected with the jumper plug. To switch to the capacitor on the probe header, connect side C with the jumper plug.

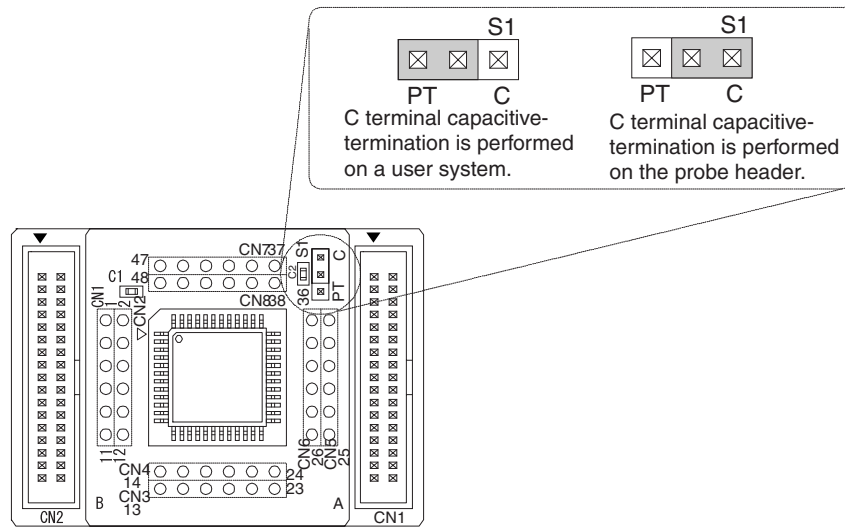


Figure 3-1 Setting the jumper plug to switch the C terminal

WARNING

Electric shock



To prevent an electric shock when setting the jumper plug, turn off the product and any connected devices and unplug the power cable from the outlet before setting the jumper plug.

■ Connecting the universal cable assembly

To connect the universal cable assembly and the probe header, connect the two 34-pin connectors of the universal cable assembly and the two 34-pin connectors on the probe header.

The connectors on the universal cable assembly, and the mounting section of the connectors on the probe header are marked "A" and "B" to distinguish the connections.

Correctly connect connector A of the universal cable assembly to connector A on the probe header, and connector B of the universal cable assembly to connector B on the probe header.

Connection to
the emulator probe connector

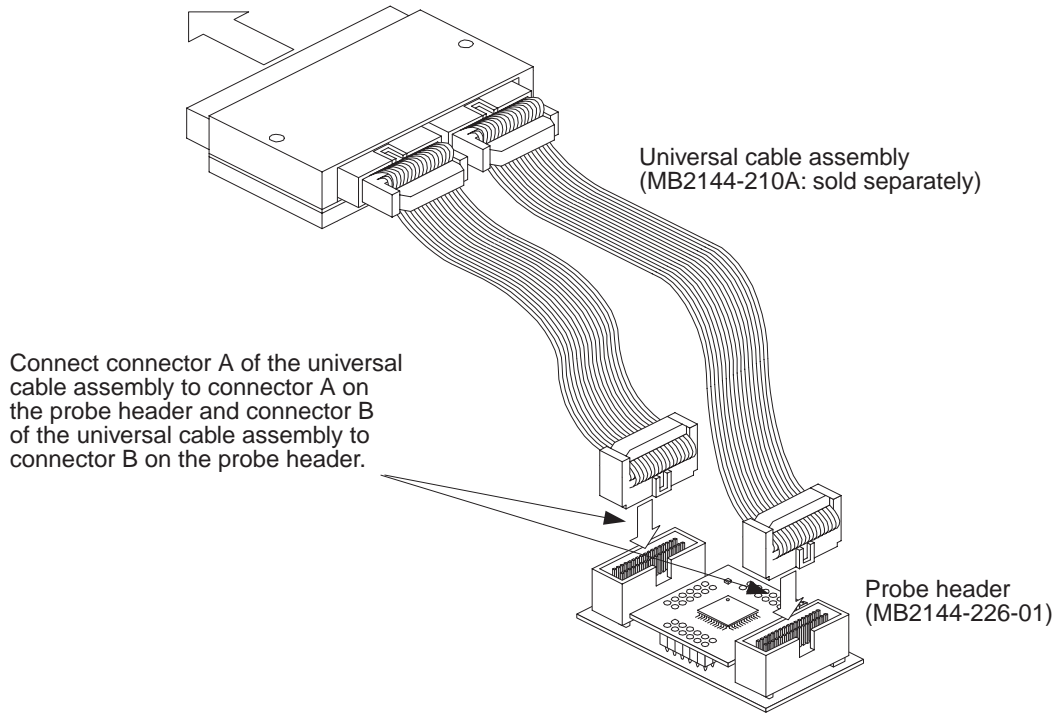


Figure 3-2 Connecting the universal cable assembly and the probe header

⚠ WARNING

Electric shock



To prevent an electric shock when connecting the universal cable assembly and the probe header, turn off the product and any connected devices and unplug the power cable from the outlet before making the connections.

■ Connecting the probe header to a user system

To connect the probe header and the user system, connect the probe header to the TQSOCKET048SAW* mounted on the user system using the TQPACK048SA*. An index mark (one corner of the TQSOCKET048SAW or TQPACK048SA is clipped) indicates the first pin on the TQSOCKET048SAW and on the TQPACK048SA. Mount the probe header by using the index marks to align the first pins.

*: The TQSOCKET048SAW and the TQPACK048SA are supplied with the product.

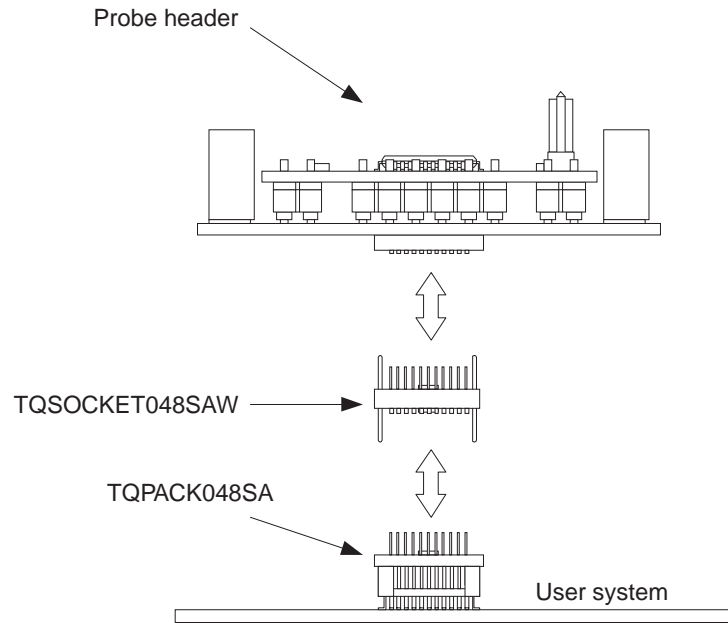


Figure 3-3 Connecting the probe header to a user system

⚠ WARNING

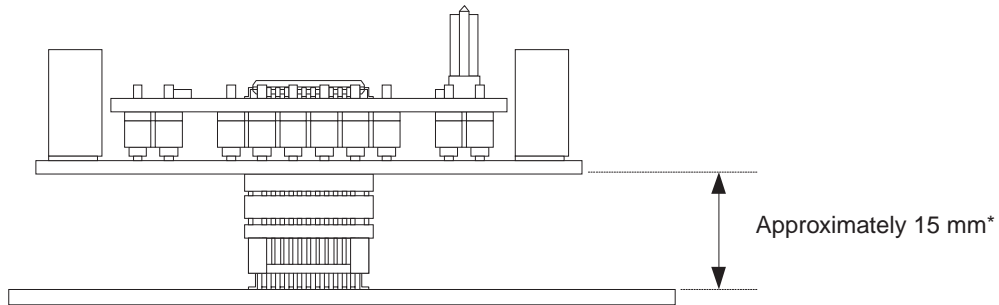
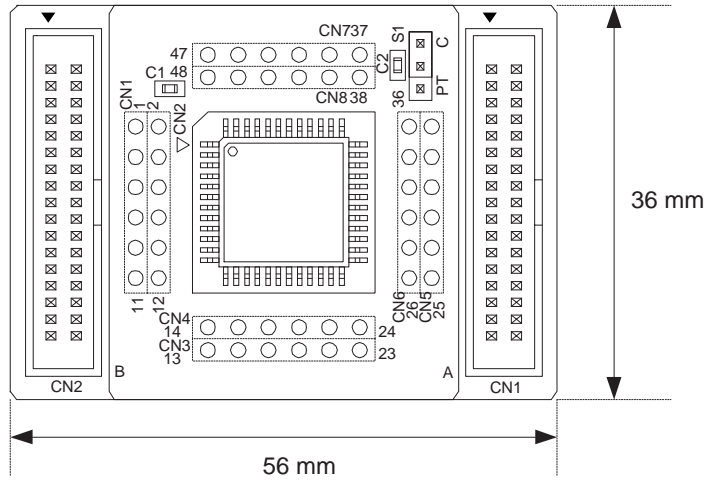
Electric shock



To prevent an electric shock when connecting the probe header and user system, turn off the product and any connected devices and unplug the power cable from the outlet before making the connection.

4. Note on Using the MB2144-226-01

A limit exists on the height of components to be mounted on the user board around the probe header to ensure connection between the probe header and the user system. Take this limit into consideration when designing a PC board for the user system.



*: The height differs slightly depending on how the socket is engaged.

Figure 4-1 Probe header dimensions

SS01-25008-1E

FUJITSU SEMICONDUCTOR • SUPPORT SYSTEM

F²MC-8L

QFP-48 PROBE HEADER for MB89R907A

MB2144-226-01

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