

F²MC-16 Family EMULATOR
QFP-100P PROBE HEADER
MB2147-582-E
OPERATION MANUAL

PREFACE

Thank you for purchasing the QFP-100P*1 probe header (MB2147-582-E) for the F²MC*2-16 family emulator.

The QFP-100P probe header is used by the probe header to connect the F²MC-16L/16LX emulator (MB2147-01-E), referred to as “emulator”, to the user system.

This manual explains the handling of the QFP-100P probe header for the F²MC-16L/16LX emulator. Read this manual carefully before using the MB2147-582-E.

Please contact the sales or support representative for details on the mass production and evaluation MCU models that can be used with this product.

*1 : The lead pitch of package (FPT-100P-M06) is 0.65mm and the body size is 14mm × 20mm.

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

■ Handling and use

The handling and use of this product and notes regarding safety are included in the operation manual of the F²MC-16L/16LX emulator.

Follow the instructions in that manual “F²MC-16L/16LX emulator MB2147-01-E OPERATION MANUAL” for the use of this product.

■ European RoHS compliance

Products with a -E suffix on the part number are European RoHS compliant products.

■ Notice on this document

All information included in this document is current as of the date it is issued. Such information is subject to change without any prior notice.

Please confirm the latest relevant information with the sales representatives.

■ Caution of the products described in this document

The following precautions apply to the product described in this manual.



Indicates a feature that, if not used correctly, may result in minor or moderate injuries, and which may cause the customer system to malfunction.

Cuts	This product has parts with sharp points that are exposed. Do not touch edge of the product with your bare hands.
Damage	When connect the header board to the user system, correctly position the index mark (▲) on the NQPACK mounted on the user system with the index mark (▲) on the header board, otherwise the emulator system and user system might be damaged.
Damage	When mounting a mass production MCU, correctly position pin 1, otherwise the mass production MCU and user system might be damaged.

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1. Checking the Delivered Product

Before using the QFP-100P probe header, confirm that the following components are included in the box:

- QFP-100P probe header*1 : 1
- Screws for securing header board (M2 × 10 mm, 0.4 mm pitch) : 4
- Washer : 4
- NQPACK100RB179-A*2 : 1
- HQPACK100RB179*3 : 1
- Operation manual (Japanese version) : 1
- Operation manual (English version, this manual) : 1

*1 : Header board is mounted on the YQPACK100RB-4W (Tokyo Eletech Corporation), referred to as “YQPACK”.

*2 : IC socket manufactured by Tokyo Eletech Corporation, referred to as “NQPACK”, and supplied with a special screwdriver and three guide pins. A socket offering higher reliability, NQPACK100RB179-SL-A (Tokyo Eletech Corporation, sold separately), can be used by making the IC socket mounting hole on the user system board. For more information, contact Tokyo Eletech Corporation.

*3 : IC socket cover manufactured by Tokyo Eletech Corporation, referred to as “HQPACK”, with four screws for securing HQPACK (M2 × 6mm, 0.4mm pitch).

This product functions as the emulator system when it is combined with the emulator.

2. Handling Precautions

The header board is precision-manufactured to improve dimensional accuracy and to ensure reliable contact. The header is therefore sensitive to mechanical shock. To ensure correct use of the header board in the proper environment, observe the following points regarding its insertion and removal:

- Avoid placing stress on the NQPACK mounted on the user system board while connecting the header board.

3. Notes on Designing

■ Restrictions of PC board for the user system

Once the header board is connected to the user system, the heights of parts mounted in the space around the header board are restricted.

The PC board of the user system must be designed with due consideration given to this restriction (Figure 1).

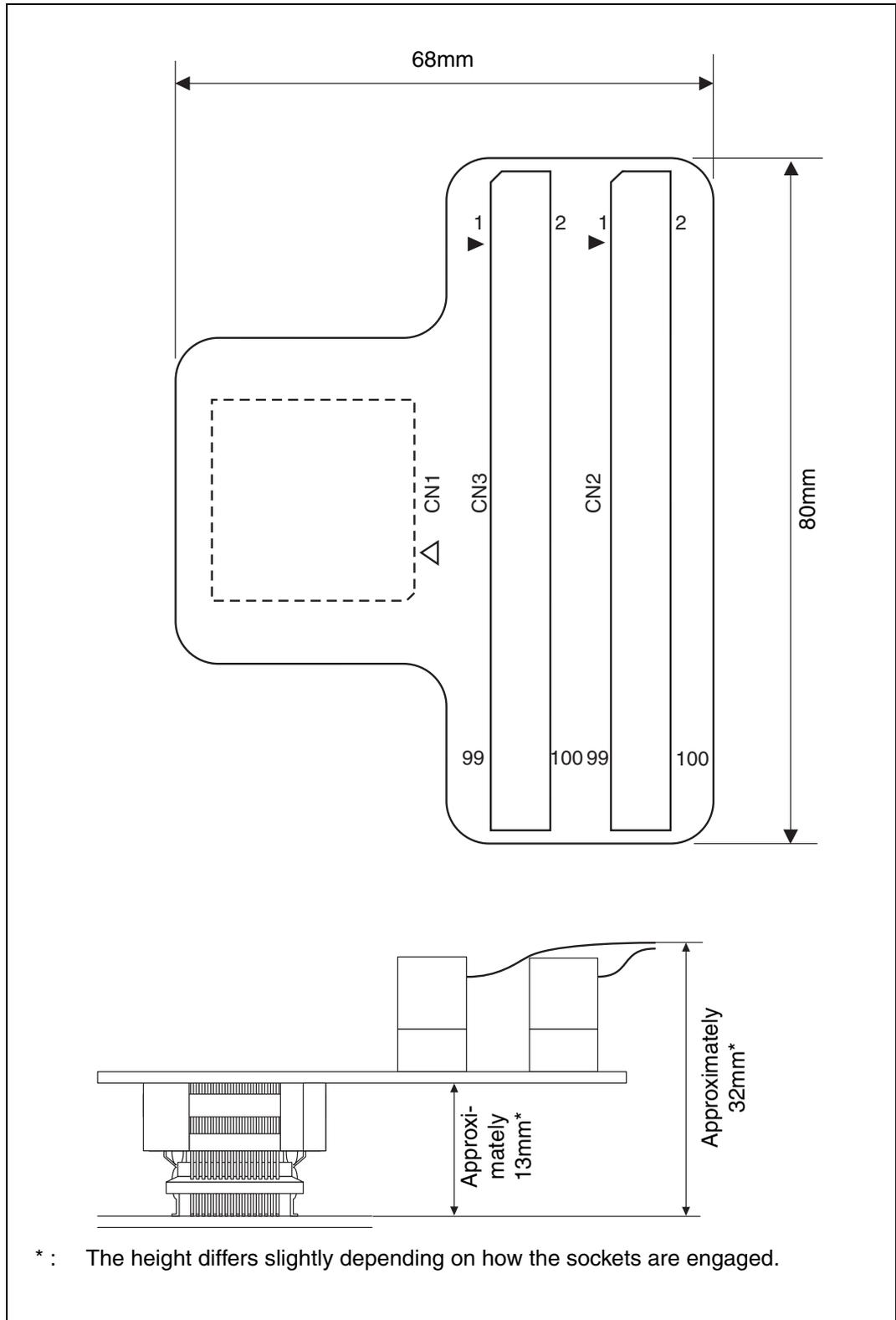


Figure 1 Header board dimensions

■ **MCU footprint design notes**

Figure 2 shows the recommended dimensions of the NQPACK footprint mounted on the PC board of the user system.

The PC board of the user system must be designed with due consideration given to this footprint as well as to the mass production MCU.

For more information, contact the Tokyo Eletech Corporation.

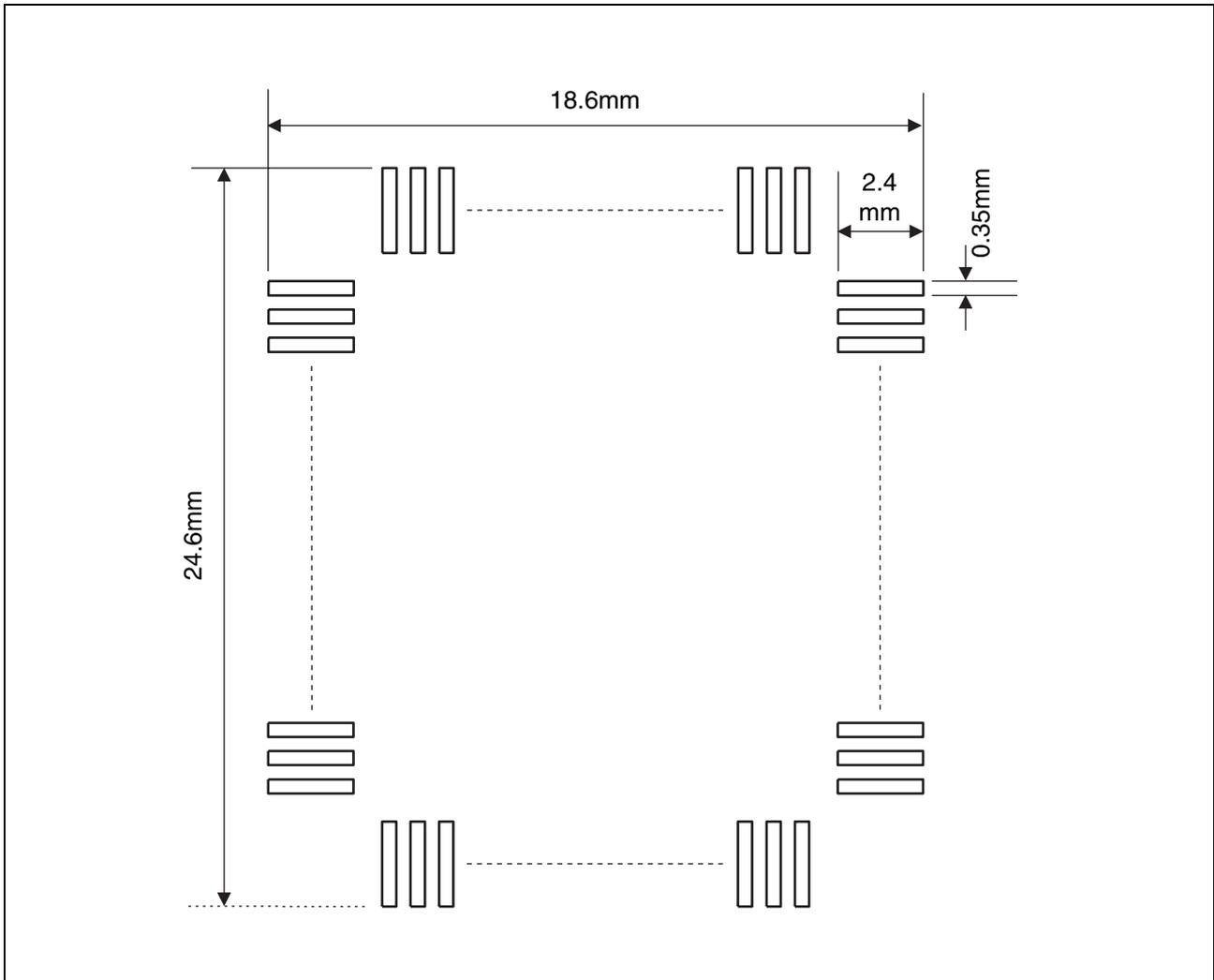


Figure 2 Recommended dimensions of the footprint for mounting the NQPACK

4. Procedure for Connecting to the User System

■ Connecting

Before using the QFP-100P probe header, mount the supplied NQPACK on the user system. To connect the header board to the adapter unit, use the flat cable (two lines) supplied by the adapter unit sold separately.

Refer to the operation manuals of each adapter unit about the way to connect.

1. To connect the header board to the user system, match the first pin of the index mark (▲) on the NQPACK mounted on the user system with the index mark (▲) on the header board and then insert it (See Figure 3). The pin of YQPACK is thin and easy to bend. Insert NQPACK after confirm that the pin of YQPACK is not bent.
2. Insert each header board mounting screw for header board in each of the four screw holes on the header board through a washer, and then first tighten the screws in opposing corners followed by the two remaining screws (see Figure 4). To tighten the screws, use the special screwdriver supplied with the NQPACK to finally tighten the four screws in sequence. Tightening the screws too tight might result in a defective contact.

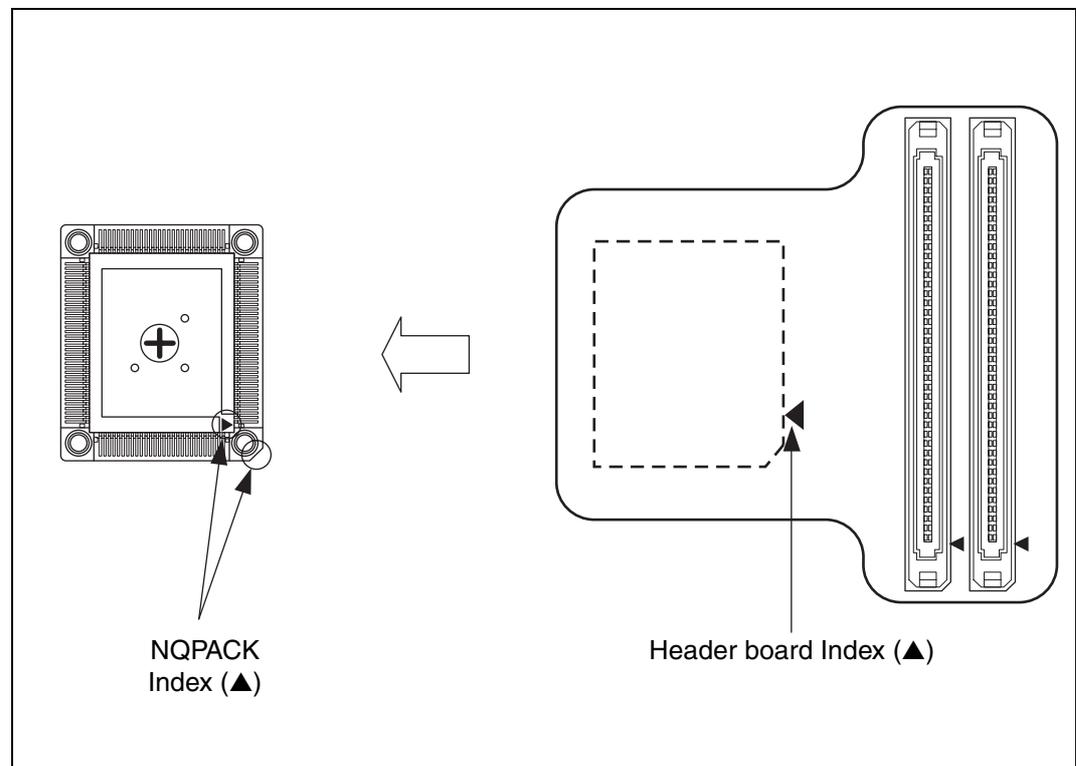


Figure 3 Index position

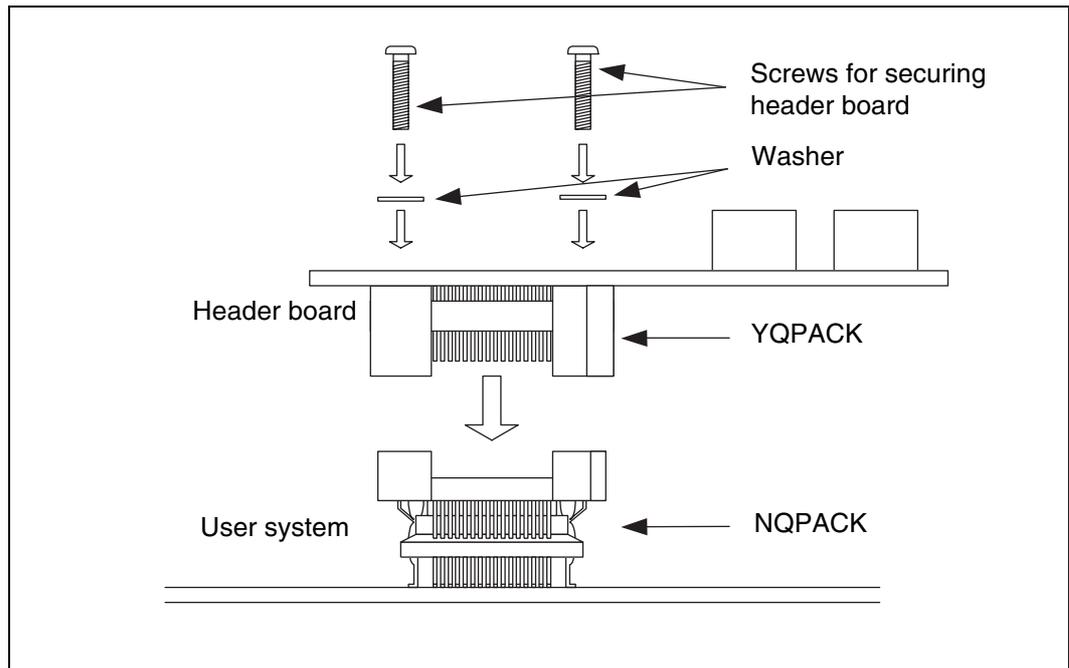


Figure 4 Header board connection

■ **Disconnection**

To disconnect the header board from the user system, remove all four screws, and then pull the header board straight out of the NQPACK.

5. Mounting Mass Production MCUs

■ Mounting

After mounting a mass production MCU on the user system, use the supplied HQPACK, IC socket cover.

1. To mount a mass production MCU on the user system, match the index mark (▲) on the NQ-PACK mounted on the user system with the index mark (●) on the mass production MCU.
2. Confirm that the mass production MCU is correctly mounted on the NQPACK. Next, insert the HQPACK into the NQPACK matching the notch of HQPACK to that of NQPACK (see Figure 5). The pin of HQPACK is thin and easy to bend. Insert NQPACK after confirm that the pin of HQPACK is not bent.
3. Insert each HQPACK screw for securing in each of four screw holes on the socket cover, and then first tighten the screws in opposing corners followed by the two remaining screws.
To tighten the screws, use the special screwdriver supplied with the NQPACK to finally tighten the four screws in sequence. Tightening the screws too tight might result in a defective contact.

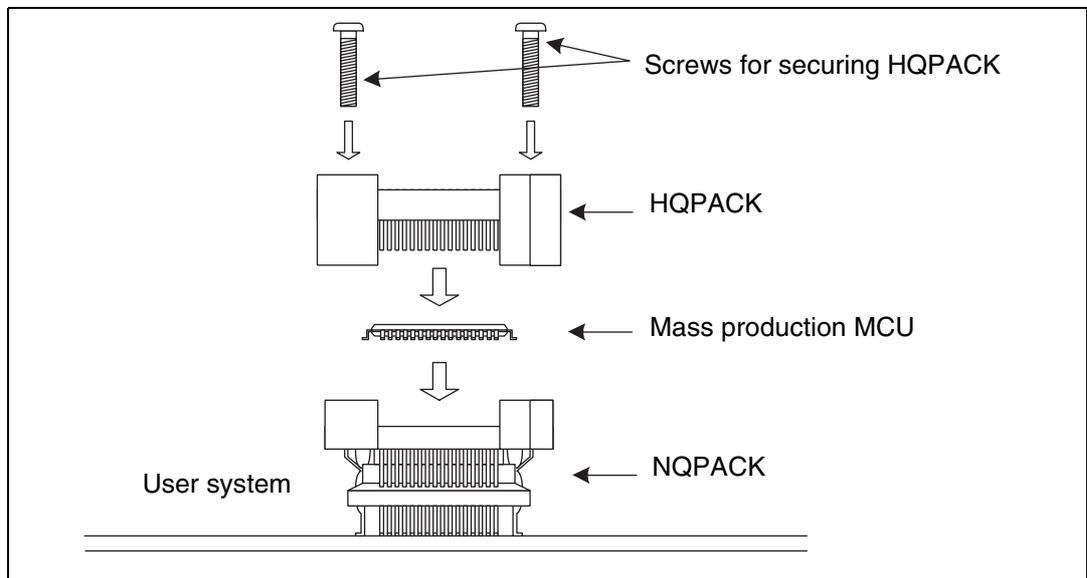


Figure 5 Mounting a mass production MCU

■ Disconnection

To remove the HQPACK, remove all four screws, and pull the HQPACK straight out of the NQ-PACK.

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