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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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M306S0T-PRB

Signal Converter Board for M16C/6S Group M16C/6S0

User's Manual

Keep safety first in your circuit designs!

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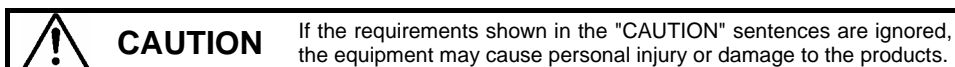
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1. Outline

The M306S0T-PRB is a signal converter board for the M16C/6S Group M16C/6S0 for connecting an emulator for the M16C/62P Group.

2. Package Components (See Figure 2.1)

- (1) M306S0T-PRB..... 1 pc.
- (2) YQPACK064SD 1 pc.
- (3) NQPACK064SD-ND 1 pc.
- (4) YQ-GUIDE 4 pcs.
- (5) M306S0T-PRB User's Manual (This manual)..... 1 pc.
- (6) M306S0T-PRB User's Manual (Japanese) 1 pc.

3. Specifications

Table 1 Specifications

Applicable MCU	M16C/6S Group M16C/6S0
Applicable package	64P6Q-A (64-pin 0.5-mm-pitch QFP)
Max. operating frequency	15.36 MHz
Operating voltage	3.0 to 3.6 V
Power supply	Supplied from Vcc pin of the target system
Insertion/removal iterations of connector	50 times guaranteed

4. Usage (See Figure 4.1)

The M306S0T-PRB can be used for debugging and board mounted evaluation in common by mounting the NQPACK064SD-ND on the target system.

- (1) For debugging
Mount the NQPACK064SD-ND and YQPACK064SD on the foot pattern of the target system in that order. Then fix them with the YQ-GUIDE's (do not use the screw in the YQPACK064SD package).
After connecting the M306S0T-PRB to the YQPACK064SD, connect the emulator and the M306S0T-PRB.
- (2) For onboard evaluation
Mount the M16C/6S Group M16C/6S0 MCU and the HQPACK064SD (separately available) in that order on the NQPACK064SD-ND on the target system and fix them with screws.

Before using the M306S0T-PRB, be sure to read "7. Precautions" on page 3 and the user's manual of the emulator for the M16C/62P Group.

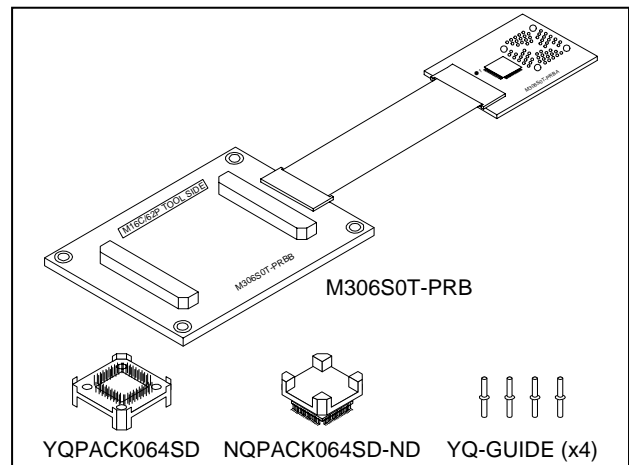


Figure 2.1 Package components

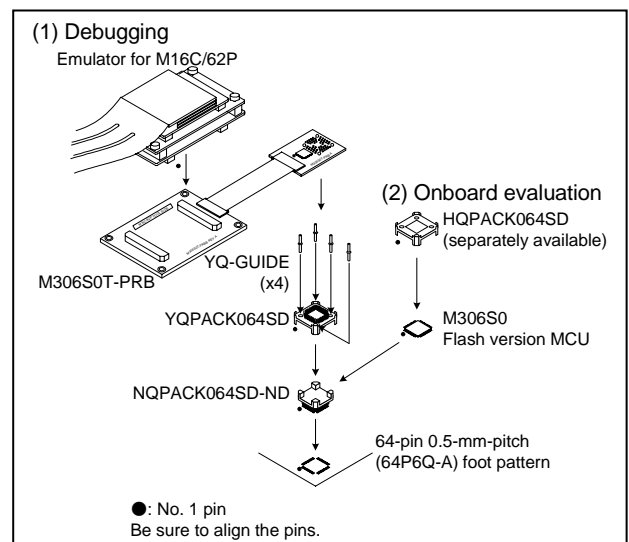


Figure 4.1 Usage

5. Connection Procedure (See Figure 5.1)

- (1) Mount the NQPACK064SD-ND on the target board.
- (2) Attach the YQPACK064SD on the NQPACK064SD-ND.
- (3) Secure the four corners of the YQPACK064SD with the YQ-GUIDE's.

- Do not use the screws included with the YQPACK064SD for fixing the YQPACK064SD.
- The screwdriver included with the NQPACK064SD-ND is used for fixing the HQPACK064SD. Do not use it for fixing the YQ-GUIDE's.

- (4) Attach the M306S0T-PRB on the YQPACK064SD.
- (5) Connect the M306S0T-PRB to the emulator for the M16C/62P Group.

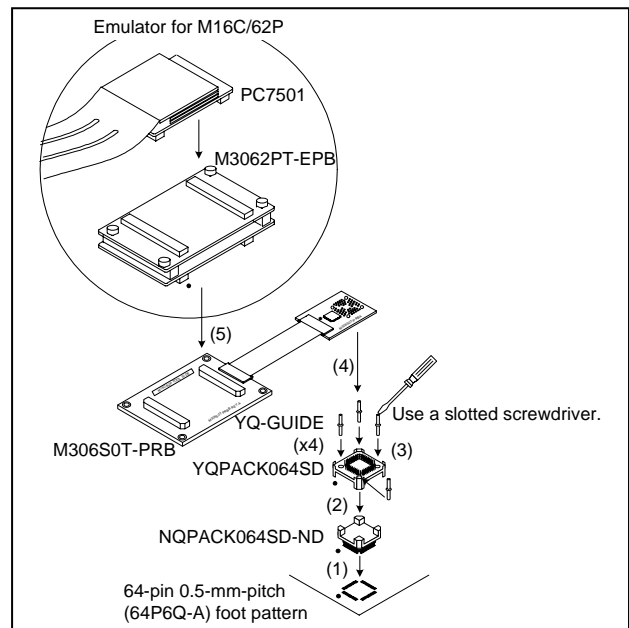


Figure 5.1 Connection procedure

6. External Dimensions and a Sample Foot Pattern (See Figure 6.1)

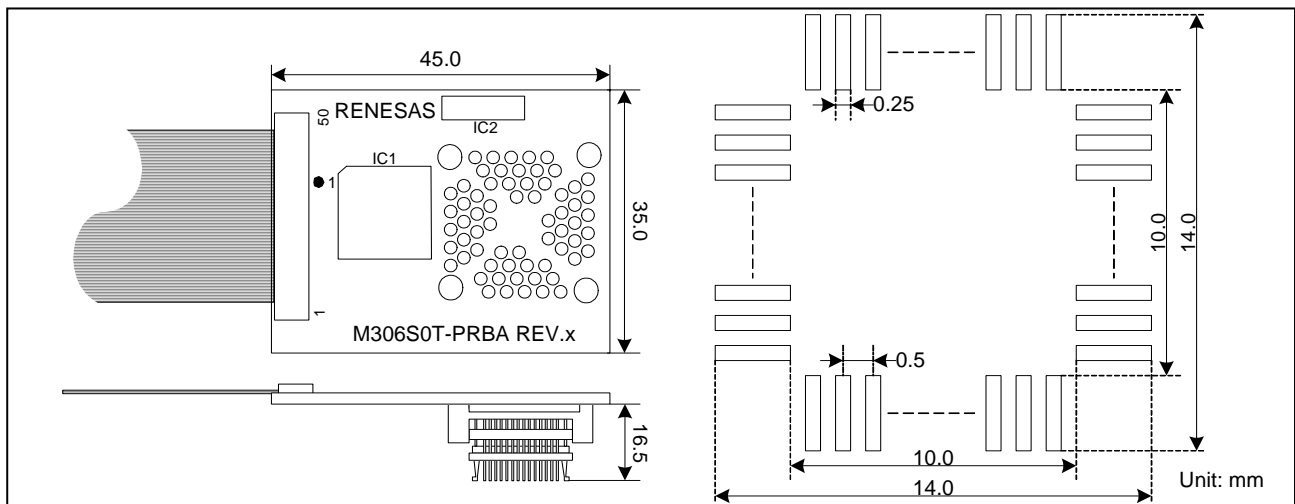


Figure 6.1 External dimensions and a sample foot pattern

7. Precautions

⚠ CAUTION

Caution to Be Taken for This Product:



- When connecting the YQPACK064SD, be sure to use the included YQ-GUIDE's. Do not use the screws included with the YQPACK064SD to fix it.

IMPORTANT

Notes on This Product:

- We cannot accept any request for repair.
- For purchasing the NQPACK064SD-ND, YQPACK064SD and HQPACK064SD, contact the following:
 Daimaru Kogyo Ltd. <http://www.daimarukogyo.co.jp/>
 Tokyo Eletech Corporation http://www.tetc.co.jp/e_tet.htm
- For inquiries about the product or the contents of this user's manual, contact your local distributor.
 Renesas Tools Homepage <http://www.renesas.com/en/tools>

Note on Power Supply to the MCU:

- The M16C/6S MCU mounted on this product operates by the Vcc power supply of the target system. Therefore, design your system so that the Vcc pin is powered by the target system.

Note on Clock Supply to the MCU:

- The clock supplied to the MCU is selectable in the Emulator tab of the Init dialog box of the emulator debugger. Be sure to select "External" for this product.

Note on Debugging Flash ROM Rewrite Program:

- This product cannot be used for debugging the flash ROM rewrite program.

8. Connection Diagram

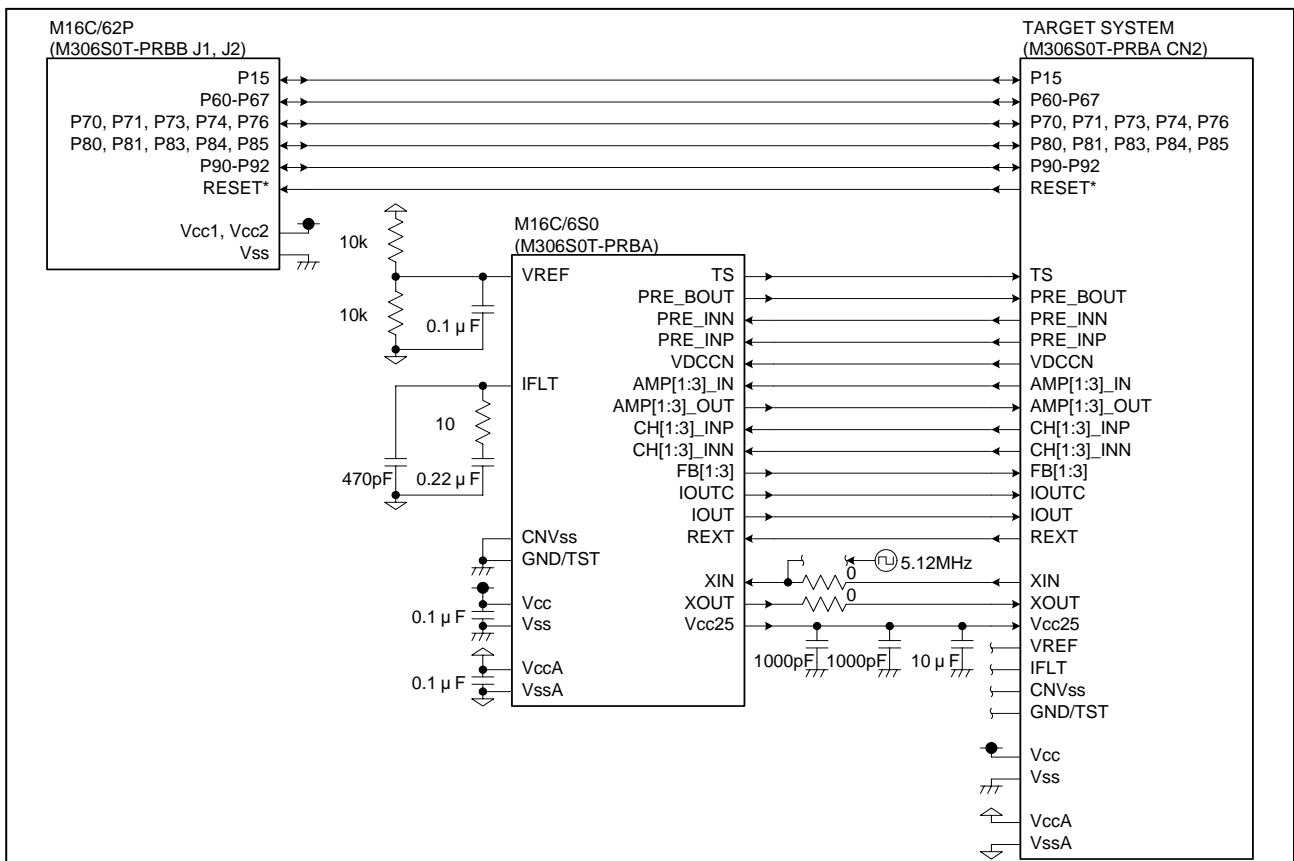


Figure 8.1 Connection diagram