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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

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

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M38D29T2-RLFS

Emulator MCU Board for 38D2 Group

User's Manual

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Renesas Tools Homepage <http://www.renesas.com/tools>

1. Outline

The M38D29T2-RLFS is an emulator MCU board for the 38D2 Group.

2. Package Components

- (1) M38D29T2-RLFS 1 pc.
- (2) M38D29T2-RLFS User's Manual (This manual) 1 pc.
- (3) M38D29T2-RLFS User's Manual (Japanese) 1 pc.

The M3T-F160-64NSA is included with the M38D29T2-RLFS-FP.
 The M3T-F160-64NSD is included with the M38D29T2-RLFS-HP.
 For details on the M3T-F160-64NSA and M3T-F160-64NSD, refer to each user's manual.

3. Specifications

Table 1 Specifications

Emulator	M38000T2-CPE PC4701 + M38000TL2-FPD
Operation mode	Single-chip mode
Max. operating frequency	Vcc = 4.5 to 5.5V: 12.5MHz (frequency/2 mode) Vcc = 4.0 to 5.5V: 8.0MHz (frequency/2 mode) Vcc = 2.0 to 5.5V: 4.0MHz (frequency/2 mode) Vcc = 1.8 to 5.5V: 2.0MHz (frequency/2 mode) Vcc = 4.5 to 5.5V: 16.0MHz (frequency/4 mode) Vcc = 3.1 to 5.5V: 12.5MHz (frequency/4 mode) Vcc = 2.0 to 5.5V: 8.0MHz (frequency/4 mode) Vcc = 1.8 to 5.5V: 4.0MHz (frequency/4 mode) Vcc = 4.5 to 5.5V: 16.0MHz (frequency/8 mode) Vcc = 2.0 to 5.5V: 12.5MHz (frequency/8 mode) Vcc = 1.8 to 5.5V: 8.0MHz (frequency/8 mode) Vcc = 1.8 to 5.5V: Low-speed mode
Operating power voltage	1.8 to 5.5 V

4. Connecting the User System

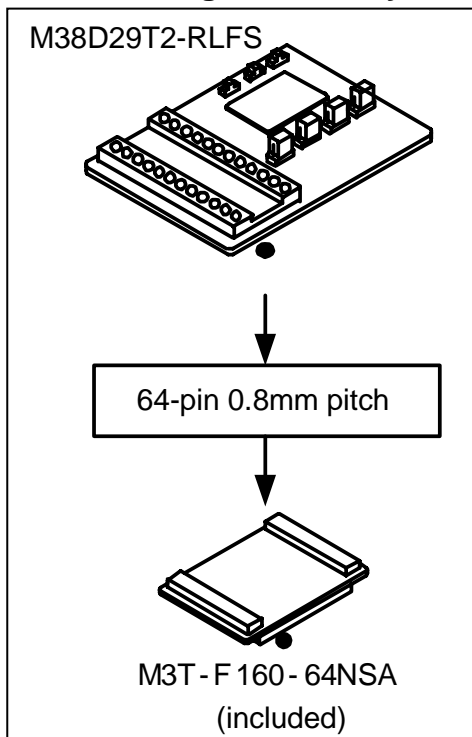


Figure 1 M38D29T2-RLFS-FP

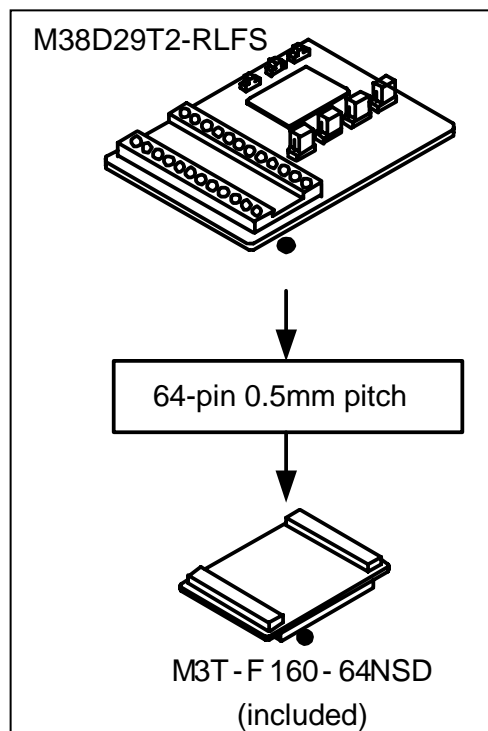


Figure 2 M38D29T2-RLFS-HP

5. Connection Procedure

(1) For M38D29T2-RLFS-FP

- 1 Mount the NQPACK064SA160 to the foot pattern of the user system.
- 2 Attach the included M3T-F160-64NSA to the M38D29T2-RLFS.
- 3 Mount the YQPACK064SA on the NQPACK064SA160.
- 4 Attach the tip of the probe of the emulator to the M38D29T2-RLFS, and connect the M38D29T2-RLFS and YQPACK064SA.

(2) For M38D29T2-RLFS-HP

- 1 Mount the NQPACK064SD-ND to the foot pattern of the user system.
- 2 Attach the included M3T-F160-64NSD to the M38D29T2-RLFS.
- 3 Mount the YQPACK064SD on the NQPACK064SD-ND.
- 4 Attach the tip of the probe of the emulator to the M38D29T2-RLFS, and connect the M38D29T2-RLFS and YQPACK064SD.

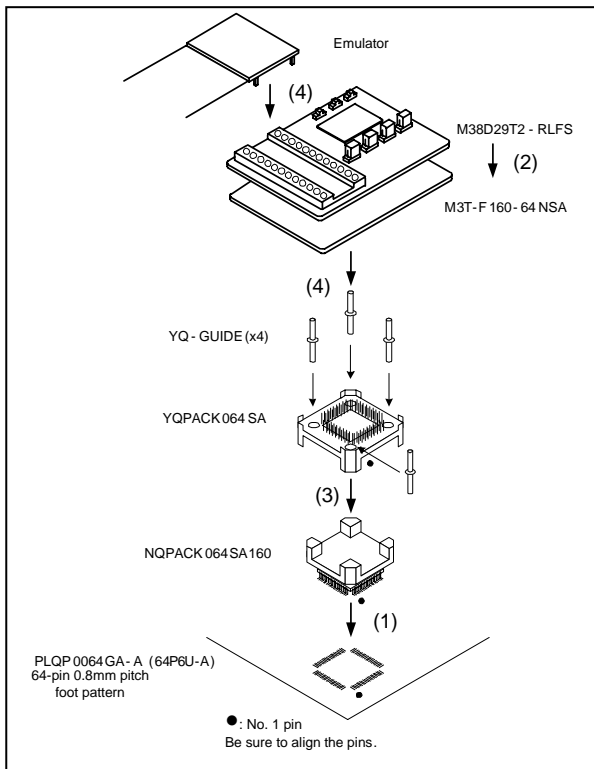


Figure 3 Connection procedure of M38D29T2-RLFS-FP

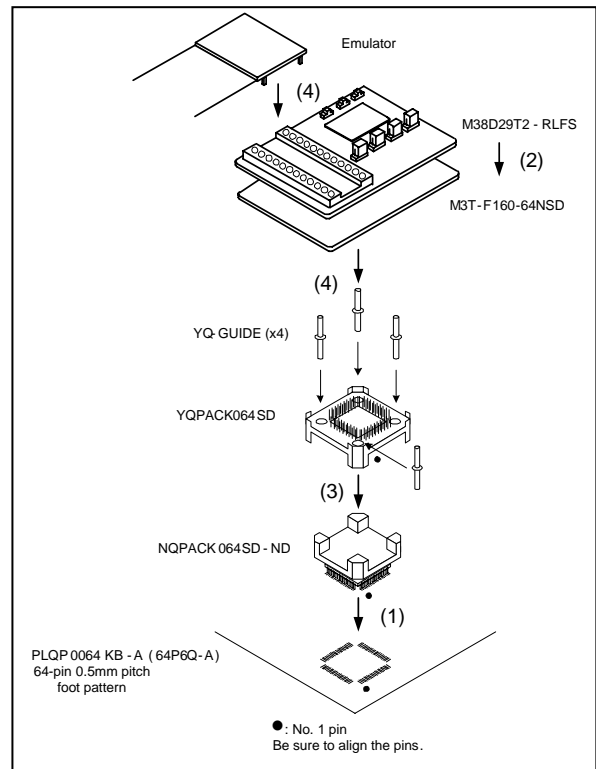


Figure 4 Connection procedure of M38D29T2-RLFS-HP

6. External Dimensions

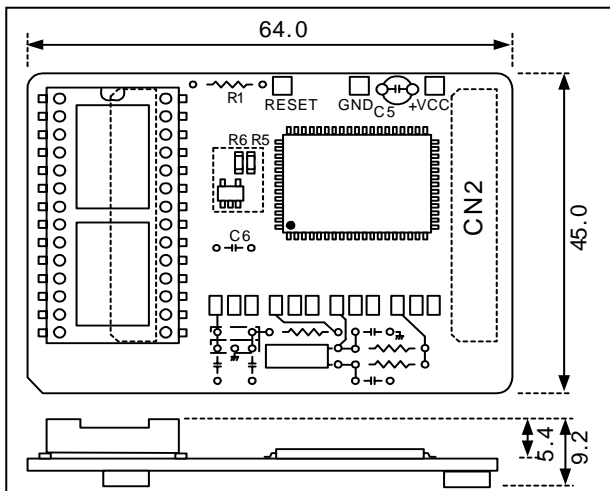


Figure 5 External dimensions

7. Oscillator Circuit

This product has two oscillator circuit patterns for the main clock XIN and sub-clock XCIN. Figures 6 and 7 show the oscillator circuit diagram and oscillator circuit pattern, respectively. Select one of them according to the oscillator circuitry of the user system.

(1) When using the internal oscillator circuit of the MCU:

The oscillator circuit on the user system may not oscillate because a converter board is used between the emulator MCU and the user system. In this case, set the jumper switch to INT and mount an oscillator circuit on the M38D29T2-RLFS's oscillator circuit pattern. When using the oscillator circuit on the user system, be sure to set the jumper switch to EXT.

(2) When using an oscillator module IC etc. (self-oscillation):

It is not necessary to mount an oscillator circuit on the M38D29T2-RLFS's oscillator circuit pattern.

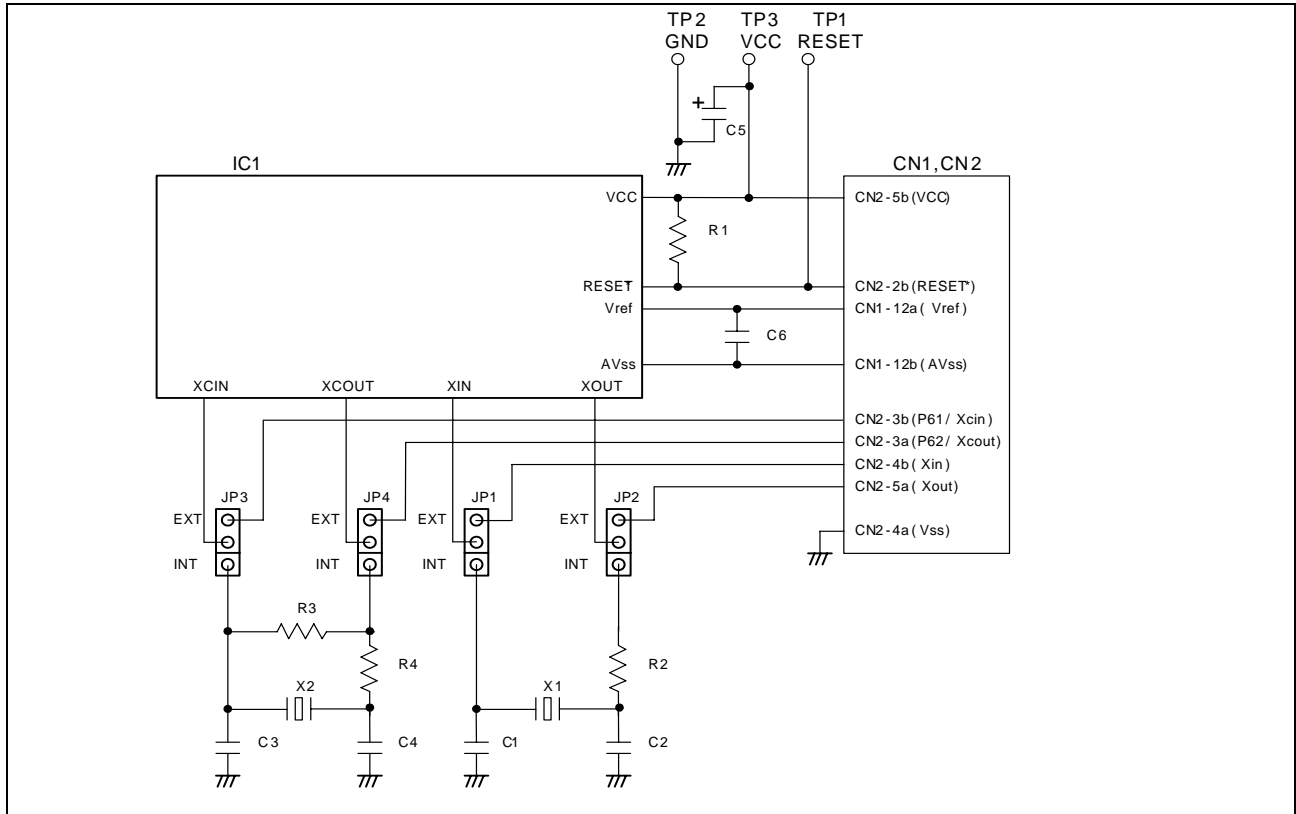


Figure 6 Oscillator circuit diagram

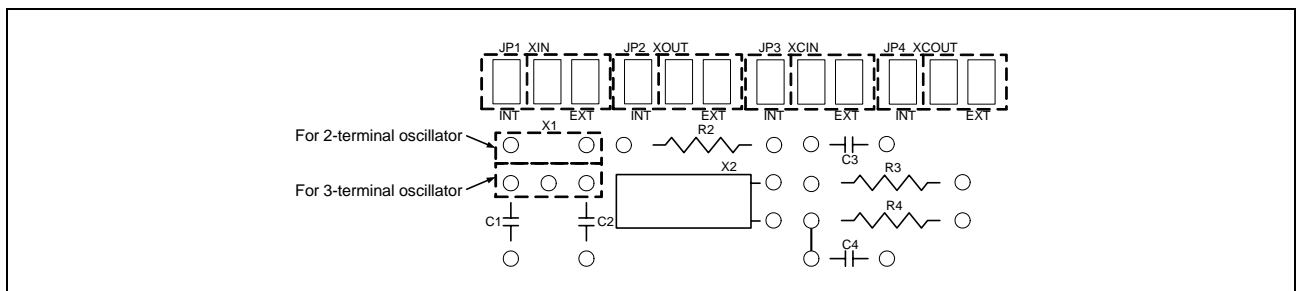


Figure 7 Oscillator circuit pattern

8. Precautions

IMPORTANT

Notes on This Product:

- We cannot accept any request for repair.
- When using the oscillator circuit on the M38D29T2-RLFS, check the output waveform of pins Xout and Xcout by an oscilloscope.
- When mounting an oscillator circuit on the M38D29T2-RLFS, make sure that 2 mm or more of a DIP pin does not appear on the rear face (solder side). It may be short-circuited with the DIP pin of the converter board.
- For inquiries about the product or the contents of this manual, contact your local distributor.

Renesas Tools Homepage

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