

EF1SRP-05U Supplement (38D2 groups Edition)

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1 . General Description

This supplement contains information required for reading, writing and clearing data to/from RENESAS TECHNOLOGY 38D2 groups MCUs with built-in QzROM memory.

The supplement also contains a description of command operation for the various functions of the 38D2 groups.

2 . Operating Environment

Use the MCUs mentioned in this supplement in an environment as follows.

[EFP-I]

Monitor Version: Ver.4.18.24 or later

[Control Software]

WinEfpRE Version: Ver.1.30.17c or later

3 . Pin Connection

Table 3.1 lists the connection of target connection cable pin of the 38D2 groups.

Table 3.1: Connection of the Target Connection Cable Pin

Pin No. (EF1SRP-05U side)	Target End Wire Color	Signal	3-Wire Cable Pin No.	MCU Connection Pin for Serial Writing
1	Orange/red dotted 1	GND	N.C.	Connects to VSS pin *4
2	Orange/black dotted 1	GND		
3	Gray/red dotted 1	T_VPP	2	Connects to OSCSEL pin
4	Gray/black dotted 1	T_VDD	3	Connects to VDD pin *1
8	White/black dotted 1	T_PGM/OE/MD	6	Connects to P30/SRDY2 pin *2
9	Yellow/red dotted 1	T_SCLK	4	Connects to P31/SCLK2 pin *2
10	Yellow/black dotted 1	T_TXD	5	Connects to P32/TXD2 pin
11	Pink/red dotted 1	T_RXD		
12	Pink/black dotted 1	T_BUSY	1	N.C.
14	Orange/black dotted 2	T_RESET	7	Connects to RESET pin *3
15	Gray/red dotted 2	GND	8	Connects to VSS pin *4
16	Gray/black dotted 2	GND		

***1. Connection of a power supply**

When the voltage consumed by target MCU peripheral circuits is high, separate MCU from the VCC supplied from peripheral circuits.(When current 20mA or more is required in circuits other than MCU.)

***2. Processing of the terminal for a mode entry**

T_PGM and a T_SCLK signal are used as a signal for a mode entry.

Please do not mount the parts which delay generates in output signals, such as a capacitor.

Please mount pull-up resistance of 1K to 5K in these terminals.

***3. Processing of a reset terminal**

L signal is outputted to a T_RESET terminal during writer operation. Please remove a writer, when you operate a user program.

***4. Connection of a GND terminal**

The signal GND has 4 pins of EF1SRP-05U side connector. When connecting to the target board, there is no problem for connecting only one pin, but it is recommended to connect more than 2 pins.

(1)An example of target MCU peripheral circuit when using the 38D2 groups is show in Fig 3.1.

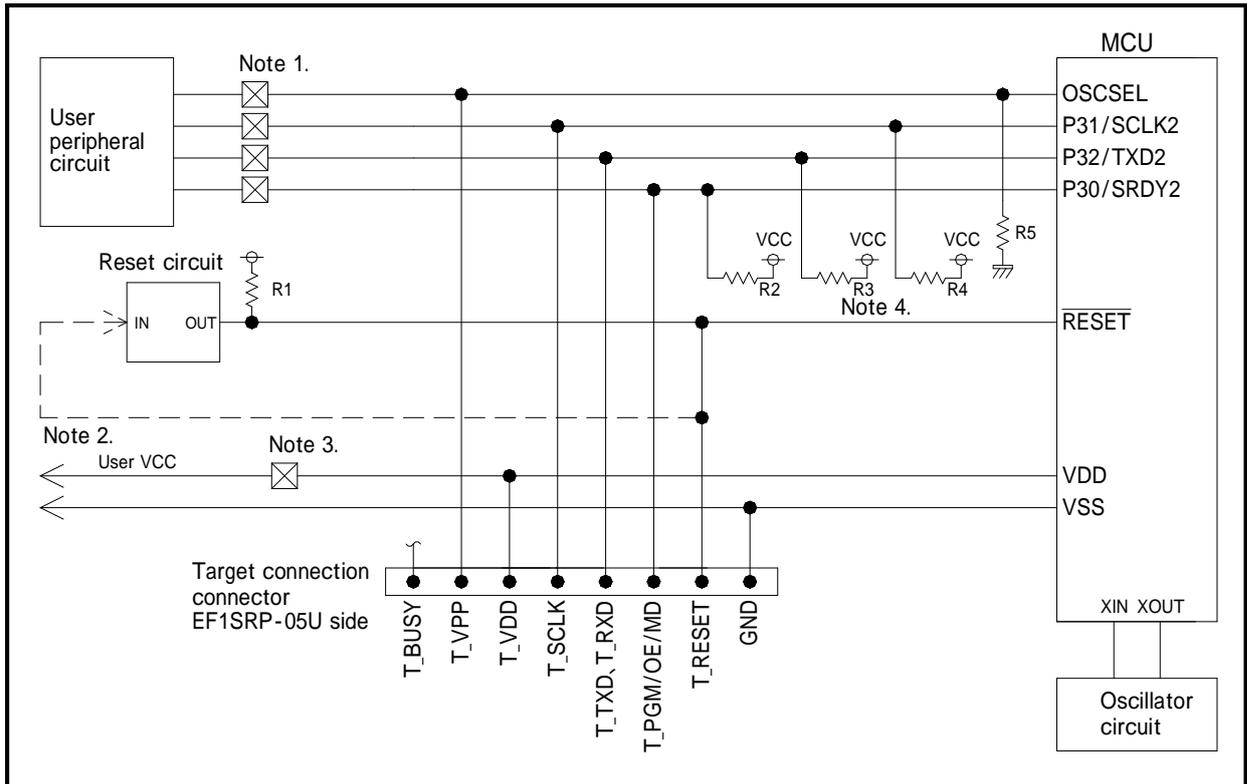


Fig 3.1: Target MCU peripheral circuit example

Notes

1. If the user peripheral circuit is an output circuit, you should disconnect by jumper to avoid output collision when serial writing.
2. EFP-I side reset output is an open collector, therefore connect directly to the RESET pin for open collector output. A pull-up resistor however must be connected. If the reset circuit is CMOS output, do as described in note 1, or connect the EFP-I side T_RESET signal to reset circuit input. Make reset delay within 30ms.
3. When the voltage consumed by target MCU peripheral circuits is high, separate MCU from the VCC supplied from peripheral circuits.(When current 20mA or more is required in circuits other than MCU.)
4. T_PGM , T_SCLK and a T_TXD, T_RXD signal are used as a signal for a mode entry.
Please do not mount the parts which delay generates in output signals, such as a capacitor.
Please mount pull-up resistance of 1K to 5K in these terminals.
Please mount pull-down resistance of 4.7K in T_VPP signal.

4 . Data read-out protection function

The protection function for preventing unjust data read-out is prepared in this MCU.
The function to prevent inaccurate data read-out can be set up by the writer side. The setting method of a data read-out protection function is shown below.

<A setup of a data read-out protection function>

The dialog box of a PROGRAM, VERIFY, and a DEVICE MACRO broad view is opened, and the check box of "Writing of a Protection bit(W)" is set up effectively.

A command is executed. After a command is completed normally, a protection function is set up effectively.



Fig 4.1: Protection functional setting screen

<About MCU from which the protection function became an effective setup>

If a protection function reads to effective MCU and writing is performed, the message of "Read protect enable." will be displayed on a screen.

* There is no method of canceling a protection function.

5 . Accessories

The adapter for writing corresponding to MCU of 38D2 groups is sold.

A list of an adapter product is shown in Table 5.1.

Model name	MCU package	Corresponding MCU
MS38D2-64H	PLQP0064KB-A(64P6Q-A)	M38D24G4HP, M38D24G6HP, M38D24G8HP
MS38D2-64U	PLQP0064GA-A(64P6U-A)	M38D24G4FP, M38D24G6FP, M38D24G8FP

Table 5.1: Adapter product table