

To our customers,

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## Old Company Name in Catalogs and Other Documents

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On April 1<sup>st</sup>, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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

Send any inquiries to <http://www.renesas.com/inquiry>.

ROM number	
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**QzROM PROGRAMMING CONFIRMATION FORM**  
**8BIT SINGLE-CHIP MICROCOMPUTER**  
**M38D24G4-XXXFP/HP**  
**RENESAS TECHNOLOGY**

Receipt	Date:	
	Section head signature	Supervisor signature

Note: Please fill in all items marked\*.

* Customer	Company name	TEL (      )	Issuance signature	Supervisor
	Date issued	Date:		

\*1. Confirmation

Specify the name of the product being ordered.  
 The submitted floppy disk must be 3.5-inch 2HD type and DOS/V format if this order is performed by a floppy disk.  
 And the number of the mask files must be 1 in one floppy disk.

Microcomputer name:                      M38D24G4-XXXFP                      M38D24G4-XXXHP

File code                      

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                      (hexadecimal notation)

Mask file name                      

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                      .MSK (equal or less than eight characters)

Note: Write data to only ROM data area (addresses C080<sub>16</sub> to FFDA<sub>16</sub>, FFDC<sub>16</sub> to FFFD<sub>16</sub>).  
 ROM option data area: Addresses 10<sub>16</sub>

**Notes (RENESAS → Customer)**

**1 : ROM data confirmation request**  
 QzROM programming will be processed based on the mask file generated by the mask file generating utility. Only in case when ROM data programmed in the actual mass produced product differs from that of above mentioned mask file, RENESAS takes the responsibility. There is no Engineering Sample, thus please confirm the ROM data at the receipt of the Initial product delivery.  
Should you find any problem, please return immediately. Two weeks without technical error feedback towards RENESAS will automatically be regarded as acceptance of products.

**2 : ROM option("MASK option" written in the mask file converter MM)**  
 Either of the following data should be set to the ROM option data address (10<sub>16</sub>) of the mask file you have ordered.  
When you don't protect the ROM data, a third party can read out it.

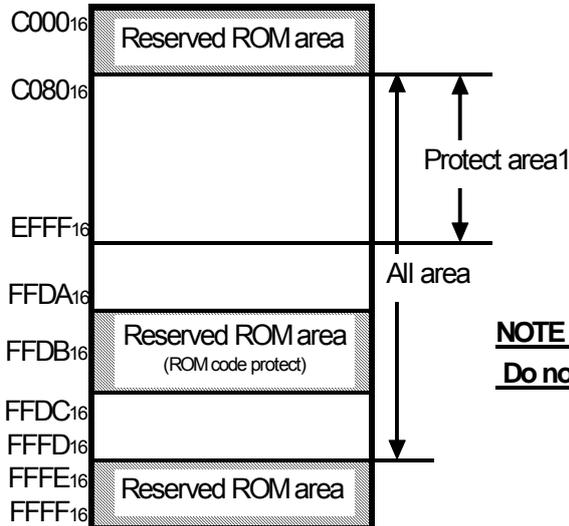
When the ROM data of protect area1(C080 <sub>16</sub> ~EFFF <sub>16</sub> ) is protected	FE <sub>16</sub>	Address 10 <sub>16</sub>
When the ROM data of all area (C080 <sub>16</sub> ~FFFD <sub>16</sub> ) is protected	00 <sub>16</sub>	Address 10 <sub>16</sub>
When ROM data is not protected	FF <sub>16</sub>	Address 10 <sub>16</sub>

If you set except the above data or nothing at the ROM option data address (10<sub>16</sub>), We can't generate the ROM data. Then we request to submit the data again.  
When Renesas ships QzROM write products, we write the data in ROM option address (10<sub>16</sub>) to the actual ROM code protect address (FFDB<sub>16</sub>).  
Therefore, set FF<sub>16</sub> to address FFDB<sub>16</sub> in ROM data regardless of the presence or absence of a protect.  
When data other than FF<sub>16</sub> is set, we may ask that the ROM data be submitted again.

**3 : Mark specification**  
 You can appoint the mark by the mark specification form. Without submitting the mark specification form, your mark will be a standard mark. Please fill out the 64P6U MARK SPECIFICATION FORM for the M38D24G4-XXXFP, the 64P6Q MARK SPECIFICATION FORM for the M38D24G4-XXXHP, and attach it when you submit the QzROM PROGRAMMING CONFIRMATION FORM. We can't deal with special font marking(customer's trademark etc.) in QzROM microcomputer.

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ROM-Protection-Area



**NOTE :**  
**Do not set any data to address FFDB<sub>16</sub>.**

※2. Usage conditions

For our reference of new products, please reply to the following questions about the usage of the products you ordered.

(1) Which operation source main clock do you use?

- Ceramic resonator
  - External clock input
  - Quartz-crystal oscillation
  - Other(                    )
  - On-chip oscillator
- At what frequency?  
 $f(X_{IN}) =$   MHz

(2) Which operation source sub clock do you use?

- Quartz-crystal oscillation
  - Other(                    )
- At what frequency?  
 $f(X_{CIN}) =$   kHz

(3) What is the voltage of power supply (V<sub>CC</sub>) you use?

Typ. =  V      Min. =  V      Max. =  V

(4) What is the ambient temperature you use?

Typ. =  °C      Min. =  °C      Max. =  °C

(5) On which condition will you use OSCSEL?

- OSCSEL=H     OSCSEL=L

(6) Which main clock (X<sub>IN</sub>-X<sub>OUT</sub>) division ratio mode will you use?

- In frequency/2 mode    ( $f(\Phi) = f(X_{IN})/2$ )       In frequency/4 mode    ( $f(\Phi) = f(X_{IN})/4$ )
- In frequency/8 mode    ( $f(\Phi) = f(X_{IN})/8$ )

(7) Which function will you use the pins P61/X<sub>CIN</sub> and P62/X<sub>COUT</sub> as P61 and P62, or X<sub>CIN</sub> and X<sub>COUT</sub>?

- P61,P62     X<sub>CIN</sub>,X<sub>COUT</sub>

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(8) On which condition will you use LCD drive control circuit?

- LCD drive control circuit       Use       Not use  
 Duty ratio       4     3     2  
 Range of power source voltage(VL3)    Min.=  V    Max.=  V  
 Number of segment pins used        
 Dividing resistor for LCD power     Internal resistor       External resistor  
    Resistor value/piece=  kΩ/piece  
 LCD drive timing       TypeA       TypeB

(9) Which timer mode will you use?

- Timer X     Timer mode     Pulse output mode     IGBT output mode     PWM mode  
                   Event counter mode     Pulse width measurement mode     Not use  
 Timer Y     Timer mode     Period Measurement Mode     Event counter mode  
                   Pulse width HL continuously measurement mode     Not use  
 Timer 3     Timer mode     PWM mode     Not use  
 Timer 4     Timer mode     PWM mode     Not use

(10) Which serial I/O will you use?

- Serial I/O1     Clock synchronous     UART     Not use  
 Serial I/O2     Clock synchronous     UART     Not use

(11) On which condition will you use A/D converter?

- 10bit or 8bit conversion switch     8bitA/D     10bitA/D     Not use  
 A/D conversion clock       ΦSOURCE/2     ΦSOURCE/8     On-chip oscillator  
 ADKEY     Use     Not use

(12) On which condition will you use Watchdog timer?

- Count source     XIN     On-chip oscillator     Not use

(13) Do you use the ROM correction function?

- ROM correction function     Use(Jump to RAM)     Use(Jump to ROM)     Not use

Thank you for cooperation.

※3. Comments