

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>.

Mask ROM number	
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**740 FAMILY MASK ROM CONFIRMATION FORM**  
**SINGLE-CHIP MICROCOMPUTER M37540M2-XXXSP/FP/GP**  
**RENESAS TECHNOLOGY**

Receipt	Date:	
	Section head signature	Supervisor signature

Note : Please fill in all items marked \*.

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

\* 1. Confirmation

Specify the name of the product being ordered.  
 Three EPROMs are required for each pattern if this order is performed by EPROMs.  
 One floppy disk is required for each pattern if this order is performed by a floppy disk.

Microcomputer name:     M37540M2-XXXSP     M37540M2-XXXFP     M37540M2-XXXGP

Ordering by EPROMs

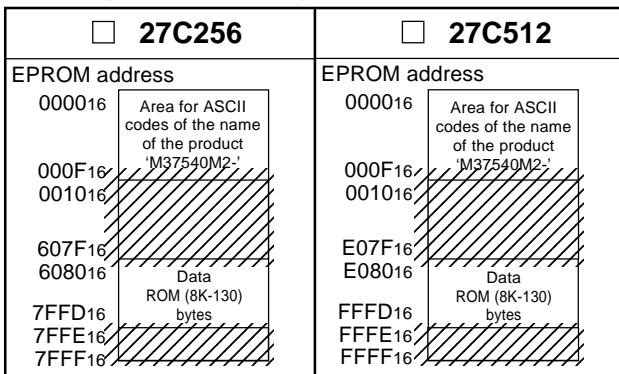
Specify the type of EPROMs submitted.  
 If at least two of the three sets of EPROMs submitted contain identical data, we will produce masks based on this data.  
 We shall assume the responsibility for errors only if the mask ROM data on the products we produce differs from this data. Thus, extreme care must be taken to verify the data in the submitted EPROMs.

Checksum code for entire EPROM 

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 (hexadecimal notation)

EPROM type (indicate the type used)



In the address space of the microcomputer, the internal ROM area is from address E080<sub>16</sub> to FFFD<sub>16</sub>. The reset vector is stored in addresses FFFC<sub>16</sub> and FFFD<sub>16</sub>.

- (1) Set the data in the unused area (the shaded area of the diagram) to "FF<sub>16</sub>".
- (2) The ASCII codes of the product name "M37540M2-" must be entered in addresses 0000<sub>16</sub> to 0008<sub>16</sub>. And set the data "FF<sub>16</sub>" in addresses 0009<sub>16</sub> to 000F<sub>16</sub>. The ASCII codes and addresses are listed to the right in hexadecimal notation.

Address	Address	Address
0000 <sub>16</sub>	'M' = 4D <sub>16</sub>	0008 <sub>16</sub>
0001 <sub>16</sub>	'3' = 33 <sub>16</sub>	'-' = 2D <sub>16</sub>
0002 <sub>16</sub>	'7' = 37 <sub>16</sub>	0009 <sub>16</sub>
0003 <sub>16</sub>	'5' = 35 <sub>16</sub>	000A <sub>16</sub>
0004 <sub>16</sub>	'4' = 34 <sub>16</sub>	000B <sub>16</sub>
0005 <sub>16</sub>	'0' = 30 <sub>16</sub>	000C <sub>16</sub>
0006 <sub>16</sub>	'M' = 4D <sub>16</sub>	000D <sub>16</sub>
0007 <sub>16</sub>	'2' = 32 <sub>16</sub>	000E <sub>16</sub>
		000F <sub>16</sub>

Mask ROM number	
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We recommend the use of the following pseudo-command to set the start address of the assembler source program because ASCII codes of the product name are written to addresses 0000<sub>16</sub> to 0008<sub>16</sub> of EPROM.

EPROM type	27C256	27C512
The pseudo-command	$\Delta * = \Delta \$8000$ $\Delta .\text{BYTE } \Delta 'M37540M2-'$	$\Delta * = \Delta \$0000$ $\Delta .\text{BYTE } \Delta 'M37540M2-'$

Note : If the name of the product written to the EPROMs does not match the name of the mask confirmation form, the ROM will not be processed.

Ordering by floppy disk

We will produce masks based on the mask files generated by the mask file generating utility. We shall assume the responsibility for errors only if the mask ROM data on the products we produce differs from this mask file. Thus, extreme care must be taken to verify the mask file in the submitted floppy disk.

The submitted floppy disk must be 3.5-inch 2HD type and DOS/V format. And the number of the mask files must be 1 in one floppy disk.

File code

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(hexadecimal notation)

Mask file name

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.MSK (equal or less than eight characters)

\* 2. Mark specification

Mark specification must be submitted using the correct form for the package being ordered. Fill out the appropriate mark specification form (32P4B for M37540M2-XXXSP, 36P2R-A for M37540M2-XXXFP, 32P6U-A for M37540M2-XXXGP) and attach it to the mask ROM confirmation form.

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※ 3. Usage conditions

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

(1) Which operation source clock you use?

- Ceramic resonator
- RC oscillation
- External clock input
- Quartz-crystal oscillation
- Other( )
- Ring oscillator

What frequency do you use?

f(X<sub>IN</sub>)=  MHz

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

Typ.=  V    Min.=  V    Max.=  V

(3) What is the ambient temperature you use?

Typ.=  °C    Min.=  °C    Max.=  °C

(4) Which clock division ratio you use?

- Double-speed mode (f(φ)=F(X<sub>IN</sub>))
- High-speed mode (f(φ)=F(X<sub>IN</sub>)/2)
- Middle-speed mode (f(φ)=F(X<sub>IN</sub>)/8)
- Applied from ring oscillator

(5) Please reply to the following questions about timer function.

(i) Which timer you use?

- timer1     timerA     timerX     timerY     timerZ

(ii) Which count source of timer you use?

- Timer X     f(X<sub>IN</sub>)/16     f(X<sub>IN</sub>)/2     f(X<sub>IN</sub>)
- Timer Y     f(X<sub>IN</sub>)/16     f(X<sub>IN</sub>)/2     Ring oscillator output
- Timer Z     f(X<sub>IN</sub>)/16     f(X<sub>IN</sub>)/2     Timer Y underflow

(iii) Which operating mode you use?

- Timer A     Timer mode     Period measurement mode
- Event counter mode     Pulse width HL continuously measurement mode
- Timer X     Timer mode     Pulse output mode
- Event counter mode     Pulse width measurement mode
- Timer Y     Timer mode     Programmable waveform generation mode
- Timer Z     Timer mode     Programmable waveform generation mode
- Programmable one-shot generation mode
- Programmable wait one-shot generation mode

(6) Do you use the Serial I/O?

- Use     Not use
- Serial I/O1    ( Clock synchronous Serial I/O1 mode     Asynchronous Serial I/O1(UART) mode)
- Serial I/O2

(7) Do you use the A-D converter?

- Use     Not use

(8) Do you use the Watchdog timer?

- Use     Not use

(9) Do you use the oscillation stop detection circuit?

- Use     Not use

Thank you cooperation.

※ 4. Comments