To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 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 1st, 2010
Renesas Electronics Corporation

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

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

REJ19B0262-0100

Mask ROM number	

740 FAMILY MASK ROM CONFIRMATION FORM
SINGLE-CHIP MICROCOMPUTER M38044M4-XXXSP/FP/HP
RENESAS TECHNOLOGY

Receipt	Date :	
	Section head signature	Supervisor signature

Note : Please fill in all items marked ※

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

※1. Confirmation

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: ☐ M38044M4-XXXSP ☐ M38044M4-XXXFP ☐ M38044M4-XXXHP

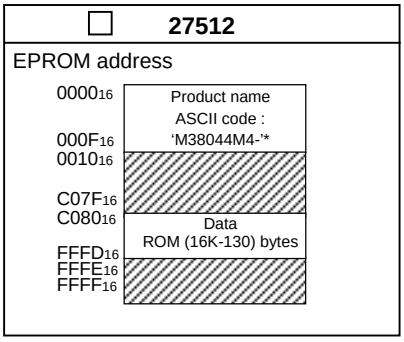
☐ Ordering by EPROMs

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 | | | | | (hexadecimal notation)

EPROM type (indicate the type used)

☐ **27512**



※When submitting data by floppy disk, do not write data to the following product name area.

In the address space of the microcomputer, the internal ROM area is from address $C080_{16}$ to $FFFD_{16}$. The reset vector is stored in addresses $FFFC_{16}$ and $FFFD_{16}$.

(1) Set the data in the unused area (the shaded area of the diagram) to "FF_{16}".
(2) The ASCII codes of the product name "M38044M4-" must be entered in addresses 0000_{16} to 0008_{16}. And set the data "FF_{16}" in addresses 0009_{16} to $000F_{16}$.
The ASCII codes and addresses are listed to the right in hexadecimal notation.

Address	
0000_{16}	'M'=$4D_{16}$
0001_{16}	'3'=33_{16}
0002_{16}	'8'=38_{16}
0003_{16}	'0'=30_{16}
0004_{16}	'4'=34_{16}
0005_{16}	'4'=34_{16}
0006_{16}	'M'=$4D_{16}$
0007_{16}	'4'=34_{16}

Address	
0008_{16}	'-' = $2D_{16}$
0009_{16}	FF_{16}
$000A_{16}$	FF_{16}
$000B_{16}$	FF_{16}
$000C_{16}$	FF_{16}
$000D_{16}$	FF_{16}
$000E_{16}$	FF_{16}
$000F_{16}$	FF_{16}

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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_{16} to 0008_{16} of EPROM.

EPROM type	27512
The pseudo-command	*=△$0000 .BYTE△'M38044M4-'

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.

Microcomputer name: ☐ M38044M4-XXXSP ☐ M38044M4-XXXFP ☐ M38044M4-XXXHP

File code ☐☐☐☐☐☐☐☐ (hexadecimal notation)

Mask file name ☐☐☐☐☐☐☐☐ .MSK (equal or less than eight characters)

Note: When submitting data by floppy disk, do not write data to the product name area (addresses 0000_{16} to $000F_{16}$).
Write data to only ROM data area (addresses $C080_{16}$ to $FFFD_{16}$).

※2. Mark Specification

Mark specification must be submitted using the correct form for the package being ordered. Fill out the appropriate mark specification form (64P4B for M38044M4-XXXSP, 64P6N-A for M38044M4-XXXFP) and attach it to the mask ROM confirmation form. For M38044M4-XXXHP, standard mark is printed.

Mask ROM number	

740 FAMILY MASK ROM CONFIRMATION FORM
SINGLE-CHIP MICROCOMPUTER M38044M4-XXXSP/FP/HP
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※3. Usage conditions

Please answer the following questions about usage for use in our product inspection:

(1) How will you use the XIN-XOUT oscillator?

☐ Ceramic resonator ☐ Quartz crystal

☐ External clock input ☐ Other ( )

At what frequency? f(XIN) = ☐ MHz

(2) Which function will you use the pins P41/XCIN and P40/XCOUT as P41 and P40, or XCIN and XCOUT?

☐ Ports P40 and P41 function ☐ XCIN and XCOUT function (external resonator)

(3) What is the voltage of power supply (VCC) you use?

Typ.= ☐ V Min.= ☐ V Max.= ☐ V

(4) What is the ambient temperature you use?

Typ.= ☐ °C Min.= ☐ °C Max.= ☐ °C

(5) Which main clock division ratio mode do you use? (Except program start timing)

☐ High-speed mode (f(φ)=f(XIN)/2) ☐ Middle-speed mode (f(φ)=f(XIN)/8)

☐ Slow-speed mode (f(φ)=f(XCIN)/2)

(6) Which function do you use?

☐ Timer1 ☐ Timer2 ☐ TimerX ☐ TimerY ☐ TimerZ

☐ A/D converter ☐ Watchdog Timer ☐ PWM ☐ Serial I/O2

☐ Serial I/O1 (☐ Clock synchronous Serial I/O mode ☐ Asynchronous Serial I/O(UART) mode)

☐ LED direct drive port

Thank you cooperation.

※3. Comments