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.

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GRADE A

MESC TECHNICAL NEWS No.M16C-47-0003

M30201 Flash Memory Version

Cautions for Using Flash Programming Standard Serial I/O Mode

1. Affected devices

- M30201F6FP, M30201F6TFP (Mitsubishi lot number is "0XXXXX".)
- M30201F6SP (Mitsubishi lot number is "0XXXXX".)

2. Cautions

Some of the specifications for setting $P5_2$, $P5_3$ are changed in standard serial I/O mode.

Pins functions for flash memory standard serial I/O mode

Pin	Name	I/O	Function
CNV_{SS}	CNV_{SS}	I	Mode entry pin. This pin sets the flash programming mode when pulled high to 12 volts. The requirement for the 12 volt supply is +/- 5%.
$\overline{RESET}$	Reset input	I	Reset input pin. While reset is "L" level, a 20 cycle or longer clock must be input to XIN pin.
$P5_0$	TxD output	O	Serial data output pin.
$P5_1$	RxD input	I	Serial data input pin.
*$P5_2$	SCLK input	I	Mode entry pin. Supply "H" level when powering on MCU. When startup is completed this pin serves the serial input clock.
*$P5_3$	BUSY	I → O	This pin sets the type of serial flash programming mode. • An "H" level input (mode 1) sets the mode to clock synchronous . • An "L" level input (mode 2) sets the mode to clock asynchronous . This pin changes to "output" after entry into standard serial I/O mode.

* Changed

The following table details the functionality of the PINS when utilizing standard serial I/O mode.

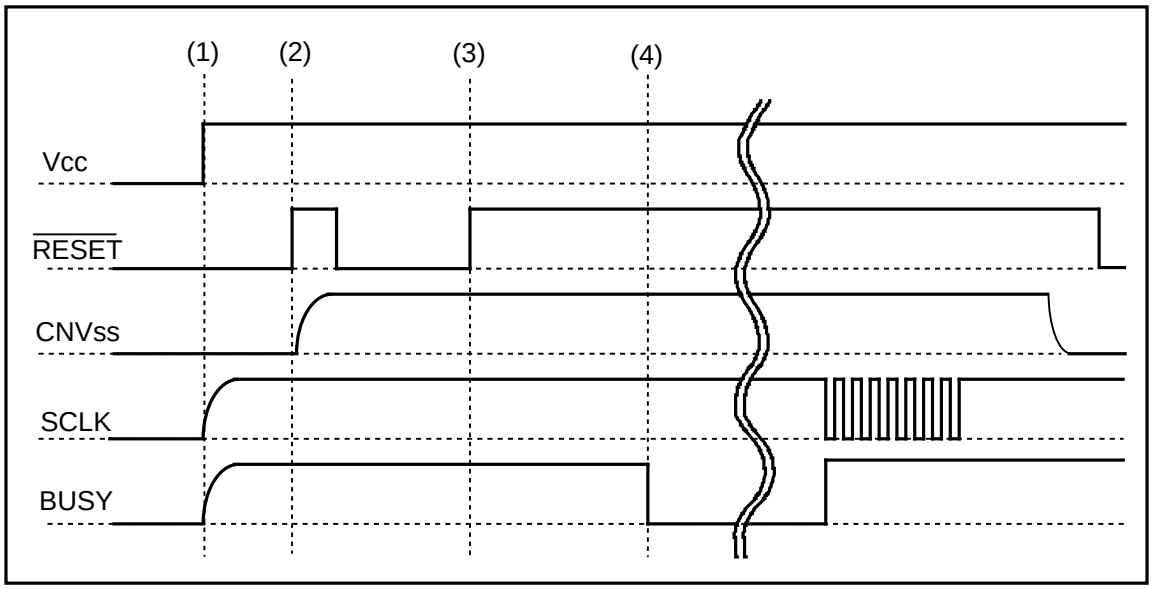
• SCLK pin

Please pull-up resistor in target board.
If pull-up resistor is equipped in the inside of serial programmer, the pull-up resistor in the target board is unnecessary.
For details refer to user's manual of serial programmer.

• BUSY pin

When powering up the MCU, set this pin to either High or Low logic level to select the type of standard serial I/O mode (Clock synchronous/asynchronous).
With standard serial I/O mode 1 (clock synchronous mode), if pull-up resistor is equipped in the inside of serial programmer to use, the pull-up resistor in the target board is unnecessary.
For details refer to user's manual of serial programmer.

Timing logic to enter the Standard Serial I/O mode 1



(1) Target power on.
(2) Apply 12V to CNVss
Apply 12V to CNVss while $\overline{\text{RESET}}$ is “H”.
(3) Check to standard serial I/O mode 1/2
Set BUSY before pulling $\overline{\text{RESET}}$ to high logic level.
(4) Wait to receive a command from serial programmer.

*When powering up the MCU, if the following logic conditions exist, then the MCU will not enter the standard serial I/O mode.

$\overline{\text{RESET}}$ = “L”
CNVss = 12V
SCLK = “L”