## Old Company Name in Catalogs and Other Documents

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.

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# MESC TECHNICAL NEWS No. M16C-24-9905

### M16C/62 Group Flash Memory Versions

## Precautions for External Bus Timing

## 1. Related devices

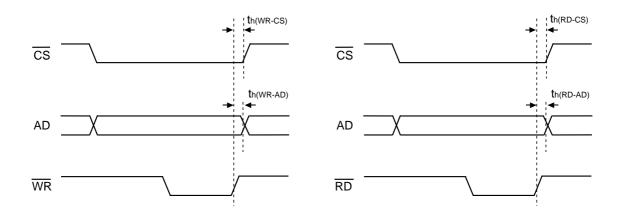
Flash Memory 5V Versions : M30624FGFP, M30624FGGP, M30625FGGP Flash Memory 3V Versions : M30624FGLFP, M30624FGLGP, M30625FGLGP

#### 2. Precautions

The following parameter may be less than 0ns depending on circuit capacitance of the user's target system in memory expansion mode or microprocessor mode.

- Address output hold time (WR standard): th(WR-AD)
- Address output hold time (RD standard): th(RD-AD)
- Chip select output hold time (WR standard): th(WR-CS)
- Chip select output hold time (RD standard): th(RD-CS)

The above parameter, chip select output hold time, is not described in the data sheet for the case of non-multiplex bus mode.



#### 3. Countermeasures

If this is a problem then some means of implementing a delay on the address bus and/or chip select line is required.