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

RENESAS

# MESC TECHNICAL NEWS

No. M380-16-9909

## Notes on Usage of 3803/3804 Group INT$_{00}$, INT$_{40}$ Interrupts

When using the external interrupt function INT$_{00}$, INT$_{40}$, the following note is required.

1. Related devices

   Mask ROM version:    • M38037M8-XXXSP/FP    • M38047M8-XXXSP/FP

   • M38037M6-XXXSP/FP    • M38047M6-XXXSP/FP

   • M38034M4-XXXSP/FP    • M38044M4-XXXSP/FP

   Flash memory version:  • M38039FFSP/FP        • M38049FFSP/FP

   Emulator:              • M38049RSS            • M38049RLSS

2. Problem

   The hysteresis of pins P4$_1$/INT$_{00}$/X$_{CIN}$ and P4$_0$/INT$_{40}$/X$_{COUT}$ is about 0.1 V at present, which is smaller than the typical value (0.4 V).

   Accordingly, when the rising/falling edge of the interrupt input waveform is slow, the MCU is easily affected by noise near the threshold.

3. Temporary countermeasure

   (1) Check the input level of a port at the beginning of an interrupt processing routine. Whether the unrequested interrupt by noise occurs or not can be checked by checking the port level at the beginning of the interrupt processing routine.

   (2) Make sure the rising/falling edge of the input waveform is quick. This countermeasure prevents the MCU from being affected by noise near the threshold.

4. Eternal countermeasure

   We are planning to revise the MCU to solve the above problem.