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

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Renesas Electronics Corporation

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

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RENESAS TECHNICAL UPDATE

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Product Category	User Development Environment		Document No.	TN-EML-A135A/E	Rev.	1.00
Title	Problem with Access to RAM in the H8/3064B E6000 Emulator (HS3064BEPI61H) when DMAC is in Use		Information Category	Technical Notification		
Applicable Product	H8/3064B E6000 Emulator (HS3064BEPI61H)	Lot No. All lots	Reference Document	H8/3064B E6000 Emulator User's Manual (REJ10B0074-0200)		

Thank you for using our product.

Please note that the H8/3064B E6000 emulator (HS3064BEPI61H) has the following problem.

[Problem]

An unexpected value may be written to the on-chip RAM area while the DMA function is in use; if you have activated the DMA function and cycles for writing to the on-chip RAM are generated around DMA cycles, data that are read in several cycles after those cycles writing to the on-chip RAM will be written to the on-chip RAM.

Cause:

This problem is caused by the emulator evaluation chip (HD64E3052) installed on the E6000 emulator.

However, the problem may not occur depending on the operating environment including the program.

Devices that Apply:

Those incorporating the DMAC and supported by the H8/3064B E6000 emulator; H8/3069RF, H8/3068F, H8/3067, H8/3066, H8/3065, H8/3052, H8/3048F-ONE, H8/3048, H8/3047, H8/3045, H8/3044, H8/3029F, H8/3028, H8/3007, and H8/3006.

[Workaround]

The substitute emulation memory in the emulator or the optional SIMM memory module should be used instead of the on-chip RAM of HD64E3052. Take one of the following ways corresponding to the MCU's operating mode.

1) Single-Chip Mode

Use the substitute emulation memory* instead of the on-chip RAM.

* Substitute emulation memory: Emulation memory as the substitute for on-chip ROM and is an SRAM in the emulator (thus writing to this emulation memory can be enabled)

Notes: 1. Select an MCU that has equivalent functions to those of the MCU currently in use and a larger on-chip ROM. If the selected device has a 512-kbyte on-chip ROM, however, the space available as the on-chip ROM area will be less than 512 kbytes because part of the emulation memory is used as on-chip RAM. Moreover, temporarily change the address of the area for use as the on-chip RAM.

2. Select [Enable internal ROM area write] to enable writing to the on-chip ROM area.

2) On-Chip ROM Disabled Expansion Mode

Use the SIMM memory module* instead of the on-chip RAM.

* SIMM memory module: Optional emulation memory for external space

Notes: 1. The SIMM memory module should be allocated to suit the specifications of your own system. Thus the same bus width as that of the on-chip RAM (16 bits) may not be available. Access to the SIMM memory module requires a minimum of three state cycles. You may also need to temporarily change the address of the area for use as the on-chip RAM.

2. This workaround takes up 64-kbyte space of the 4-Mbyte emulation memory provided by the SIMM memory module.

3) On-Chip ROM Enabled Expansion Mode

Select either 1) or 2) that better suits the specifications of your own system.

[Solution]

This problem will be corrected in July 2007 by changing HD64E3052.

[Other]

Please send a question to the technical inquiry on the following address of Renesas Technology Corp.

http://www.renesas.com/inquiry