

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>)

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

RENESAS TECHNICAL UPDATE

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Product Category	MPU&MCU		Document No.	TN-SH7-A621A/E	Rev.	1.00
Title	G2D Command Restriction		Information Category	Technical notification		
Applicable Product	R5S77640P300BG	Lot No.	Reference Document	SH7764 Hardware Manual (REJ09B0360-0100)		
	R5S77640D300BG					
	R5S77640N300BG	All lots				
	R5S77641P300BG					
	R5S77641D300BG					
	R5S77641N300BG					

We would like to inform valued customers on a G2D command restriction as described below.

- Note -

Notification Area

CLRWC, LINEWC and RLINEWC commands

Restriction

There is a possibility that work cache memory corruption occurs during CLRWC, LINEWC or RLINEWC command operation after POLYGON4 or BITBLT type command with WORK bit set is executed, and the cache memory corruption results that 64 dots in maximum are not drawn by the CLRWC, LINEWC or RLINEWC command.

This problem can be prevented by clearing work cache valid (V)-bit and dirty (D)-bit before executing CLRWC, LINEWC or RLINEWC command. There is an undisclosed function that clear or flush work cache during NOP command operation, and the undisclosed function can also clear V and D bits to zero. Please execute NOP command with work cache clear or flush function before CLRWC, LINEWC or RLINEWC command operation to prevent the problem.

How to clear or to flush work cache

To clear work cache or to flush work cache, WCLR bit or WFLSH bit in NOP command rendering attributes (described below) must be set to 1 when NOP command operation.

- NOP command rendering attributes

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
INT	Fixed to 0	WCLR	WFLSH	Fixed to 0	Fixed to 0	Fixed to 0	Fixed to 0	INT No							

WCLR bit

Set WCLR bit to 1 to clear V and D bits. Data in work cache will be discarded. Note that write-back operation is not performed.

WFLSH bit

Set WFLSH bit to 1 to perform write back operation. The V and D bits are cleared after write back completes. Work cache flush is recommended, if decision on write back necessity is unknown.

- NOP command example

NOP command with WCLR or WFLSH bit set should be inserted right before each CLRWC, LINEWC and RLINEWC commands. Inserted NOP commands are marked in red in this example.

NOP (WCLR or WFLSH bit set)

CLRWC

FTRAPC

POLYGON4 type command

NOP (WCLR or WFLSH bit set)

CLRWC

FTRAPC

POLYGON4 type command

NOP (WCLR or WFLSH bit set)

(R)LINEWC

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- End of report -