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

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RENESAS TECHNICAL UPDATE

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Product Category	MPU&MCU			Document No.	TN-SH7-B017A/E	Rev.	1.00
Title	The limitation on the usage of 2DG module in SH7723			Information Category	Technical Notification		
Applicable Product	SH7723 group		Lot No.	Reference Document	SH7723 Hardware Manual Rev. 1.00 (REJ09B0405-0100)		
			All				

In the operation of the 2DG module of SH7723, we would like to inform you of the notification below.

1. Malfunction

In the operation of the 2DG module of SH7723, part of the data may be destroyed and some failure to draw may occur depending on the status of the 2DG internal cache. This may occur under these conditions as follows:

(1) When these "commands in the specific case" below are executed

　　Commands in the specific case:

1. POLYGON4A/B/C (αE & WORK)

2. BITBLTA/B/C (αE or ROP = other than 00, 33, cc, ff) & WORK

3. BITBLTA/B/C (αE or ROP = other than 00, 33, cc, ff) & DTRANS

4. (R)LINED

(2) When these "commands to read the destination" below are executed.

　　Commands to read the destination:

1. POLYGON4A/B/C　　αE

2. (R)LINEA/B/C　　　　AA

3. (R)LINED

4. BITBLTA/B/C　　　　αE or ROP = other than 00, 33, cc, ff or DTRAS

　　Note　αE: Alpha Blend Enable　WORK: Work Specification　ROP: Raster Operation

　　　　　DTRAS: Destination Transparency Specification

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2. Measure of Avoidance

Please take either (1) or (2) software measure below.

(1) To separate these "commands in the specific case" from the others in the same display list, not to mix them. Some failure to draw may occur when the "commands in the specific case" and the other commands are mixed in the same display list. No failure occurs when only the "commands in the specific case" are in the display list.

To clear the display or to make all the lines of the destination cache dirty* before issuing the "commands to read the destination" when the "commands to read the destination" and the others are mixed in the same display list.

(2) To make all the lines of the destination cache dirty* in the end of the "commands in the specific case" when the "commands in the specific case" cannot be separated from the others in the same display list. Note that all the lines of the destination cache should be dirty in the break point of the "commands in the specific case" when the "commands in the specific case" are issued sequentially.

Note *   How to make all the lines of the destination cache dirty

Please take either 1 or 2 measure below.

1. To execute a non-transparent drawing, the size of which is more than 241-pixel in the horizontal dimension or more than 16-pixel in the vertical dimension, in the non-displayed region of the clipping area.

2. To execute more than 16-pixel in the vertical dimension drawing by BITBLTC (ROP = AA). The horizontal size and the coordinate can be set arbitrarily in the clipping area.