

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

Classification of Production	MPU&MCU		No	TN-SH7-496A/E	Rev	1
THEME	Corrected the LCDC of SH7760 Hardware manual	Classification of Information	1. Spec change ②. Supplement of Documents 3. Limitation of Use 4. Change of Mask 5. Change of Production Line			
PRODUCT NAME	HD6417760	Lot No.	Reference Documents	SH7760 hardware manual (ADE-602-291)	Effective Date	
		All			Eternity	

There is the following modification about LCDC of SH7760.

1. Figure of Power-Supply Control Sequences

In Power-Supply Control Sequences of Figures 30.4 to 30.7, "Undefined" period is corrected to "Low" period for "(out) Display Data, timing signal" while the VCPWC is "Low".

Note:

(out) Display Data, timing signal: LCD_DATA[15:0], LCD_DON, LCD_CL1, LCD_CL2, LCD_M_DIPS, LCD_FLM
 They are "PZ" (Output pulled up with a built-in pull-up resistance) in power-on reset.

2. LCD Module Sizes that can be displayed with SH7760 LCDC

Please refer the following condition about a display size of the LCD Module.

There is a possibility not to be displayed correctly when the condition is not satisfied.

Condition:

$$\text{Horizontal resolution [pixel] x Display colors [bpp]} / 8 \times \text{Horizontal frequency [kHz]} / 1000 \\ < \text{Bck frequency [MHz]} / 3.6$$

3. Hardware rotation function

Please refer the following condition about a display size of the LCD Module.

There is a possibility not to be displayed correctly when the condition is not satisfied.

Condition:

$$\text{Horizontal resolution [pixel] x Display colors [bpp]} / 8 \times \text{Horizontal frequency [kHz]} / 1000 \\ < \text{Bck frequency [MHz]} / 50$$

E.g.) Horizontal resolution: 320pixel, Display colors: 16bpp, Horizontal frequency: 15.6kHz, Bck frequency: 66MHz
 $(320 * 16 / 8 * 15.6) / 1000 = 9.98[\text{Mbytes/sec}] > 66/50 = 1.32$: This result doesn't satisfy the conditional in using the hardware rotation function mode, so the setting of LCDC should be changed.