RENESAS TECHNICAL UPDATE

TOYOSU FORESIA, 3-2-24, Toyosu, Koto-ku, Tokyo 135-0061, Japan
Renesas Electronics Corporation

Product Category	MPU/MCU		Document No.	TN-RX*-A201A/E	Rev.	1.00
Title	Errata to RX230 Group, RX231 Group User's Manual: Hardware		Information Category	Technical Notification		
Applicable Product	RX230 Group, RX231 Group	Lot No.	Reference Document	RX230 Group, RX231 Group User's Manual: Hardware Rev.1.10 (R01UH0496EJ0110) Technical Update TN-RX*-A200A/E		
		All				

This document describes corrections to the RX230 Group, RX231 Group User's Manual: Hardware, Rev.1.10.

The corrections are indicated in red in the lists below.

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  Description for the VCC_USB in the USB 2.0 host/function module in Table 1.5 is modified as follows.

<u>Before correction</u>

Classifications	Pin Name	I/O	Description
USB 2.0 host/ function module	VCC_USB	Input	Power supply pin for USB. Connect this pin to VCC.
	VSS_USB	Input	Ground pin for USB. Connect this pin to VSS.
			(Omitted)

<u>After correction</u>

Classifications	Pin Name	I/O	Description
USB 2.0 host/ function module	VCC_USB	Input	Power supply pin for USB. Connect this pin to VCC or connect this pin to VSS via a 0.33 µF smoothing capacitor for stabilizing the internal power supply.
	VSS_USB	Input	Ground pin for USB. Connect this pin to VSS.
			(Omitted)

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The address of "FFFF 7F88h" is added to the address field in 7.2.2 as follows (TN-RX*-A200A/E).

<u>Before correction</u>

Address(es): FFFF FF88h

b31	b30	b29	b28	b27	b26	b25	b24	b23	b22	b21	b20	b19	b18	b17	b16
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Value after reset: The value set by the user [1]

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
—	—	—	—	—	—	—	HOCO EN	—	—	—	—	FASTS TUP	LVDAS	VDSEL[1:0]	

Value after reset: The value set by the user [1]

(Omitted)

Note 1. The value of the blank product is FFFF FFFFh. It is set to the written value after written by the user.

<u>After correction</u>

Address(es): FFFF FF88h, (FFFF 7F88h)[1]

b31	b30	b29	b28	b27	b26	b25	b24	b23	b22	b21	b20	b19	b18	b17	b16
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Value after reset: The value set by the user [2]

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
—	—	—	—	—	—	—	HOCO EN	—	—	—	—	FASTS TUP	LVDAS	VDSEL[1:0]	

Value after reset: The value set by the user [2]

(Omitted)

Note 1. Set the same value to this address when using start-up program protection.
Note 2. The value of the blank product is FFFF FFFFh. This register is set to a specified value after programming of the flash memory with the user program.

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The setting example is added to 7.3.1 as follows.

Before correction

Since the option-setting memory is allocated in the ROM, values cannot be written by executing instructions. Write appropriate values when writing the program. An example of the settings is shown below.

● To set ffff fff8h in the OFS0 register

.org 0ffff ff8ch

.lword 0fffffff8h

After correction

Since the option-setting memory is allocated in the ROM, values cannot be written by executing instructions. Write appropriate values when writing the program. Examples of the settings are shown below.

● To set FFFF FFF8h in the OFS0 register

.ORG   0FFFFFF8CH

.LWORD 0FFFFFFF8H

● To set FFFF FEF0h in the OFS1 register

.ORG   0FFFFFF88H

.LWORD 0FFFFFEF0H

.ORG   0FFFF7F88H

.LWORD 0FFFFFEF0H

When neither the voltage monitoring 0 reset nor power-on fast startup time is used, the value set in the address FFFF 7F88h can be FFFF FFFFh.

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Note in section 20.3.6 is modified as follows.

Before correction

Note: If event link output from the RTC is to be used, make the ELC settings after the RTC settings (initialization, time setting, etc.). Unintended events may be generated if RTC settings are made after the ELC settings.

After correction

Note: If event signal output from the RTC is to be used, make the ELC settings after the RTC settings (initialization, time setting, etc.). Unintended events may be generated if RTC settings are made after the ELC settings.

Note: If event signal output from the LVD is to be used, make the ELC settings after the LVD settings. When the LVD is to be disabled, set the corresponding ELSRn register to 00h in advance.

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Description of the address field in section 21.3.6 is corrected as follows.

Before correction

Address(es): PORT1.ODR1 0008 C083h, PORT2.ODR1 0008 C085h, PORT3.ODR1 0008 C087h, PORT5.ODR1 0008 C08Bh, PORT7.ODR1 0008 C08Fh, PORT9.ODR1 0008 C093h, PORTA.ODR1 0008 C095h, PORTB.ODR1 0008 C097h, PORTC.ODR1 0008 C099h, PORTE.ODR1 0008 C09Dh

After correction

Address(es): PORT1.ODR1 0008 C083h, PORT2.ODR1 0008 C085h, PORT3.ODR1 0008 C087h, PORT5.ODR1 0008 C08Bh, PORTA.ODR1 0008 C095h, PORTB.ODR1 0008 C097h, PORTC.ODR1 0008 C099h, PORTE.ODR1 0008 C09Dh

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Values in Table 50.18 are corrected as follows.

Before correction

Item			Symbol	Min.	Max.	Unit	Test Conditions
Output low	All output ports	Normal output mode	V_{OL}	—	0.8	V	I_{OL} = 0.5 mA
		High-drive output mode		—	0.8		I_{OL} = 1.0 mA
Outpu high	All output ports	Normal output mode — Ports 03, 05, 07, Ports 40 to 47	V_{OH}	AVCC0 – 0.5	—	V	I_{OH} = −0.5 mA
		Ports other than above		VCC – 0.5	—		
		High-drive output mode		VCC – 0.5	—		I_{OH} = −1.0 mA

After correction

Item			Symbol	Min.	Max.	Unit	Test Conditions
Output low	All output ports	Normal output mode	V_{OL}	—	0.3	V	I_{OL} = 0.5 mA
		High-drive output mode		—	0.3		I_{OL} = 1.0 mA
Outpu high	All output ports	Normal output mode — Ports 03, 05, 07, Ports 40 to 47	V_{OH}	AVCC0 – 0.3	—	V	I_{OH} = −0.5 mA
		Ports other than above		VCC – 0.3	—		
		High-drive output mode		VCC – 0.3	—		I_{OH} = −1.0 mA

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Values in Table 50.19 are corrected as follows.

<u>Before correction</u>

Item			Symbol	Min.	Max.	Unit	Test Conditions
Output low	All output ports (except for RIIC)	Normal output mode	V_{OL}	—	0.8	V	I_{OL} = 1.0 mA
		High-drive output mode		—	0.8		I_{OL} = 2.0 mA
	RIIC pins	Standard mode (Normal output mode)		—	0.4		I_{OL} = 3.0 mA
		Fast mode (High-drive output mode)		—	0.6		I_{OL} = 6.0 mA
Outpu high	All output ports	Normal output mode — Ports 03, 05, 07, Ports 40 to 47	V_{OH}	AVCC0 − 0.8	—	V	I_{OH} = −1.0 mA
		Ports other than above		VCC − 0.8	—		
		High-drive output mode		VCC − 0.8	—		I_{OH} = −2.0 mA

<u>After correction</u>

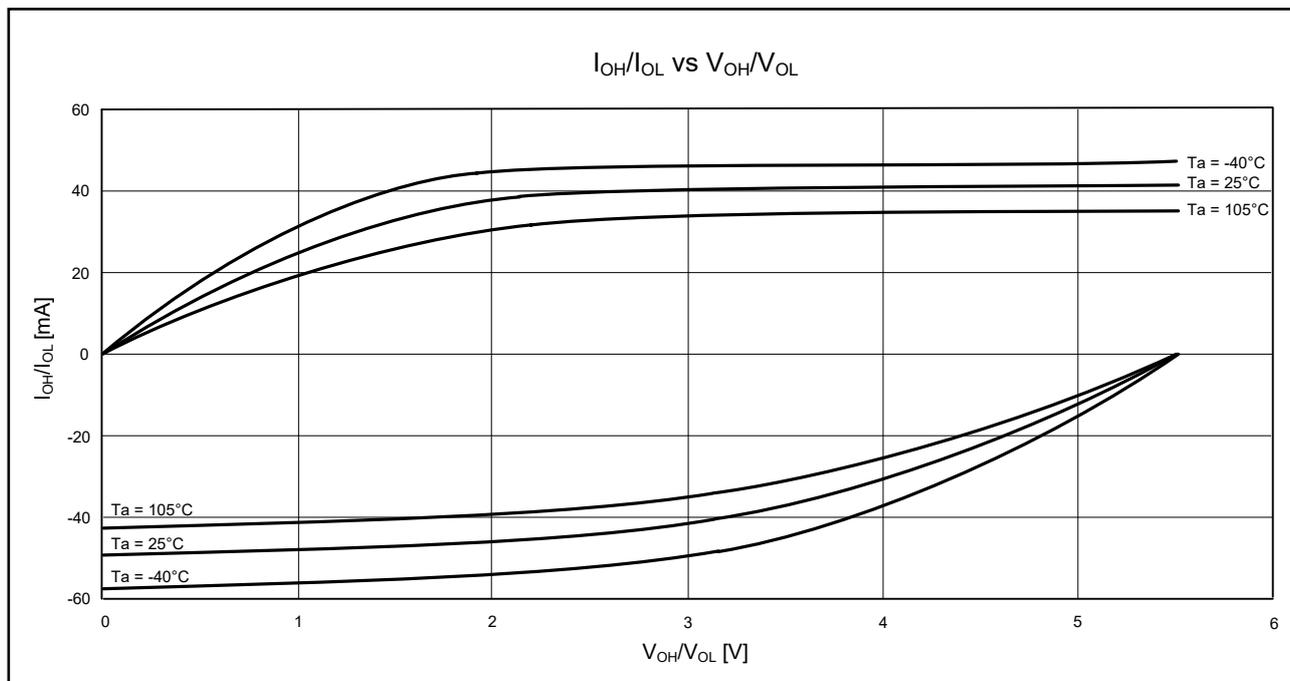| Item			Symbol	Min.	Max.	Unit	Test Conditions
Output low	All output ports (except for RIIC)	Normal output mode	V_{OL}	—	0.5	V	I_{OL} = 1.0 mA
		High-drive output mode		—	0.5		I_{OL} = 2.0 mA
	RIIC pins	Standard mode (Normal output mode)		—	0.4		I_{OL} = 3.0 mA
		Fast mode (High-drive output mode)		—	0.6		I_{OL} = 6.0 mA
Outpu high	All output ports	Normal output mode — Ports 03, 05, 07, Ports 40 to 47	V_{OH}	AVCC0 − 0.5	—	V	I_{OH} = −0.5 mA
		Ports other than above		VCC − 0.5	—		
		High-drive output mode		VCC − 0.5	—		I_{OH} = −2.0 mA

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Figure 50.12 is corrected as follows.
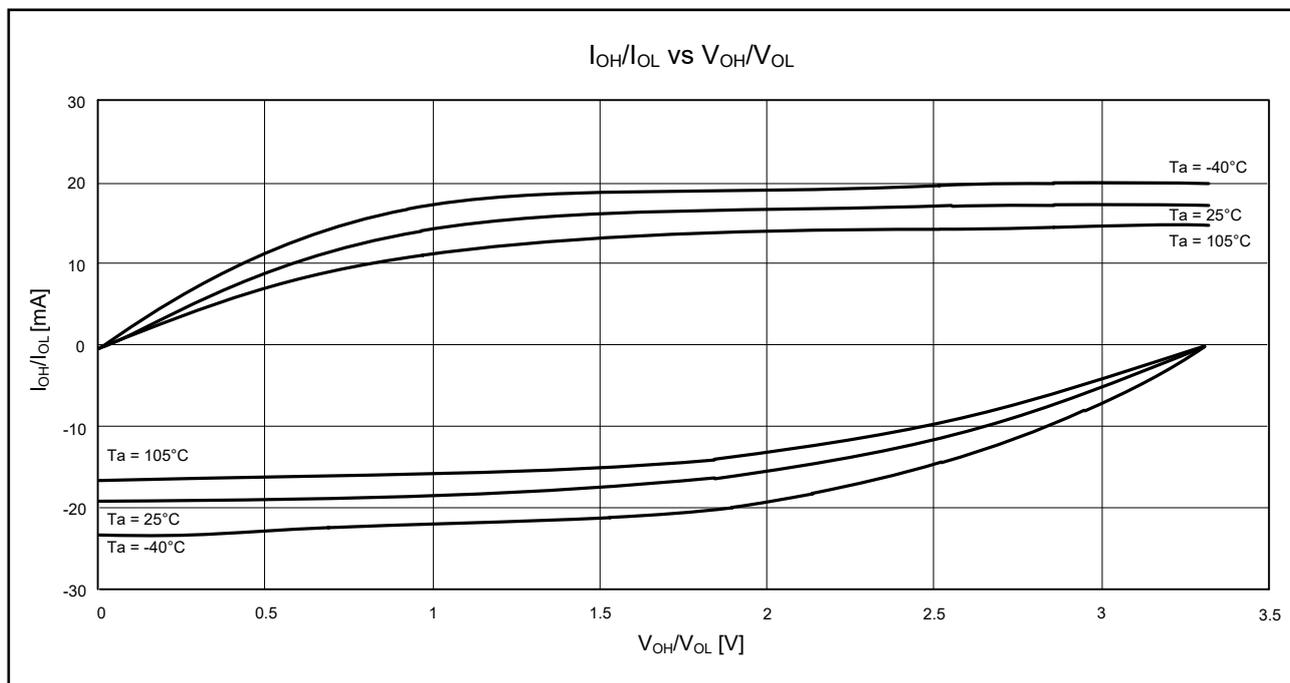
Before correction

Figure 50.12   **V_{OH}/V_{OL} and I_{OH}/I_{OL} Temperature Characteristics at VCC = 5.5 V When Normal Output is Selected (Reference Data)**

After correction

Figure 50.12   **V_{OH}/V_{OL} and I_{OH}/I_{OL} Temperature Characteristics at VCC = 5.5 V When Normal Output is Selected (Reference Data)**