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*-A194A/E	Rev.	1.00
Title	Notes on Setting Procedures for Voltage Monitoring 1 Interrupt and Voltage Monitoring 2 Interrupt		Information Category	Technical Notification		
Applicable Product	RX110 Group, RX111 Group, RX113 Group, RX130 Group, RX230 Group, RX231 Group, RX23T Group, RX24T Group, RX24U Group	Lot No.	Reference Document	User's Manual: Hardware for applicable products (see the table on the last page)		
		All				

This document describes notes on the setting procedures for the voltage monitoring 1 interrupt and voltage monitoring 2 interrupt in User's Manual: Hardware for the applicable products.

Notes

1. Note on the setting procedure for the voltage monitoring 1 interrupt

The interrupt request may not be output when setting the voltage monitoring 1 interrupt according to the setting procedure described in the user's manual while the following conditions are met.

- The LVD1CR1.LVD1IDTSEL[1:0] bits are 01b (when drop is detected) or 10b (when drop and rise is detected), and
- VCC < Vdet1.

2. Note on the setting procedure for the voltage monitoring 2 interrupt

The interrupt request may not be output when setting the voltage monitoring 2 interrupt according to the setting procedure described in the user's manual while the following conditions are met.

- The LVD2CR1.LVD2IDTSEL[1:0] bits are 01b (when drop is detected) or 10b (when drop and rise is detected),
- The LVCMPCR.EXVCCINP2 bit is 0 (power supply voltage (VCC)), and
- VCC < Vdet2,

or

- The LVD2CR1.LVD2IDTSEL[1:0] bits are 01b (when drop is detected) or 10b (when drop and rise is detected),
- The LVCMPCR.EXVCCINP2 bit is 1 (CMPA2 pin input voltage), and
- The CMPA2 pin input voltage < Vdet2.

Counter Measure

Wait until the output from the analog noise filter has stabilized (max. 2 μs) after setting the LVDnCR0.LVDnCMPE bit (n = 1, 2) to 1, and then set the LVDnSR.LVDnDET flag to 0.

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Corrections to the User's Manuals

The followings are the corrections to the user's manual: hardware. Page and table numbers are based on the RX130

Group. Refer to the table on the last page for the corresponding page and table numbers of other product groups.

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Table 8.3, Procedures for Setting Bits Related to the Voltage Monitoring 1 Interrupt and Voltage Monitoring 1 Reset is

corrected as follows.

Before correction

Step	Voltage Monitoring 1 Interrupt Voltage Monitoring 1 ELC Event Output	Voltage Monitoring 1 Reset
	(Omitted)	
7	Set the LVD1CR0.LVD1CMPE bit to 1 (voltage monitoring 1 circuit comparison results output enabled).	
8	Set the LVD1SR.LVD1DET bit to 0.	—
9	Set the LVD1CR0.LVD1RIE bit to 1 (voltage monitoring 1 interrupt/reset enabled).	—

After correction

Step	Voltage Monitoring 1 Interrupt Voltage Monitoring 1 ELC Event Output	Voltage Monitoring 1 Reset
	(Omitted)	
7	Set the LVD1CR0.LVD1CMPE bit to 1 (voltage monitoring 1 circuit comparison results output enabled).	
8	Wait for at least 2 μs.	—
9	Set the LVD1SR.LVD1DET bit to 0.	—
10	Set the LVD1CR0.LVD1RIE bit to 1 (voltage monitoring 1 interrupt/reset enabled).	—

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Table 8.5, Procedures for Setting Bits Related to the Voltage Monitoring 2 Interrupt and Voltage Monitoring 2 Reset is

corrected as follows.

Before correction

Step	Voltage Monitoring 2 Interrupt	Voltage Monitoring 2 Reset
	(Omitted)	
8	Set the LVD2CR0.LVD2CMPE bit to 1 (voltage monitoring 2 circuit comparison results output enabled).	
9	Set the LVD2SR.LVD2DET bit to 0.	—
10	Set the LVD2CR0.LVD2RIE bit to 1 (voltage monitoring 2 interrupt/reset enabled).	—

After correction

Step	Voltage Monitoring 2 Interrupt	Voltage Monitoring 2 Reset
	(Omitted)	
8	Set the LVD2CR0.LVD2CMPE bit to 1 (voltage monitoring 2 circuit comparison results output enabled).	
9	Wait for at least 2 μs.	—
10	Set the LVD2SR.LVD2DET bit to 0.	—
11	Set the LVD2CR0.LVD2RIE bit to 1 (voltage monitoring 2 interrupt/reset enabled).	—

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Reference Documents

Applicable Product	Manual Title (Document Number)	Page Number	Table Number
RX110 Group	RX110 Group User's Manual: Hardware Rev.1.20 (R01UH0421EJ0120)	Page 136, 138 of 968	Table 8.3, Table 8.5
RX111 Group	RX111 Group User's Manual: Hardware Rev.1.30 (R01UH0365EJ0130)	Page 146, 148 of 1265	Table 8.3, Table 8.5
RX113 Group	RX113 Group User's Manual: Hardware Rev.1.10 (R01UH0448EJ0110)	Page 155, 157 of 1483	Table 8.3, Table 8.5
RX130 Group	RX130 Group User's Manual: Hardware Rev.2.00 (R01UH0560EJ0200)	Page 147, 149 of 1383	Table 8.3, Table 8.5
RX230 Group, RX231 Group	RX230 Group, RX231 Group User's Manual: Hardware Rev.1.10 (R01UH0496EJ0110)	Page 204, 206 of 1977	Table 8.3, Table 8.5
RX23T Group	RX23T Group User's Manual: Hardware Rev.1.10 (R01UH0520EJ0110)	Page 133, 135 of 1119	Table 8.2, Table 8.4
RX24T Group	RX24T Group User's Manual: Hardware Rev.2.00 (R01UH0576EJ0200)	Page 172, 174 of 1580	Table 8.2, Table 8.4
RX24U Group	RX24U Group User's Manual: Hardware Rev.1.00 (R01UH0658EJ0100)	Page 168, 170 of 1588	Table 8.2, Table 8.4

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