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RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RX*-A160A/E	Rev.	1.00
Title	Corrections of the Absolute Maximum Ratings and DC Characteristics Regarding 5 V Tolerance		Information Category	Technical Notification		
Applicable Product	RX64M Group, RX71M Group	Lot No. All lots	Reference Document	See the table in the last page.		

This document describes corrections of the absolute maximum ratings and DC characteristics regarding 5 V tolerant ports in the user's manuals: hardware of the applicable products listed above.

<Details of the corrections>

The corrections of the user's manual: hardware of the RX64M group are described as an example below.

Refer to the table in last page regarding the corresponding page numbers of the RX71M group.

• Page 2805 of 2903

The value of the input voltage (for 5 V tolerant ports) in Table 64.1 Absolute Maximum Ratings has been corrected.

[Before correction]

Table 64.1 Absolute Maximum Ratings
Conditions: VSS = AVSS0 = AVSS1 = VREFL0 = VSS_USB = VSS1_USBA = VSS2_USBA = PVSS_USBA = AVSS_USBA = 0 V

Item	Symbol	Value	Unit
Power supply voltage	VCC, VCC_USB	–0.3 to +4.6	V
V_{BATT} power supply voltage	V_{BATT}	–0.3 to +4.6	V
Input voltage (except for ports for 5 V tolerant*1)	V_{in}	–0.3 to VCC + 0.3	V
Input voltage (ports for 5 V tolerant*1)	V_{in}	–0.3 to +5.8	V
Omitted			

[After correction]

Table 64.1 Absolute Maximum Ratings
Conditions: VSS = AVSS0 = AVSS1 = VREFL0 = VSS_USB = VSS1_USBA = VSS2_USBA = PVSS_USBA = AVSS_USBA = 0 V

Item	Symbol	Value	Unit
Power supply voltage	VCC, VCC_USB	–0.3 to +4.6	V
V_{BATT} power supply voltage	V_{BATT}	–0.3 to +4.6	V
Input voltage (except for ports for 5 V tolerant*1)	V_{in}	–0.3 to VCC + 0.3	V
Input voltage (ports for 5 V tolerant*1)	V_{in}	–0.3 to VCC + 4.6 (≤ 5.8 max.)	V
Omitted			

• Page 2806 of 2903

The V_{IH} characteristics in the Schmitt trigger input voltage in Table 45.2 DC Characteristics (1) have been corrected as below.

[Before correction]

Table 64.2 DC Characteristics (1)

Conditions: VCC = AVCC0 = AVCC1 = VCC_USB = V_{BATT} = 2.7 to 3.6 V, 2.7 ≤ VREFH0 ≤ AVCC0,
VCC_USBA = AVCC_USBA = 3.0 to 3.6 V,
VSS = AVSS0 = AVSS1 = VREFL0 = VSS_USB = VSS1_USBA = VSS2_USBA = PVSS_USBA = AVSS_USBA = 0 V,
$T_a = T_{opr}$

Item		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Schmitt trigger input voltage	Omitted					V	
	RIIC input pin (except for SMBus)	V_{IH}	VCC × 0.7	—	5.8		
		V_{IL}	–0.3	—	VCC × 0.3		
		ΔV_T	VCC × 0.05	—	—		
	Ports for 5 V tolerant*2	V_{IH}	VCC × 0.8	—	5.8		
		V_{IL}	–0.3	—	VCC × 0.2		
	Omitted						

[After correction]

Table 64.2 DC Characteristics (1)

Conditions: VCC = AVCC0 = AVCC1 = VCC_USB = V_{BATT} = 2.7 to 3.6 V, 2.7 ≤ VREFH0 ≤ AVCC0,
VCC_USBA = AVCC_USBA = 3.0 to 3.6 V,
VSS = AVSS0 = AVSS1 = VREFL0 = VSS_USB = VSS1_USBA = VSS2_USBA = PVSS_USBA = AVSS_USBA = 0 V,
$T_a = T_{opr}$

Item		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Schmitt trigger input voltage	Omitted					V	
	RIIC input pin (except for SMBus)	V_{IH}	VCC × 0.7	—	VCC + 3.6 (≤ 5.8 max.)		
		V_{IL}	–0.3	—	VCC × 0.3		
		ΔV_T	VCC × 0.05	—	—		
	Ports for 5 V tolerant*2	V_{IH}	VCC × 0.8	—	VCC + 3.6 (≤ 5.8 max.)		
		V_{IL}	–0.3	—	VCC × 0.2		
	Omitted						

Page Numbers of the Applicable Manuals

Group	Title	Rev.	Document No.	Page	
				Absolute Maximum Ratings	DC Characteristics (1)
RX64M Group	RX64M Group User's Manual: Hardware	1.00	R01UH0377EJ0100	2805	2806
RX71M Group	RX71M Group User's Manual: Hardware	1.00	R01UH0493EJ0100	2828	2829

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