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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*-A0247A/E	Rev.	1.00
Title	RX64M Group and RX71M Group, Extension of Data Hold Time (Retention) of Flash Memory		Information Category	Technical Notification		
Applicable Product	RX64M Group, RX71M Group	Lot No. All	Reference Document	User’s Manual: Hardware for applicable products (see the table at the last page)		

This document describes the extension of the data hold time (retention) of the flash memory specified in the “Electrical Characteristics” chapter of User’s Manual: Hardware for the applicable products.
Page and table numbers are based on the RX64M Group. Refer to the table on the last page for the corresponding page and table numbers in the other groups.

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The specification of the data hold time in Table 64.53, Code Flash Memory Characteristics is changed as follows.

Before correction

Table 64.53 Code Flash Memory Characteristics
Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Omitted.								
Data hold time*3	t_{DRP}	10	—	—	10	—	—	Year
Omitted.								

Omitted.
Note 3. This shows the characteristics when reprogramming is performed within the specified range, including the minimum value.

After correction

Table 64.53 Code Flash Memory Characteristics
Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit	Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.		
Omitted.									
Data retention*3, *4	t_{DRP}	20	—	—	20	—	—	Year	T_a ≤ 85°C
		10	—	—	10	—	—		T_a ≤ 105°C
Omitted.									

Omitted.
Note 3. This shows the characteristics when a self-programming library provided by Renesas Electronics or a flash programmer is used and the program/erase cycle does not exceed the specified value.
Note 4. This result is obtained from reliability testing.

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The specification of the data hold time in Table 64.54, Data Flash Memory Characteristics is changed as follows.

Before correction

Table 64.54 Data Flash Memory Characteristics

Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Omitted.								
Data hold time*3	t_{DRP}	10	—	—	10	—	—	Year
Omitted.								

Omitted.

Note 3. This shows the characteristics when reprogramming is performed within the specified range, including the minimum value.

After correction

Table 64.54 Data Flash Memory Characteristics

Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit	Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.		
Omitted.									
Data retention*3, *4	t_{DRP}	20	—	—	20	—	—	Year	T_a ≤ 85°C
		10	—	—	10	—	—		T_a ≤ 105°C
Omitted.									

Omitted.

Note 3. This shows the characteristics when a self-programming library provided by Renesas Electronics or a flash programmer is used and the program/erase cycle does not exceed the specified value.

Note 4. This result is obtained from reliability testing.

Reference Documents

Applicable Products	Manual Title (Document Number)
RX64M Group	RX64M Group User's Manual: Hardware Rev.1.10 (R01UH0377EJ0110)
RX71M Group	RX71M Group User's Manual: Hardware Rev.1.10 (R01UH0493EJ0110)

Page Number, Section/Figure/Table Number

Item	Page Number, Section/Figure/Table Number	
	RX64M Group	RX71M Group
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