

# RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RX*-A0251A/E	Rev.	1.00
Title	RX66N Group, RX72M Group, and RX72N Group, Extension of Data Hold Time (Retention) of Flash Memory		Information Category	Technical Notification		
Applicable Product	RX66N Group, RX72M Group, RX72N Group	Lot No.	Reference Document	User's Manual: Hardware for applicable products (see the table at the last page)		
		All				

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 RX66N 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 61.61, Code Flash Memory Characteristics is changed as follows.

### Before correction

**Table 61.61 Code Flash Memory Characteristics**

Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			FCLK = 15 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Omitted.											
Data hold time*3	t <sub>DRP</sub>	10	—	—	10	—	—	10	—	—	Year

Omitted.

Note 3. This shows the characteristics when the program/erase cycle does not exceed the specified value.

### After correction

**Table 61.61 Code Flash Memory Characteristics**

Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			FCLK = 15 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit	Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
Omitted.												
Data retention*3, *4	t <sub>DRP</sub>	20	—	—	20	—	—	20	—	—	Year	T <sub>a</sub> ≤ 85°C
		10	—	—	10	—	—	10	—	—		T <sub>a</sub> ≤ 105°C

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 61.62, Data Flash Memory Characteristics is changed as follows.

Before correction

**Table 61.62 Data Flash Memory Characteristics**

Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			FCLK = 15 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Omitted.											
Data hold time*3	t <sub>DRP</sub>	10	—	—	10	—	—	10	—	—	Year

Omitted.

Note 3. This shows the characteristics when the program/erase cycle does not exceed the specified value.

After correction

**Table 61.62 Data Flash Memory Characteristics**

Conditions: Omitted.

Item	Symbol	FCLK = 4 MHz			FCLK = 15 MHz			20 MHz ≤ FCLK ≤ 60 MHz			Unit	Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
Omitted.												
Data retention*3, *4	t <sub>DRP</sub>	20	—	—	20	—	—	20	—	—	Year	T <sub>a</sub> ≤ 85°C
		10	—	—	10	—	—	10	—	—		T <sub>a</sub> ≤ 105°C

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)
RX66N Group	RX66N Group User's Manual: Hardware Rev1.11 (R01UH0825EJ0111)
RX72M Group	RX72M Group User's Manual: Hardware Rev1.11 (R01UH0804EJ0111)
RX72N Group	RX72N Group User's Manual: Hardware Rev1.11 (R01UH0824EJ0111)

**Page Number, Section/Figure/Table Number**

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