RX family

Differences between RX products

Introduction

This application note describes the RX products migration map, which shows the relationship between previous-generation products and new-generation products, and the preparation status of difference documents, which summarizes the functional differences between each RX product. Please use this application note to gather information when migrating from previous-generation products to new-generation products or when using different RX products.

Target Device

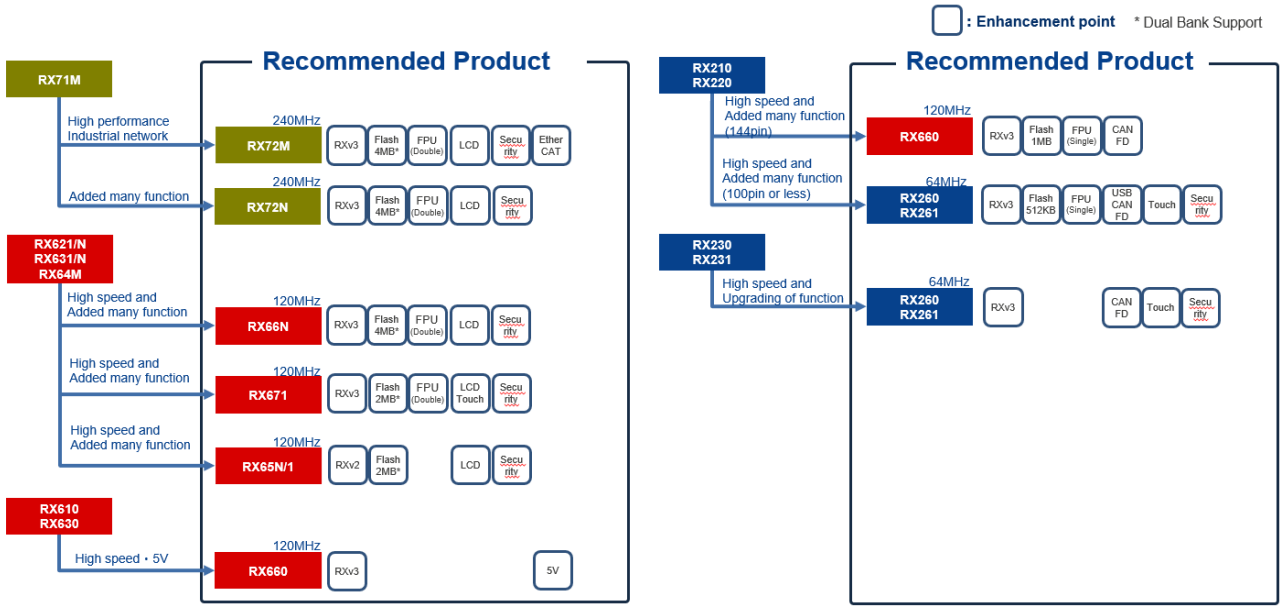
RX Family

Contents

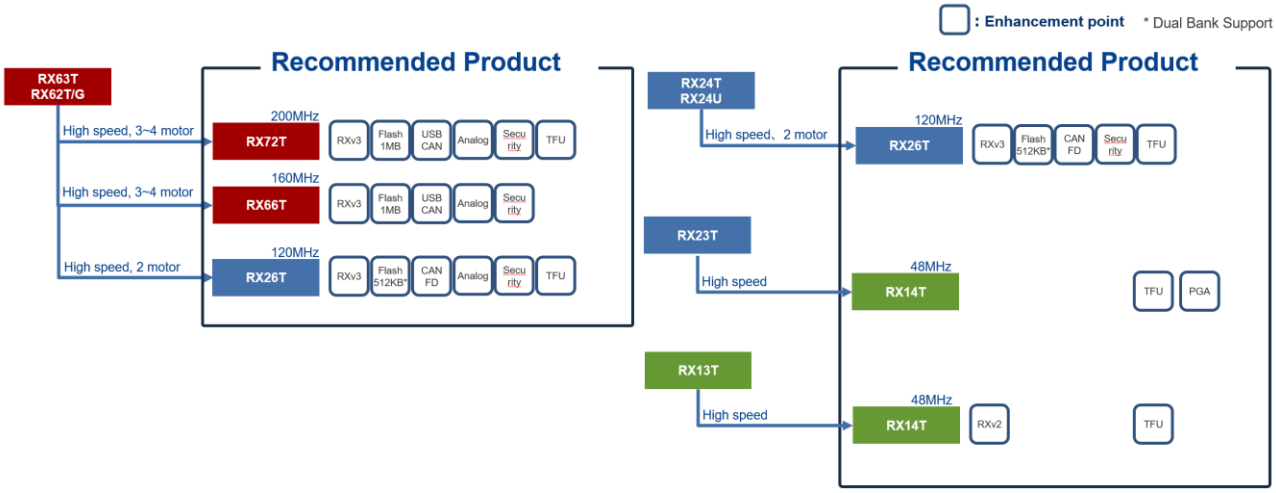
1. RX product migration map

The relationship between the previous-generation RX products and the new-generation RX products is shown below. When migrating from previous-generation products, please refer to the recommended new-generation products listed in this map.

1.1 For General-purpose



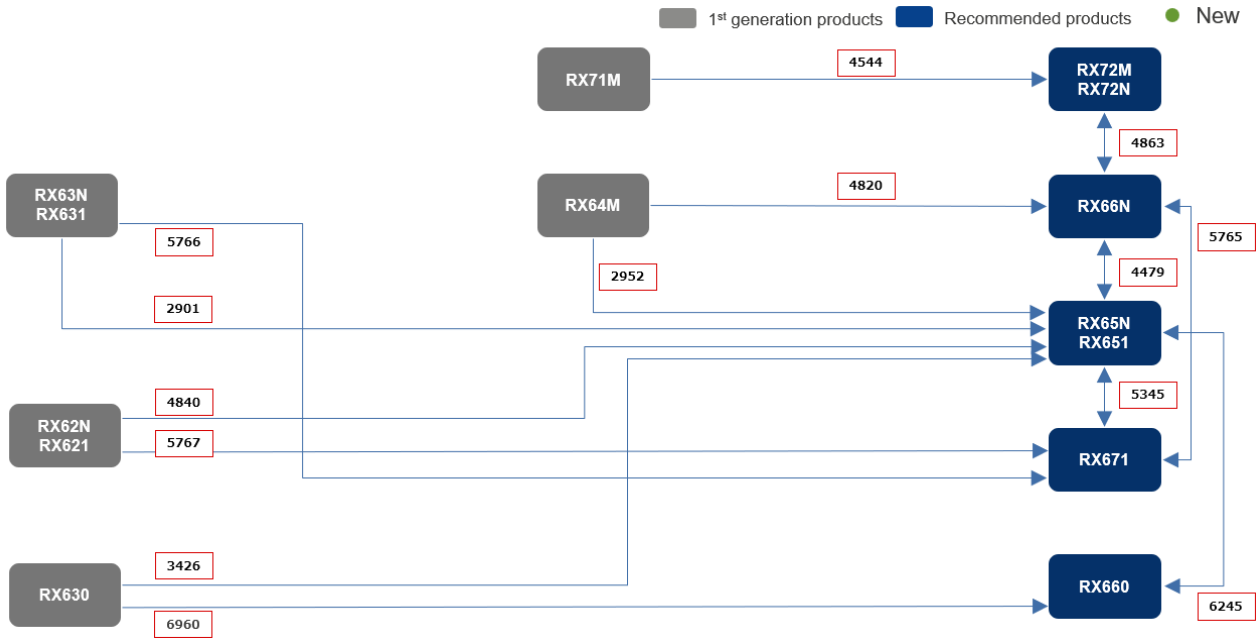
1.2 For Motor and Inverter



2. Differences between RX products

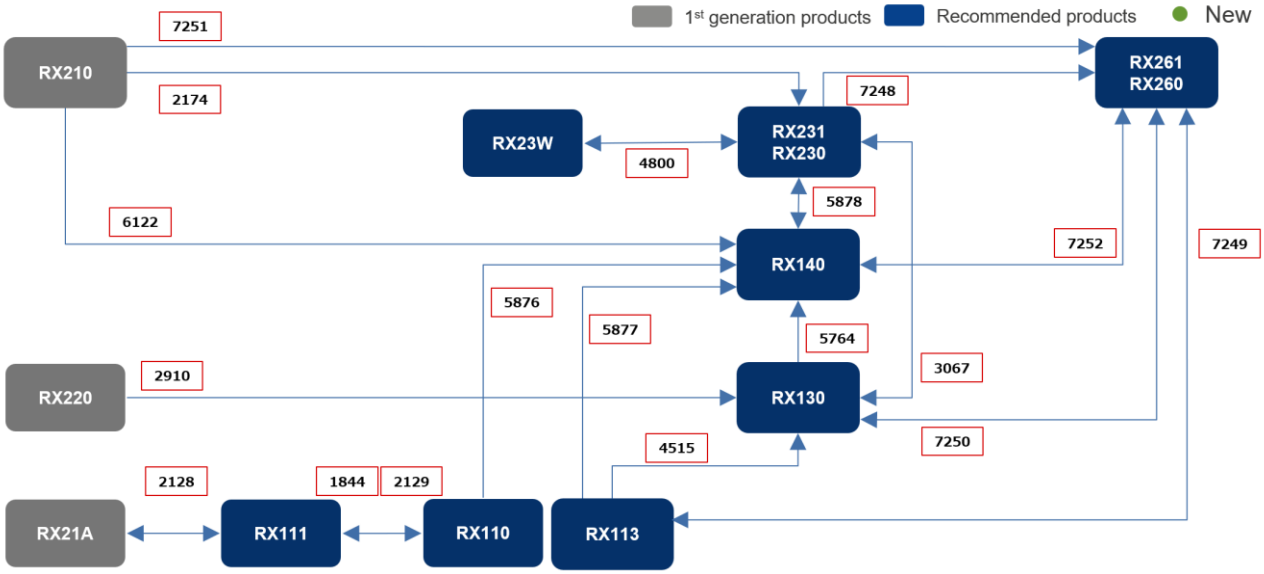
Our website provides documentation summarizing the functional differences between RX products. The preparation status of the materials is summarized below.

2.1 For general purpose ~ RX600, RX700 ~



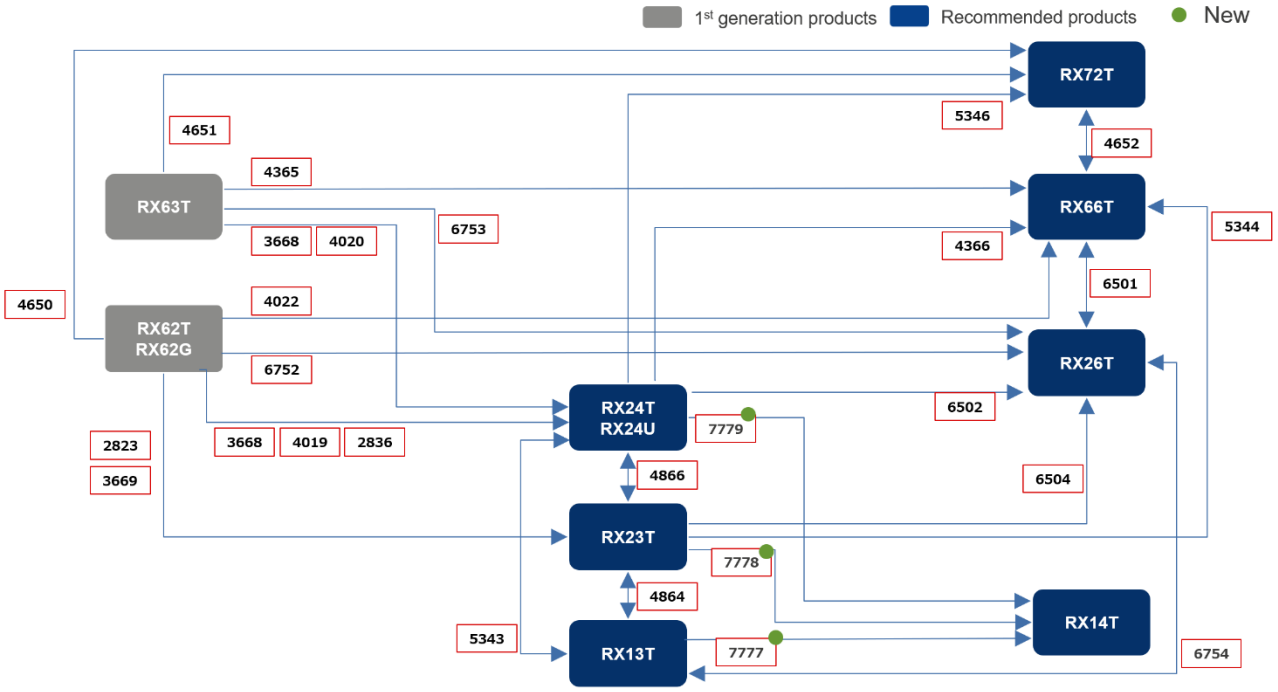
Document No	Document Name
2901	Differences between the RX65N group and the RX63N group
2952	Points of difference between RX65N group and RX64M group
3426	Points of difference between RX65N group and RX630 group
4479	Differences between the RX66N group and the RX65N group
4544	Differences between RX72M/RX72N group and RX71M group
4820	Differences between the RX66N group and the RX64M group
4840	Points of difference between RX65N group and RX62N group
4863	Differences between the RX66N group and the RX72M/RX72N group
5345	Differences between the RX671 group and the RX65N group
5765	Differences between the RX671 group and the RX66N group
5766	Differences between the RX671 group and the RX63N group
5767	Differences between the RX671 group and the RX62N group
6245	Differences between the RX660 group and the RX65N/RX651 group
6960	Differences between the RX660 group and the RX630 group

2.2 For general purpose ~ RX100, RX200 ~



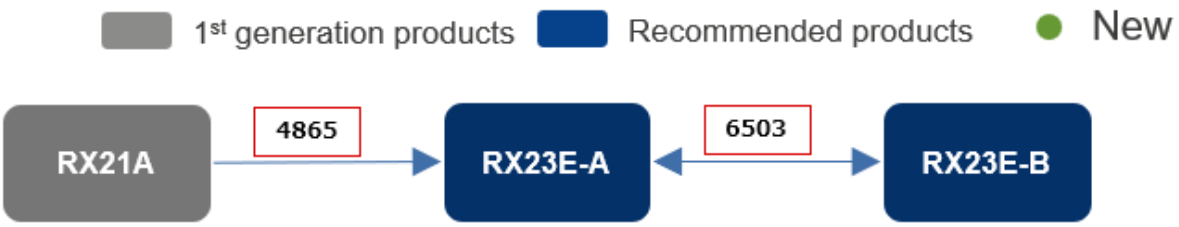
Document No	Document Name
1844	Comparing the RX111 and RX110 group for 64-pin package
2128	Comparison of the RX210 and RX111 group
2129	Comparing the RX111 and RX110 group for 48-pin package
2174	Migrating from the RX210 group to the RX230 group or RX231 group
2910	Points of difference between RX130 group and RX220 group
3067	Points of difference between RX130 group and RX230/RX231 group
4515	Points of difference between RX113 group and RX130 group
4800	Differences between the RX23W group and the RX231 group
5764	Differences between the RX140 group and the RX130 group
5876	Differences between the RX140 group and the RX110 group
5877	Differences between the RX140 group and the RX113 group
5878	Differences between the RX140 group and the RX231 group
6122	Differences between the RX140 group and the RX210 group
7248	Differences between the RX260/RX261 group and the RX230/RX231 group
7249	Differences between the RX260/RX261 group and the RX113 group
7250	Differences between the RX260/RX261 group and the RX130 group
7251	Differences between the RX260/RX261 group and the RX210 group
7252	Differences between the RX260/RX261 group and the RX140 group

2.3 For motor / Inverter ~ RX-T ~



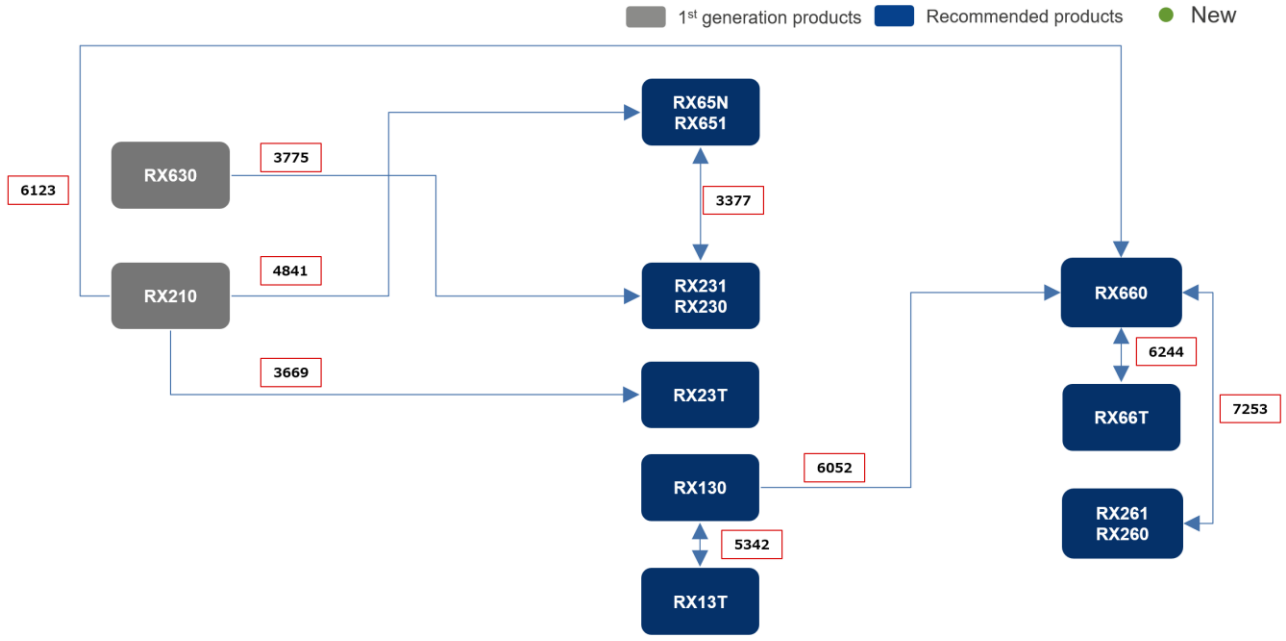
Document No	Document Name
2823	Points of difference between RX23T group and RX62T group
2836	Points of difference between RX24T group and RX62T group
3668	Motor control function migration guide (RX62T or RX63T to RX24T)
3669	Motor control function migration guide (RX210, RX62T or RX63T to RX23T)
4019	Migrating from the RX62T group to the RX24T group or RX24U group
4020	Migrating from the RX63T group to the RX24T group or RX24U group
4022	Differences between the RX66T group and the RX62T group
4365	Differences between the RX66T group and the RX63T group
4366	Differences between the RX66T group and the RX24T group
4650	Differences between the RX72T group and the RX62T group
4651	Differences between the RX72T group and the RX63T group
4652	Differences between the RX72T group and the RX66T group
4864	Differences between the RX13T group and the RX23T group
4866	Differences between the RX24T/RX24U group and the RX23T group
5343	Differences between the RX13T group and the RX24T group
5344	Differences between the RX66T group and the RX23T group
5346	Differences between the RX72T group and the RX24T/RX24U group
6501	Differences between the RX26T group and the RX66T group
6502	Differences between the RX26T group and the RX24T/RX24U group
6504	Differences between the RX26T group and the RX23T group
6752	Differences between the RX26T group and the RX62T group
6753	Differences between the RX26T group and the RX63T group
6754	Differences between the RX26T group and the RX13T group
7777	Differences between the RX14T group and the RX13T group
7778	Differences between the RX14T group and the RX23T group
7779	Differences between the RX14T group and the RX24T/RX24U group

2.4 For sensor ~ RX-E ~



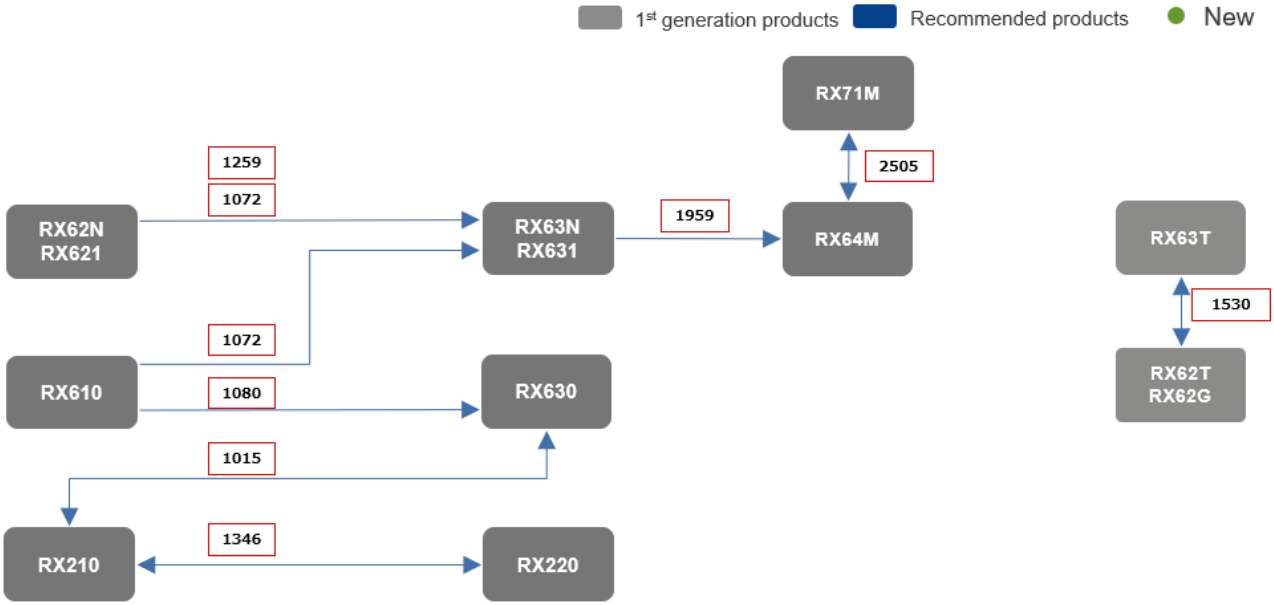
Document No	Document Name
4865	Differences between the RX23E-A group and the RX21A group
6503	Differences between the RX23E-B group and the RX23E-A group

2.5 For general purpose (RX100/RX200, RX600/RX700) + for motor (RX-T)



Document No	Document Name
3669	Motor control function migration guide (RX210, RX62T or RX63T to RX23T)
3775	Points of difference between RX231 group and RX630 group
3377	Difference between RX65N group and RX231 group
4841	Points of difference between RX651 group and RX210 group
5342	Differences between the RX13T group and the RX130 group
6052	Differences between the RX660 group and the RX130 group
6123	Differences between the RX660 group and the RX210 group
6244	Differences between the RX660 group and the RX66T group
7253	Differences between the RX260/RX261 group and the RX660 group

2.6 Other



Document No	Document Name
1015	Comparing the RX630 and RX210 groups (LQFP100)
1072	Migrating from the RX610 / RX62N to the RX63N
1080	Differences between RX610 group and RX630 group
1259	Differences between RX62N group and RX63N group
1346	Comparison of the RX210 and RX220 group MCUs
1530	Differences between RX62T group and RX63T group (144,120,112 and 100 - pin versions)
1959	Points of difference between RX63N group and RX64M group
2505	Points of difference between RX71M group and RX64M group

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Nov.12,2025	-	First edition issued
1.01	Mar.27,2026	2,5,6	RX14T information added

General Precautions in the Handling of Microprocessing Unit and Microcontroller Unit Products

The following usage notes are applicable to all Microprocessing unit and Microcontroller unit products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Precaution against Electrostatic Discharge (ESD)
   A strong electrical field, when exposed to a CMOS device, can cause destruction of the gate oxide and ultimately degrade the device operation. Steps must be taken to stop the generation of static electricity as much as possible, and quickly dissipate it when it occurs. Environmental control must be adequate. When it is dry, a humidifier should be used. This is recommended to avoid using insulators that can easily build up static electricity. Semiconductor devices must be stored and transported in an anti-static container, static shielding bag or conductive material. All test and measurement tools including work benches and floors must be grounded. The operator must also be grounded using a wrist strap. Semiconductor devices must not be touched with bare hands. Similar precautions must be taken for printed circuit boards with mounted semiconductor devices.
2. Processing at power-on
   The state of the product is undefined at the time when power is supplied. The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the time when power is supplied. In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the time when power is supplied until the reset process is completed. In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the time when power is supplied until the power reaches the level at which resetting is specified.
3. Input of signal during power-off state
   Do not input signals or an I/O pull-up power supply while the device is powered off. The current injection that results from input of such a signal or I/O pull-up power supply may cause malfunction and the abnormal current that passes in the device at this time may cause degradation of internal elements. Follow the guideline for input signal during power-off state as described in your product documentation.
4. Handling of unused pins
   Handle unused pins in accordance with the directions given under handling of unused pins in the manual. The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of the LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible.
5. Clock signals
   After applying a reset, only release the reset line after the operating clock signal becomes stable. When switching the clock signal during program execution, wait until the target clock signal is stabilized. When the clock signal is generated with an external resonator or from an external oscillator during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Additionally, when switching to a clock signal produced with an external resonator or by an external oscillator while program execution is in progress, wait until the target clock signal is stable.
6. Voltage application waveform at input pin
   Waveform distortion due to input noise or a reflected wave may cause malfunction. If the input of the CMOS device stays in the area between V_{IL} (Max.) and V_{IH} (Min.) due to noise, for example, the device may malfunction. Take care to prevent chattering noise from entering the device when the input level is fixed, and also in the transition period when the input level passes through the area between V_{IL} (Max.) and V_{IH} (Min.).
7. Prohibition of access to reserved addresses
   Access to reserved addresses is prohibited. The reserved addresses are provided for possible future expansion of functions. Do not access these addresses as the correct operation of the LSI is not guaranteed.
8. Differences between products
   Before changing from one product to another, for example to a product with a different part number, confirm that the change will not lead to problems. The characteristics of a microprocessing unit or microcontroller unit products in the same group but having a different part number might differ in terms of internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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