

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics Corporation

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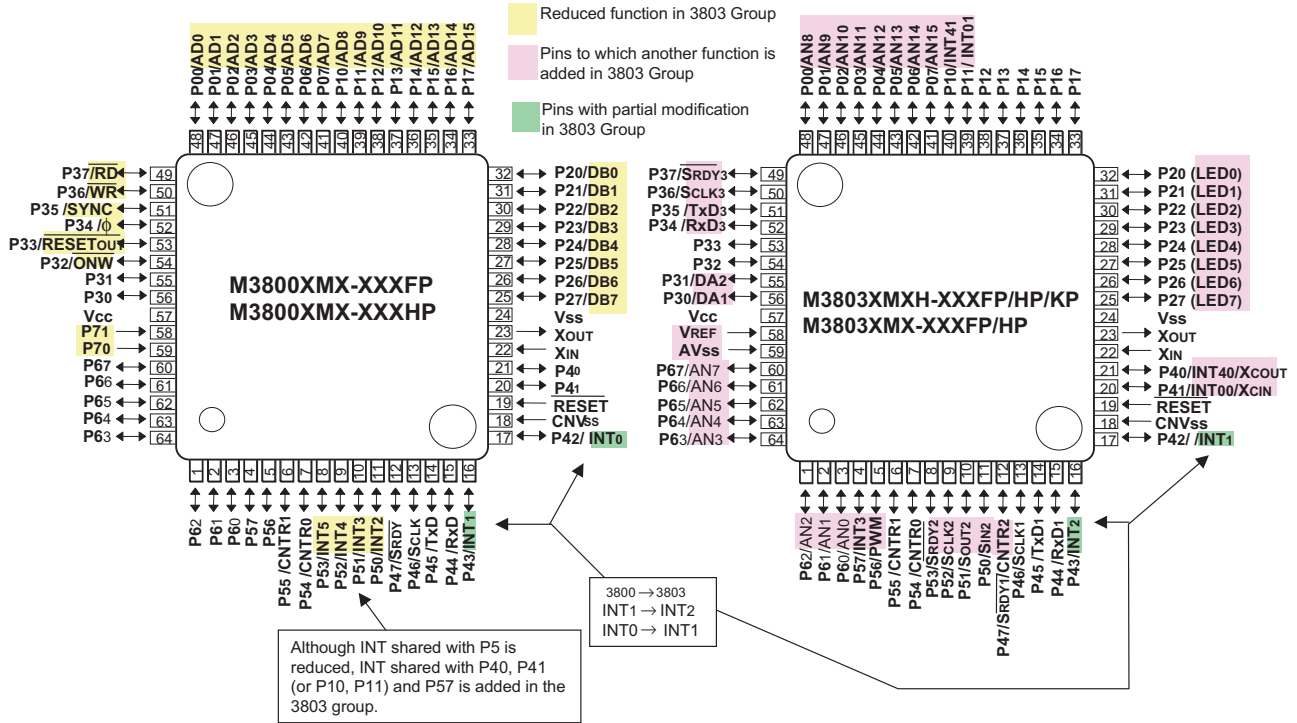
## 3800 Group, 3803 Group

### Differences between 3800 Group and 3803 Group

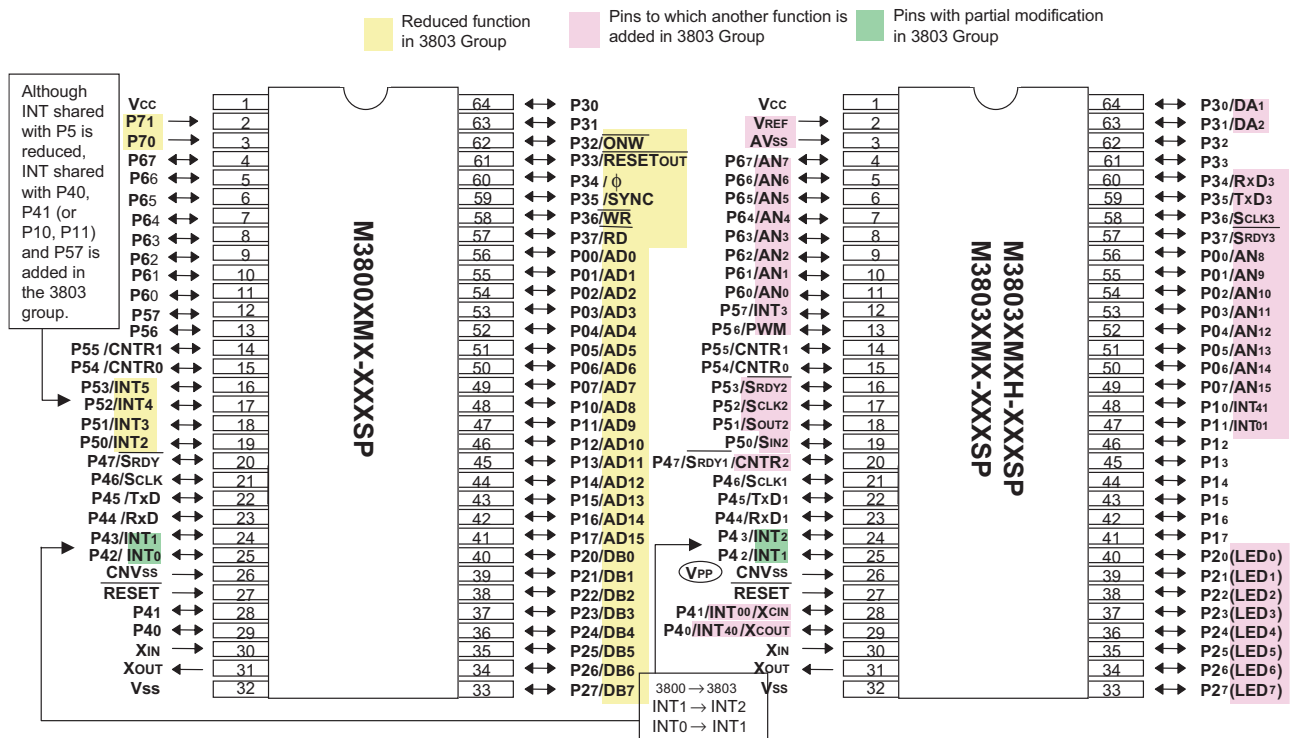
#### 1. Differences between 3800 Group and 3803 Group

	3800 Group	3803 Group (Spec.H)
Program Memory	Mask-ROM One-time PROM EPROM	Mask-ROM Flash memory
ROM/RAM	8K/384,16K/384,24K/512 32K/640,ROM-less/384	16K/640,24K/1K,32K/1K 48K/2K,60K/2K
Processor Mode	Single-chip mode Memory extension mode Microprocessor mode	Single-chip mode only
Supply Voltage	3.0 to 5.5V	1.8 to 5.5V (2.7V to 5.5V for flash version)
Clock Frequency Control	$\phi = f(XIN)/2$	$\phi = f(XIN)/2, f(XIN)/8, f(XCIN)/2$ Default value : $f(XIN)/8$
I/O Port	58 ports (Port P70, P71)	56 ports (No port P70, P71)
Interrupt	15 factors, 15 vectors	21 factors, 16 vectors
External Interrupt	INT0 to 5 CNTR0,1	INT0 to 4 CNTR0,1,2 Modification of pin-layout Modification of interrupt vector
Timer 1,2, X, Y	Count source $f(XIN)/16$ fixed (Except event counter mode)	Count source (Division) selectable
Addition Function		A/D input, 2 serial I/Os, D/A output PWM output, 16-bit Timer Z Software pull-up resistor embedded LED drive port (P20 to P27) Sub-clock oscillation circuit
Common Function	1 Serial I/O (UART/clock synchronous)	

## 2. Differences between 3800 Group and 3803 Group -Pin Assignment-(FP/HP/KP)



## 3. Differences between 3800 Group and 3803 Group -Pin Assignment-(SP)



#### 4. Precautions when Replacing from 3800 Group to 3803 Group

- Modification is needed since 000E16 and 000F16 of the SFR are assigned to another function with reduction of the port P70 and P71.
- Function assignment of each bit in the interrupt edge selection register 003A16 has been modified.
- The interrupt request registers 1, 2 and interrupt control registers 1, 2 are modified with the increase of the interrupt factor. The interrupt factor selection register is also added.
- Since the addition function is apportioned to the CPU mode register, the default value differs.
- Since there is a difference for the electrical characteristics, check it in the datasheet.

#### 5. Reference

##### Data Sheet

3803 Group (Spec. H) Datasheet

##### User's Manual

3803 Group (Spec. H) USER'S MANUAL

3800 Group User's Manual

Before using this material, please visit our website to verify that this is the most updated document available.

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## Revision Record

Rev.	Date	Description	
		Page	Summary
1.00	Jan.31.05	—	Issue as reference selection.
1.01	Mar.18.05	—	Change to application note format and issue

Keep safety first in your circuit designs!

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