

# RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RA*-A0046A/E	Rev.	1.00
Title	RA4M2 Group, RA4M3 Group, RA6M4 Group, RA6M5 Group, numbers of IO ports		Information Category	Technical Notification		
Applicable Product	RA4M2 Group RA4M3 Group RA6M4 Group RA6M5 Group	Lot No.	Reference Document	RA4M2 Group User's Manual Hardware Rev.1.10 RA4M3 Group User's Manual Hardware Rev.1.20 RA6M4 Group User's Manual Hardware Rev.1.10 RA6M5 Group User's Manual Hardware Rev.1.10		
		All				

The numbers of IO ports are described in UM.

## RA4M2

### 1. Overview

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Table    I/O ports

Feature	Functional description
I/O ports	<ul style="list-style-type: none"> <li>● I/O ports for the 100-pin LQFP               <ul style="list-style-type: none"> <li>- I/O pins : 77</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 78</li> <li>- N-ch open-drain outputs : 77</li> <li>- 5-V tolerance : 14</li> </ul> </li> <li>● I/O ports for the 64-pin LQFP               <ul style="list-style-type: none"> <li>- I/O pins : 43</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 44</li> <li>- N-ch open-drain outputs : 43</li> <li>- 5-V tolerance : 9</li> </ul> </li> <li>● I/O ports for the 48-pin LQFP, 48-pin QFN               <ul style="list-style-type: none"> <li>- I/O pins : 29</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 30</li> <li>- N-ch open-drain outputs : 29</li> <li>- 5-V tolerance : 4</li> </ul> </li> </ul>

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Table Functional comparison

Parts number		R7FA4M2AD3CFP R7FA4M2AC3CFP R7FA4M2AB3CFP	R7FA4M2AD3CFM R7FA4M2AC3CFM R7FA4M2AB3CFM	R7FA4M2AD3CFL R7FA4M2AC3CFL R7FA4M2AB3CFL	R7FA4M2AD3CNE R7FA4M2AC3CNE R7FA4M2AB3CNE
I/O ports	I/O pins	77	43	29	
	Input pins	1	1	1	
	Pull-up resistors	78	44	30	
	N-ch open-drain outputs	77	43	29	
	5-V tolerance	14	9	4	

RA4M3

1. Overview

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Table I/O ports

Feature	Functional description
I/O ports	<ul style="list-style-type: none"> <li>● I/O ports for the 144-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 109</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 110</li> <li>- N-ch open-drain outputs : 109</li> <li>- 5-V tolerance : 21</li> </ul> </li> <li>● I/O ports for the 100-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 75</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 76</li> <li>- N-ch open-drain outputs : 75</li> <li>- 5-V tolerance : 14</li> </ul> </li> <li>● I/O ports for the 64-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 41</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 42</li> <li>- N-ch open-drain outputs : 41</li> <li>- 5-V tolerance : 9</li> </ul> </li> </ul>

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Table Functional comparison

Parts number		R7FA4M3AF3CFB R7FA4M3AE3CFB R7FA4M3AD3CFB	R7FA4M3AF3CFP R7FA4M3AE3CFP	R7FA4M3AF3CFM R7FA4M3AE3CFM
I/O ports	I/O pins	109	75	41
	Input pins	1	1	1
	Pull-up resistors	110	76	42
	N-ch open-drain outputs	109	75	41
	5-V tolerance	21	14	9

**RA6M4**

**1. Overview**

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**Table I/O ports**

Feature	Functional description
I/O ports	<ul style="list-style-type: none"> <li>● I/O ports for the 144-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 109</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 110</li> <li>- N-ch open-drain outputs : 109</li> <li>- 5-V tolerance : 21</li> </ul> </li> <li>● I/O ports for the 100-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 75</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 76</li> <li>- N-ch open-drain outputs : 75</li> <li>- 5-V tolerance : 14</li> </ul> </li> <li>● I/O ports for the 64-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 41</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 42</li> <li>- N-ch open-drain outputs : 41</li> <li>- 5-V tolerance : 9</li> </ul> </li> </ul>

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**Table Functional comparison**

Parts number		R7FA6M4AF3CFB R7FA6M4AE3CFB R7FA6M4AD3CFB	R7FA6M4AF3CFP R7FA6M4AE3CFP R7FA6M4AD3CFP	R7FA6M4AF3CFM R7FA6M4AE3CFM R7FA6M4AD3CFM
I/O ports	I/O pins	109	75	41
	Input pins	1	1	1
	Pull-up resistors	110	76	42
	N-ch open-drain outputs	109	75	41
	5-V tolerance	21	14	9

**RA6M5**

**1. Overview**

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**Table I/O ports**

Feature	Functional description
I/O ports	<ul style="list-style-type: none"> <li>● I/O ports for the 176-pin BGA,176-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 132</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 133</li> <li>- N-ch open-drain outputs : 132</li> <li>- 5-V tolerance : 17</li> </ul> </li> <li>● I/O ports for the 144-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 109</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 110</li> <li>- N-ch open-drain outputs : 109</li> <li>- 5-V tolerance : 21</li> </ul> </li> <li>● I/O ports for the 100-pin LQFP                             <ul style="list-style-type: none"> <li>- I/O pins : 75</li> <li>- Input pins : 1</li> <li>- Pull-up resistors : 76</li> <li>- N-ch open-drain outputs : 75</li> <li>- 5-V tolerance : 14</li> </ul> </li> </ul>

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**Table Functional comparison**

Parts number		R7FA6M5XX2CBG	R7FA6M5XX3CFC	R7FA6M5XX3CFB	R7FA6M5XX3CFP
I/O ports	I/O pins	132		109	75
	Input pins	1		1	1
	Pull-up resistors	133		110	76
	N-ch open-drain outputs	132		109	75
	5-V tolerance	17		21	14