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# RENESAS TECHNICAL UPDATE

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| Product Category | MPU/MCU | | Document No. | TN-RZ*-A028A/E | Rev. | 1.00 |
|---|---|---|---|---|---|---|
| Title | Additional explanation for Pin Multiplexing and PFC of RZ/G Series | | Information Category | Technical Notification | | |
| Applicable Product | RZ/G Series<br>RZ/G1E | Lot No.<br>All lots | Reference Document | RZ/G1E User's Manual: Hardware Rev.1.00 (R01UH0544EJ0100) | | |

There is a following additional explanation about the RZ/G1E.

[Summary]

Additional explanation when these pins were used as I2C interface.

[Products]

RZ/G1E

[Note]

There is no specification change (additional explanation only).

[Additional Explanation]

(Following gray highlighted parts (abcd) are newly added.)

1. Section 4, Pin Multiplexing

1) Table 4.2, No.278 to 281 (page 4-24), No.302, 303 (page 4-25), and Notes

| No. | Pin No. | Pin Name (Function 1) | I/O | During POR | Default Pin Function | Default State | Default Pull-up |
|---|---|---|---|---|---|---|---|
| | | | | . . . | | | |
| 278 | Y5 | I2C0_SCL(*6) | IO | I | GP3_30 | I | On |
| 279 | Y4 | I2C0_SDA(*6) | IO | I | GP3_31 | I | On |
| 280 | Y24 | I2C1_SCL(*6) | IO | I | GP4_0 | I | On |
| 281 | Y25 | I2C1_SDA(*6) | IO | I | GP4_1 | I | On |
| | | | | . . . | | | |
| 302 | AD21 | I2C2_SCL(*6) | IO | I | GP4_22 | I | On |
| 303 | AC20 | I2C2_SDA(*6) | IO | I | GP4_23 | I | On |
| | | | | . . . | | | |
| 340 | V22 | IIC1_SDA | IO | Z | IIC1_SDA | Z | - |

Notes: 1. No.47, 48, 61, 62, 74, 75, 88 and 89 (M0DQSx and M0DQSx#) pin states during POR and default state:
The drivers output states are both high-impedance (Z), and the internal circuit controls pin levels as low-level for the M0DQSx pin and high-level for the M0DQSx# pin respectively.

. . .

5. No.201 CS1#/A26 Default state:
MD4 = 0: (area 0 64-Mbyte mode): high output
MD4 = 1: (area 0 128-Mbyte mode): low output
6. No.278 to 281, 302 and 303 Pin Name (Function 1):
When these pins are used as I2C interface, external pull-up resistors are mandatory.

2) Table 4.3, No.278 to 281 (page 4-33), No.302, 303 (page 4-34), and Notes

| No. | Pin No. | Pin Name (Function 1) | Default State | Mode Pin | Boot | Default Pull-up | Pin Handling when not in Use |
|---|---|---|---|---|---|---|---|
| | | | | | . . . | | |
| 278 | Y5 | I2C0_SCL(*5) | I | - | - | On | Open |
| 279 | Y4 | I2C0_SDA(*5) | I | - | - | On | Open |
| 280 | Y24 | I2C1_SCL(*5) | I | - | - | On | Open |
| 281 | Y25 | I2C1_SDA(*5) | I | - | - | On | Open |
| | | | | | . . . | | |
| 302 | AD21 | I2C2_SCL(*5) | I | - | - | On | Open |
| 303 | AC20 | I2C2_SDA(*5) | I | - | - | On | Open |
| | | | | | . . . | | |
| 340 | V22 | IIC1_SDA | Z | - | - | - | Pulled-up to VCCQ18 |

Notes: 1. No.47, 48, 61, 62, 74, 75, 88 and 89 (M0DQSx and M0DQSx#) pin states during POR and default state:
The drivers output states are both high-impedance (Z), and the internal circuit controls pin levels as low-level for the M0DQSx pin and high-level for the M0DQSx# pin respectively.

. . .

4. No.201 CS1#/A26 Default state:
MD4 = 0: (area 0 64-Mbyte mode): high output
MD4 = 1: (area 0 128-Mbyte mode): low output
5. No.278 to 281, 302 and 303 Pin Name (Function 1):
When these pins are used as I2C interface, external pull-up resistors are mandatory.

2. Section 5. Pin Function Controller (PFC)

1) 5.3.29 LSI Pin Pull-Up Control Register 3 (PUPR3)

| Bit Name | Set Value = 1 |
|---|---|
| PUPR3[31] | I2C1_SDA is pull up(*1) |
| PUPR3[30] | I2C1_SCL is pull up(*1) |
| PUPR3[29] | I2C0_SDA is pull up(*1) |
| PUPR3[28] | I2C0_SCL is pull up(*1) |
| | . . . |
| PUPR3[0] | VI0_DATA1_VI0_B1 is pull up |

Note: 1. When these pins are used as I2C interface, external pull-up resistors are mandatory.

2) 5.3.30 LSI Pin Pull-Up Control Register 4 (PUPR4)

| Bit Name | Set Value = 1 |
|---|---|
| PUPR4[31] | SSI_SCK0129 is pull up |
| | . . . |
| PUPR4[21] | I2C2_SDA is pull up(*1) |
| PUPR4[20] | I2C2_SCL is pull up(*1) |
| | . . . |
| PUPR4[0] | MSIOF0_RXD is pull up |

Note: 1. When these pins are used as I2C interface, external pull-up resistors are mandatory.

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