

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RL*-A081A/E	Rev.	1.00
Title	Restriction on MCU Activation when Power is Supplied		Information Category	Technical Notification		
Applicable Product	RL78/L1A Group	Lot No.	Reference Document	RL78/L1A User's Manual: Hardware Rev. 1.00 R01UH0636EJ0100 (Aug. 2016)		
		All lots				

We would like to inform you of a restriction on MCU activation that applies in certain cases when power is initially supplied to V_{DD} and AV_{DD} .

Restriction reported in this document

Item	Description	Target Products	Page Nos. in This Document
1	Restriction on MCU Activation when Power is Supplied to V_{DD} and AV_{DD}	All lots	Pages 2 to 4

Revision history

Revision history of technical updates on restrictions of the RL78/L1A

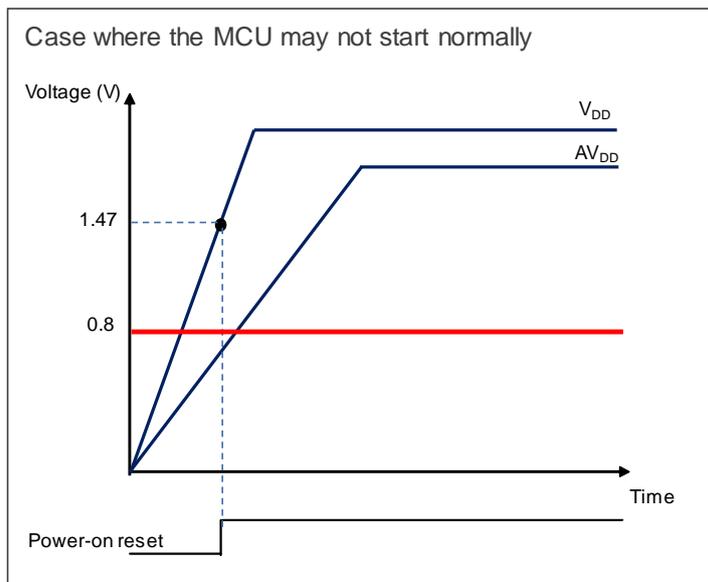
Document Number	Issued Date	Description
TN-RL*-A081A/E	Jun. 21, 2017	First edition

Restriction added in this document

1. Restriction on MCU Activation when Power is Supplied to V_{DD} and AV_{DD}

1.1 Restriction

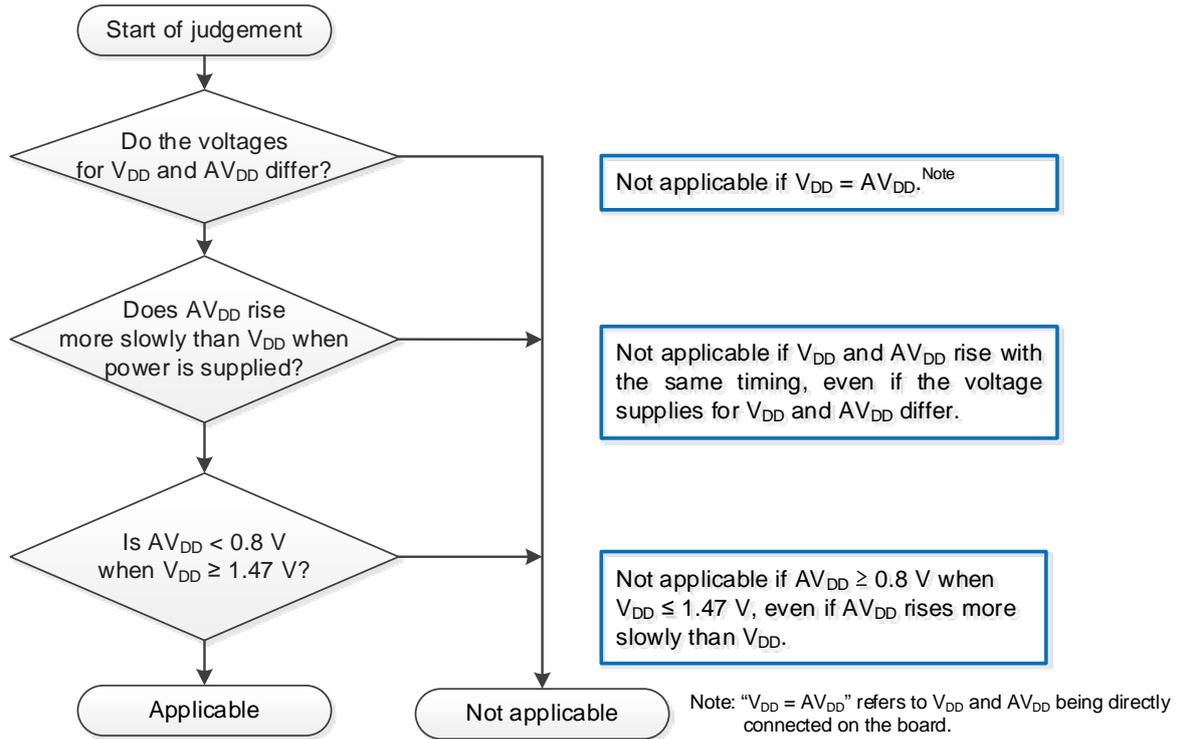
The MCU may not start normally when AV_{DD} is below 0.8 V on release from the internal reset state caused by a power-on reset (POR) in cases where the voltages for V_{DD} and AV_{DD} differ and AV_{DD} rises more slowly than V_{DD} when power is initially supplied.



Note: Voltage at the time of release from the POR

$$V_{POR} = 1.51 \text{ V} \pm 0.04 \text{ V}$$

1.2 Flow for judging whether or not the restriction applies



Cases where the restriction is not applicable:

The MCU starts normally on release from the power-on reset state.

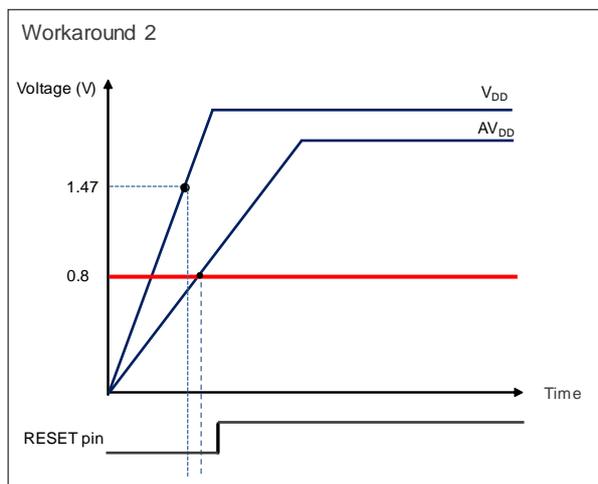
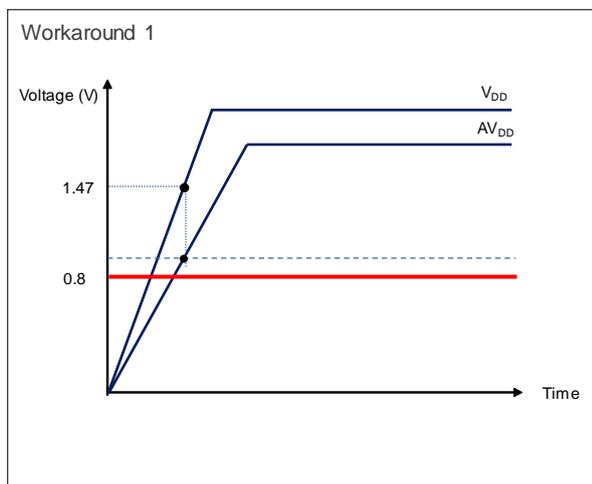
Cases where the restriction is applicable:

The MCU may not start normally on release from the power-on reset state.

1.3 Workaround

In cases where the voltage supplies for V_{DD} and AV_{DD} differ and AV_{DD} rises more slowly than V_{DD} when power is initially supplied, use either of the workarounds below to avoid incorrect behavior of the MCU.

- Apply measures on the board so that AV_{DD} reaches at least 0.8 V before V_{DD} reaches or exceeds 1.47 V. (workaround 1)
- Hold the pin reset until V_{DD} reaches or exceeds 1.47 V and AV_{DD} reaches or exceeds 0.8 V. (workaround 2)



1.4 Modification schedule

We are handling this countermeasure as a restriction on usage.

We will add a precautionary note to the next revision of the user's manual.