

# RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-SH7-A902A/E	Rev.	1.00
Title	Additional precautions on using pins		Information Category	Technical Notification		
Applicable Product	See below.	Lot No.	Reference Document	See below.		
		All lots				

We added precautions on using pins as below to User's Manual for Hardware for the applicable products.

#### [Additional Description]

If you use any edge input function for the pin function on the table below, we recommend the use of falling edge detection. Used under the conditions that power supply variation or noise is large, and the slope of falling input signals is gentle, the pins become susceptible to noise. In the case, the pins may detect unintended raising edge.

Please execute sufficient evaluation after reviewing the method to reduce the influence from power supply variation or noise.

- Reduction method 1 : Please take measures in order not to generate noise for the power supply and input signals as much as possible.
- Reduction method 2 : Please specify a value which makes the steeper slope of falling input signals than 0.1 us/V (reference value) does.
- Reduction method 3 : Please execute the process considering the noise countermeasure in software (e.g. ignoring the abnormal value detected unintentionally by edge detection).

Pin Function	Methods to Reduce Noise Influence
TP01A to TP01D, TP02A to TP02D, TP03A to TP03D, TP04A to TP04D	You can eliminate the noise influence by using digital filtering function.
TIOC0A to TIOC0D, TIOC1A, TIOC1B, TIOC2A, TIOC2B, TIOC3A to TIOC3D, TIOC4A to TIOC4D, TIC5U to TIC5W, TIOC6A to TIOC6D, TIOC7A to TIOC7D	Specify a value which makes the steeper slope of falling input signals than 0.1 us/V (reference value) does. Please execute the process considering the noise countermeasure in software (e.g. Ignoring the abnormal value detected unintentionally by edge detection).
TCLKA to TCLKD RSPCK0 to RSPCK3	Specify a value which makes the steeper slope of falling input signals than 0.1 us/V (reference value) does.

#### [Applicable Products and Reference Documents]

Series	Group	Related documents	Rev.	Ref. No.
SH72AX	SH72A0	SH72A2 Group, SH72A0 Group User's Manual: Hardware	1.00	R01UH0164JJ0100
	SH72A2			

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