

# RENESAS TECHNICAL UPDATE

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Product Category	MPU & MCU		Document No.	TN-RA*-A0169A/E	Rev.	1.00
Title	Limitations when using the high-speed analog comparator in the RA2T1 User's Manual: Hardware		Information Category	Technical Notification		
Applicable Product	RA2T1Group	Lot No.	Reference Document	RA2T1 Group User's Manual: Hardware Rev.1.00 (R01UH1089EJ0100)		
		All				

The following usage limitations are applied to section 28, High-speed Analog Comparator (ACMPHS) and section 35, Electrical Characteristics on the RA2T1 Group User's Manual: Hardware Rev.1.00.

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28.9.2 Appearance of a Pulse in the Result of Comparison is added to 28.9 Usage Notes.

#### Before correction

No description.

#### After correction

#### 28.9.2 Appearance of a Pulse in the Result of Comparison

If the analog input voltage or reference input voltage of the comparator changes rapidly with a slope exceeding  $\pm 3.0 \text{ V}/\mu\text{s}$ , a pulse with a width of up to 150 ns may appear in the result of comparison. If this effect causes a problem, apply one of the following measures.

- Set the CiFCK[1:0] bits (i=0, 1) to 01B or 10B to enable the digital filter (3-time match) so that noise of up to 150ns can be removed.
- In polling of the CiMON flag (i=0, 1), ensure that short pulses can be eliminated by setting the polling interval to at least 150 ns.

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Parameter of input voltage slope is added on table 35.48 characteristics.

Before correction

Input voltage slope is not specified on table 35.48 characteristics.

After correction

**Table 35.48 ACMPHS characteristics**

Conditions: VCC = AVCC0 = 2.7 to 5.5 V, VSS = AVSS0 = 0 V

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
(Omission)						
Input voltage slope <sup>*3</sup>	dV/dt	—	—	±3.0	V/μs	—
(Omission)						

Note 3. Input voltage slope without noise filter.