

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-V85-A012A/E	Rev.	1.00
Title	Note about the RYO output delay time of the clock synchronous serial interface (CSIH, CSIG)		Information Category	Technical Notification		
Applicable Product	V850E2/Mx4 series	Lot No.	Reference Document	User Manual of each product		
		All lots				

There is modification in an electrical characteristic of clock synchronous serial interface (CSIH, CSIG) RYO output delay. This RENESAS Technical update will mention the change contents and the manual correction contents.

1. Modification items

(1) Electrical characteristic change at the CSIG slave mode (RYO output delay).

When SCKn cycle time (t_{KCYS}) is smaller than 8 times of the Clock source cycle (t_{KCY}), 1 cycle t_{KCY} is added to the CSIn_RYO output delay (t_{SRDYIO}).

There is no spec change when SCKn cycle time (t_{KCYS}) is more than 8 times of the Clock source cycle.

(2) Electrical characteristic change at the CSIH slave mode (RYO output delay).

When SCKnF cycle time (t_{KCYS}) is smaller than 8 times of the Clock source cycle (t_{KCY}), 1 cycle t_{KCY} is added to the CSInF_RYO output delay (t_{SRDYIO}).

There is no spec change when SCKnF cycle time (t_{KCYS}) is more than 8 times of the Clock source cycle.

2. Manual modification

(1) CSIG Electrical characteristic modification points

The CSIn_RYO output delay time (t_{SRDYIO}) is changed as below.

Item	Symbol	Condition	MIN.	MAX.	Unit
CSIn_RYO output delay time (from SCKn \uparrow)	tsrDYIO	Output	$t_{KCYS} \geq 8 \times t_{KCY}$	26.0	ns
			$t_{KCYS} < 8 \times t_{KCY}$	$26.0 + t_{KCY}$	ns
CSIn_RYO output delay time (from SCKn \downarrow)	tsrDYIO	Output	$t_{KCYS} \geq 8 \times t_{KCY}$	26.0	ns
			$t_{KCYS} < 8 \times t_{KCY}$	$26.0 + t_{KCY}$	ns

(2) CSIH Electrical characteristic modification points

The CSInF_RYO output delay time (t_{SRDYIO}) is changed as below.

Item	Symbol	Condition	MIN.	MAX.	Unit
CSInF_RYO output delay time (from SCKnF \uparrow)	tsrDYIO	Output	$t_{KCYS} \geq 8 \times t_{KCY}$	26.0	ns
			$t_{KCYS} < 8 \times t_{KCY}$	$26.0 + t_{KCY}$	ns
CSInF_RYO output delay time (from SCKnF \downarrow)	tsrDYIO	Output	$t_{KCYS} \geq 8 \times t_{KCY}$	26.0	ns
			$t_{KCYS} < 8 \times t_{KCY}$	$26.0 + t_{KCY}$	ns