

Datasheet Correction: UART of TLCS-870 Family

This informs you that we found the following corrections should be made to the datasheets as shown below. If you have any questions or require any further information, please contact your local Toshiba representatives.

1. Products

TLCS-870 Series
TLCS-870/X Series
TLCS-870/C Series
TLCS-870/C1 Series
and custom products related to above serieses.

Note 1: This information explains the correction using the TMP89FM82DUG of the TLCS-870/C1 Series as a typical example.

For details of TLCS-870 series, -870/X series, and -870/C series, please contact your local Toshiba representatives.

Note 2: For the detailed product list, refer to the item No. 4.

2. Corrections of the UART function in the datasheet

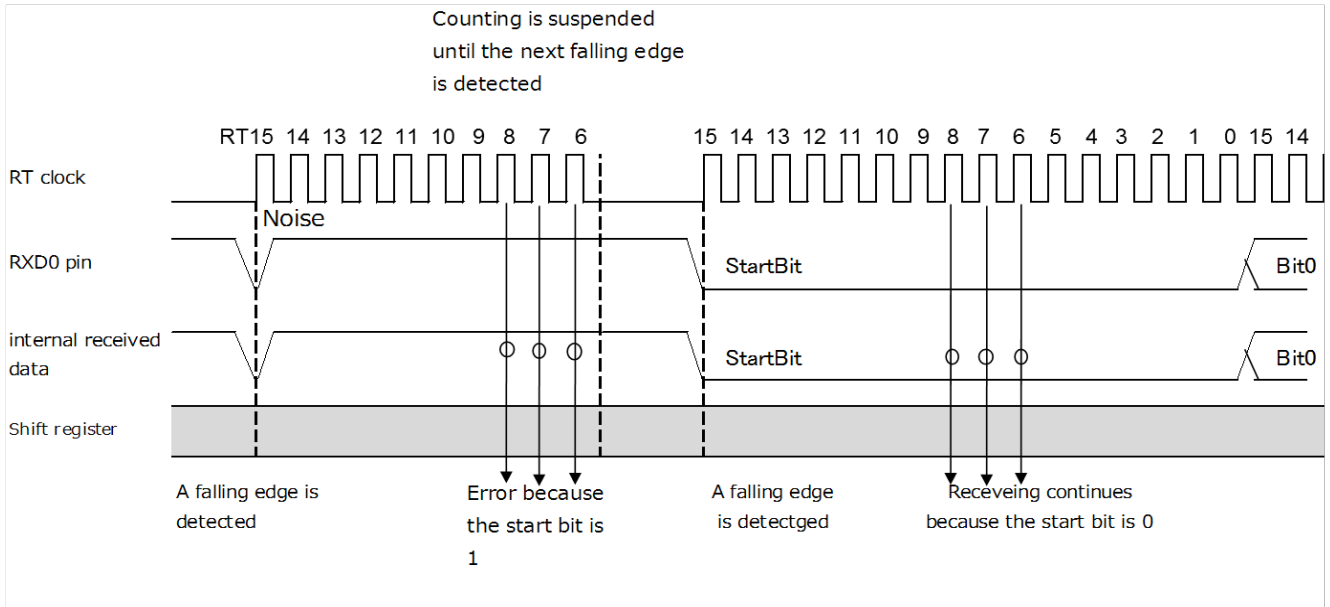
In description of the UART function in the datasheet of the TLCS-870 family: TLCS-870 series, TLCS-870/X series, TLCS-870/C series, and TLCS-870/C1 series, a sampling level of each bit of the frame format is determined by the sampling function based on majority decision; however, the start bit of each receive data is not applied to the majority decision.

Therefore, in actual MCU operation, if the RXD pin (UART receive pin) detects the falling edge ("Low" level signal), real-time clock count is continued, and receive operation is started regardless of the condition of the RXD pin.

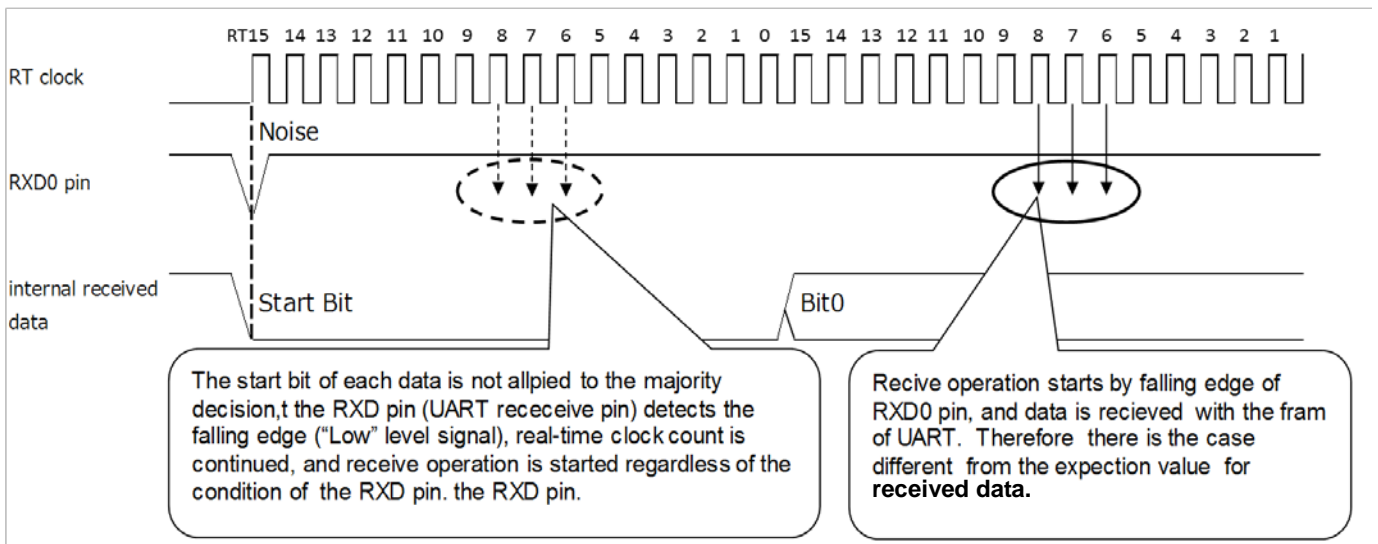
Note that data bits, parity bits, STOP bits are applied to the sampling function based on majority decision as described in the datasheets.

Example: P222 datasheet of the TMP89FM82DUG
Figure 15-8 Start bit sampling

<Description in the datasheet>



<Actual MCU operation>



3. Workaround

The correction should be made to customers software program. Please take measures against to abnormal data on your software.

4. Product Lists: TLCS-870 Family

TLCS-870/C1 Series

TMP89FW20/A	TMP89FW24/A	TMP89FS28L	TMP89FH40	TMP89FM40
TMP89FH42/L	TMP89FM42/A/L/K		MP89FM43L/K	TMP89FH46/L
TMP89FM46/A/K	TMP89FS60/A	TMP89FS62	TMP89FS63	TMP89FM82/T
TMP89CH42	TMP89CM42	TMP89CH46	TMP89CM46	

TLCS-870/C Series

TMP86F807	TMP86F808	TMP86F409	TMP86F809	TMP86FH09/A
TMP86FH12/A	TMP86FS23/A	TMP86FP24	TMP86FM25	TMP86FS27
TMP86FS28/A	TMP86FM29/L	TMP86FH46/A/B	TMP86FH47/A/B	TMP86FM48
TMP86FS49/A/B	TMP86FS64	TMP86FH92/I	TMP86FH93	
TMP86PH06	TMP86P807	TMP86P808	TMP86PH22	TMP86PM23
TMP86PS23	TMP86PS25	TMP86PS27	TMP86PM29/A/B	TMP86PS43
TMP86PS44	TMP86PH46	TMP86PM46	TMP86PH47	TMP86PM47/A
TMP86PM49	TMP86PS64	TMP86PM72	TMP86PH87R	
TMP86CH06	TMP86C407	TMP86C807	TMP86C408/I	TMP86C808
TMP86C809	TMP86CH09	TMP86CH12	TMP86CH21/A	TMP86C822
TMP86CH22	TMP86CM23/A	TMP86CP23/A	TMP86CM25/A	TMP86CS25/A
TMP86CM27	TMP86CP27/A	TMP86CS28	TMP86C829/A/B	TMP86CH29/A/B
TMP86CM29/A/B/L		TMP86CS41	TMP86CS43	TMP86CS44
TMP86C846/A	TMP86CH46/A	TMP86CM46/A	TMP86C847	TMP86CH47/A/I
TMP86CM47/A	TMP86CH49	TMP86CM49	TMP86CS49	TMP86CS64/A
TMP86CH72	TMP86CM72	TMP86CH87R		

TLCS-870/X Series

TMP88FH41	TMP88FW44	TMP88FW45/A	TMP88F846	
TMP88PH40	TMP88PH41	TMP88PS42	TMP88PS43	TMP88PH47
TMP88PS49				
TMP88CH40/I	TMP88CH41	TMP88CS42	TMP88CS43	TMP88CH47
TMP88CK48	TMP88CM48	TMP88CS48/A	TMP88CK49	TMP88CM49

TLCS-870 Series

TMP87PH48	TMP87PM48	TMP87PM29	TMP87PM53	TMP87PS68
TMP87CH48/I	TMP87CM48	TMP87CH29	TMP87CK29	TMP87CM29
TMP87CM53	TMP87CS68			