

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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RENESAS TECHNICAL UPDATE

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Product Category	MPU & MCU		Document No.	TN-16C-A165A/E	Rev.	1.00
Title	R8C/Tiny Series Notes on I ² C bus Interface in Multimaster Operation		Information Category	Technical Notification		
Applicable Product	See below	Lot No.	Reference Document			
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1. Notes

The following two points should be noted to use the I²C bus interface in multimaster operation: The applicable MCUs including the I²C bus interface are listed below.

1) Transfer rate

In multimaster operation, if the IIC transfer rate setting in this LSI is slower than those of the other masters, SCL may be output with a width shorter than the transfer rate set by the other masters.

2) Bits MST and TRS setting

In multimaster operation, if the master transmit is set with bit manipulation instructions in the order from the MST bit to the TRS bit, the AL bit in the ICSR register will be set to 1, but slave receive mode (MST = 0, TRS = 0) may not be set.

2. Action

1) Transfer rate

Set the transfer rate by 1/1.8 or faster than the fastest rate of the other masters. For example, if the fastest transfer rate of the other masters is set to 400 kbps, the IIC transfer rate in this LSI should be set to 223 kbps (= 400/1.18) or more.

2) Bits MST and TRS setting

The following actions should be performed:

a) Use the MOV instruction to set bits MST and TRS.

b) When arbitration is lost, confirm the contents of bits MST and TRS. If the contents are other than MST = 0 and TRS = 0, set MST = 0 and TRS = 0 again.

3. Applicable MCUs

R8C/16 Group, R8C/17 Group, R8C/1A Group, R8C/1B Group,
R8C/20 Group, R8C/21 Group, R8C/22 Group, R8C/23 Group,
R8C/24 Group, R8C/25 Group, R8C/26 Group, R8C/27 Group,
R8C/28 Group, R8C/29 Group, R8C/2A Group, R8C/2B Group,
R8C/2C Group, R8C/2D Group