[Notes]
e² studio Code Generator Plug-in,
AP4 Coding Assistance Tool for RZ

Outline

When using the products in the title, note the following point.

1. Writing 0 to the timer dead time enable register in multi-function timer pulse unit 3 (MTU3a)

1. Writing 0 to the Timer Dead Time Enable Register in Multi-Function Timer Pulse Unit 3 (MTU3a)

1.1 Applicable Products

➤ e² studio V4.0.0.26 (Code Generator Plug-in V2.0.0) or later

➤ AP4 for RZ V1.00.00 or later

1.2 Applicable Devices

➤ RZ family: RZ/T1 group

1.3 Details

When MTU3 or MTU6 in multi-function timer pulse unit 3 (MTU3a) is used in complementary PWM mode 1, 2, or 3, writing 0 to the timer dead time enable registers (TDERA and TDERB) to prevent dead time being generated is impossible. This is due to an error in the generated code for clearing the TDER bit in the register.

1.4 Workaround

Correct the processing that clears the TDER bit of the timer dead time enable registers (TDERA and TDERB) in the following function.

The modification is shown in red.

When code is generated again, generated code returns to the state before modification. Therefore, modify the source file each time you generate code.

・The function "void R_MTU3_Create (void)" of the source file "r_cg_mtu3.c"

Before modification:

```
/************************************************************************
* Function Name: R_MTU3_Create
* Description  : This function initializes the MTU3 Unit0 module.
* Arguments    : None
* Return Value : None
************************************************************************/
void R_MTU3_Create(void)
{
    Omitted
    /* Channel 3 is used as complementary PWM mode n */(n=1,2 or 3)
    Omitted

    MTU.TDERA.BYTE = _MTU_TDER_DISABLE;

    Omitted
    /* Channel 6 is used as complementary PWM mode n */(n=1,2 or 3)
    Omitted

    MTU.TDERB.BYTE = _MTU_TDER_DISABLE;

    Omitted
}
```

After modification:

```
/************************************************************************
* Function Name: R_MTU3_Create
* Description  : This function initializes the MTU3 Unit0 module.
* Arguments    : None
* Return Value : None
************************************************************************/
void R_MTU3_Create(void)
{
    Omitted
    /* Channel 3 is used as complementary PWM mode n */(n=1,2 or 3)
    Omitted

    MTU.TDERA.BIT.TDER = _MTU_TDER_DISABLE;

    Omitted
    /* Channel 6 is used as complementary PWM mode n */(n=1,2 or 3)
    Omitted

    MTU.TDERB.BIT.TDER = _MTU_TDER_DISABLE;

    Omitted
}
```

1.5 Schedule for Fixing the Problem

This problem will be fixed in the next version. (Scheduled to be released in January 2020.)

Revision History

		Description	
Rev.	Date	Page	Summary
1.00	Dec.16.19	-	First edition issued

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061 Japan

www.renesas.com/contact/

Contact information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit:

www.renesas.com/contact/

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.