

RENESAS TECHNICAL UPDATE

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Product classification	MPU & MCU	Document No.	TN-V85-A021A/E	Rev.	1.00
Title	Further notes about the function of timer/event counter register		Notification classification	Technical Information	
Affected Products	In the main part	Affected production lot	Related documents	User's Manual : Hardware of affected products	
		All lots			

For the V850 series microcontrollers on 2.Affected Products, The following further notes about the function of timer/event counter register is released.

- (1) TMPn counter read buffer register (TPnCNT)
- (2) TMQn counter read buffer register (TQnCNT)

1. Notification

- (1) TMPn counter read buffer register (TPnCNT)

If TPnCNT register is read when the TPnCE bit = 0, 0000H is read.

If TPnCNT register is read when the TPnCE bit = 1, the count value of the 16-bit timer can be read.

The count value of the 16-bit counter is different by operation mode as follows.

- External event count mode

The 16-bit counter is set to 0000H at the timing when the TPnCE bit changes from 0 to 1.

After that, the counter counts up from 0001H to 0002H, 0003H, and so on, each time a valid edge of an external event count input is detected.

- Other modes

The 16-bit counter starts counting from the default value FFFFH.

It counts up from FFFFH to 0000H, 0001H, 0002H, 0003H, and so on.

(2) TMQn counter read buffer register (TQnCNT)

If TQnCNT register is read when the TQnCE bit = 0, 0000H is read.

If TQnCNT register is read when the TQnCE bit = 1, the count value of the 16-bit timer can be read.

The count value of the 16-bit counter is different by operation mode as follows.

• External event count mode

The 16-bit counter is set to 0000H at the timing when the TQnCE bit changes from 0 to 1.

After that, the counter counts up from 0001H to 0002H, 0003H, and so on, each time a valid edge of an external event count input is detected.

• Other modes

The 16-bit counter starts counting from the default value FFFFH.

It counts up from FFFFH to 0000H, 0001H, 0002H, 0003H, and so on.

2. Affected Products

Products series	Timer	
	TMP	TMQ
V850ES/SG1 series	○	-
V850ES/SG2 series	○	○
V850ES/SJ2 series	○	○

○ : provided、 - : non-provided