

Matching comparison to overturn when ascending count. at this time OC2x Signal to the minimum value as the center is not symmetrical, requiring the TCNT2 Flip reaches the maximum value OC2x Signal, namely when the comparator inverting no match occurs OC2x A first of the signal. The second case is when TCNT2 From the ratio OCR2x Counting high value, and thus will miss the compare match, thereby causing an asymmetric situation generated. Also you need to flip OC2x Signal to achieve symmetry of both sides of the minimum.

TC2 The asynchronous mode of operation

When located ASSR Register AS2 Bit "1" Time, TC2 Work in asynchronous mode, the clock source outside the oscillator from the counter timer counter. In asynchronous mode TC2 Operating considerations must be taken.

- **Switch between synchronous and asynchronous mode may cause TCNT2 , OCR2A , OCR2B , TCCR2A with TCCR2B Corrupted data. Safe operation steps are as follows:**
 1. **Clear OCIE2A , TOIE2 with OCIE2B Close register bit TC2 Break;**
 2. **Position AS2 Bit selects the appropriate clock source;**
 3. **Correct TCNT2 , OCR2A , TCCR2A , OCR2B with TCCR2B Register write new data;**
 4. **When switched to the asynchronous mode, wait TCN2UB , OCR2AUB , TCR2AUB , OCR2BUB with TCR2BUB Place Clear;**
 5. **Clear TC2 Interrupt flag;**
 6. **Enable interrupts to be used.**
- **Oscillator is best to use 32.768KHz Watch crystal. The system clock frequency must be higher than the crystal frequency 4 More times.**
- **CPU write TCNT2 , OCR2A , TCCR2A , OCR2B with TCCR2B When the hardware if the data first into the register, two TOSC1 After the rising edge of the latch clock to the corresponding register. Can not be performed before the new data is written in the data latch operation from the register to the destination register. Each register has its own independent temporary register, write TCNT2 And does not interfere with write OCR2 . Asynchronous Status Register ASSR For checking whether the data has been written to the destination register.**
- **If you use TC2 As a MCU Sleep mode wake-up condition, the update before the end of each register can not enter hibernation mode, or else MCU Might TC2 Before entering Sleep mode settings to take effect, so TC2 You can not wake up the system.**
- **If you use TC2 As a MCU Sleep mode wake-up condition, we must pay attention to the process of re-entering sleep mode. Interrupt logic needs one TOSC1 Reset clock cycle, if the time is less than the wake-up from re-entering a sleep TOSC1 Clock cycle, the interrupt will not occur, the device can not wake up. Recommended operating method is as follows:**
 1. **Suitable for each write data register;**
 2. **wait ASSR The corresponding Update Busy flag is cleared;**
 3. **Into sleep mode.**
- **When the asynchronous mode, TC2 The oscillator will always running, except in Power-down mode. Users must note that the settling time of this oscillator can be as long 1 Seconds, therefore, recommended that the user is enabled TC2 After waiting for at least an oscillator 1 Seconds before use TC2 The asynchronous mode of operation.**
- **Wake Sleep mode asynchronous mode of operation of the process: After the interrupt condition is met, the next timer clock starts wake up process. That is, before the processor can read the counter value of the counter is advanced by at least one clock. Wake-up MCU The interrupt service routine, after the start of execution SLEEP Program after the statement.**
- **Wake from sleep mode after reading a short time TCNT2 The value may return incorrect data. because TCNT2 By asynchronous TOSC1 Clocked, reads TCNT2 Must be done through an internal system clock synchronized register, synchronization occurs in each TOSC1 The rising edge. The system clock re-activation from the sleep mode wake-up, the read TCNT2 Numerical value before entering the sleep mode until the next TOSC1 The arrival of the rising edge will be updated. Wake from sleep mode TOSC1 Phase completely unpredictable, and wake-up time. Therefore, reading TCNT2**

Recommended sequence of values as follows:

1. **Write any value to OCR2A or TCCR2A ;**