
FEATURES

1. ROM:

- RISC 2T core
- 2K x 16 bits MTP
- 10 years data retention at least

2. RAM: 256 x 8 bits

3. STACK: 8 Levels

4. System Clock type selections

- Fast clock from Internal RC (FIRC, 16MHz)
- Slow clock from Internal RC (SIRC, 80 KHz @4V)

5. System Clock Prescaler

- System Clock can be divided by 1/2/4/8 option

6. Power Saving Operation Mode

- FAST Mode: CPU running at Fast-clock
- SLOW Mode: CPU running at Slow-clock
- IDLE Mode: Fast-clock and CPU stop; Slow-clock keep running.
- STOP Mode: All clocks and CPU stop.

7. Two Independent Timers

- Timer0
 - 8-bit timer divided by 1~256 pre-scale option / auto-reload / counter / interrupt / stop function
- Timer1
 - 8-bit timer divided by 1~256 pre-scale option / auto-reload / interrupt / stop function

8. Interrupt

- Three External Interrupt pins
 - 1 pin is falling edge wake-up triggered & interrupts
 - 2 pins are rising or falling edge wake-up triggered & interrupt
- Timer0 / Timer1 / Wake-up Timer Interrupt
- PWM Interrupt
- LVD interrupt

9. Wake-up Timer (WKT)

- Clocked by built-in RC oscillator with 4 adjustable interrupt times
 - 12 ms / 25 ms / 50 ms / 100 ms @ 4V

10. Watchdog Timer (WDT)

- Clocked by built-in RC oscillator with 4 adjustable reset times

- 100 ms / 200 ms / 800 ms / 1600 ms @ 4V

- Watchdog timer can be disabled / enabled in STOP mode

11. Five 16-bit PWMs (shared periods)

- PWM0, PWM1, PWM2, PWM4, PWM5
 - 16 bits, individual duty-adjustable, shared period-adjustable controlled PWM
 - PWM clock source: System clock (Fsys), FIRC (16 MHz) or FIRC*2 (32MHz)

12. Reset Sources

- Power on Reset
- Watchdog Timer Reset
- Low Voltage Reset
- External Pin Reset

13. Low Voltage Reset (LVR) and Low Voltage Detection Flag (LVD)

- 16-Level Low Voltage Reset: 2.05V ~ 4.15V
- 15-Level Low Voltage Detection Flag: 2.20V ~ 4.15V

14. Operating Voltage

- Fsys= 16 MHz, 1.9V~5.5V @LVR disable @25°C. Suggest LVR 2.05V @-40°C~105°C

Note: Power-up V_{CC} must exceed POR and user selected LVR level, refer to the “Electrical Characteristics Graphs” to avoid entering ROM dead zone.

15. Operating Temperature Range : -40°C~105°C

16. Table Read Instruction: 16-bit ROM data lookup table

17. Integrated 16-bit Cyclic Redundancy Check (CRC) function

18. Instruction set: 39 Instructions

19. I/O ports:

- Maximum 6 programmable I/O pins
 - Open-Drain Output
 - CMOS Push-Pull Output
 - Schmitt Trigger Input with pull-up resistor option
 - All I/O with High-Sink
 - 1/2 bias output

20. Programming connectivity support 5-wire (ICP) or 8-wire program

21. Package Types:

- 8-pin SOP (150 mil)
- 6-pin SOT23-6

PIN ASSIGNMENT DIAGRAM

