General Description

The ET4002MC/MTC is a high performance, low cost CMOS 8-bit single chip microcontroller with an embedded 8K*16bit OTPROM, a high precision 5MHz oscillator, 13 general IO or 13 key scan IO and transmitting circuit（For ET4002MTC）. The ET4002MC/MTC is best suited for applications such as ordinary remote controller, general IO application controller etc.

Features

- 8-bit microcontroller, 53 single word instructions
- Embedded 8K*16 bit program memory, 512-byte data memory
- Program memory can be configured as 4k*16 bit MTP and program twice
- CPU operation voltage rang is from 2.0V to 3.6V
- Embedded 5MHz oscillator, and the frequency can be fine-tuning
- When the work voltage range is from 2.0v to 3.6v, and the temperature range is from -20°to 85°, the CPU frequency error is less than +/- 1%
- Sleep mode current is less than 1.0μA(when key scan is disable), and is about 1.0μA(when key scan is enable)
- 8-level hardware stacks
- 15 Interrupt sources(internal:2 Timer,external:13 Input port)
- All 13 I/O can be configured as General Purpose I/O or keyboard scan IO
- Support T-type keyboard and the key code can be read by hardware
- Embedded Timer A(include PWM generator)and Timer B
- 3 programmable PWM output port(the two PWM output port is sharing by two general IO port)
- Key wakeup, M-type or T-type key change wake-up from SLEEP mode
- Built in Transistor for T-LED Drive (For ET4002MTC)
  IOL = 220mA at VDD =3V & VO =0.3V and pwm_curt=1
  IOL = 150mA at VDD =3V & VO =0.3V and pwm_curt=0
- Watchdog timer
- power-on reset circuit
- Voltage drop detection circuit
  Reset occurrence ---------1.7 V(Ta=25℃)
  Reset release --------------1.9 V(Ta=25℃)
- Package: SOP16

Applications

- Ordinary Remote Controller
- General IO Application Controller

Pin Configuration

ET4002MTC

Pin	Left		Pin	Right
1	GND		16	VDD
2	KS12/PT1_7		15	RMT
3	KS11/PT1_6		14	KS10/PT2_7
4	KS0/PT1_5		13	KS9/PT2_6
5	KS1/PT1_4		12	KS8/PT2_5
6	KS2/PT1_3		11	KS7/PT2_4
7	KS3/PT2_0		10	KS6/PT2_3
8	KS4/PT2_1		9	KS5/PT2_2

ET4002MC

Pin	Left		Pin	Right
1	GND		16	VDD
2	KS12/PT1_7		15	RMT_D
3	KS11/PT1_6		14	KS10/PT2_7
4	KS0/PT1_5		13	KS9/PT2_6
5	KS1/PT1_4		12	KS8/PT2_5
6	KS2/PT1_3		11	KS7/PT2_4
7	KS3/PT2_0		10	KS6/PT2_3
8	KS4/PT2_1		9	KS5/PT2_2