

# 点亮 三色LED



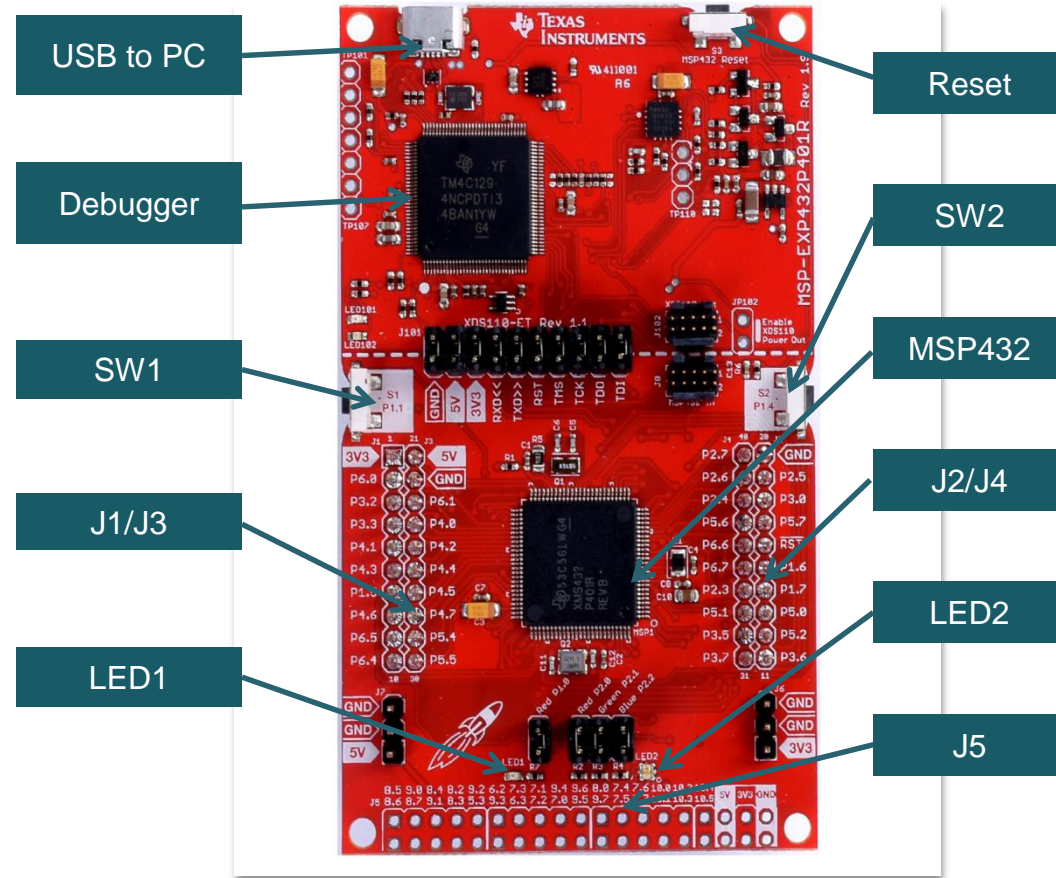
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# 概要

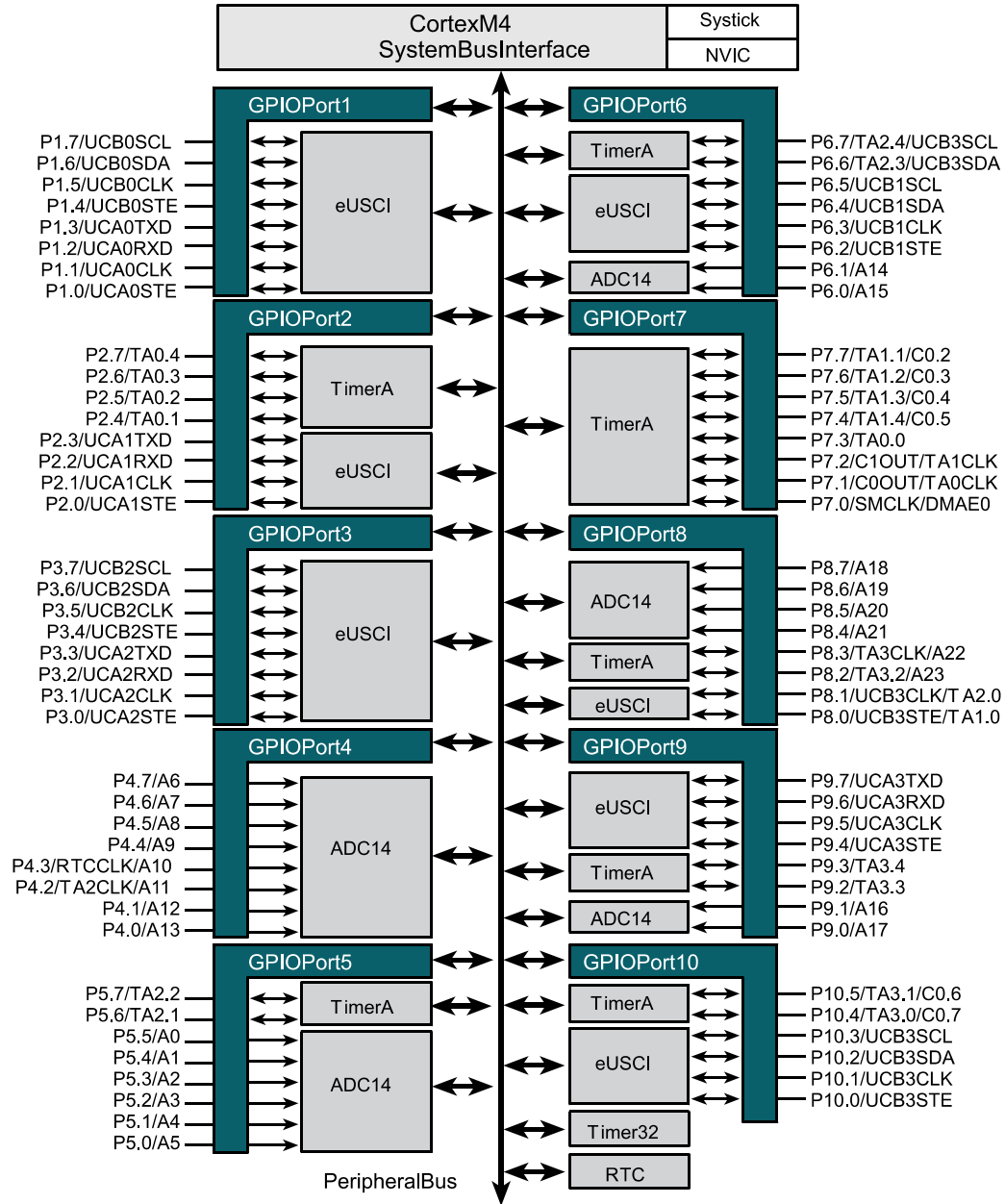
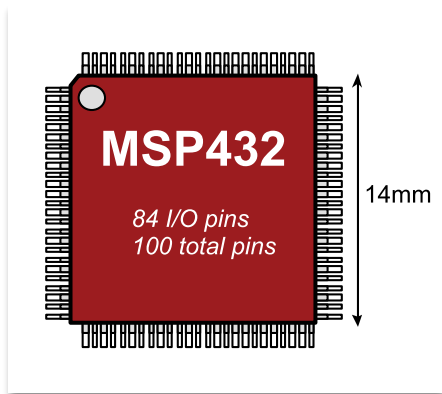
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1. 介绍MSP432 Launchpad
2. 找到控制LED对应的引脚号 及 三色LED颜色组合
3. 编程三色LED

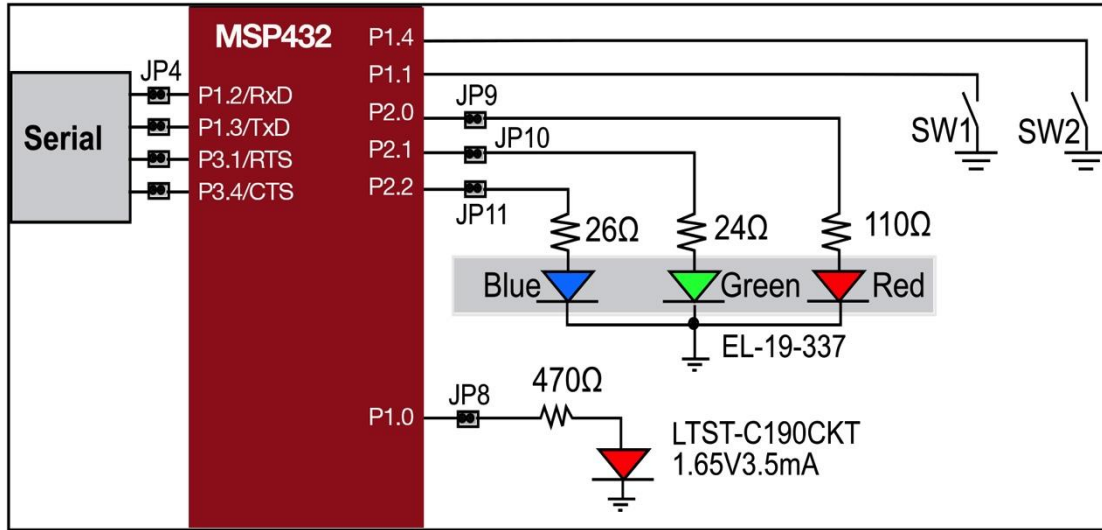
# MSP432 Launchpad



# MSP432通用接口



# MSP432 Launchpad自帶LED和按键



两个用户按键 (S1→P1.1 ; S2 →P1.4)

1个红色LED (P1.0)

1个三色LED (P2.0→红色; P2.1→绿色; P2.2→蓝色;)

```
// Color      LED(s)  Port2
// dark      ---      0
// red       R--      0x01
// green     -G-      0x02
// blue      --B      0x04
// yellow    RG-      0x03
// sky blue  -GB      0x06
// white     RGB      0x07
// pink      R-B      0x05
```

# 初始化设置GPIO

```
void Port2_Init(void){
    P2->SEL0 = 0x00;
    P2->SEL1 = 0x00; //configure P2.2-P2.0 as GPIO
    P2->DS = 0x07;    // make P2.2-P2.0 high drive strength
    P2->DIR = 0x07;   // make P2.2-P2.0 out
    P2->OUT = 0x00;   // all LEDs off
}
```

```
void Port2_Output(uint8_t data){
    P2->OUT = data; // write all of P2 outputs
}
```

## Function Select Registers (PxSEL0, PxSEL1)

Table 12-2. I/O Function Selection

PxSEL1	PxSEL0	I/O Function
0	0	General purpose I/O is selected
0	1	Primary module function is selected
1	0	Secondary module function is selected
1	1	Tertiary module function is selected

## Output Drive Strength Selection Registers (PxDS)

- Bit = 0: High drive strength I/Os are configured for regular drive strength
- Bit = 1: High drive strength I/Os are configured for high drive strength

## Direction Registers (PxDIR)

- Bit = 0: Port pin is switched to input direction
- Bit = 1: Port pin is switched to output direction

## Output Registers (PxOUT)

- Bit = 0: Output is low
- Bit = 1: Output is high

备注：参见MSP432技术手册（slau356f）12.2数字I/O操作章节

# 内容小结

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- 1.了解MSP432 系统总线接口;
- 2.掌握MSP432引脚初始化配置;
- 3.能够控制GPIO的输出功能;

# 更多信息请关注

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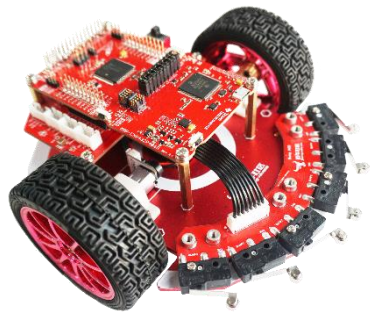


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# 谢谢

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