

Rugged Board

GPIO

<https://community.ruggedboard.com>

SAMA5D27 Pin Numbers vs. GPIO Port Numbers

How to calculate SAMA5D27 pin number using GPIO port number?

SAMA5D27 Pin Numbers	GPIO Port Numbers
0 - 31	PA0 - PA31
32 - 63	PB0 - PB31
64 - 95	PC0 - PC31
96 - 127	PD0 - PD31

Port value PA --> 0

PB --> 1

PC --> 2

PD --> 3

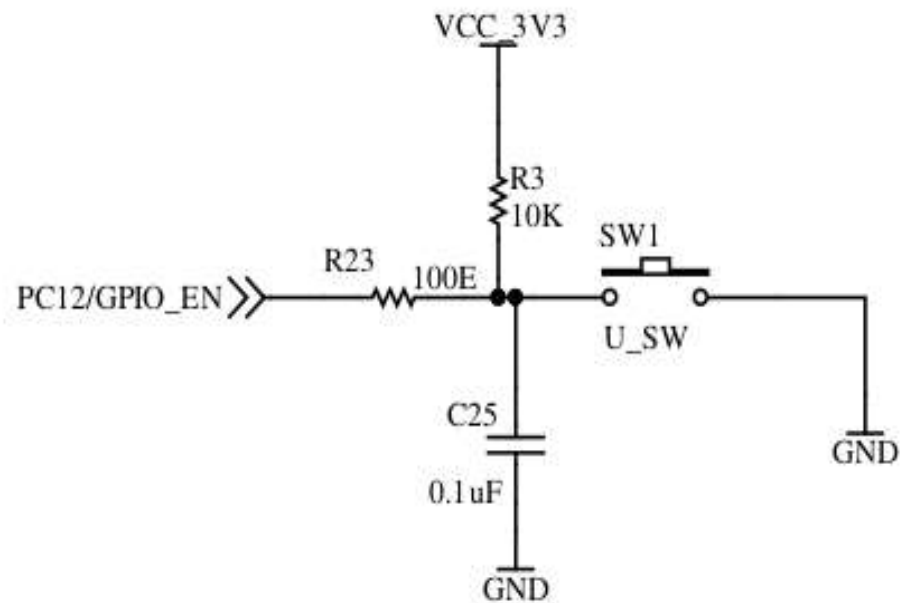
$SAMA5D2_PIN_Number = (32 * PX) + GPIO_PX_Number$,
Where **X** takes **A / B / C / D**

For **PC13** SAMA5D2 pin number is **77**

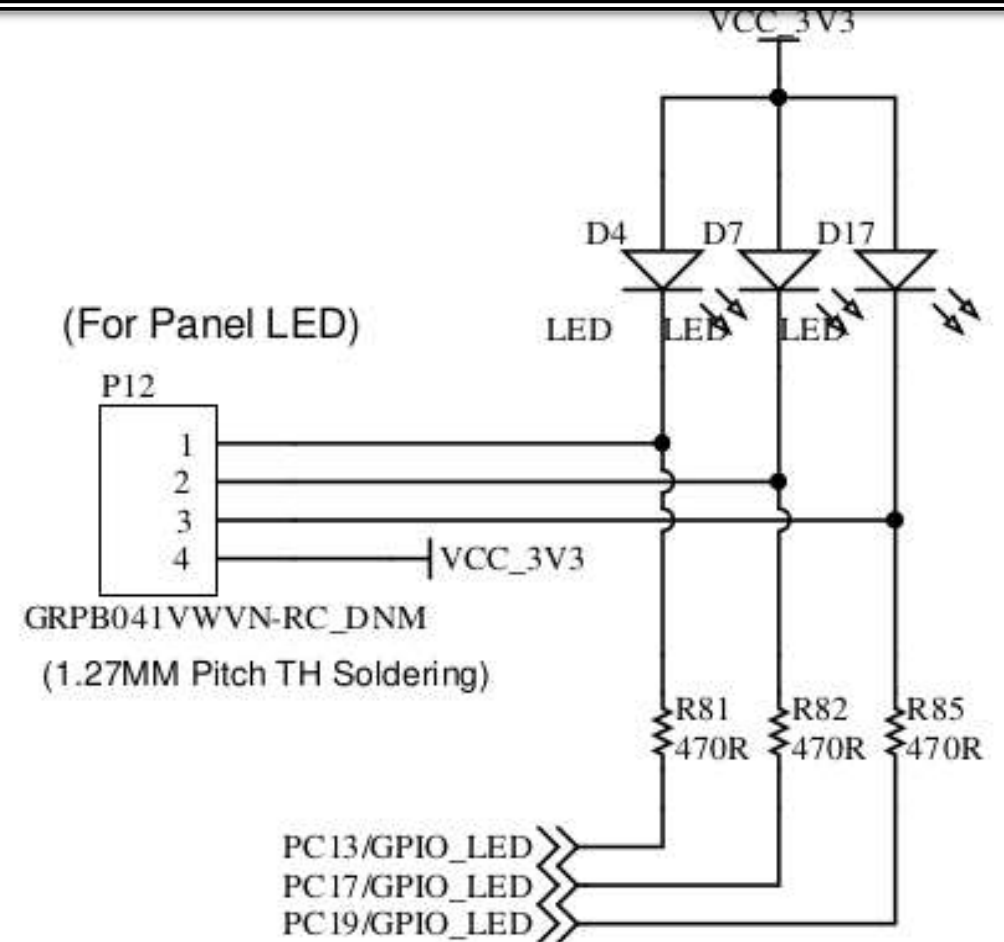
$$(32 * PC) + 13 = (32 * 2) + 13 = 77$$

On Board Switch and LED circuit

User Switch (Active Low)



(For Panel LED)



Accessing the GPIO using SYSFS

Example: PC13 as output pin

Export PC13

```
root@rugged-board-a5d2x-sd1:~# echo 77 > /sys/class/gpio/export
```

Set PC13 as output pin

```
root@rugged-board-a5d2x-sd1:~# echo out > /sys/class/gpio/PC13/direction
```

Set PC13 as Low

```
root@rugged-board-a5d2x-sd1:~# echo 0 > /sys/class/gpio/PC13/value
```

Set PC13 as High

```
root@rugged-board-a5d2x-sd1:~# echo 1 > /sys/class/gpio/PC13/value
```

Unexport PC13

```
root@rugged-board-a5d2x-sd1:~# echo 77 > /sys/class/gpio/unexport
```

Accessing the GPIO using SYSFS

Example: PC12 as input pin

Export PC12

```
root@rugged-board-a5d2x-sd1:~# echo 76 > /sys/class/gpio/export
```

Set PC12 as input pin

```
root@rugged-board-a5d2x-sd1:~# echo in > /sys/class/gpio/PC12/direction
```

Keep pressing user switch

```
root@rugged-board-a5d2x-sd1:~# cat /sys/class/gpio/PC12/value
0
```

Switch not pressed

```
root@rugged-board-a5d2x-sd1:~# cat /sys/class/gpio/PC12/value
1
```

Unexport PC13

```
root@rugged-board-a5d2x-sd1:~# echo 76 > /sys/class/gpio/unexport
```

C program to blink the LED connected to
PC13,PC17,PC19

C program to blink any one of the LED by pressing user switch connected to PC12

Open Discussions



Developer
Wiki





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