# CY8CKIT-040T PSoC™ 4000T CAPSENSE™ Evaluation Kit

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## Drawing Numbers

| | |
|---|---|
| PCBA | 121-60615-01 |
| PCB | 600-60615-01 |
| FAB DRW | 610-60615-01 |
| ASSY DRW | 620-60615-01 |
| SCH DRW | 630-60615-01 |


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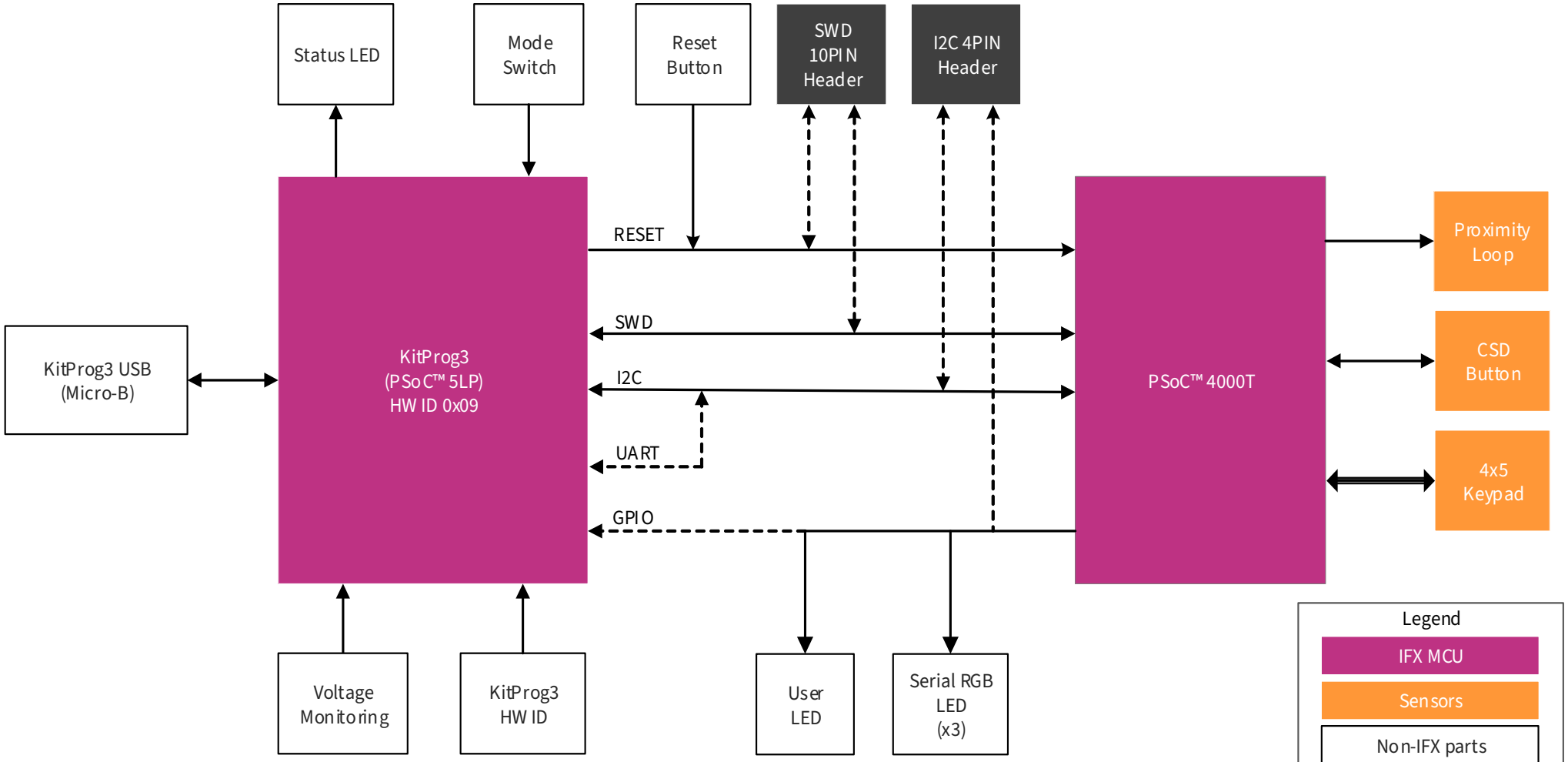

SCH Title : PSoC™ 4000T CAPSENSE™ Evaluation Kit

Page Title: Title Page

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|---|---|---|---|---|
| A4 | 630-60615-01 | Vamsi | Ronak | 03 |

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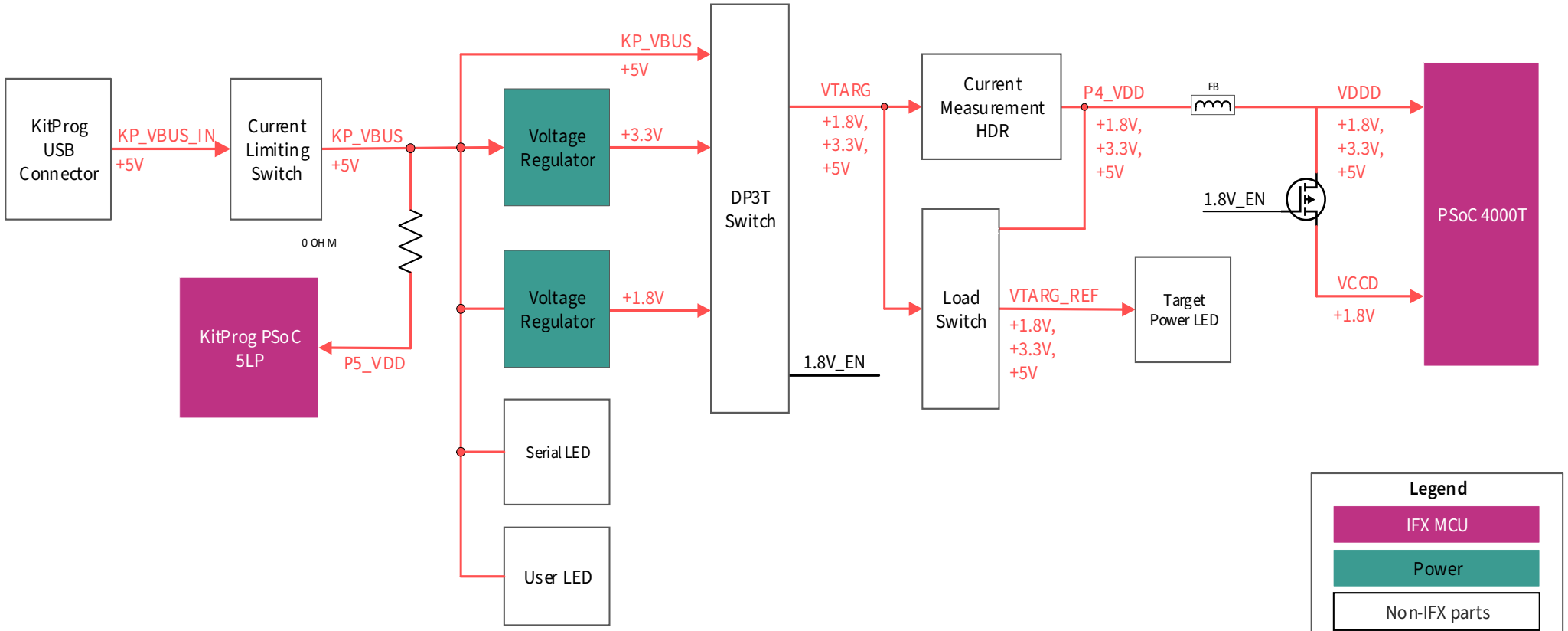
# Functional Block Diagram




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| **SCH Title :** | **PSoC™ 4000T CAPSENSE™ Evaluation Kit** | | | |
| **Page Title:** | **Functional Block Diagram** | | | |
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| A4 | **630-60615-01** | **Vamsi** | **Ronak** | **03** |
| Date: | Friday, June 23, 2023 | Sheet | **2** of **9** | |

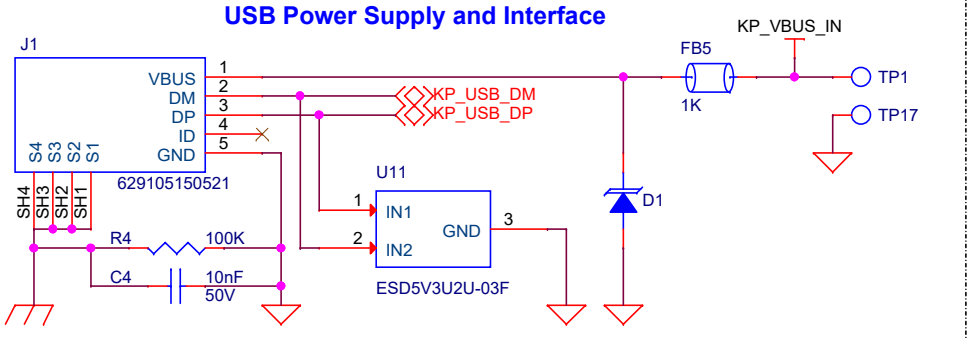
# Power Block Diagram



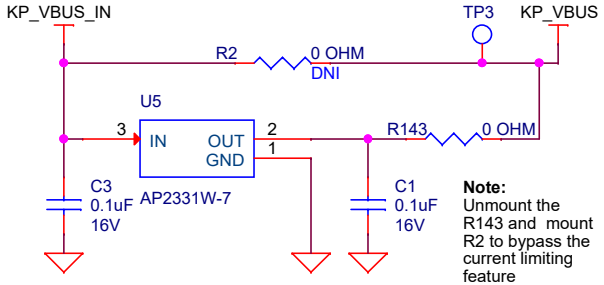

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|---|---|---|---|---|
| SCH Title : PSoC™ 4000T CAPSENSE™ Evaluation Kit | | | | |
| Page Title: Power supply Block Diagram | | | | |
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| A4 | 630-60615-01 | Vamsi | Ronak | 03 |
| Date: Friday, June 23, 2023 | | | Sheet 3 of 9 | |

## USB Power Supply and Interface

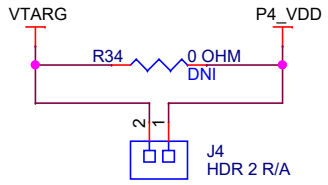



## Over Current Protection Load Switch



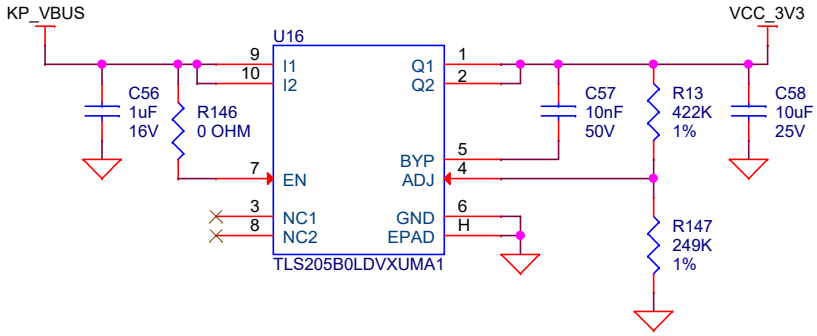

**Note:**
Unmount the R143 and mount R2 to bypass the current limiting feature

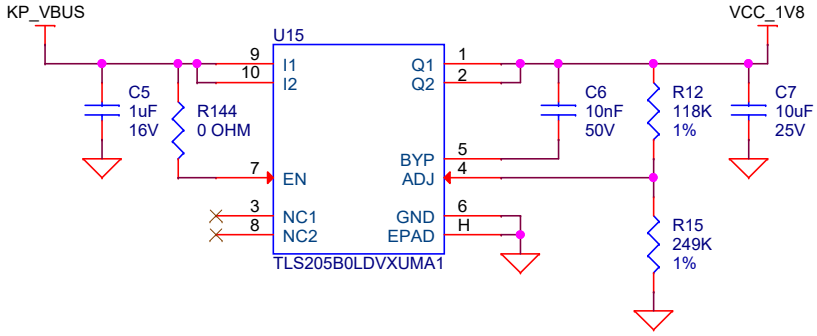
## Current Measurement Header

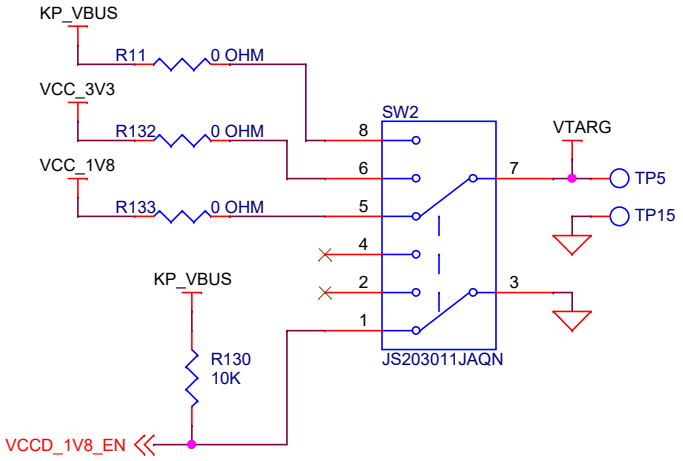



**Note:**
This header is used for mesuring current consumed by the PSoC™ 4000T MCU

## Target Voltage Supply - Linear Voltage Regulator (3.3V, 1.8V @200mA)



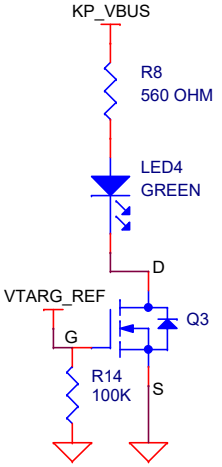




| SWITCH POSITION | VTARG |
|---|---|
| *POS. 1 (SW2 Pin 1,3 and pin 5,7 short) | +1.8V |
| POS. 2 (SW2 Pin 2,3 and pin 6,7 short) | +3.3V |
| POS. 3 (SW2 Pin 4,3 and pin 8,7 short) | +5V |

**Note:**
1. Target Voltage based on Slide Switch position (* Default Option)
2. Not to change the slide switch position when powered

## Power LED




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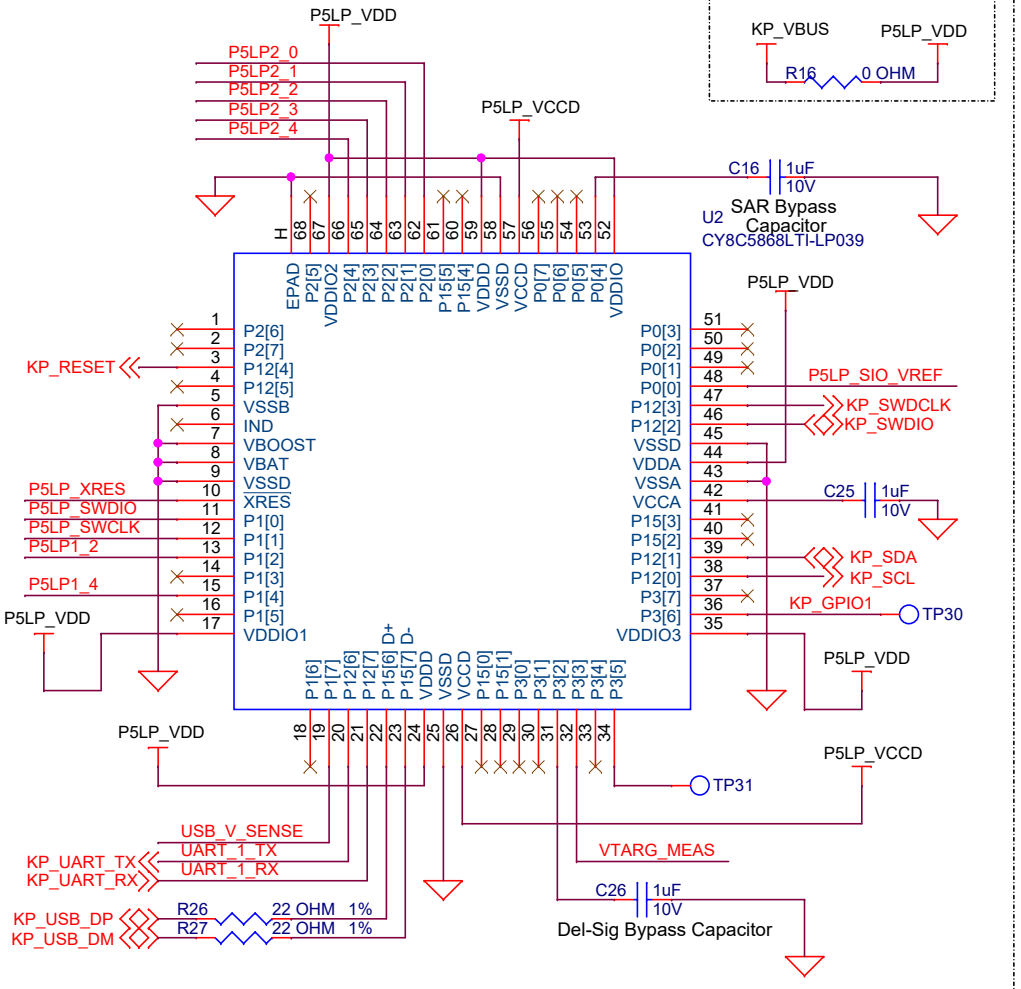
**SCH Title :** PSoC™ 4000T CAPSENSE™ Evaluation Kit

**Page Title:** USB Interface and Power Supply

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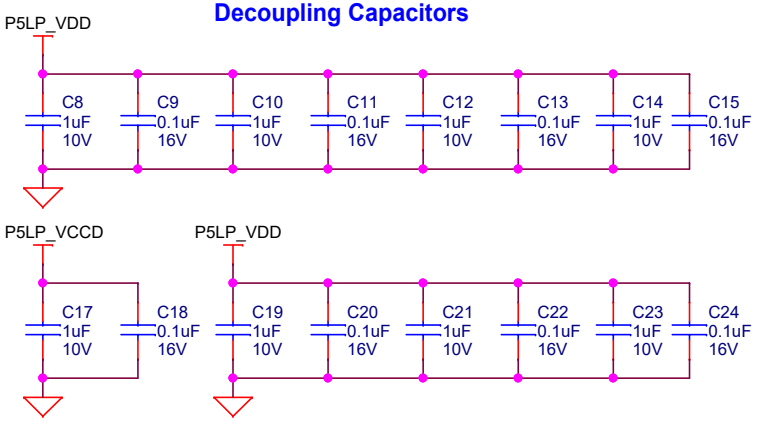
## PSoC™ 5LP based KitProg3



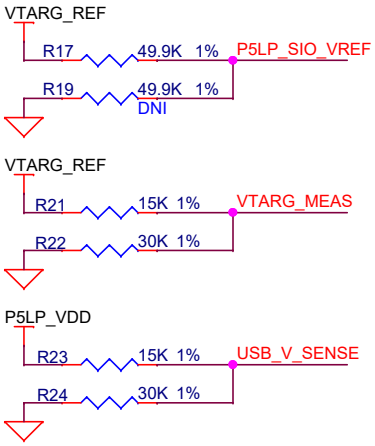

## PSoC™ 5LP Power



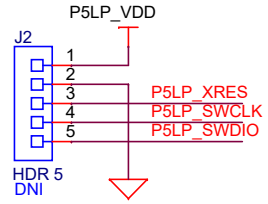

## Decoupling Capacitors




## Voltage Monitoring

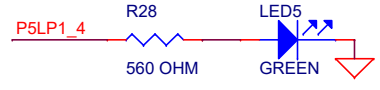



## PSoC5LP Programming Header

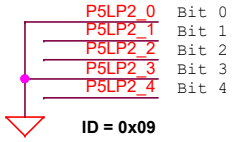



**Note:**
This is used for programing on board PSoC5LP with KitProg3 firmware

## KitProg3 Status LED



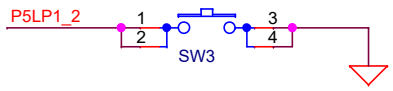

## KitProg3 H/W Revision



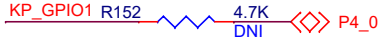

**ID = 0x09**

**Note:**
GND is read as binary "1" and floating as "0"

## KitProg3 Mode Switch




## KitProg3 GPIO




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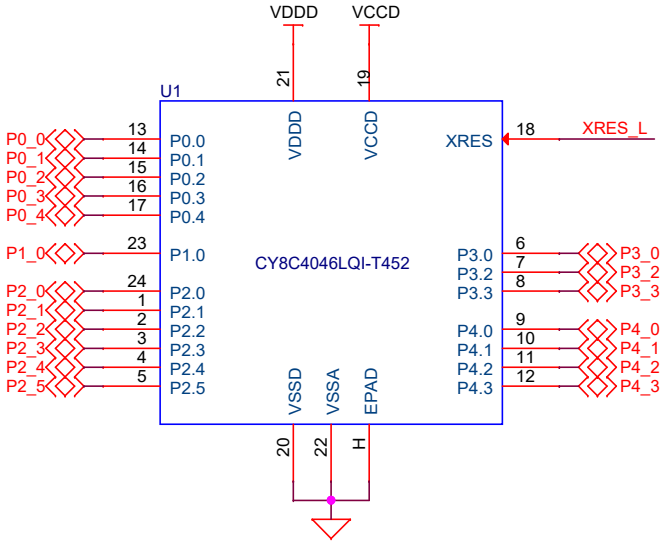
**SCH Title : PSoC™ 4000T CAPSENSE™ Evaluation Kit**

**Page Title: KitProg3 Interface**

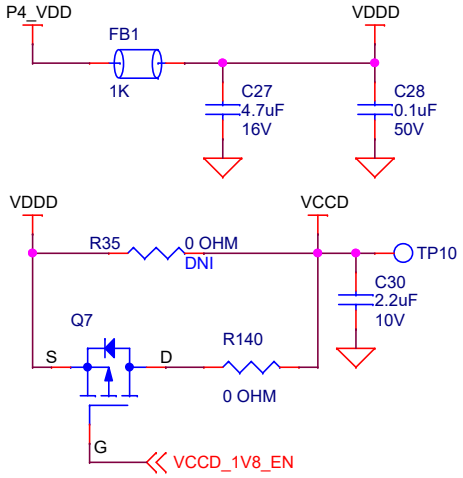
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## PSoC™ 4000T Device IOs

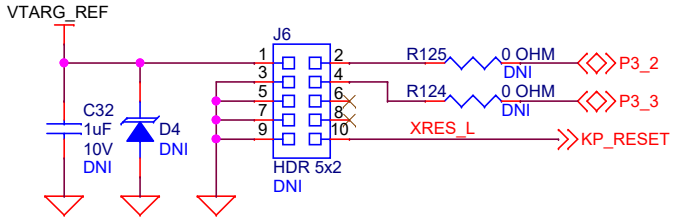



## PSoC™ 4000T Device Power

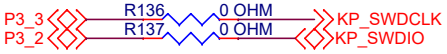



**Note:**
Q7 MOSFET will turn ON when 1.8V is selected using the slide switch SW2

## PSoC™ 4000T Device 5-pin SWD Expansion Header

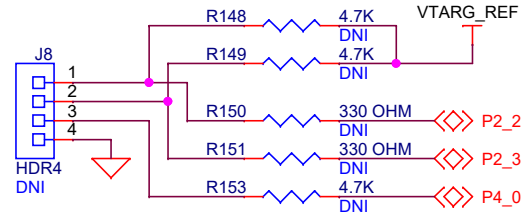



## KitProg3 SWD interface



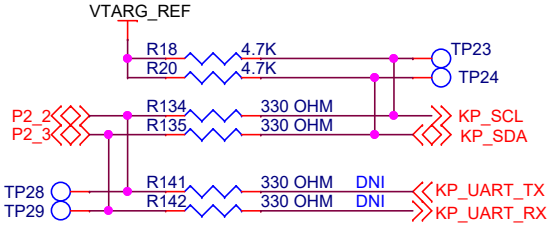

**Note:**
Unmount the R136, R137 and mount R125, R124 for External programmer interface

## PSoC™ 4000T Device 3-pin I2C Expansion Header



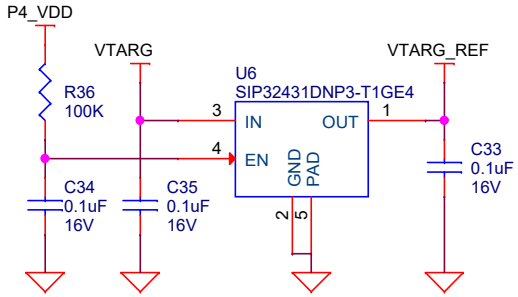

**Note:**
This header is for interfacing external I2C host devices.

## KitProg3 I2C and UART Interface

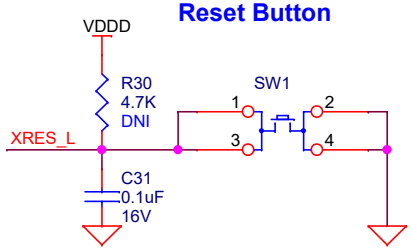



**Note:**
1. Unmount the R134, R135 and mount R141, R142 for UART interface.
2. SPI and UART SCB shares the same SCB cannot be used at same time

## VTARG Reference Voltage




## Reset Button




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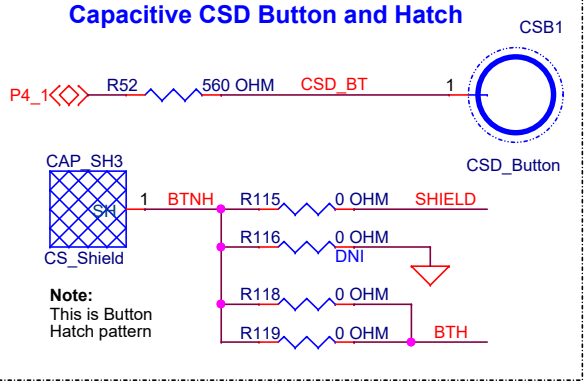
**SCH Title : PSoC™ 4000T CAPSENSE™ Evaluation Kit**

**Page Title: PSoC™ 4000T Device Interface**

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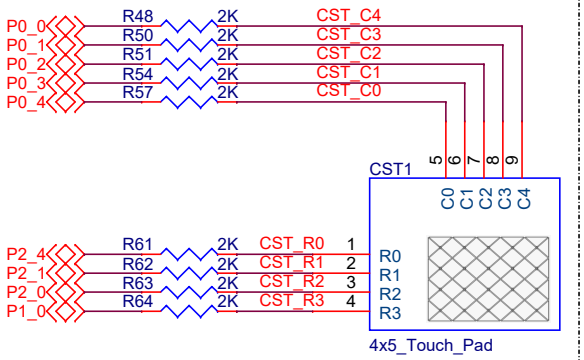
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## Capacitive CSD Button and Hatch

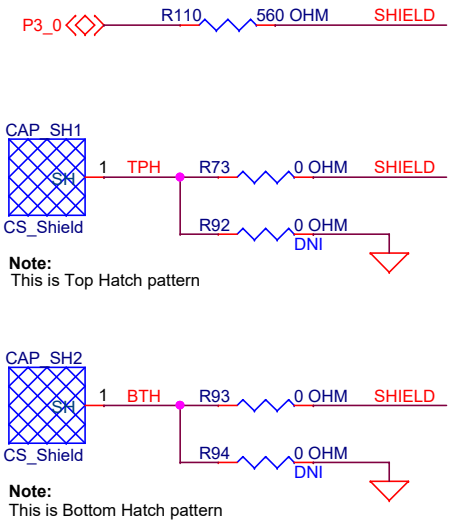



**Note:**
This is Button Hatch pattern

## Capacitive 4x5 TouchPad



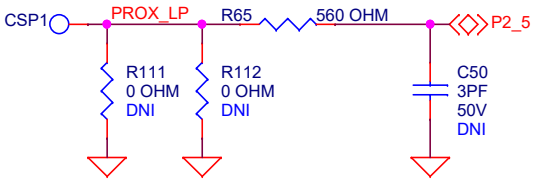

## CAPSENSE™ Shield



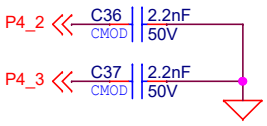

**Note:**
This is Top Hatch pattern

**Note:**
This is Bottom Hatch pattern

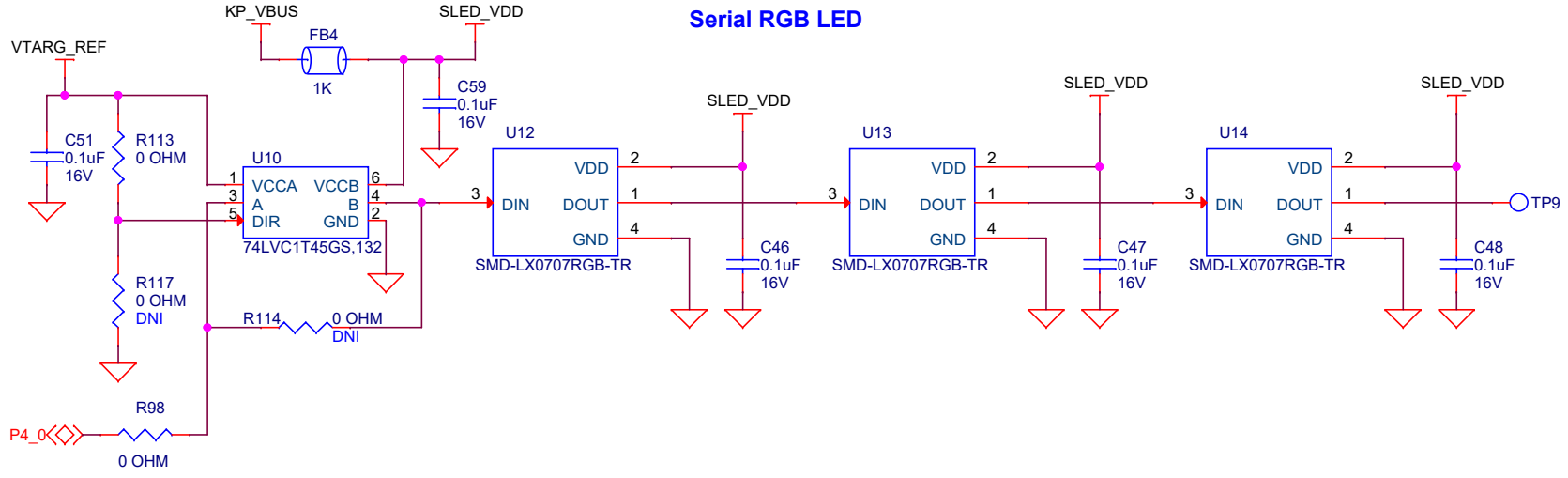
## Capacitive Proximity Sensor



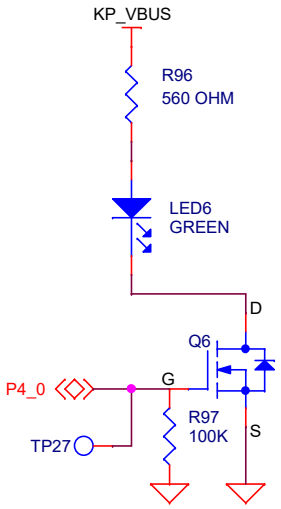

## CMOD Capacitors




## Serial RGB LED




## User LED




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**SCH Title :** PSoC™ 4000T CAPSENSE™ Evaluation Kit

**Page Title:** Capacitive sensor's and onboard Peripherals

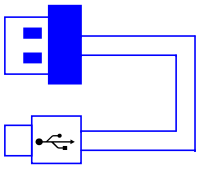
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| A4 | 630-60615-01 | Vamsi | Ronak | 03 |

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## Accessories

### USB Cable

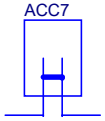
ACC6



USB Micro-B Cable

### Jumper Shunt

ACC7



151-8010-E

### QR Code Label

ACC9

QR CODE Label

### PCBA Label

ACC8

PCA Label

### Water Dropper

ACC10



Water Dropper

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**SCH Title :** PSoC™ 4000T CAPSENSE™ Evaluation Kit

**Page Title:** On-board Peripherals and Accessories

| Size | Document Number | Drawn By | Approved By | Rev |
|---|---|---|---|---|
| A4 | 630-60615-01 | Vamsi | Ronak | 03 |

Date: Friday, June 23, 2023

# REVISION HISTORY

| REV | DESCRIPTION OF CHANGE | DATE |
|---|---|---|
| 1.00 | Initial Release | 2021/12/22 |
| 2.00 | 1. Added additional header for I2C interface<br>2. Updated Pin assignment of MCU<br>3. Updated the LDO and VCCD powering sections<br>4. Updated capacitive button dimensions | 2022/02/15 |
| 3.00 | 1. Updated decap value for PSoC 4000T<br>2. Updated Voltage regulator section<br>3. Updated the I2C header interface<br>4. Updated few component packages to 0603<br>5. final release | 2022/12/06 |
| | | |

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