# PSoC 5LP Board v1.4

1   Overview

- CY8CKIT-059 PSoC 5LP Evaluation Stick.

  - CY8C5888LTI-LP097 Microcontroller
  - Built-in KitProg programmer for the microcontroller through Male USB connector
  - User LED and switch
  - Female Micro-B connector for USB applications

- Fits onto standard breadboard rails.

- 8 SPST Switches and LEDs for User IO.

- OLED for graphical display.

- 3.3V or 5V operation (fed from right side rail).

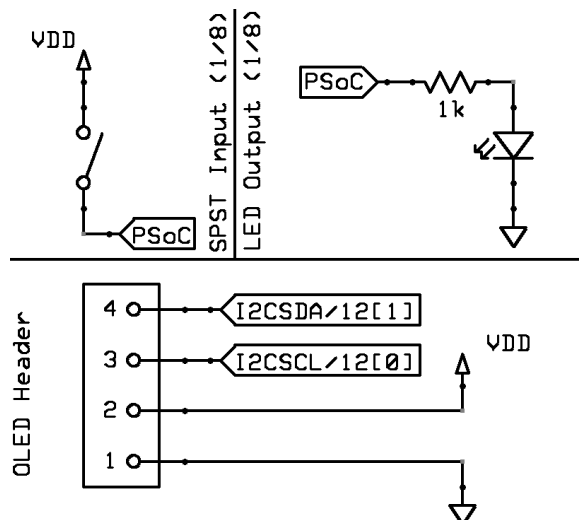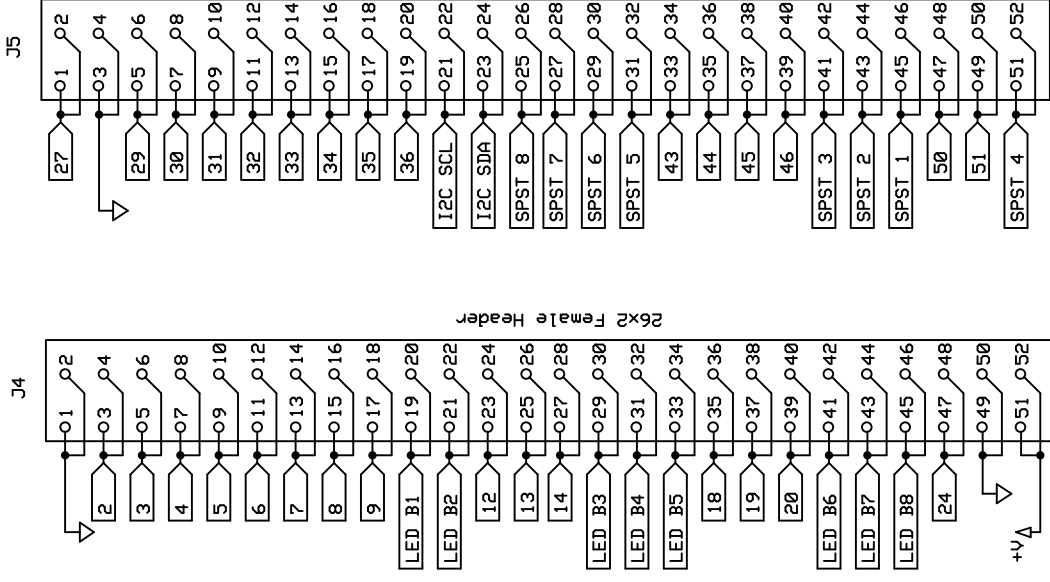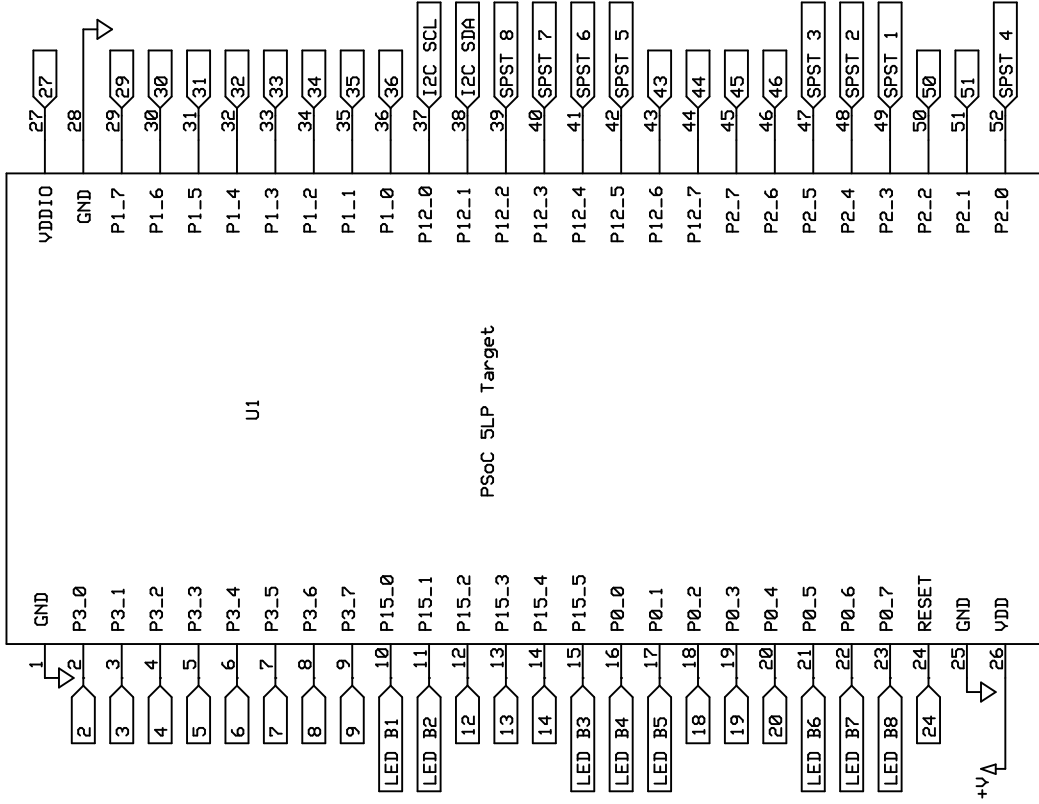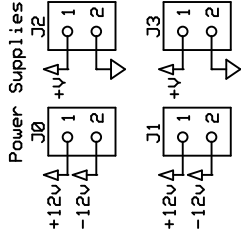- Compatible with the PSoC 6.131 Shield.
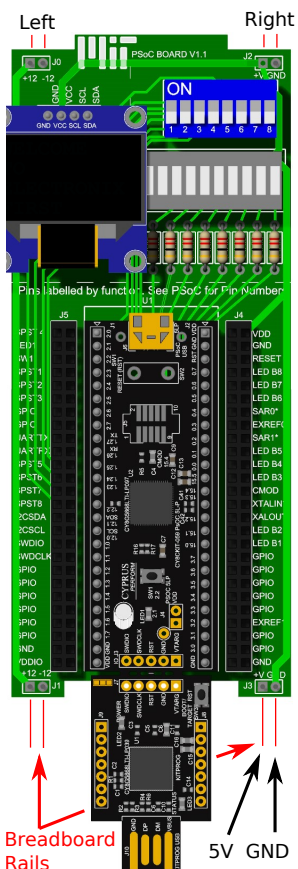
Board and PSoC Label Listing

Left		Right	
Board	PSoC	PSoC	Board
SPST 4	2[0]	VDD	VDD
LED1	2[1]	GND	GND
SW1	2[2]	RST	RESET
SPST 1	2[3]	0[7]	LED B8
SPST 2	2[4]	0[6]	LED B7
SPST 3	2[5]	0[5]	LED B6
GPIO	2[6]	0[4]	SAR 0*
GPIO	2[7]	0[3]	EXTREF 0*
UARTTX	12[7]	0[2]	SAR 1*
UARTRX	12[6]	0[1]	LED B5
SPST 5	12[5]	0[0]	LED B4
SPST 6	12[4]	15[5]	LED B3
SPST 7	12[3]	15[4]	CMOD
SPST 8	12[2]	15[3]	XTALIN*
I2CSDA	12[1]	15[2]	XTALOUT*
I2CSCL	12[0]	15[1]	LED B2
SWDIO	1[0]	15[0]	LED B1
SWDCLK	1[1]	3[7]	GPIO
GPIO	1[2]	3[6]	GPIO
GPIO	1[3]	3[5]	GPIO
GPIO	1[4]	3[4]	GPIO
GPIO	1[5]	3[3]	GPIO
GPIO	1[6]	3[2]	EXTREF1*
GPIO	1[7]	3[1]	GPIO
GND	GND	3[0]	GPIO
VDDIO	VDDIO	GND	GND

2   Description

- **SPST Inputs:** The DIP bank of 8 SPST switches connect to VDD when in the "ON" position. Otherwise they are open and require a pull-down circuit (i.e. set the PSoC pin to the "Resistive Pull Down" drive mode)

- **LED Outputs:**   The DIP LED Bank has the 8 right-most LEDs connected to the PSoC through $1\,\mathrm{k}\,\Omega$ current-limiting resistors. LED B8 corresponds to the right-most LED segment.

- **OLED Display:** The OLED Display should be connected to by a "I2C Master" component on the PSoC. The pins should be set to the "Open Drain" drive mode.
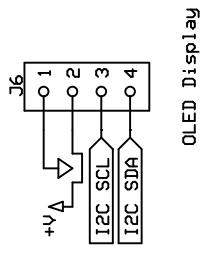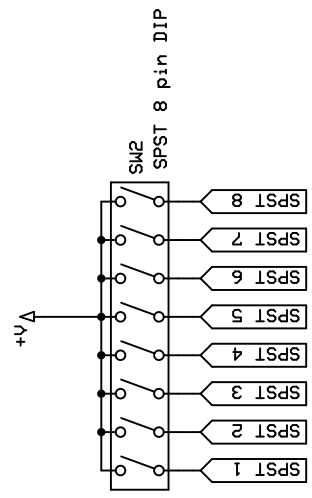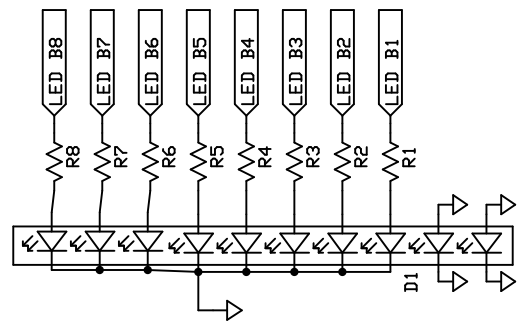
MIT
PSoC Carrier Board

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J5 — 26x2 Female Header

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51

27, 29, 30, 31, 32, 33, 34, 35, 36, I2C SCL, I2C SDA, SPST 8, SPST 7, SPST 6, SPST 5, 43, 44, 45, 46, SPST 3, SPST 2, SPST 1, 50, 51, SPST 4

J4 — 26x2 Female Header

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

2, 3, 4, 5, 6, 7, 8, 9, LED B1, LED B2, 12, 13, 14, LED B3, LED B4, LED B5, 18, 19, 20, LED B6, LED B7, LED B8, 24, +V

Power Supplies

J2: 1 2 (+V)
J3: 1 2 (+V)
J0: 1 2 (+12V, -12V)
J1: 1 2 (+12V, -12V)

U1 — PSoC 5LP Target

Pin	Name		Pin	Name
27	VDDIO		1	GND
28	GND		2	P3_0
29	P1_7		3	P3_1
30	P1_6		4	P3_2
31	P1_5		5	P3_3
32	P1_4		6	P3_4
33	P1_3		7	P3_5
34	P1_2		8	P3_6
35	P1_1		9	P3_7
36	P1_0		10	P15_0
37	P12_0 I2C SCL		11	P15_1
38	P12_1 I2C SDA		12	P15_2
39	P12_2 SPST 8		13	P15_3
40	P12_3 SPST 7		14	P15_4
41	P12_4 SPST 6		15	P15_5
42	P12_5 SPST 5		16	P0_0
43	P12_6		17	P0_1
44	P12_7		18	P0_2
45	P2_7		19	P0_3
46	P2_6		20	P0_4
47	P2_5 SPST 3		21	P0_5
48	P2_4 SPST 2		22	P0_6
49	P2_3 SPST 1		23	P0_7
50	P2_2		24	RESET
51	P2_1		25	GND
52	P2_0 SPST 4		26	VDD

Left side net labels: 2, 3, 4, 5, 6, 7, 8, 9, LED B1, LED B2, 12, 13, 14, LED B3, LED B4, LED B5, 18, 19, 20, LED B6, LED B7, LED B8, 24, +V

OLED Display

J6
1
2
3
4
+V
I2C SCL
I2C SDA

LED 10-Segment Array

LED B8 R8
LED B7 R7
LED B6 R6
LED B5 R5
LED B4 R4
LED B3 R3
LED B2 R2
LED B1 R1

D1

SW2
SPST 8 pin DIP

+V

SPST 8
SPST 7
SPST 6
SPST 5
SPST 4
SPST 3
SPST 2
SPST 1

MIT

Accessories

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