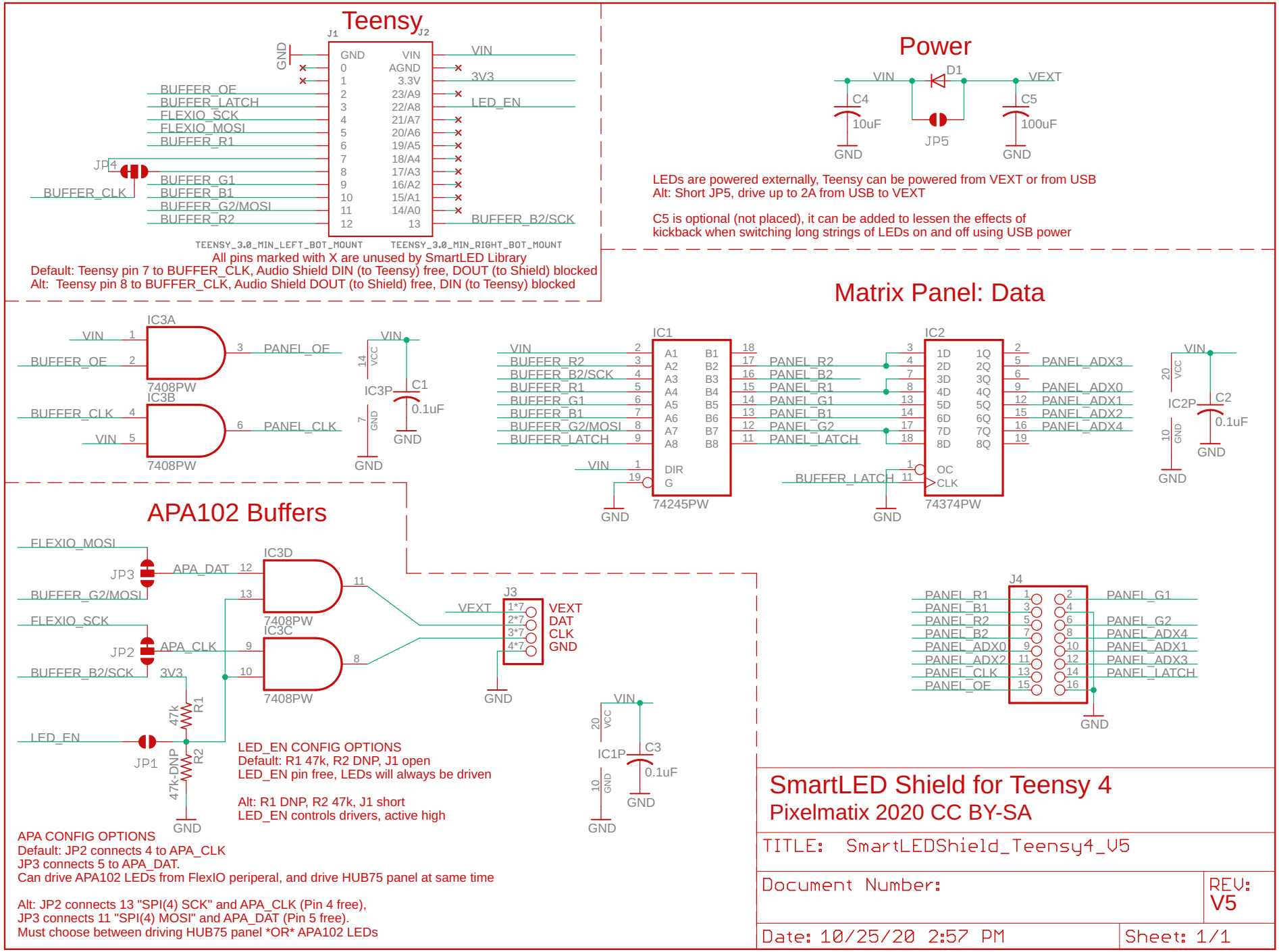
Teensy
J1
J2
GND
VIN
AGND
3.3V
23/A9
22/A8
21/A7
20/A6
19/A5
18/A4
17/A3
16/A2
15/A1
14/A0
13
BUFFER_OE
BUFFER_LATCH
FLEXIO_SCK
FLEXIO_MOSI
BUFFER_R1
JP4
BUFFER_CLK
BUFFER_G1
BUFFER_B1
BUFFER_G2/MOSI
BUFFER_R2
3V3
LED_EN
BUFFER_B2/SCK
TEENSY_3.0_MIN_LEFT_BOT_MOUNT
TEENSY_3.0_MIN_RIGHT_BOT_MOUNT
All pins marked with X are unused by SmartLED Library
Default: Teensy pin 7 to BUFFER_CLK, Audio Shield DIN (to Teensy) free, DOUT (to Shield) blocked
Alt: Teensy pin 8 to BUFFER_CLK, Audio Shield DOUT (to Shield) free, DIN (to Teensy) blocked
Power
VIN
D1
VEXT
C4
10uF
JP5
C5
100uF
GND
LEDs are powered externally, Teensy can be powered from VEXT or from USB
Alt: Short JP5, drive up to 2A from USB to VEXT
C5 is optional (not placed), it can be added to lessen the effects of
kickback when switching long strings of LEDs on and off using USB power
Matrix Panel: Data
IC3A
7408PW
IC3B
PANEL_OE
PANEL_CLK
IC3P
C1
0.1uF
IC1
74245PW
A1 A2 A3 A4 A5 A6 A7 A8
B1 B2 B3 B4 B5 B6 B7 B8
DIR
G
PANEL_R2
PANEL_B2
PANEL_R1
PANEL_G1
PANEL_B1
PANEL_G2
PANEL_LATCH
IC2
74374PW
1D 2D 3D 4D 5D 6D 7D 8D
1Q 2Q 3Q 4Q 5Q 6Q 7Q 8Q
OC
CLK
PANEL_ADX3
PANEL_ADX0
PANEL_ADX1
PANEL_ADX2
PANEL_ADX4
IC2P
C2
0.1uF
APA102 Buffers
FLEXIO_MOSI
JP3
APA_DAT
BUFFER_G2/MOSI
FLEXIO_SCK
JP2
APA_CLK
BUFFER_B2/SCK
3V3
IC3D
IC3C
7408PW
J3
VEXT
DAT
CLK
GND
R1
47k
R2
47k-DNP
LED_EN
JP1
LED_EN CONFIG OPTIONS
Default: R1 47k, R2 DNP, J1 open
LED_EN pin free, LEDs will always be driven
Alt: R1 DNP, R2 47k, J1 short
LED_EN controls drivers, active high
IC1P
C3
0.1uF
APA CONFIG OPTIONS
Default: JP2 connects 4 to APA_CLK
JP3 connects 5 to APA_DAT.
Can drive APA102 LEDs from FlexIO periperal, and drive HUB75 panel at same time
Alt: JP2 connects 13 "SPI(4) SCK" and APA_CLK (Pin 4 free),
JP3 connects 11 "SPI(4) MOSI" and APA_DAT (Pin 5 free).
Must choose between driving HUB75 panel *OR* APA102 LEDs
J4
PANEL_R1
PANEL_B1
PANEL_R2
PANEL_B2
PANEL_ADX0
PANEL_ADX2
PANEL_CLK
PANEL_OE
PANEL_G1
PANEL_G2
PANEL_ADX4
PANEL_ADX1
PANEL_ADX3
PANEL_LATCH
SmartLED Shield for Teensy 4
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