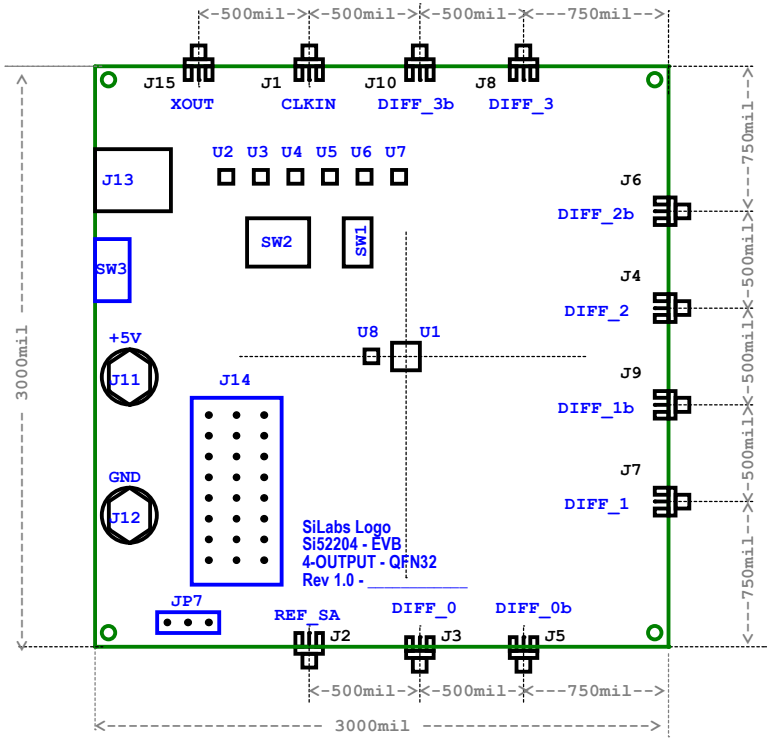
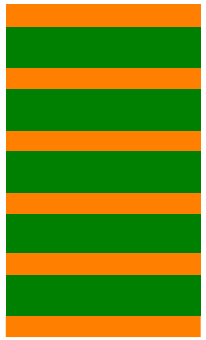
MECHANICAL & FABRICATION

BOARD MATERIAL:

- Use FR-406, DK=3.9
- Use 1.0oz copper thickness for power & ground planes and 0.5oz thickness for RF signal layers



6 BOARD LAYERS:



SIGNAL + GND FLOOD (COPLANAR)

GROUND

POWER VDD

POWER VDDA, VDDIO, VDDR, VDDX, VDD_AUX, 5V

GROUND

SIGNAL + GND FLOOD (COPLANAR)

Total Board Thickness:
62 mil

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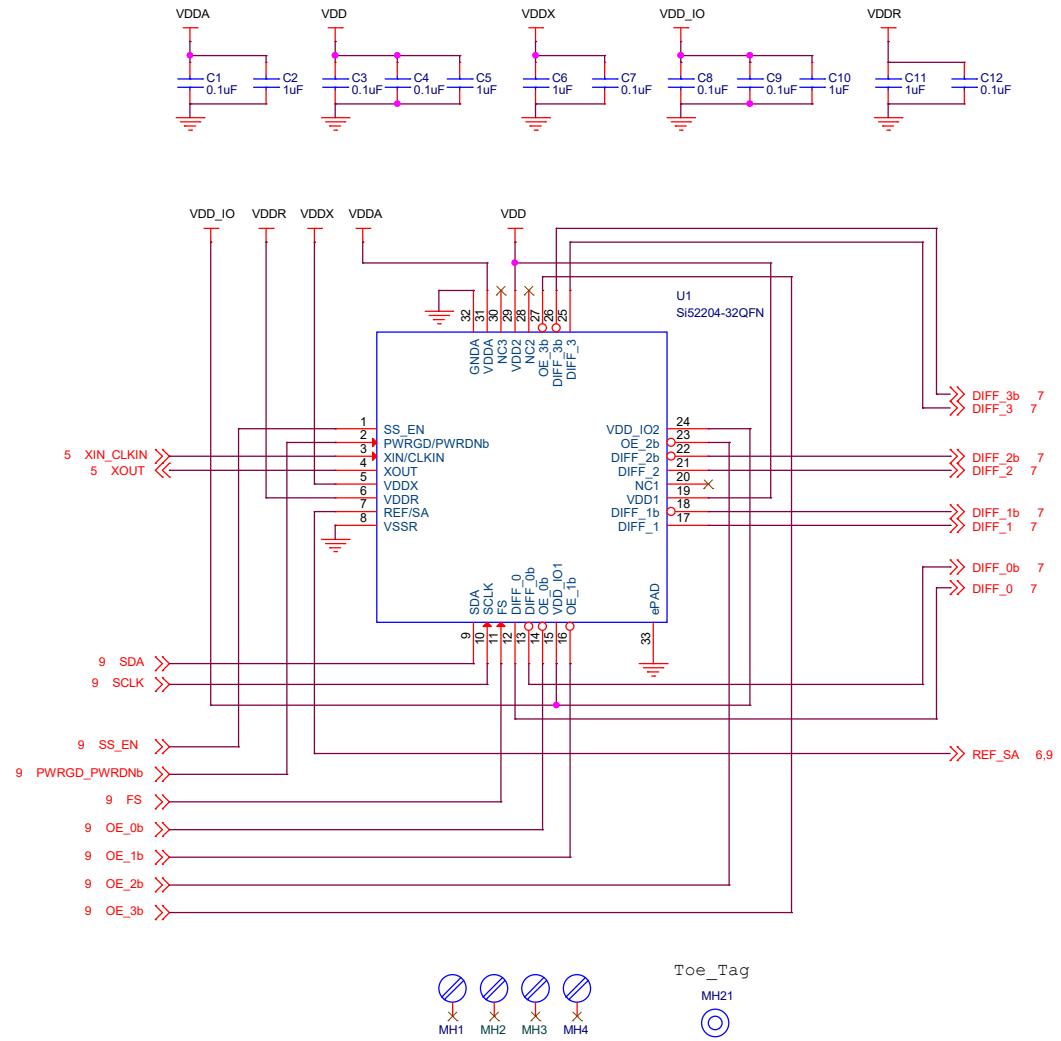
DUT CONNECTIONS



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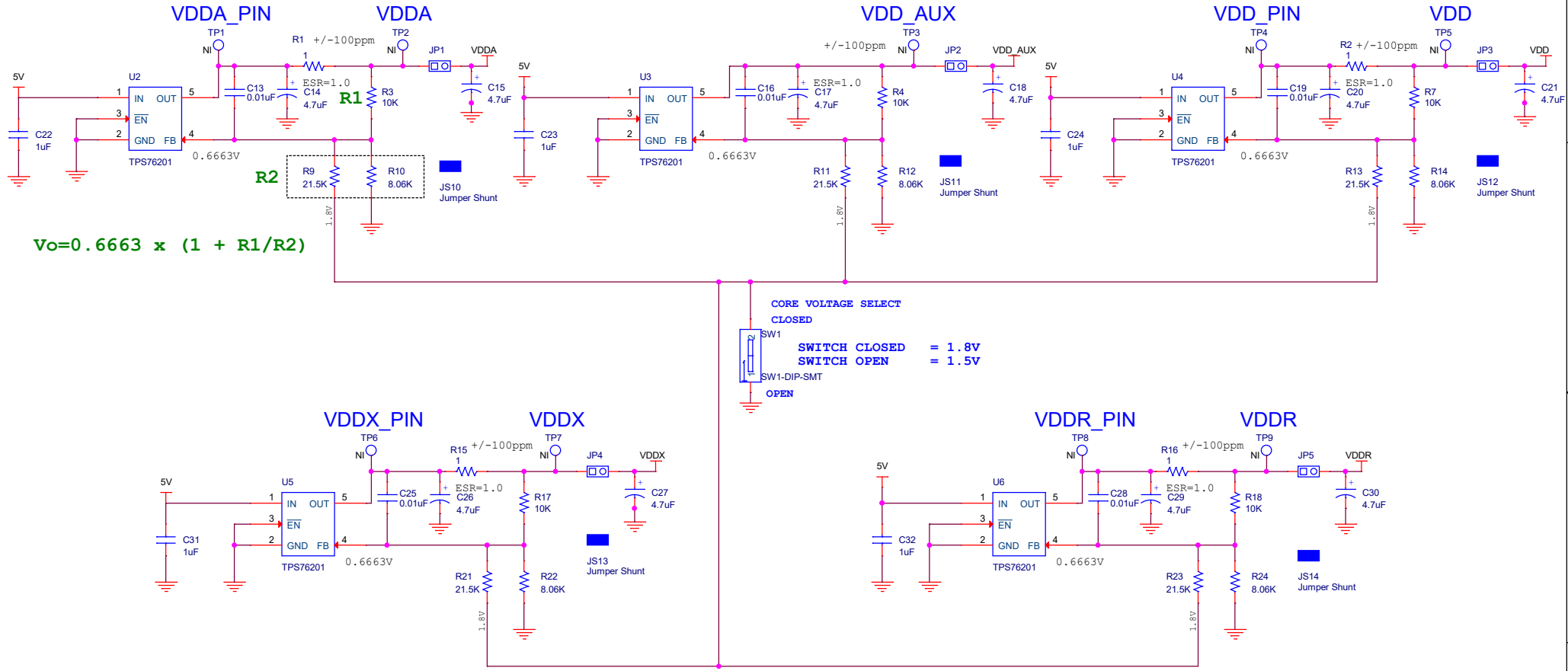
100 mA Adjustable Voltage Regulator

Text in BLUE should be added to TOP SILK

Group JP1:JP6 together



Identify Pin1 of all jumpers and IC's!

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Title	Output Voltage Regulators	
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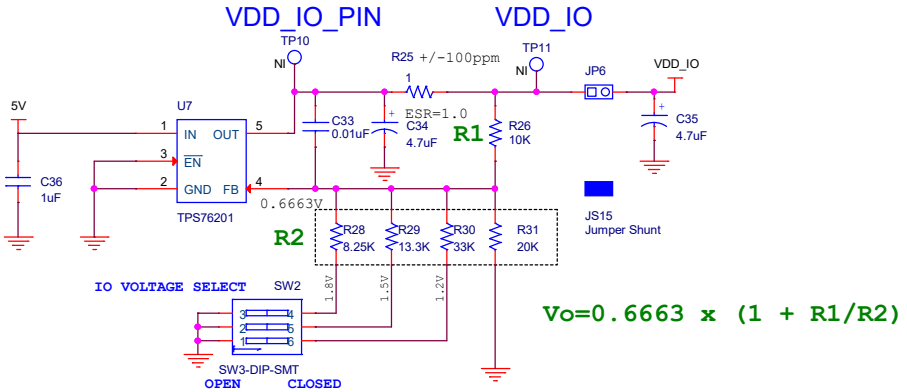
100 mA Adjustable Voltage Regulator



SW2-1	SW2-2	SW2-3	VDD_IO
OPEN	OPEN	OPEN	1.0V
CLOSED	OPEN	OPEN	1.2V
OPEN	CLOSED	OPEN	1.5V
OPEN	OPEN	CLOSED	1.8V

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Title: Other Voltage Regulators

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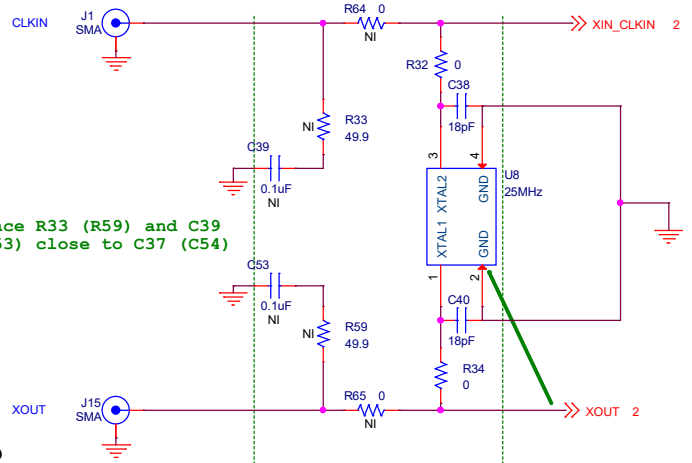
Crystal/Input Clock Connections

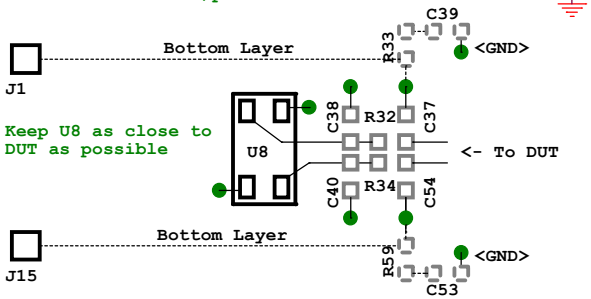
R32 and C37 should share a pad and be placed right at DUT pin XIN

- Place crystal as close to U1 pins as possible!
- Route signals carefully, match trace lengths!



Place R33 (R59) and C39 (C53) close to C37 (C54)

Dashed lines/squares indicate bottom layer traces/pads



Make sure that layer above bottom layer (5) is solid GND for length of diff'l trace

Keep R33,C39,R59,C53 as close to DUT as possible

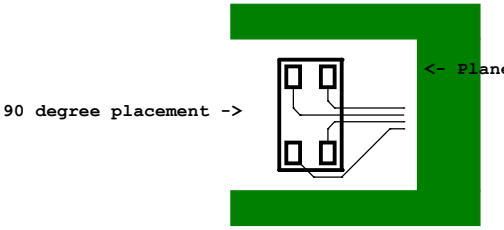
<---------- X ---------->

Keep X as short as possible by placing all components close to the XA/XB pins

* CRYSTAL FOOTPRINT:
Please create a footprint with pads that can accommodate the following crystal sizes:

3.2 x 5.0 mm
3.2 x 2.5 mm
2.5 x 2.0 mm

Cut planes underneath crystal to reduce capacitive coupling!



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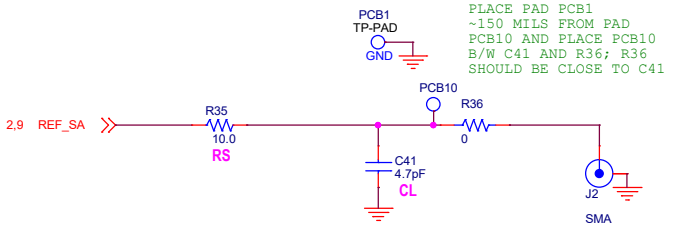
OUTPUT CONNECTIONS, PART 1

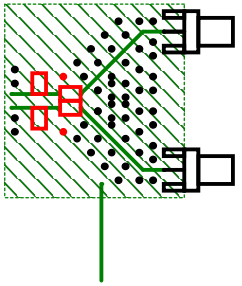


<- This is the only single-ended output

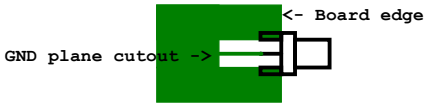
Place RS as close to the DUT pin as possible
Make total trace length = 5" (from DUT pin to CLoad);

Place isolation resistor right by load cap;

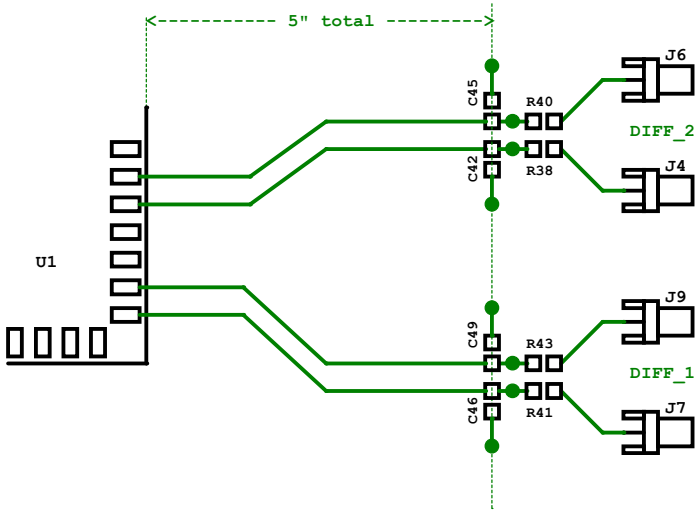
Flood top and bottom layers with copper as shown



SMA FOOTPRINT NOTE:
Make sure pad for center pin on SMA matches exactly
the actual width of the center pin in order to improve performance



A sufficient number of via holes connected
to ground should be used around all input/output
traces!



OUTPUT SIGNALS LAYOUT NOTES - APPLIES TO THIS PAGE AND NEXT PAGE AS WELL!
(Refer to image on left):

- ROUTING: route each differential pair losely coupled. Serpentine to length and preserve symmetry on diff. pair. Keep distance b/w serpentine traces at least 5w apart and use arcs rather than 45's

- IMPEDANCE: all traces to have 50 ohms of controlled impedance
- In order to reduce capacitance please cut-out ground planes underneath the microstrip launches on the SMA connectors as needed

- GEOMETRY: maintain the trace symmetry across all output differential pairs

- TOPOLOGY: use microstip for all traces

- COMPONENT PLACEMENT:
  - Separate each pair of SMA connectors by 500 mils between them (center to center, and also pair to pair)

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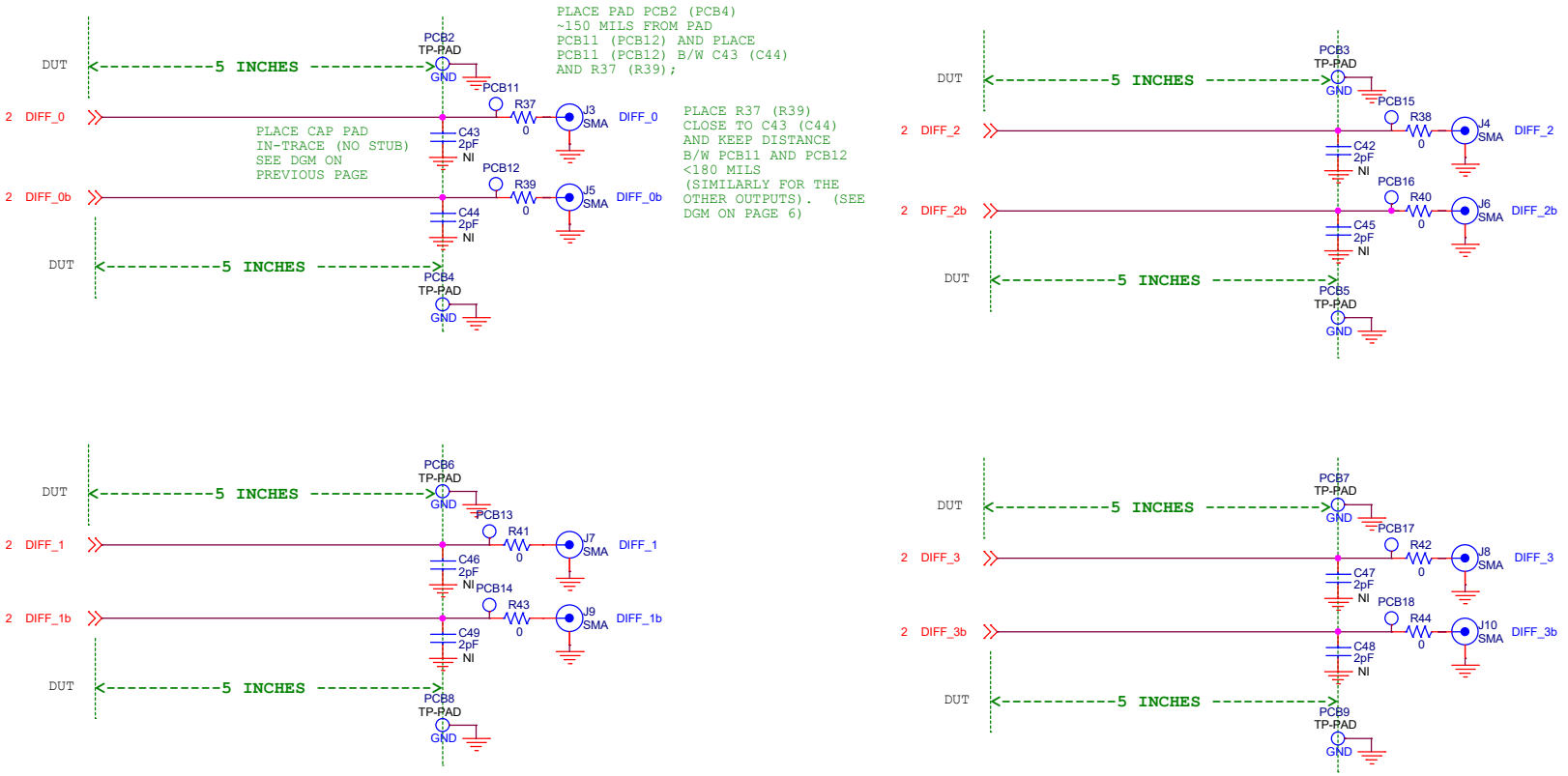
OUTPUT CONNECTIONS



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Title: Output Connections

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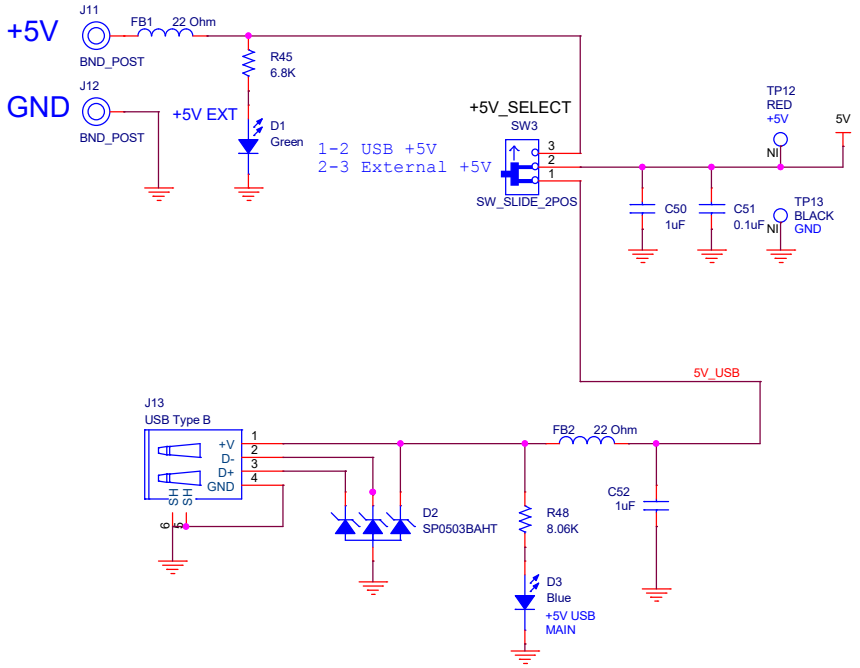
External Power

+5V Input Select



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Title: External Power		
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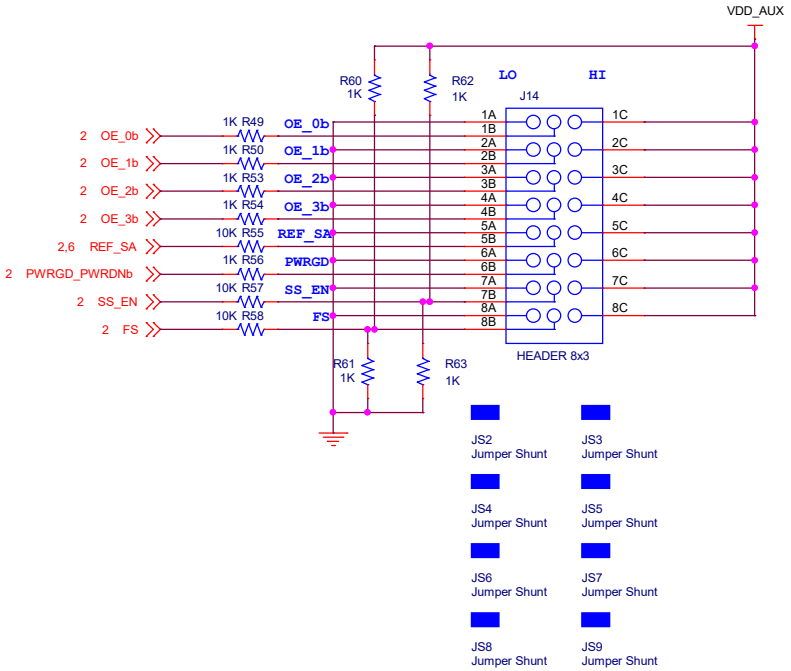
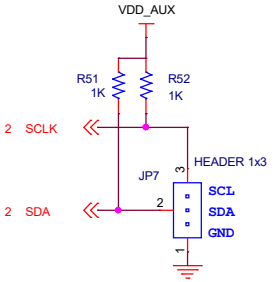
DC Inputs/I2C Access



	LO	NONE	HI
OE_0b	Enable	Enable	Disable
OE_1b	Enable	Enable	Disable
OE_2b	Enable	Enable	Disable
OE_3b	Enable	Enable	Disable
REF_SA	0xD2		0xD4
PWRGD	PWR DN	ACTIVE	ACTIVE
SS_EN	-0.25%	OFF	-0.50%
FS	100MHz	200MHz	133MHz



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Title: DC Inputs/I2C Access

Size	Document Number	Rev
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