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NANORACK LASER

Schematic V1.3.1

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VERSION	DISCRIPTION
1.0.0	INITIAL PROJECT
1.1.0	REPLACE SWITCHING OBJECT
1.2.0	ADD HOLES (CENTER OF SIDES)
1.2.1	CHANGE ADG1414 CATEGORY



Project: BEE-PC1	Sub-system: NANORACK_LASER.PrjPcb	
Design by: Hung Nguyen D.	Sheet title: INDEX.SchDoc	Sheet 1 of 6
Checked by: Bao Bui Q.	Document No: 1	Size: A3
Approved by: Vu Pham	Revision: V1.2.1	Date: 7/2/2025

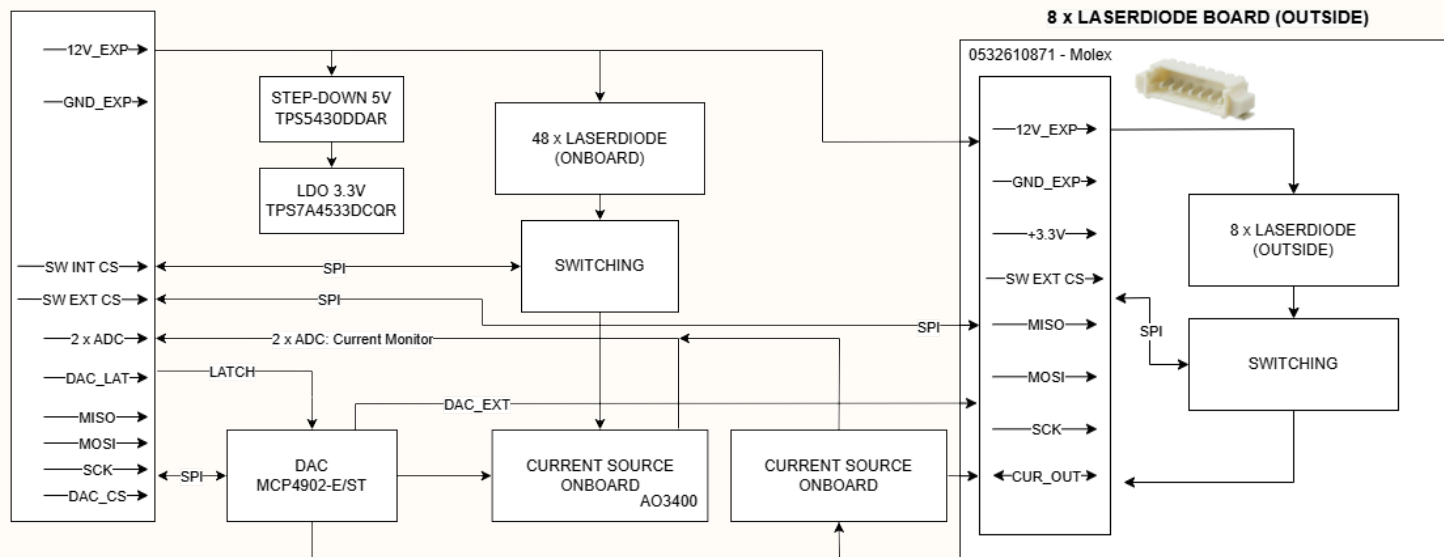
2x7 PIN
CONNECTOR
board to board

+12V_EXP	+12V_EXP
GND_EXP	+12V_EXP
GND_EXP	SPI_MISO
SPI_SCK	SPI_MOSI
DAC_CS	SW_INT_CS
DAC_LATCH	SW_EXT_CS
ADC_1	ADC_2

77313-101-14LF - Amphenol ICC (FCI)

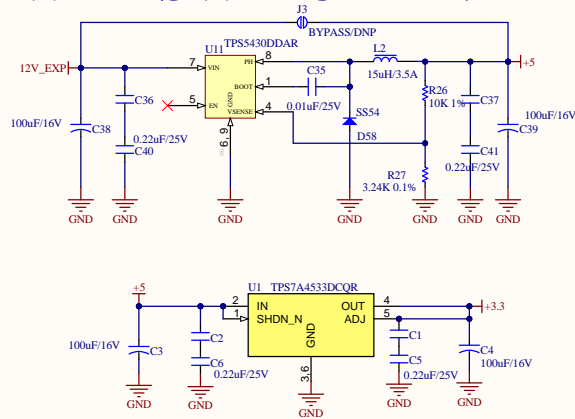


LASERDIODE

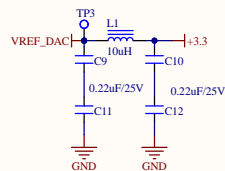


Project: BEE-PC1	Sub-system: NANORACK_LASER.PrjPcb	
Design by: Hung Nguyen D.	Sheet title: BLOCK_DIAGRAM.SchDoc	Sheet 2 of 6
Checked by: Bao Bui Q.	Document No: 2	Size: A3
Approved by: Vu Pham	Revision: V1.2.1	Date: 7/2/2025

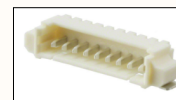
POWER SWITCH AND LDO



Project: BEE-PC1	Sub-system: NANORACK_LASER.PrjPcb	
Design by: Hung Nguyen D.	Sheet title: POWER SWITCH AND LDO.SchDoc	Sheet 3 of 6
Checked by: Bao Bui Q.	Document No: 3	Size: A3
Approved by: Vu Pham	Revision: V1.2.1	Date: 7/2/2025

[illegible][illegible]

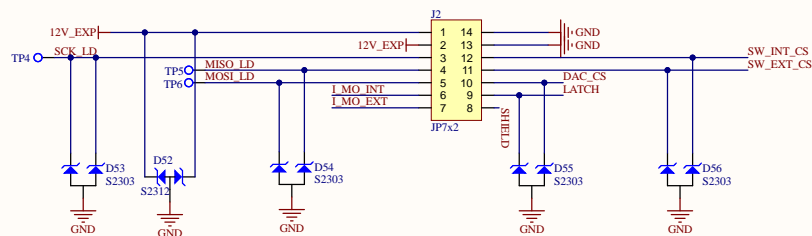
- ELECTRICAL:
 - CURRENT RATING: 1A/CONTACT
 - VOLTAGE RATING: 125V/CONTACT
- ENVIRONMENTAL:
 - TEMPERATURE RANGE: -40°C TO +105°C
- PHYSICAL:
 - PITCH-MATING: 0.049" (1.25mm)
- WIRE:
 - WIRE SIZE: 24 AWG
 - MAX CURRENT: 1A per Wire
 - ISULATION MATERIAL: PTFE
- MATING:
 - Molex - 0510210800



- MATING -



0510210800

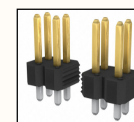


- ELECTRICAL:
CURRENT RATING: 3A/CONTACT
VOLTAGE RATING: 1500VAC/CONTACT

- ENVIRONMENTAL:
TEMPERATURE RANGE: -65°C TO +130°C

- PHYSICAL:
PITCH-MATING: 0.1" (2.54mm)

- MATING:
MAX CURRENT: 5.7A/CONTACT
Samtec Inc. - ESO-107-37-G-D



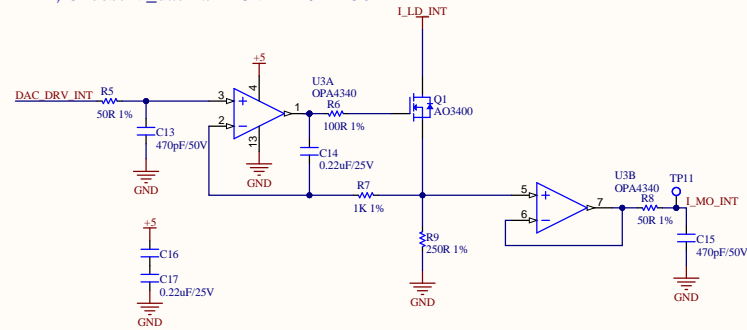
Sub-system: NANORACK_LASER.PrjPcb

Sheet 4 of 6

Size: A3

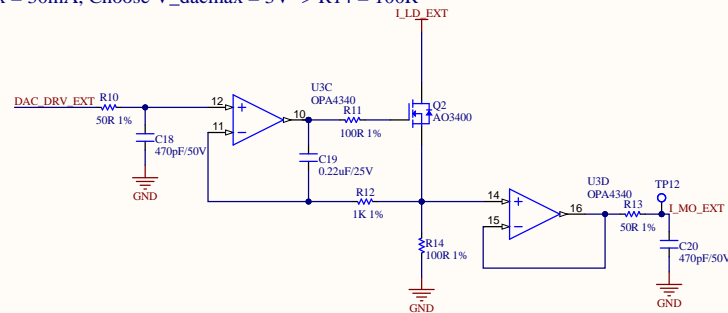
Date: 7/2/2025

$I_{LD} = V_{dac} * R9$
 $I_{LDmax} = 12mA$, Choose $V_{dacmax} = 3V \rightarrow R9 = 250R$



DRIVER_INT

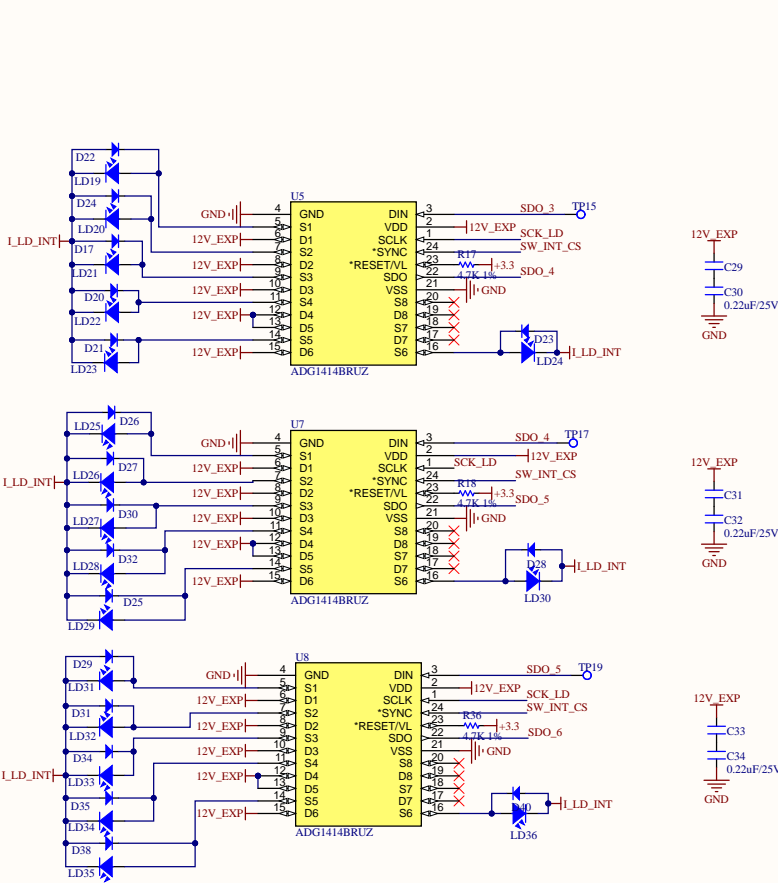
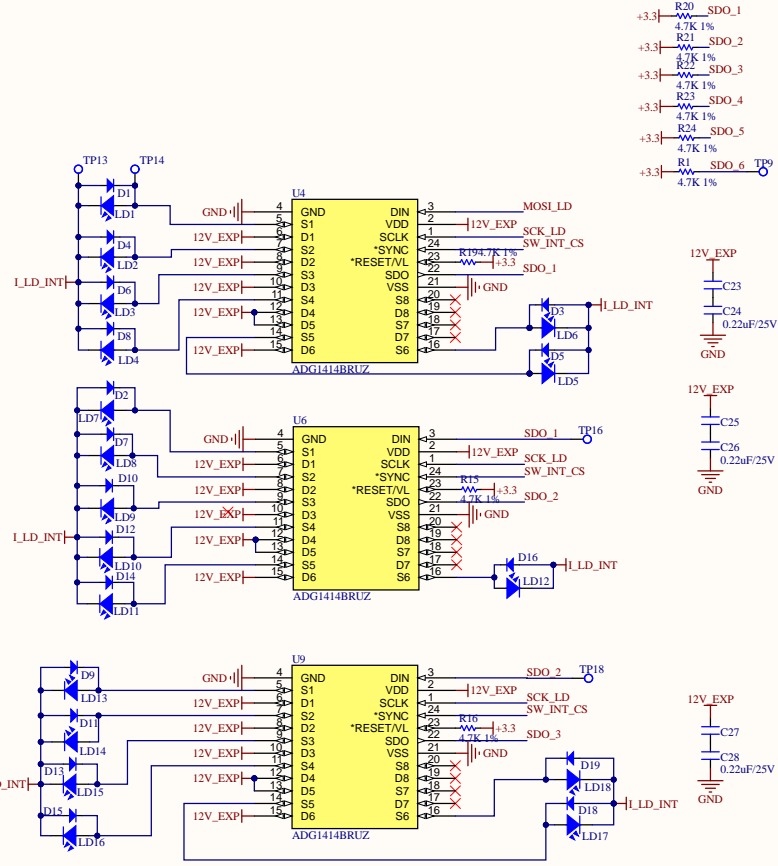
$I_{LD} = V_{dac} * R14$
 $I_{LDmax} = 30mA$, Choose $V_{dacmax} = 3V \rightarrow R14 = 100R$



DRIVER_EXT



Project: BEE-PC1	Sub-system: NANORACK_LASER.PrjPcb	
Design by: Hung Nguyen D.	Sheet title: CURRENT_SOURCE.SchDoc	Sheet 5 of 6
Checked by: Bao Bui Q.	Document No: 5	Size: A3
Approved by: Vu Pham	Revision: V1.2.1	Date: 7/2/2025



Project: BEE-PC1		Sub-system: NANORACK_LASER.PrjPcb	
Design by: Hung Nguyen D.	Sheet title: SWITCHING.SchDoc	Sheet 6 of 6	
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