

# NANORACK PHOTODIODE

## Schematic V1.1.0

### Table of Content

PAGE	COMPONENT/ FUNCTION
001	INDEX
002	BLOCK_DIAGRAM
003	POWER SWITCH AND LDO
004	COMMUNICATION
005	PHOTODIODE

### History

VERSION	DISCRIPTION
1.0.0	INITIAL PROJECT
1.1.0	REPLACE SWITCHING OBJECT
1.1.1	CHANGE SUPPLY POWER SWITCHING
1.1.2	CHANGE EPAD PIN OF SWITCH TO VSS



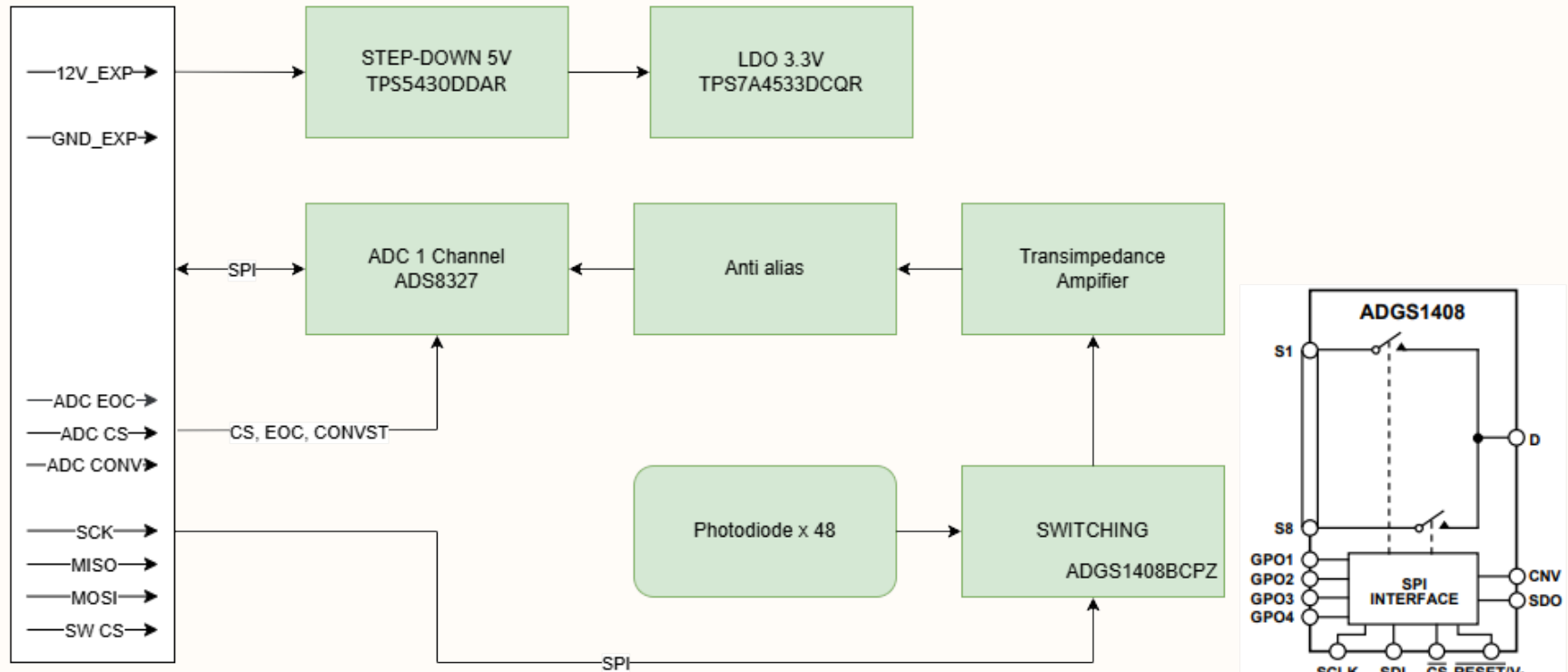
Project: <b>BEE-PC1</b>	Sub-system: <b>NANORACK_PHOTODIODE.PrjPcb</b>	
Design by: <b>Hung Nguyen D.</b>	Sheet title: <b>INDEX.SchDoc</b>	Sheet <b>1</b> of <b>5</b>
Checked by: <b>Bao Bui Q.</b>	Document No: <b>1</b>	Size: <b>A3</b>
Approved by: <b>Vu Pham</b>	Revision: <b>V1.1.2</b>	Date: <b>2/21/2025</b>

## PHOTODIODE

0532610971 - Molex



1	12V_EXP
2	GND_EXP
3	SCK
4	MOSI
5	MISO
6	SW_CS
7	ADC_CS
8	ADC_CONV
9	ADC_EOC



Project: BEE-PC1

Sub-system: NANORACK\_PHOTODIODE.PrjPcb

Design by: Hung Nguyen D.

Sheet title: BLOCK\_DIAGRAM.SchDoc

Sheet 2 of 5

Checked by: **Bao Bui Q.**

Document No: 2

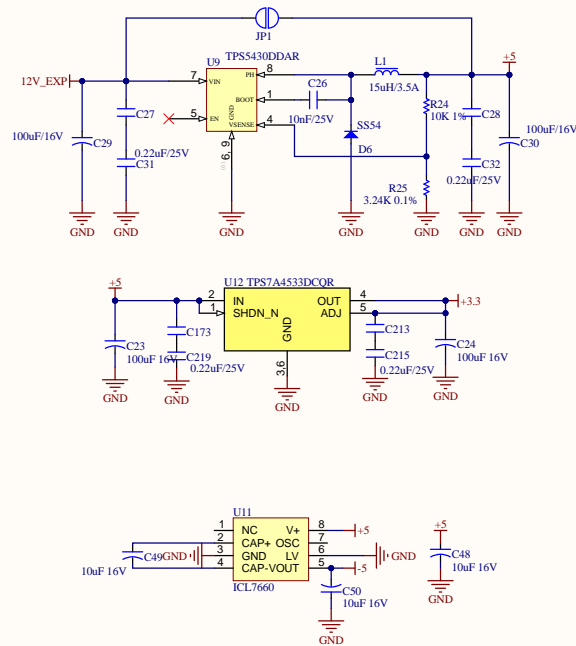
Size: A3

Approved by: **Vu Pham**

Revision: V1.1.2

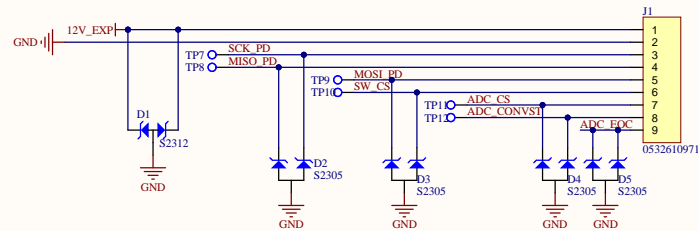
Date: 2/21/2025

# POWER SWITCH AND LDO



Project: <b>BEE-PC1</b>	Sub-system: <b>NANORACK_PHOTODIODE.PrjPcb</b>	
Design by: <b>Hung Nguyen D.</b>	Sheet title: <b>POWER SWITCH AND LDO.SchDoc</b>	Sheet <b>3</b> of <b>5</b>
Checked by: <b>Bao Bui Q.</b>	Document No: <b>3</b>	Size: <b>A3</b>
Approved by: <b>Vu Pham</b>	Revision: <b>V1.1.2</b>	Date: <b>2/21/2025</b>

## CONNECTOR

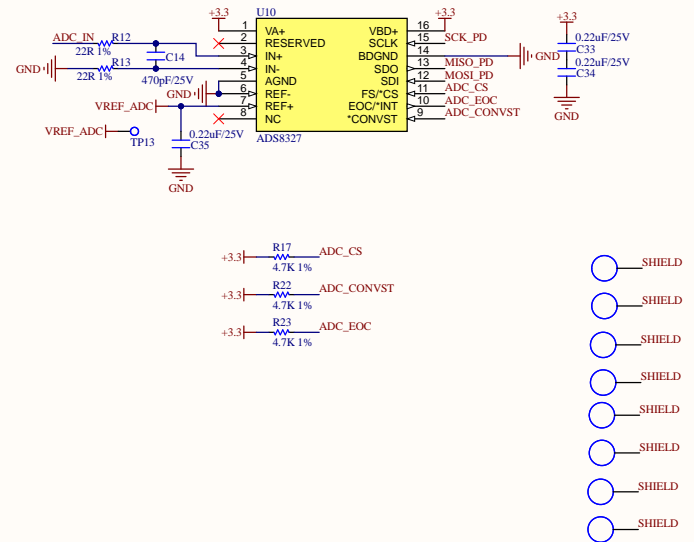


### Molex - 0532610971

- 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 - 0510210900



## ADC



Project: <b>BEE-PC1</b>	Sub-system: <b>NANORACK_PHOTODIODE.PrjPcb</b>	
Design by: <b>Hung Nguyen D.</b>	Sheet title: <b>COMMUNICATION.SchDoc</b>	Sheet <b>4</b> of <b>5</b>
Checked by: <b>Bao Bui Q.</b>	Document No: <b>4</b>	Size: <b>A3</b>
Approved by: <b>Vu Pham</b>	Revision: <b>V1.1.2</b>	Date: <b>2/21/2025</b>

The schematic diagram illustrates the ADG1414BCPZ evaluation board, showing six identical channel blocks. Each block contains an ADG1414BCPZ component with the following connections:

- Inputs:** 10 photodiode inputs (PD1-PD10) connected to pins 1-10. Pin 11 is connected to GND.
- Outputs:** Pins 12-13 are connected to a common bus and a +5V supply. Pins 14-15 are connected to a common bus and a +5V supply.
- Control:** Pins 16-17 are connected to a common bus and a +5V supply. Pins 18-19 are connected to a common bus and a +5V supply.
- Power:** Pins 20-21 are connected to a common bus and a +5V supply. Pins 22-23 are connected to a common bus and a +5V supply.
- Other:** Pins 24-25 are connected to a common bus and a +5V supply. Pins 26-27 are connected to a common bus and a +5V supply.

The board also includes a 12V EXP pin and a SW\_CS pin. The components are connected to a common ground and a +5V supply.



Sub-system: NANORACK\_PHOTODIODE.PrjPcb

Sheet 5 of 5

Size: A3

Date: 2/21/2025