

A

A

B

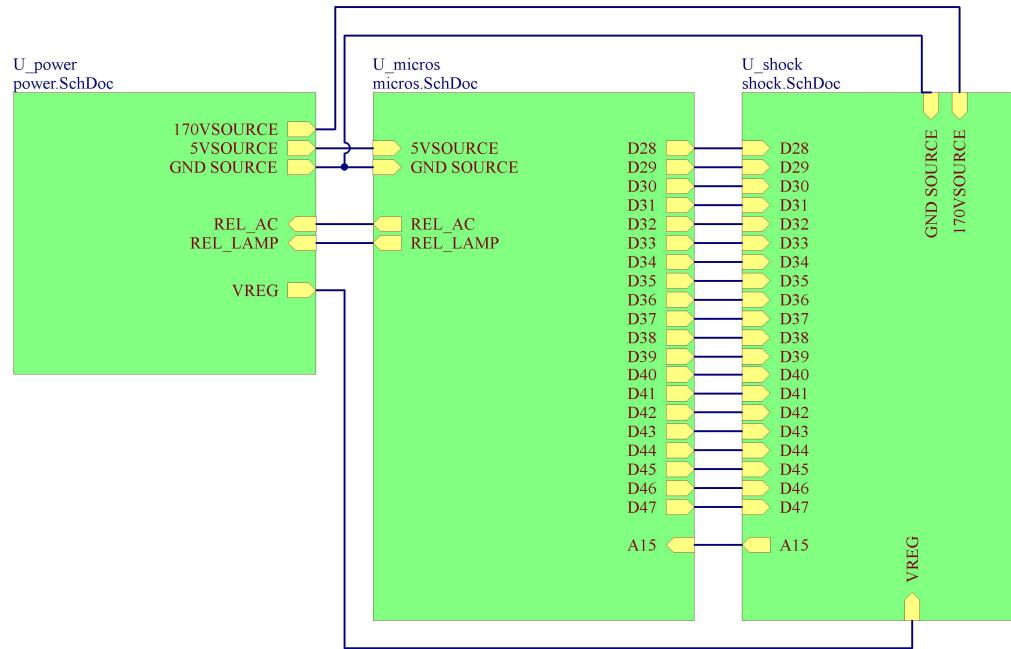
B

C

C

D

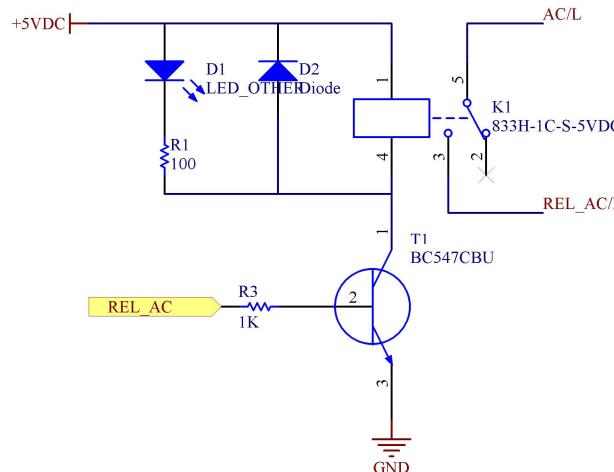
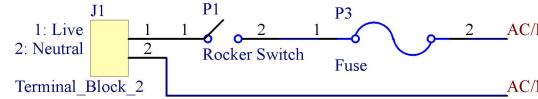
D



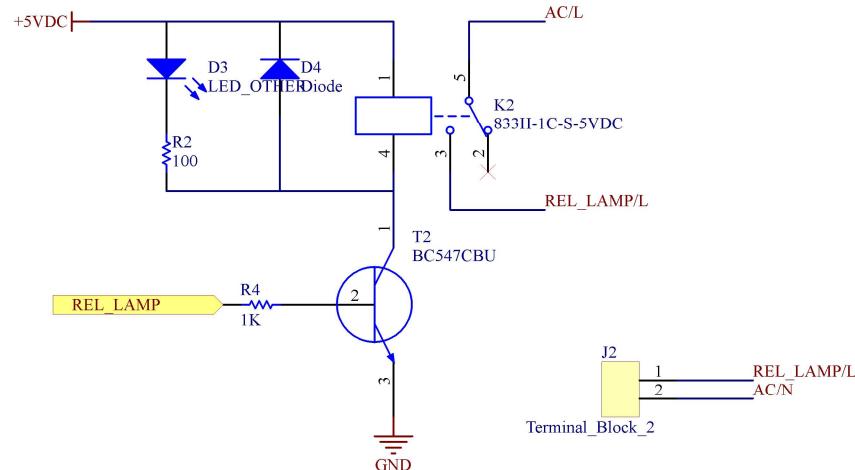
### Title *Design Hierarchy*

Size	Number	Revision
Letter		
Date:	5/12/2022	Sheet <b>1</b> of <b>4</b>
File:	C:\Users\main.SchDoc	Drawn By: <b>Daniel Fernández</b>

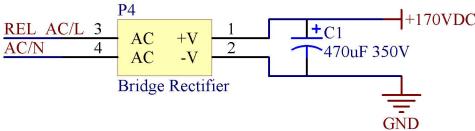
### AC Power Supply



### Visual Stimulus Output

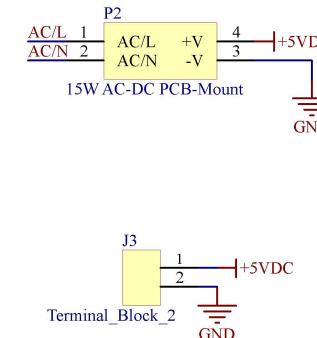


### AC-DC Power Conversion

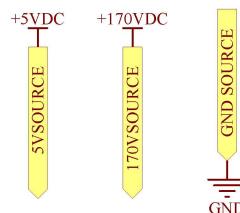


### Switching Power Supply

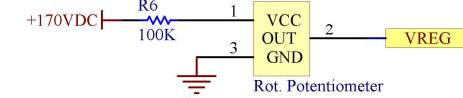
**Design Error**  
There is a mismatch between the power supply footprint and the mechanical model.



### Voltage Source



### Variable Shock Current



Title  
**Power Stage**

Size	Number	Revision
Letter		
Date:	5/12/2022	Sheet 2 of 4
File:	C:\Users\daniel.fernandez\power.SchDoc	Drawn By: Daniel Fernández

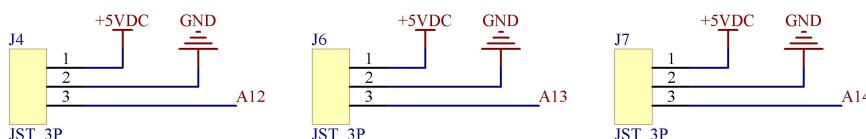
1

2

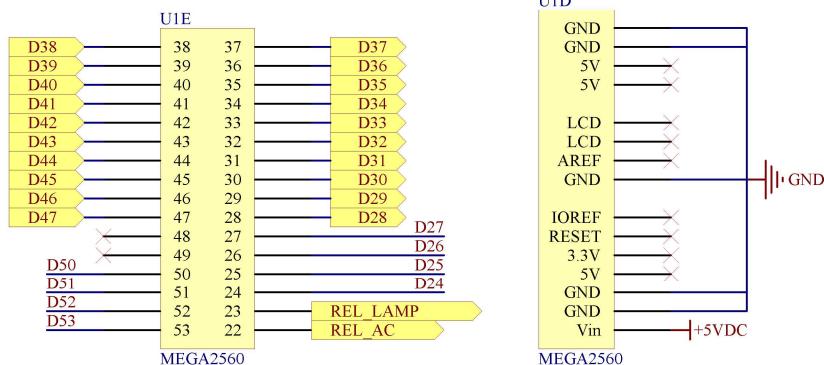
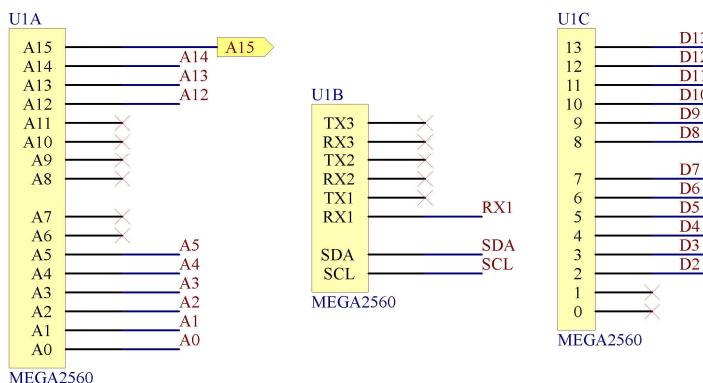
3

4

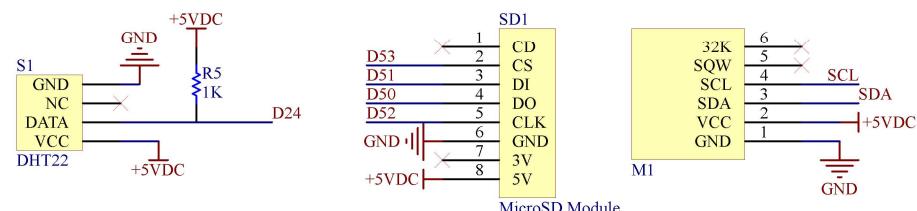
## PIR Sensors Analog Input



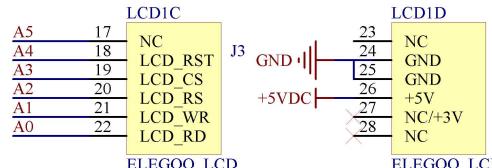
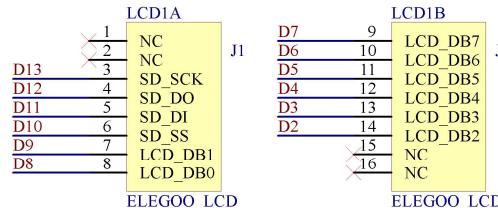
## Arduino Mega 2560



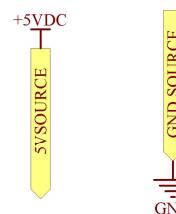
## Breakout Boards



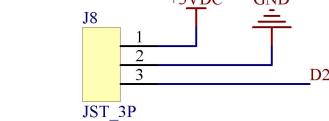
## Hardware User Interface



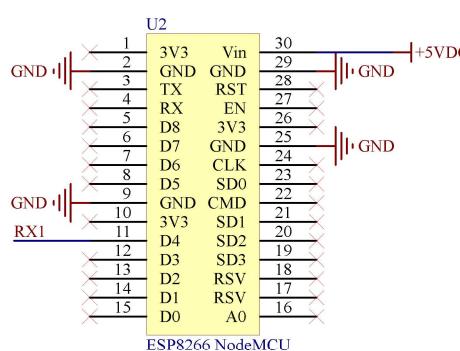
## Voltage Source



## Auditory Stimulus Output



## Web Server



## Title Microcontrollers Stage

Size	Number	Revision
Letter		
Date:	5/12/2022	Sheet 3 of 4
File:	C:\Users\amicros.SchDoc	Drawn By: Daniel Fernández

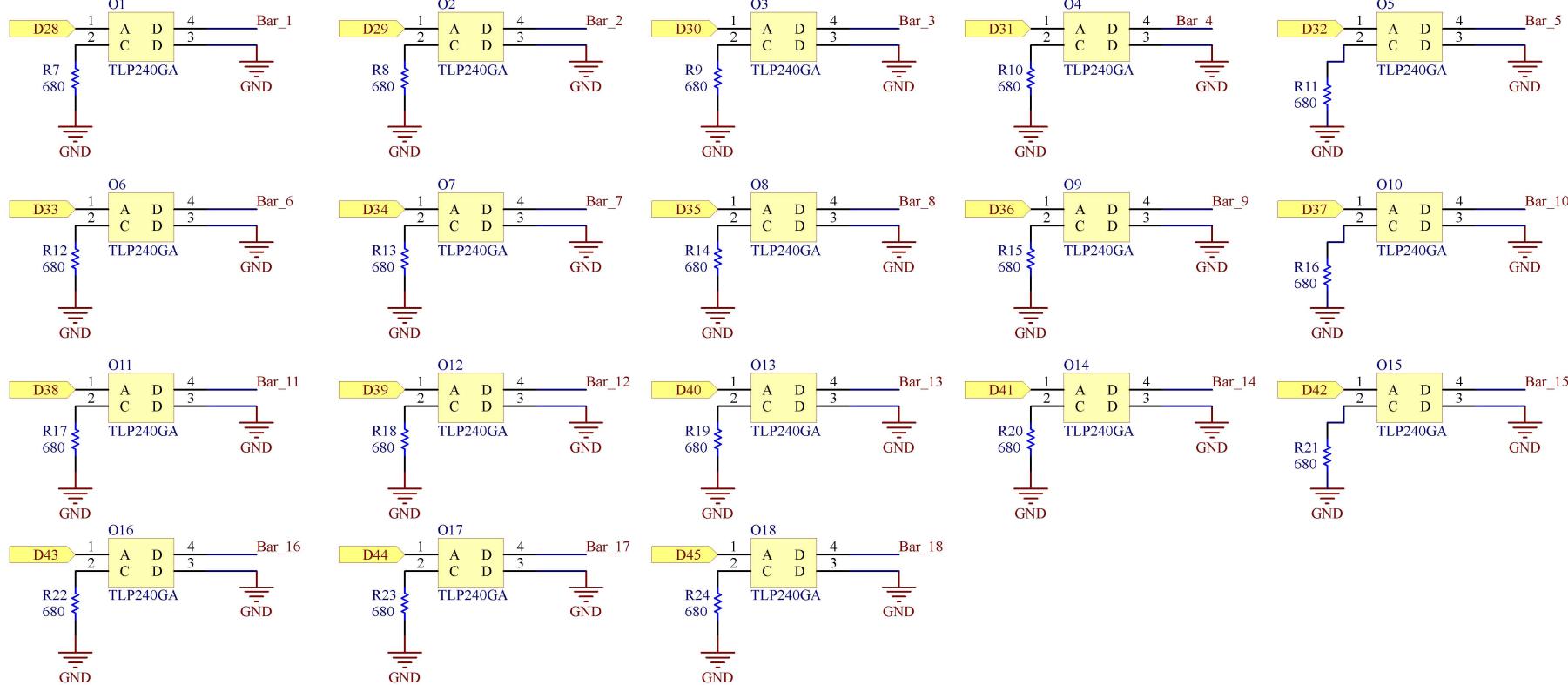
1

2

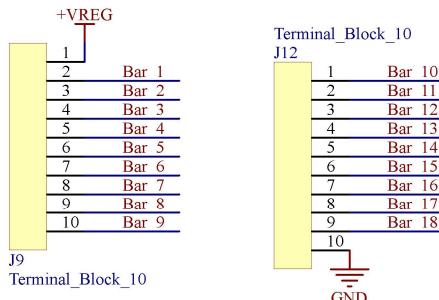
3

4

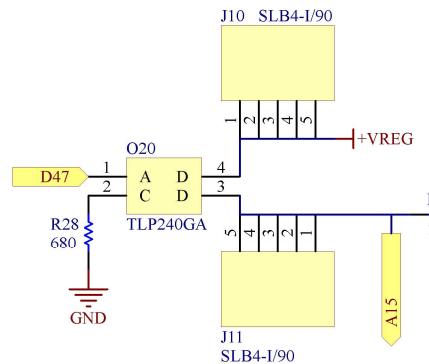
## Shock Bars Sequencing



## Shock Bars Output



## Shock Current Calibration

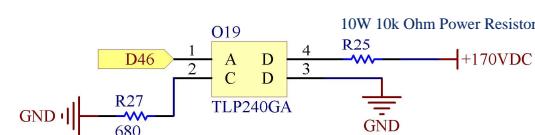


### Design Error

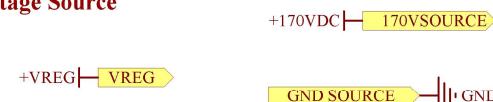
If the optocoupler is activated, a short-circuit occurs between the two safety plug sockets. This optocoupler is ignored and the calibration procedure is performed by controlling the AC power relay and the capacitor discharge. Furthermore, in the footprint of the plug socket it should only be connected to the center pin. The other pins are to provide stabilization when mounted on the PCB.



## Capacitor Discharge



## Voltage Source



### Title

### Shock Stage

Size	Number	Revision
Letter		
Date:	5/12/2022	Sheet 4 of 4
File:	C:\Users\.\shock.SchDoc	Drawn By: Daniel Fernández