BIFRÖST - LED matrix case

Jonas

VIEW IN BROWSER

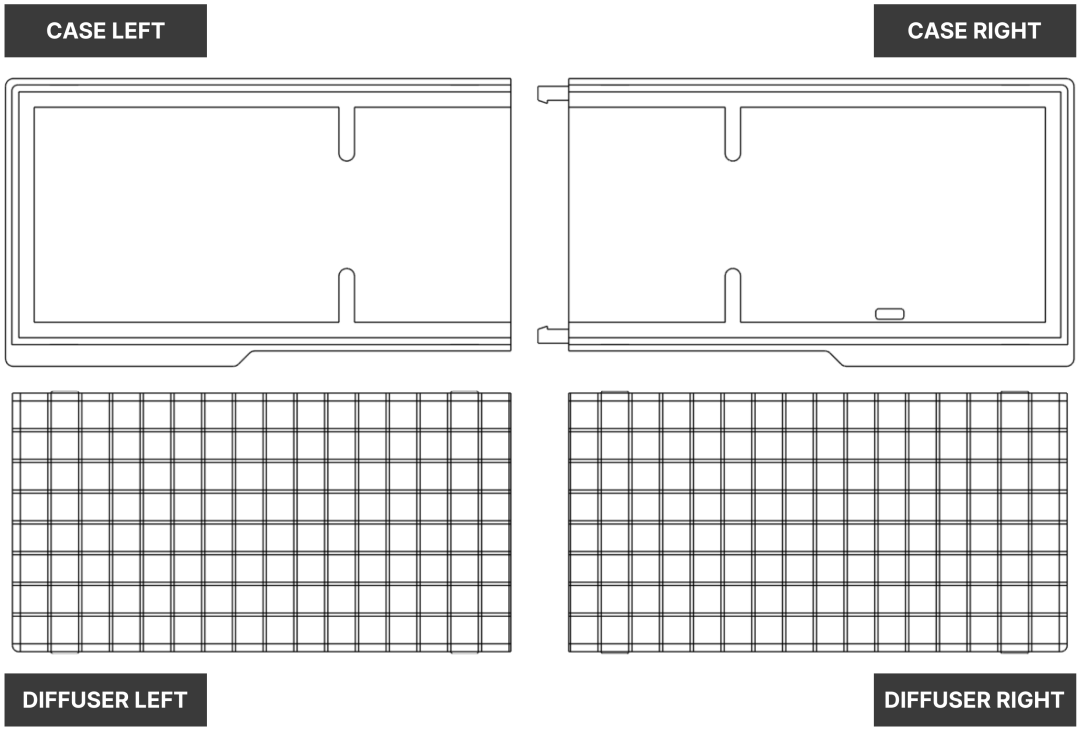
updated 29. 5. 2024 | published 29. 5. 2024

Summary

Easy to print matrix case and diffuser for WS2812B panel 32x8

Gadgets > Other Gadgets

Tags: case led diy ws2812b esp32 usbc matrix wled diffuser leddiffuser 32x8



If you're looking for an easy-to-print case and diffuser for your WS2812B 32x8 LED matrix panel, you're in luck. The case and diffuser have been designed to be printable on a common-sized print bed, and are split into separate parts for convenience. All parts either slide or click together, so there is no need for any additional materials.

The print has been desgined and optimized for layer heigh 0.16mm.

Case

The two parts of the case slide together to create a stable structure, but be sure to sand and test the fit carefully, as the tolerances are tight. Avoid forcing the parts together, as they are difficult to disassemble once assembled.

Diffuser

The diffuser is designed to click into the front of the case, but may also require sanding depending on your printer's tolerance. To achieve the best results, it's recommended that you print the diffuser with a layer height of 0.16. This will create two layers for the semi-transparent front of the diffuser, and ensure that the first layer is of high quality.

It's important to print the diffuser in a filament color that will allow the light to pass through, such as white.

Electronics

For my version, I used the following parts from aliexpress:

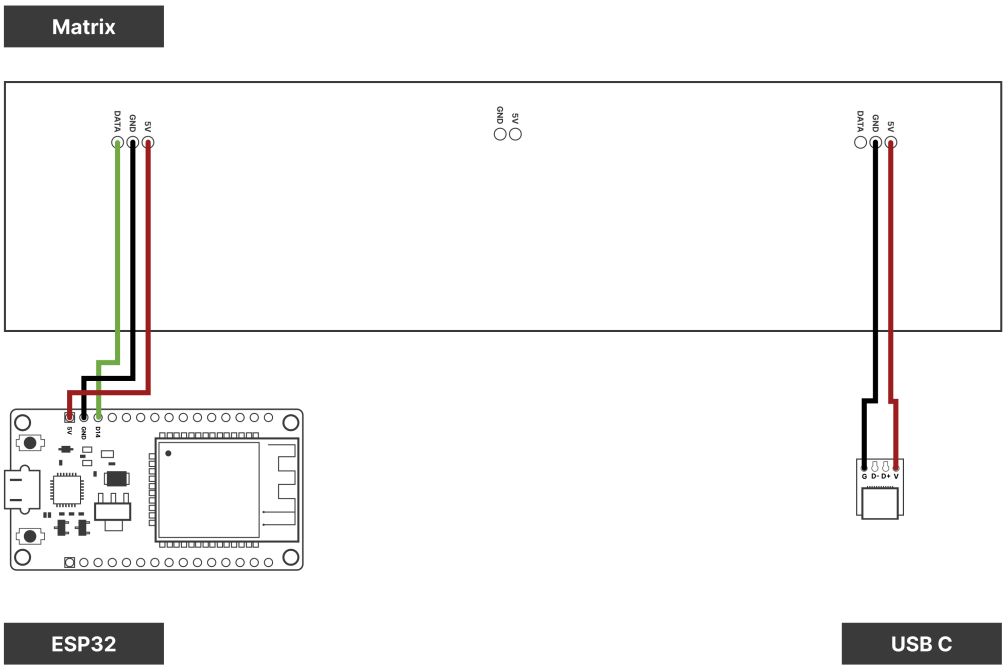
- WS2812B matrix 32x8
- ESP32
- USB-C breakout board

And flashed the ESP32 with WLED which you can find here:

- https://kno.wled.ge
- https://github.com/Aircoookie/WLED

Wiring:

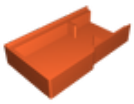
Connect ground and 5V to USB-C breakout to the matrix right solder pads.
Connect ground and 5V to the ESP from the matrix left solder pads.
Connect data pin from matrix to ESP D14 (or any other data pin you want).
Remember to configure the pin in WLED.



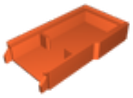
Model files

STEP 6 files

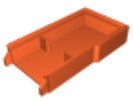
- **case_usb_c_left.step**
- **case_usb_c_no_split.step**
- **case_usb_c_right.step**
- **diffuser_left.step**
- **diffuser_no_split.step**
- **diffuser_right.step**



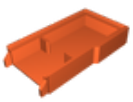
case_split_left.stl



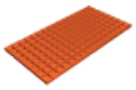
case_split_right_usb_c.stl



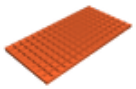
case_split_right_barrel_plug.stl



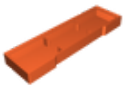
case_split_right_14mm_hole.stl



diffuser_split_left.stl



diffuser_split_right.stl



case_usb_c.stl

diffuser.stl

License