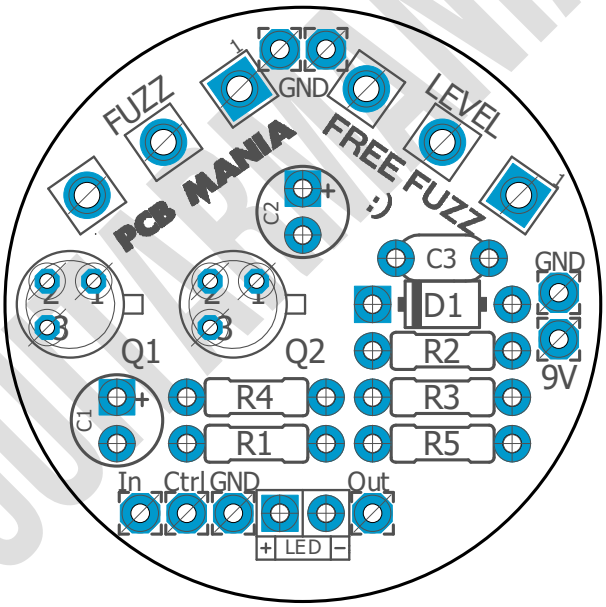
Free Fuzz

Based on:
Silicon Fuzz Face
Effect type:
Classic Fuzz
Build difficult:
Beginner

Amount of parts:
Low, total 12 components
Technology:
NPN Silicon transistors
Power consumption:
9V

Enclosure type:
1590b
Get your board at:
Free Fuzz

Project overview:
We believe that everyone can build their own guitar pedals. That's why we decided to release this simple and easy to build Free Fuzz, so no matter whether you are a total beginner or an experienced builder, for sure you will enjoy building and playing this pedal!



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Introduction

The fuzz face was one of the first pedals ever. Designed on the late 60s it has been used by many artists and for sure made famous by Jimi Hendrix.

Today's project is a Silicon version of the fuzz face circuit, designed to operate with NPN transistors and +9 volts.

This is one of those circuits where you can feel free to experiment with different alternative values and transistors (Remember to check the pinout of them!). Back in the day most of guitar electronics where done with whatever they had available, that's why is pretty common to find a lot of variations on the values for a same circuit.

We have included a polarity protection diode, to make sure nothing bad happens to your build if by mistake it's plugged in the wrong power supply. We have also included the status LED on board, to keep your build tidy.

Controls

- Volume
- Fuzz

Bill of materials

Resistors	
Part	**Value**
R1	33k
R2	8k2
R3	330r
R4	100k
R5	4k7

Capacitors	
Part	**Value**
C3	10n

Electrolytics Capacitors	
Part	**Value**
C1	2.2u
C2	22u

Potentiometers	
Part	**Value**
FUZZ	1K B
LEVEL	500k B

Transistors	
Part	**Value**
Q1	BC108C
Q2	BC108C

Diods	
Part	**Value**
D1	1n5817
LED	3mm led

Shopping list

Resistors		
Qty	**Value**	**Parts**
1	100k	R4
1	330r	R3
1	33k	R1
1	4k7	R5
1	8k2	R2

Capacitors		
Qty	**Value**	**Parts**
1	10n	C3

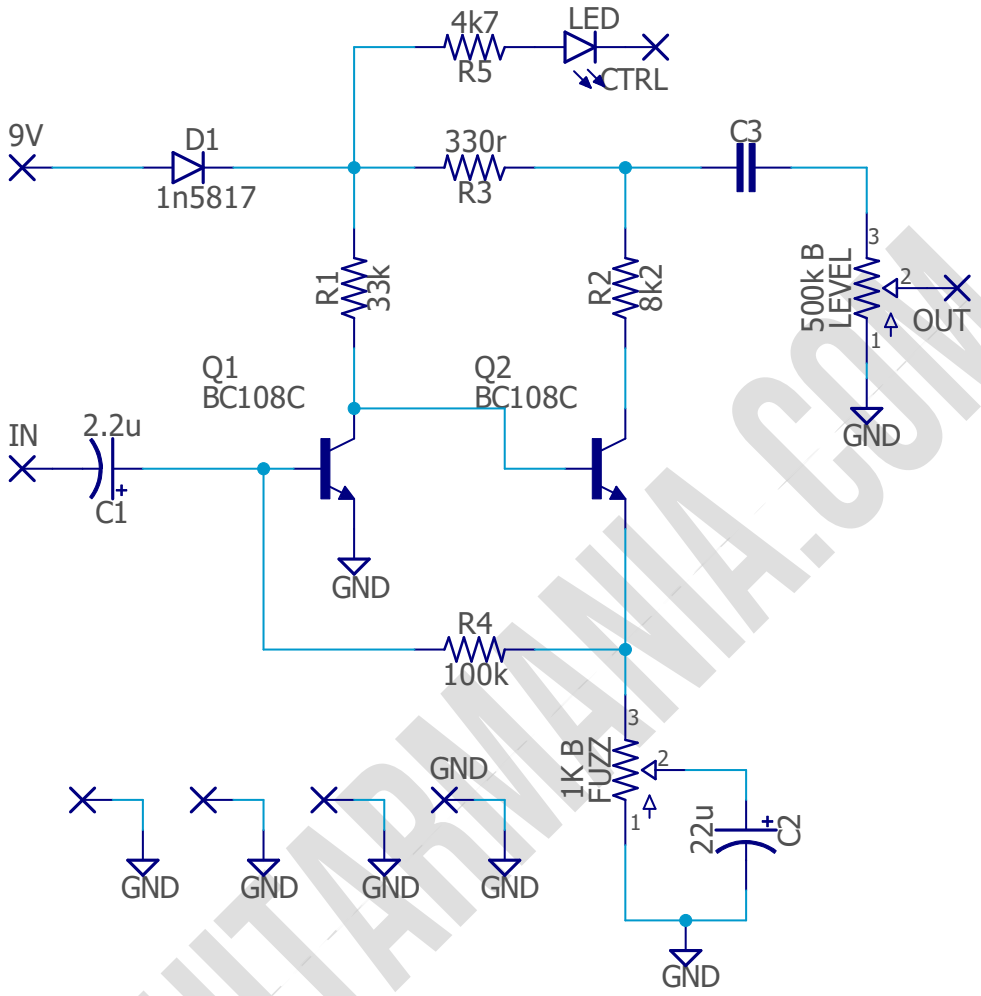
Electrolytics Capacitors		
Qty	**Value**	**Parts**
1	2.2u	C1
1	22u	C2

Potentiometers		
Qty	**Value**	**Parts**
1	1K B	FUZZ
1	500k B	LEVEL

Transistors		
Qty	**Value**	**Parts**
2	BC108C	Q1, Q2

Diodes		
Qty	**Value**	**Parts**
1	1n5817	D1
1	3mm LED	LED

Schematic



Components Recommendations

As many people like to experiment some pedals with higher voltage, always ensure the max tolerance of your **electrolytic capacitors** is over 25v.

This board has been tested using Film box capacitors for most of the values over 1nf, and ceramics discs for the ones under 1nf. However, high quality components such as Wima's Capacitors and Panasonic's electrolytics can deliver a better performance.

All the resistors used for testing this project are 1/4W Metal Film.

Build Notes

If this is one of your first projects I recommend you to take a look on our Pedal Building Guide

For a successful and tidy build it's recommended the following order:

1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off board wiring

Wiring Diagram

All our projects include a free 3PDT Board to make the wiring easier and tidier. Also all of our PCBs feature the status LED on board.

The pad named "Ctrl" or "LED" is the one that controls the status of the led, wire it to the "LED"pad on the 3PDT board, or in control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB check it here to access to our Pedal Wiring Guide.**The booster goes after the main drive!**

Drill Template

This Project has been planned to fit into a 1590b enclosure type.

Check the Attached "Drilling templates" to drill the box properly. The files are on Scale 1:1, ready to print in an A4 page.

Licensing and Usage

We really appreciate your trust and support buying this PCB, as well as your will to dive into the DIY electronics world. That's why for us is really important that you can make this project work properly and to enjoy not only the building process, but also to experiment and play with it on your rig.

We try to reply to every question we receive on our email or in our social media, but we try to encourage all our customers to join our PCB Guitar Mania – Builders Group on Facebook, in order to post all your doubts, issues, suggestions or request, as well to share your builds and have some feedback from us and other fellow builders!

All of our projects have been tested following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been tested. These are suggestions based on the

schematic analysis, and on the experiences and opinions of others. Feel free to share with us your opinions and suggestions regarding the mods your own personal experimentation.

These boards may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though accreditation or a link back is always greatly appreciated.

If you are a builder planning to make your own run of pedals we also offer the service of custom made boards with your brand and logo, design according your specifications.

The only usage restrictions are that, first, you cannot resell the PCB as part of a kit without prior arrangement with us, and second, you cannot scratch off the silk screen, or other way of trying to hide our logos and the source of the PCBs. Like it's written above, if you want to have your own designs, with your brand and logo we could certainly reach an agreement.

Follow us on Instagram and Facebook to stay in tune with the latest projects!