

# Grizzly fuzz

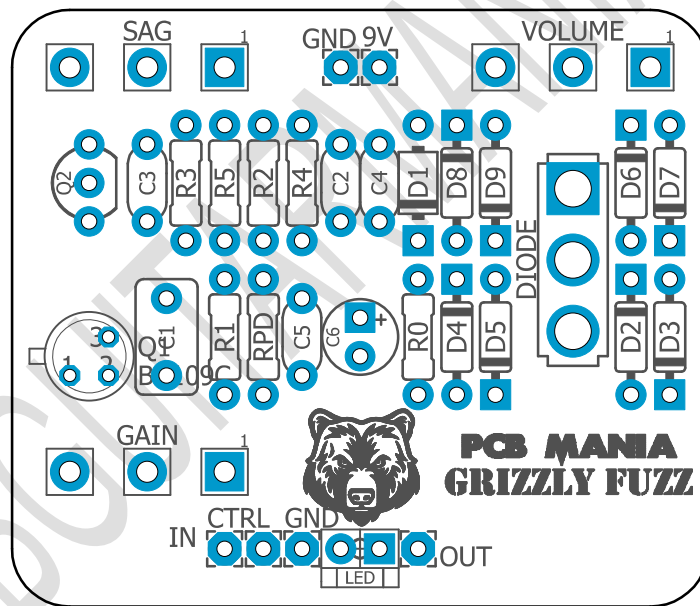
**Based on:**  
KMA Fuzzly Bear™  
**Effect type:**  
Silicon Fuzz Monster  
**Build difficult:**  
Easy

**Amount of parts:**  
Low, total 28 components  
**Technology:**  
Silicon Transistors  
**Power consumption:**  
9v-18v(2mA)

**Enclosure type:**  
1590b  
**Get your board at:**  
[Grizzly Fuzz](#)  
**Get your kit at:**  
[Das Musikding \(Europe\)](#)

## Project overview:

High saturated simple silicon fuzz that will blow you away. Featuring Sag pot to achieve that dying battery sound and an add on toggle switch for selecting in between the stock didoes, no diodes, and a free slot to choose with any alternative you want, germanium, schotky, LEDs, or any other diode you feel to experiment with.



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## Introduction

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The KMA audio machines fuzzy bear™ is a great sounding, highly saturated and simple to build Fuzz pedal that's based on the Jordan Bosston a black little unit that got plugged straight into your guitar and the original effect is a absolute must have for Pedal builders size ages. People swered by the sound of it with an almost empty battery. So KMA decided to add this feature as an external Sag control (dying fuzz knob) that allows you to get this sound whenever you like by reducing the voltage that hits the Transistor. Well.... there was not much to do for us anymore expect adding a diode clipping switch that allows you to lift the diodes (still a very fuzzy), use stock or use some even harder clipping germanium diodes.

## Controls

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- Gain
- Volume
- Sag: On the original unit its called 'Skin & Meat', controls the bias of the pedal for that dying battery effect.

# Bill of materials

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Resistors	
Part	Value
R0	4K7
R1	150K
R2	560K
R3	560K
R4	18K
R5	2K2
RPD	1m

Capacitors	
Part	Value
C1	330n
C2	22n
C3	47p
C4	68n
C5	100n

Electrolytics Capacitors	
Part	Value
C6	47u

Potentiometers	
Part	Value
GAIN	B500K
SAG	B50K
VOLUME	A100K

Transistors	
Part	Value
Q1	BC109C**
Q2	2N3906

Switches	
Part	Value
Diode Switch	ON-OFF- ON

Diodes	
Part	Value
D1	1N4001
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4148
D6	1n34A*
D7	1n34A*
D8	1n34A*
D9	1n34A*

# Shopping list

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Resistors		
Qty	Value	Parts
1	150K	R1
1	18K	R4
1	1m	RPD
1	2K2	R5
1	4K7	R0
2	560K	R2, R3

Capacitors		
Qty	Value	Parts
1	100n	C5
1	22n	C2
1	330n	C1
1	47p	C3
1	68n	C4

Electrolytics Capacitors		
Qty	Value	Parts
1	47u	C6

Potentiometers		
Qty	Value	Parts
1	A100K	VOLUME
1	B500K	GAIN
1	B50K	SAG

Transistors		
Qty	Value	Parts
1	2N3906	Q2
1	BC109C	Q1

Switches		
Qty	Value	Parts
1	SPDT ON- OFF-ON	DIODE SWITCH

Diodes		
Qty	Value	Parts
1	1N4001	D1
4	1N4148	D2, D3, D4, D5
4	1n34A	D6, D7, D8, D9

# Components Recommendations

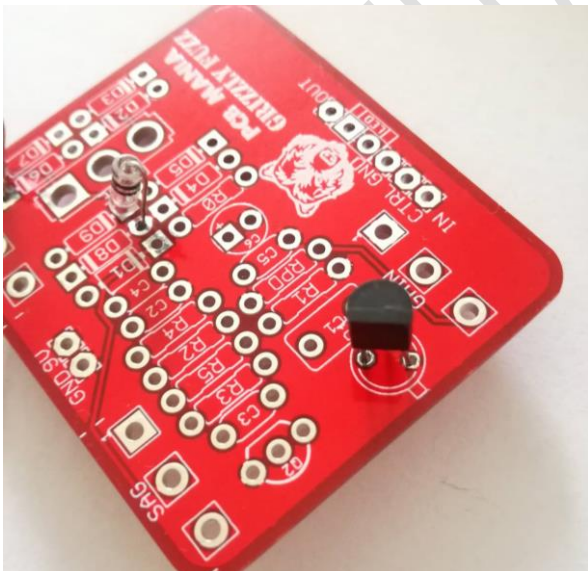
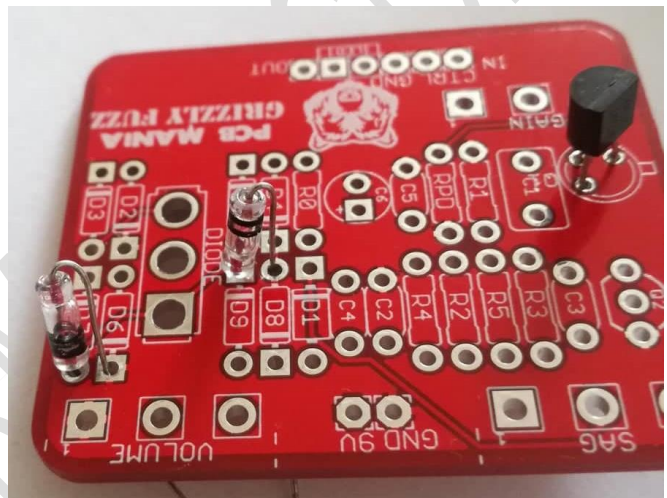
As many people like to experiment some pedals with higher voltage, always ensure the max tolerance of your **electrolytic capacitors** is over 25v.

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.

The BOM and Shopping list are exclusively regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

**Diodes\***: The positions D6, D7, D8, D9 are marked on the docs as 1n34a germanium diodes. This aren't present in the original and its or suggested mod, however you can experiment with different diodes and configurations. Here below you can see how it would be using a single pair of diodes instead of two pairs. Always remember to look the polarity of the diodes.



**Transistors\*\***: On the original unit it features a BC109C, this transistor silicon transistors on a can package for sure resembles to a germanium one, but its pure silicon. In my build I replaced it with a BC549, that's easier to find and considerably more affordable as well, here bellow you can see how to place it on board.

# Build Notes

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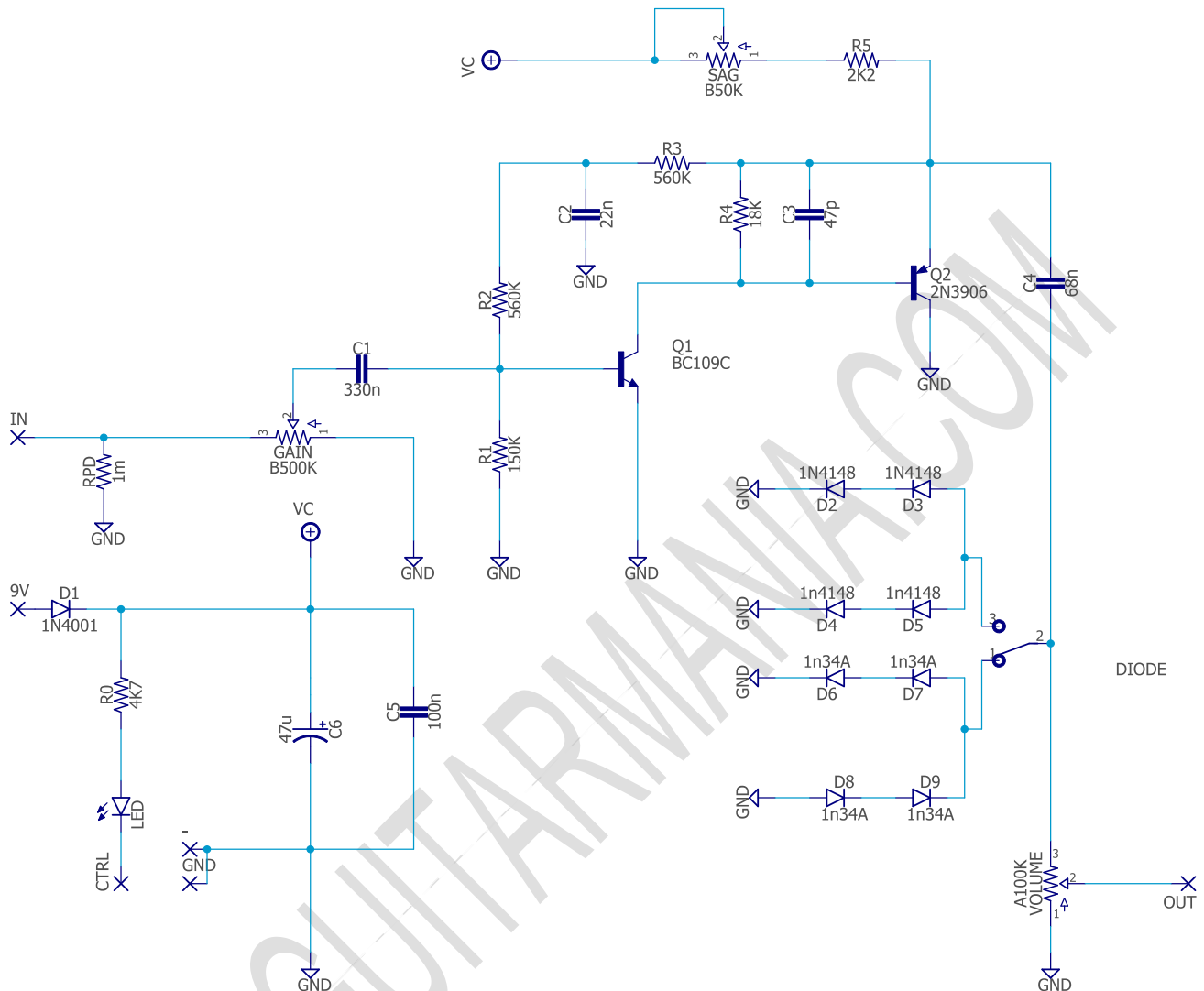
If this is one of your first projects I recommend you to take a look on our [Pedal Building Guide](#)

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

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# Schematic



## 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, usually located in the center of the board next to the in and out pads. This LED should be placed on the Potentiometer sides and not on the component side for the proper functionality.

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](#)

# Drill Template

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This Project has been planned to fit into a 1590bb 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

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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!