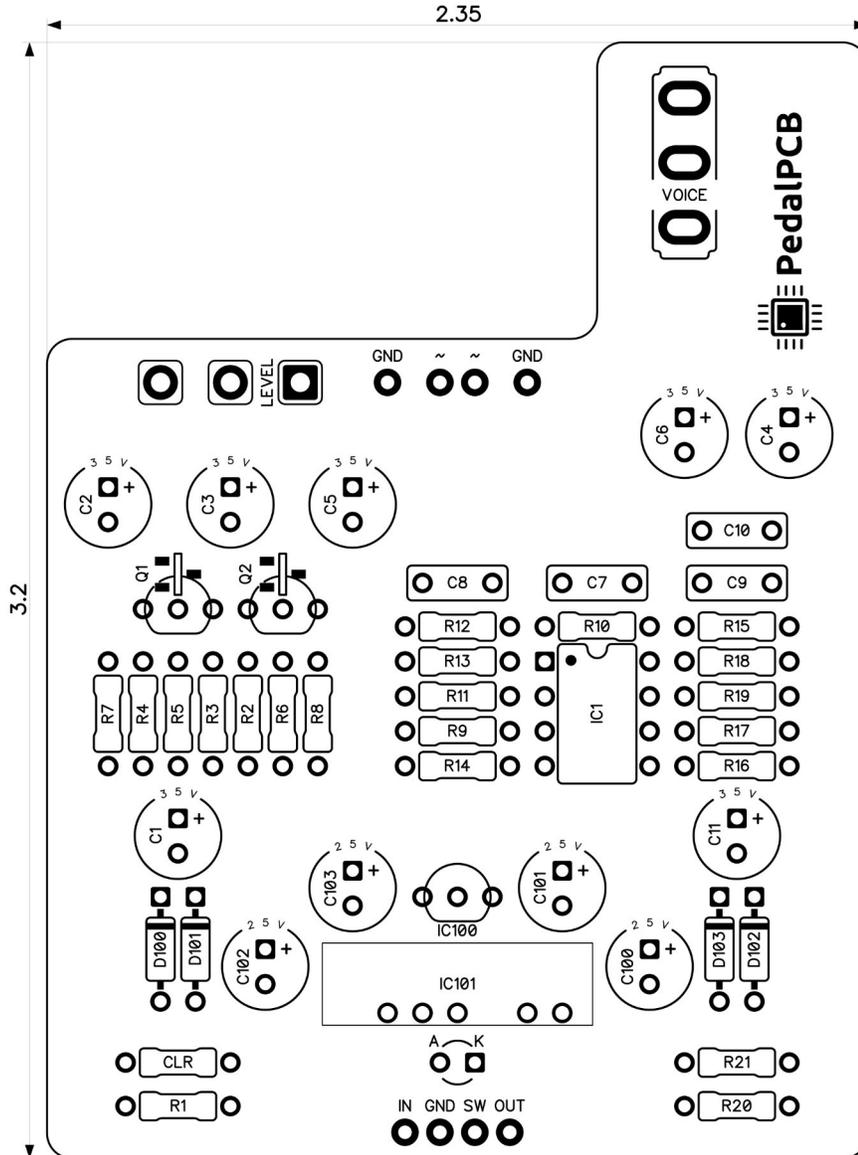


PedalPCB

Skeptical Boost

Revised 4/14/24



CONTROLS AND FEATURES

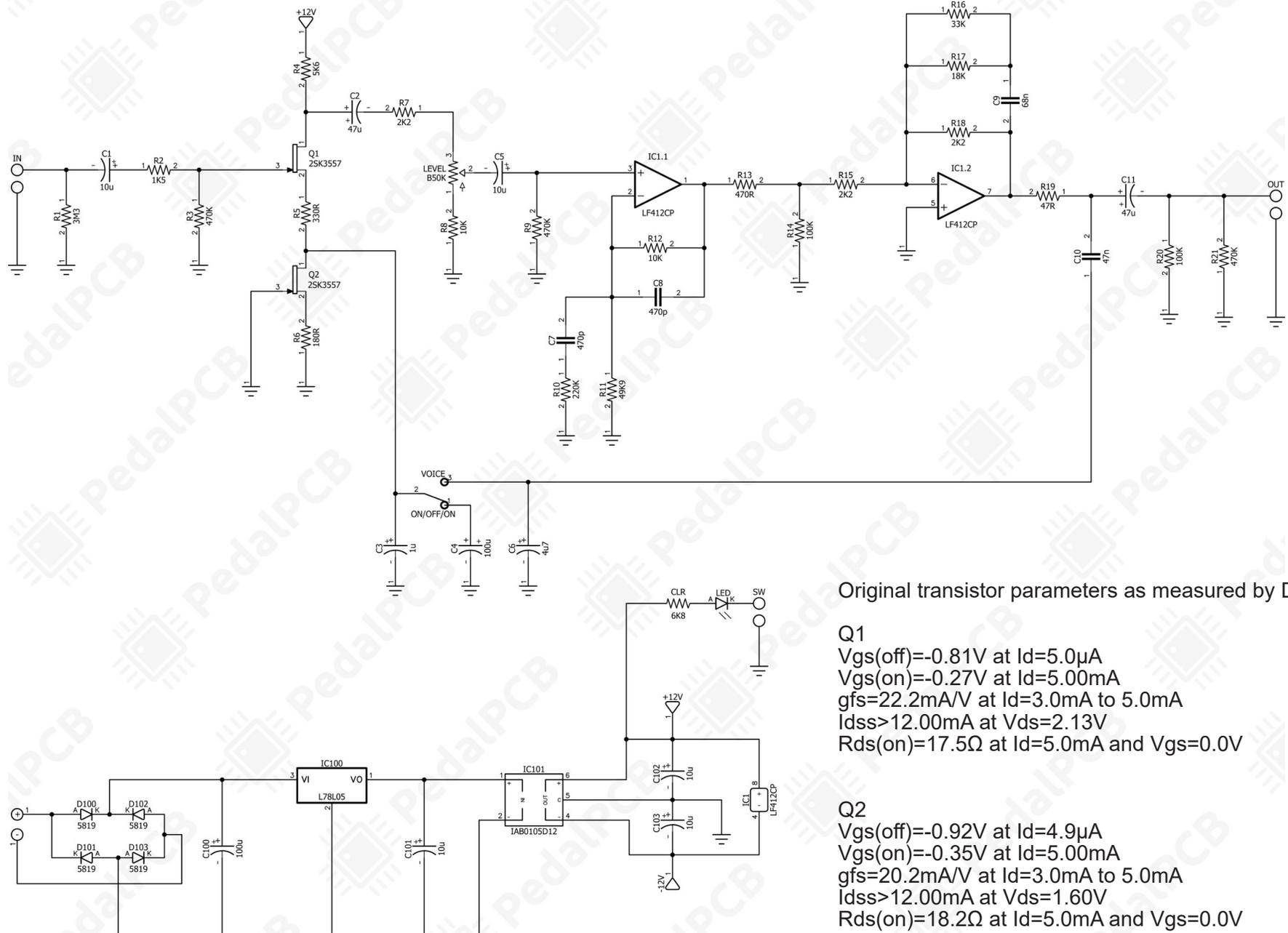
- Level
- Voice (Toggle switch)

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LOCATION	VALUE	TYPE	NOTES
R1	3M3	Resistor, 1/4W	
R2	1K5	Resistor, 1/4W	
R3	470K	Resistor, 1/4W	
R4	5K6	Resistor, 1/4W	
R5	330R	Resistor, 1/4W	
R6	180R	Resistor, 1/4W	
R7	2K2	Resistor, 1/4W	
R8	10K	Resistor, 1/4W	
R9	470K	Resistor, 1/4W	
R10	220K	Resistor, 1/4W	
R11	49K9	Resistor, 1/4W	
R12	10K	Resistor, 1/4W	
R13	470R	Resistor, 1/4W	
R14	100K	Resistor, 1/4W	
R15	2K2	Resistor, 1/4W	
R16	33K	Resistor, 1/4W	
R17	18K	Resistor, 1/4W	
R18	2K2	Resistor, 1/4W	
R19	47R	Resistor, 1/4W	
R20	100K	Resistor, 1/4W	
R21	470K	Resistor, 1/4W	
CLR	6K8	Resistor, 1/4W	LED current limiting resistor
C1	10u	Tantalum capacitor	
C2	47u	Tantalum capacitor	
C3	1u	Tantalum capacitor	
C4	100u	Tantalum capacitor	
C5	10u	Tantalum capacitor	
C6	4u7	Tantalum capacitor	
C7	470p	Ceramic capacitor	
C8	470p	Ceramic capacitor	
C9	68n	Film capacitor, 7.2 x 2.5mm	
C10	47n	Film capacitor, 7.2 x 2.5mm	
C11	47u	Tantalum capacitor	
C100	100u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C101	10u	Electrolytic capacitor, 5mm	
C102	10u	Electrolytic capacitor, 5mm	
C103	10u	Electrolytic capacitor, 5mm	
D100	1N5819	Schottky diode, DO-41	
D101	1N5819	Schottky diode, DO-41	
D102	1N5819	Schottky diode, DO-41	
D103	1N5819	Schottky diode, DO-41	
Q1	2SK3557	JFET transistor, N-channel	Specs as measured on page 3
Q2	2SK3557	JFET transistor, N-channel	Specs as measured on page 3
IC1	LF412CP	Dual op-amp, DIP8	
IC100	L78L05	Voltage regulator, +5V	
IC101	IAB0105D12	Dual Isolated DC/DC Converter	+5Vin, +12V / -12Vout
LEVEL	B50K	16mm right-angle PCB mount pot	
VOICE	ON/OFF/ON	Toggle switch, SPDT	3-position (ON/OFF/ON)

Skeptical Boost

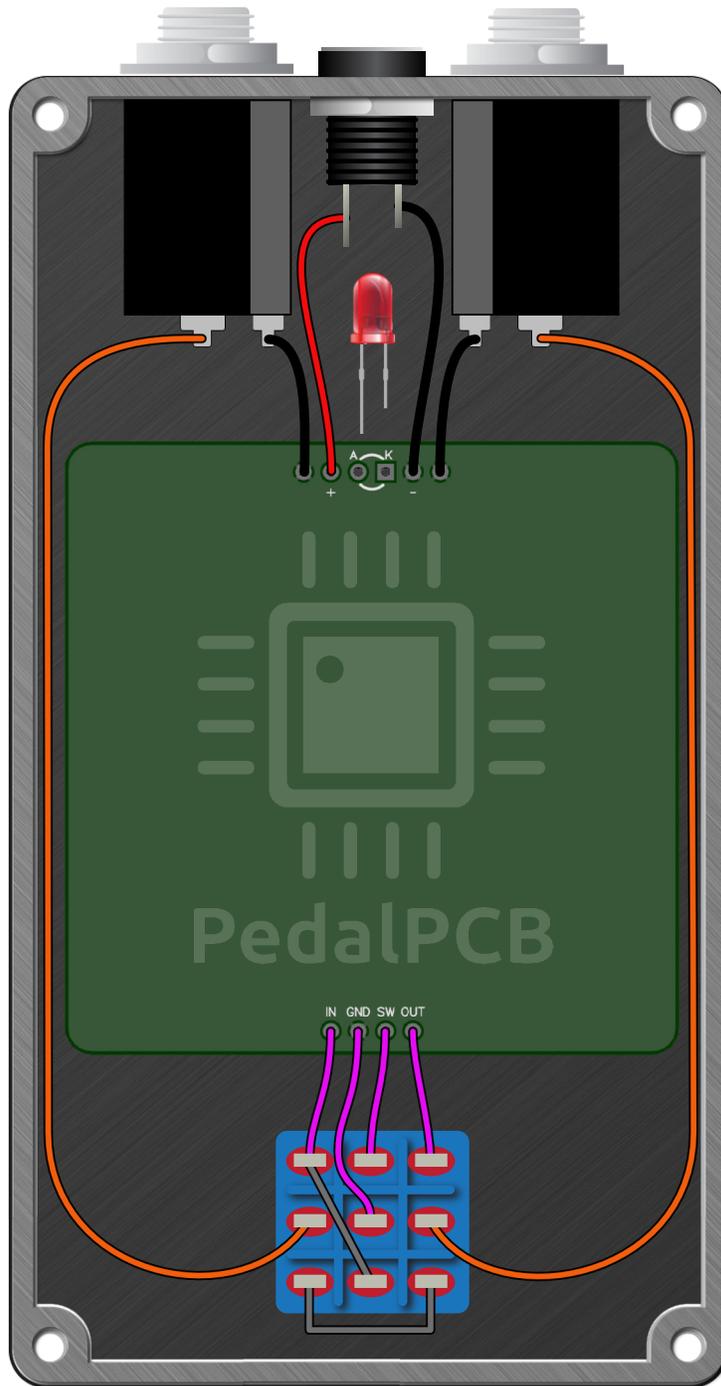
Schematic Diagram



Original transistor parameters as measured by DCA75

Q1
 $V_{gs(off)} = -0.81V$ at $I_d = 5.0\mu A$
 $V_{gs(on)} = -0.27V$ at $I_d = 5.00mA$
 $g_{fs} = 22.2mA/V$ at $I_d = 3.0mA$ to $5.0mA$
 $I_{dss} > 12.00mA$ at $V_{ds} = 2.13V$
 $R_{ds(on)} = 17.5\Omega$ at $I_d = 5.0mA$ and $V_{gs} = 0.0V$

Q2
 $V_{gs(off)} = -0.92V$ at $I_d = 4.9\mu A$
 $V_{gs(on)} = -0.35V$ at $I_d = 5.00mA$
 $g_{fs} = 20.2mA/V$ at $I_d = 3.0mA$ to $5.0mA$
 $I_{dss} > 12.00mA$ at $V_{ds} = 1.60V$
 $R_{ds(on)} = 18.2\Omega$ at $I_d = 5.0mA$ and $V_{gs} = 0.0V$



Skeptical Boost

Drill Template
125B Enclosure

