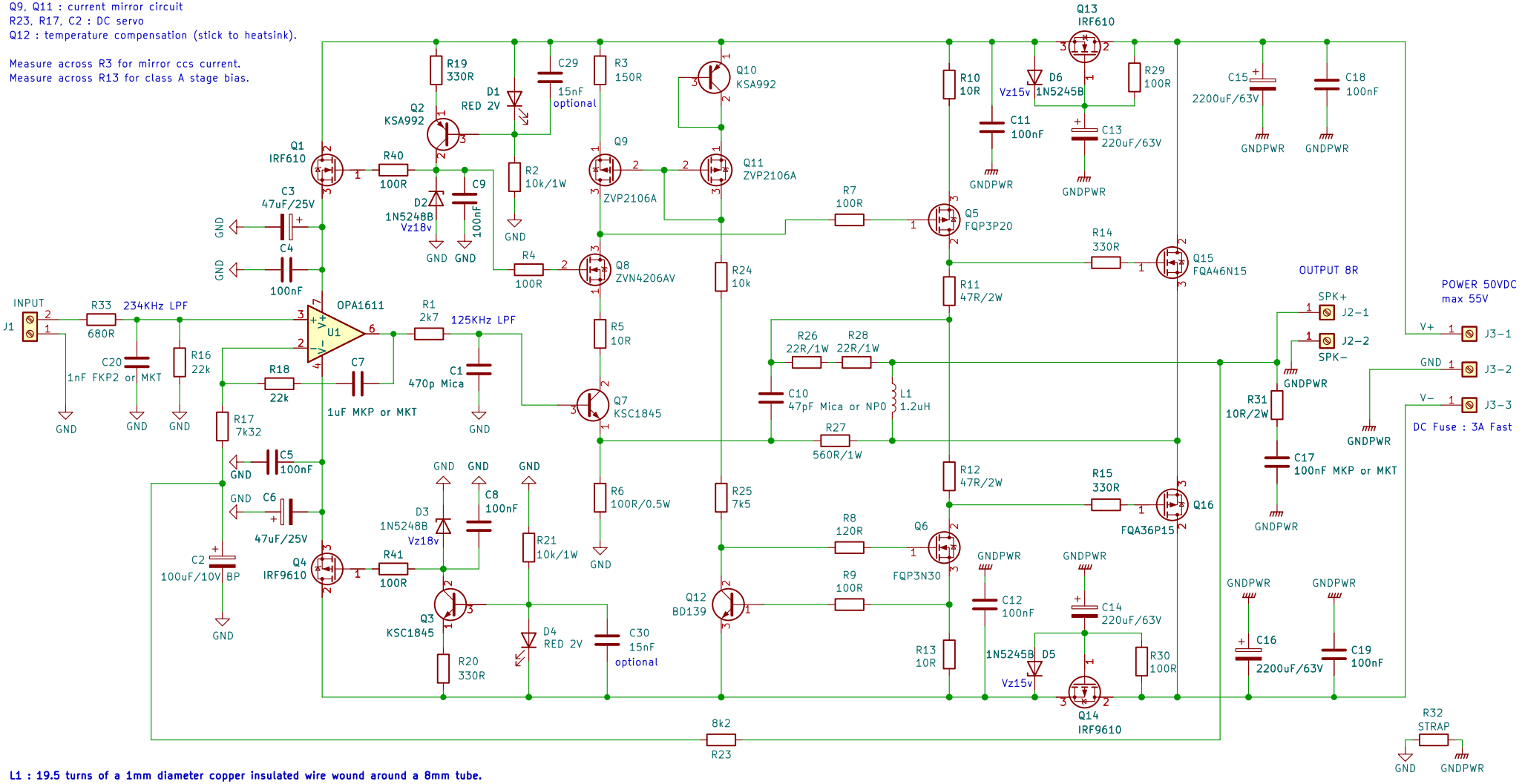
Q7, Q8 : cascode circuit (R3 = current setup, need to adjust R5/R6)
Q9, Q11 : current mirror circuit
R23, R17, C2 : DC servo
Q12 : temperature compensation (stick to heatsink).

Measure across R3 for mirror ccs current.
Measure across R13 for class A stage bias.

Do not power on the board without opamp.



L1 : 19.5 turns of a 1mm diameter copper insulated wire wound around a 8mm tube.

This will give you a coil of 10x20mm (see picture on github repository).

For input sensibility at 1.5v: R17 = 7.32k
For input sensibility at 0.750v: R17 = 3.3k
Remember to take off the resistors of 1W and more from the PCB when you solder them.

U1 : OPA1641 (JFET) or OPA1611 (BIPOLAR)
Q1, Q13 : IRF610
Q2, Q10 : KSA992
Q4, Q14 : IRF9610
Q3, Q7 : KSC1845 or 2SC2240GR
Q5 : FQP3P20 (need isolator)
Q6 : FQP3N30 or FQP3N50C (need isolator)
Q8 : ZVN4206AV or 2N7000G
Q9, Q11 : BS250P or ZVP2106A or VP2206N3
Q12 : BD139G (isolator)
Q15 : FQA46N15 or FQA40N25 (need isolator)
Q16 : FQA36P15 or IXTH48P20P (need isolator)

Transformer: 2x35v 160VA
J1: KF127 or JST B2B-XH-A-GU.
100nF capacitor : Wima MKS2
C3, C6 : Nichicon UKZ1E470MPM
1W resistor : Vishay PR01
2W resistor : Vishay CCF02 or PR02
D1, D4 : LED RED 2V TLHR5400
D2, D3 : 1N5248B
D5, D6 : 1N5245
C13, C14 : Vishay MAL215058221E3
C15, C16 : Vishay 048 (MAL204858222E3) or Nichicon UFW (UFW1J222MHD) or Wurth WCAP-ATG8 (860010781028).

Q5, Q15, Q6, Q16 and Q20 need film Insulator and insulating washer spacer.
For resistor < 150R : sort then or use 1% range.
0.25W, 0.5W resistor : Vishay MRS25 or CCF07
R27 : 560R 1W 1% Ohmite WNB560FET or Vishay CMF60560R00JKR6
R26, R28 : 22R 1% 1W TE Connectivity H4P22RFZA
C1 : 470pF CDE CD15FD471JO3F or polystyrene capacitor.
C2 : Non polar capacitor Nichicon Muse UES1A101MPM.
C7 : 1uF Wima MKP2D041001N00JSSD or MKS4B041002C00JF00.
C10 : 47pF Mica CDE CD15ED470JO3 or ceramic NPO.
C17 : 100nF capacitor FKP3C031004C00JSSD or MKT1822410255.
C20 : 1nF Wima FKP2C011001D00HSSD or Vishay MKT BFC237085102.
J2 and J3: FASTON 250 PCB connector (TE Connectivity 63849-1)

Q17 a QUAD405 audiophile approach

Modified by Stef for the Q17-Mini project
by eng. Tiberiu Vicol

Sheet: /
File: Q17-Mini.kicad_sch

Title: Q17-Mini Amplifier

Size: A4	Date: 2023-05-22	**Rev: 1.4.2**
KiCad E.D.A. kicad (6.0.11-0)		Id: 1/1