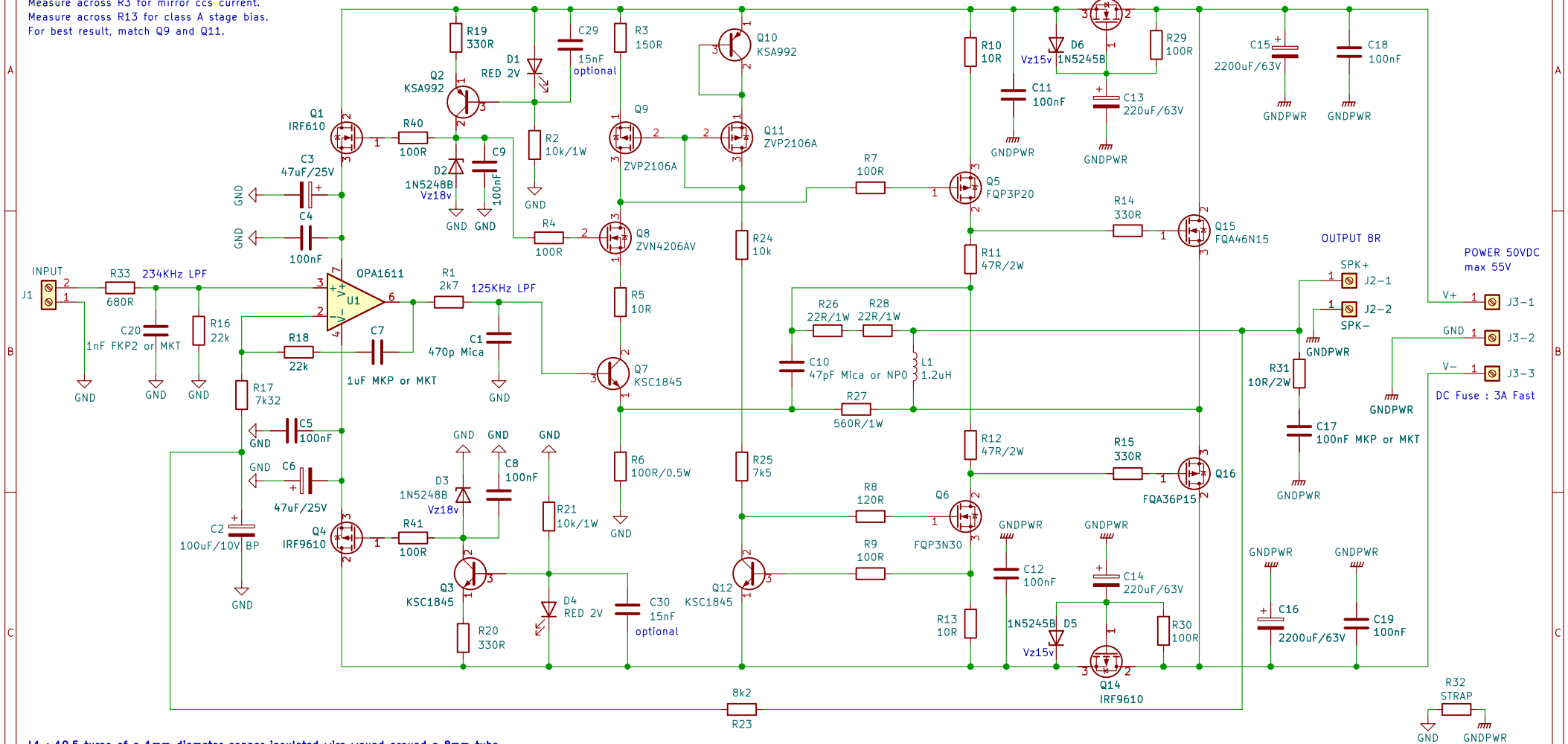


Q7, Q8 : cascode circuit (R3 = current setup, need to adjust R5/R6)  
 Q9, Q11 : current mirror circuit  
 R23, R17, C2 : DC servo  
 Measure across R3 for mirror ccs current.  
 Measure across R13 for class A stage bias.  
 For best result, match Q9 and Q11.

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).

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 CD15FD471J03F or polystyrene capacitor.  
 C2 : Non polar capacitor Nichicon Muse UES1A101MPM.  
 C7 : 1uF Wima MKP2D041001N00JSSD or MKS4B041002C00JF00.  
 C10 : 47pF Mica CDE CD15ED470J03 or ceramic NP0.  
 C17 : 100nF capacitor FKP3C031004C00JSSD or MKT1822410255.  
 C20 : 1nF Wima FKP2C011001D00HSSD or Vishay MKT BFC237085102.  
 C13, C14 : Vishay MAL215058221E3 J2 and J3: FASTON 250 PCB connector (TE Connectivity 63849-1)  
 Q9, Q11 : BS250P or ZVP2106A  
 Q12 : KSC1245  
 Q15 : FQA46N15 or FQA40N25 (need isolator)  
 Q16 : FQA36P15 or IXTH48P20P (need isolator)  
 C15, C16 : Vishay 048 (MAL204858222E3) or Nichicon UFW (UFW1J222MHD) or Wurth WCAP-ATG8 (B60010781028).

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.

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: 2023-06-25

KiCad E.D.A. kicad (6.0.11-0)

**Rev: 1.4.5**

Id: 1/1