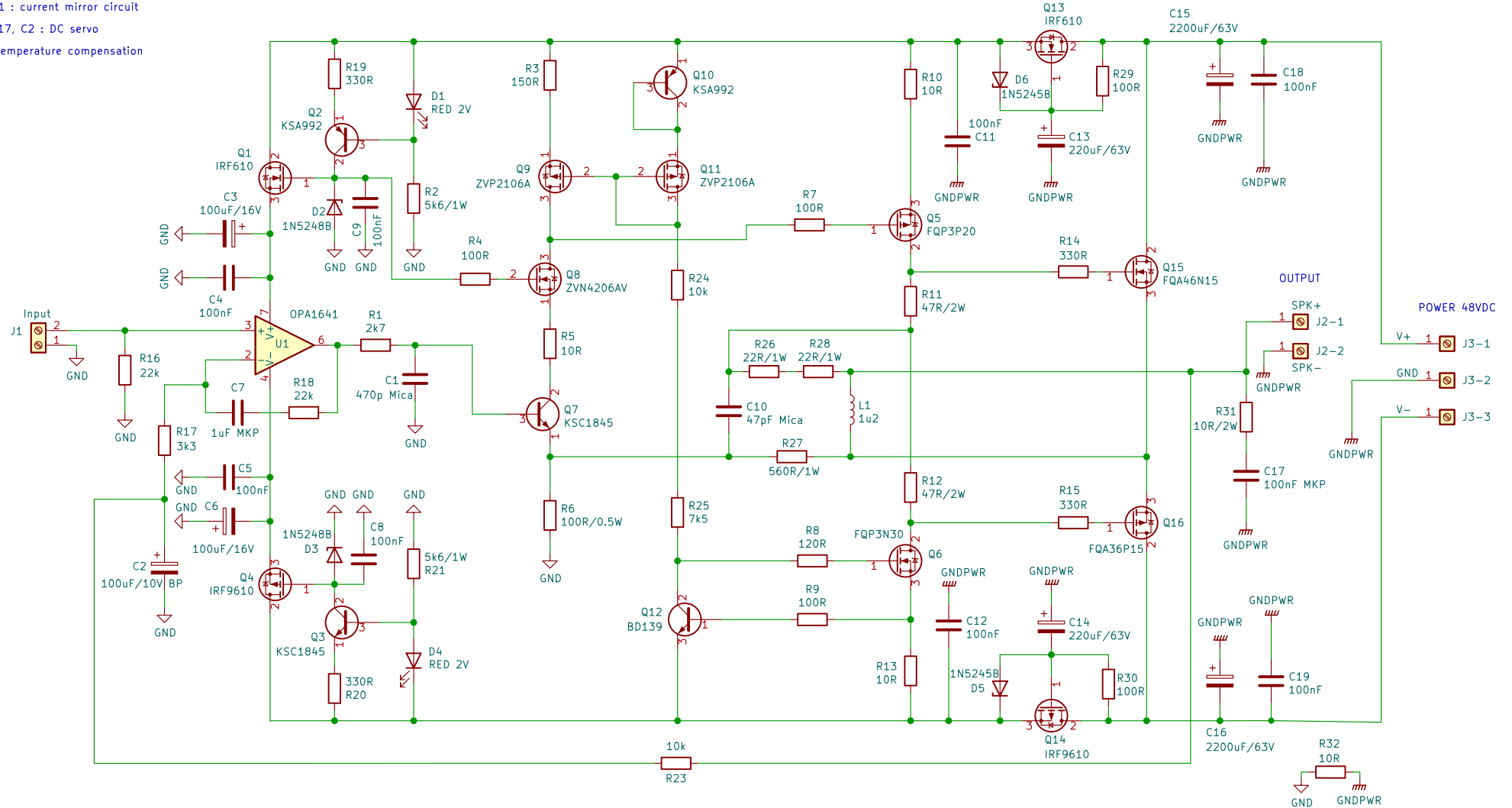


Q7, Q8 : cascode circuit
 Q9, Q11 : current mirror circuit
 R23, R17, C2 : DC servo
 Q12 : temperature compensation

Do not power on the board without opamp.



Q1, Q13 : IRF610
 Q2, Q10 : KSA992
 Q4, Q14 : IRF9610
 Q3, Q7 : KSC1845
 Q5 : FQP3P20
 Q6 : FQP3N30
 Q8 : ZVN4206AV or 2N7000 (not TA)
 Q12 : BD139
 Q9, Q11 : ZVP2106A or BS250P (Diodes Inc)
 Q15 : FQA46N15
 Q16 : FQA36P15

L1 : 22 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).

100nF capacitor : Wima MKS2
 0.5W, 1W resistor : Vishay PR01
 2W resistor : Vishay CCF or PR02
 U1 : OPA1641 or OPA1611
 D1, D4 : LED RED 2V
 D2, D3 : 1N5248B
 D5, Q6 : 1N5245
 C3, C5, C13, C14 : Panasonic FC
 R26, R27, R28 : try to use non inductive 1W resistor (Vishay Dale or Ohmite).
 C15, C16 : Vishay 048 RML (MAL204858222E3) or Nichicon UFW (UFW1J222MHD).
 C7 : use MKP capacitor (MKP1F041005I00JYSD or MKP4D041005D00JSSD).
 C17 : use MKP capacitor (MKP1F031004B00KI00 or FKP3C031004C00JSSD).
 C2 : use bipolar capacitor if possible (Nichicon Muse UES1A101MPM).
 C1, C10 : use Mica CDE CD15 or Polystyrene capacitor.
 J2 and J3: FASTON 250 PCB connector (TE Connectivity 63849-1)

Exicon laterals : R11 and R12 = 10R 2W

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: 2021-12-18
 KiCad E.D.A. kicad (6.0.0-rc1-343-g73b39e836d)

Rev: 1.1.5
 Id: 1/1