

Input-referred voltage noise: $\leq 100 \mu\text{V RMS}$
For 20 MHz bandwidth:
V noise density $\leq 23 \text{ nV}/\sqrt{\text{Hz}}$
I noise density $\leq 450 \text{ pA}/\sqrt{\text{Hz}}$ with 50R source
Implies:
R $\leq 32\text{K}$
C $\geq 400\text{f}$

Non-inverting gain:
 $1 + R_f/R_g = 10$

Amp Specs
Noise:
3.8 $\text{nV}/\sqrt{\text{Hz}}$
1.2 $\text{pA}/\sqrt{\text{Hz}}$

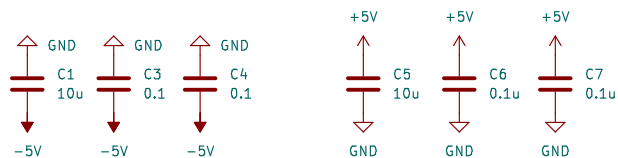
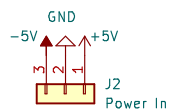
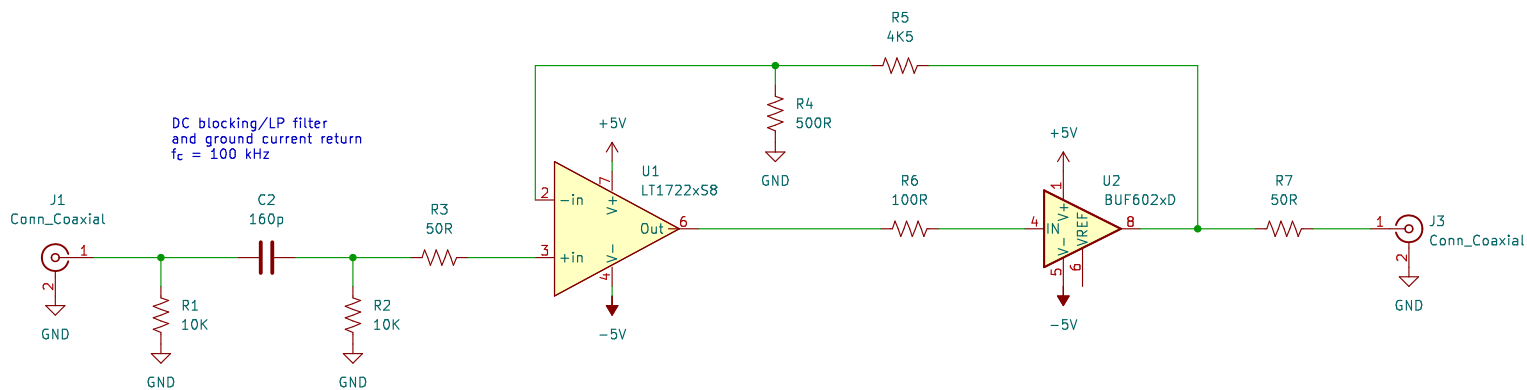
2.5 to 10 V supply
200 MHz GBW
3.7–4.5 mA supply current

Buffer Specs
Noise:
4.8 $\text{nV}/\sqrt{\text{Hz}}$
2.1 $\text{pA}/\sqrt{\text{Hz}}$

3–12 V supply
6 mA supply current

GBW as 1 GHz should ensure stability

DC blocking/LP filter
and ground current return
 $f_c = 100 \text{ kHz}$



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File: lna_sma_10x.kicad_sch

Title: Low Noise Amplifier SMA 10x

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