

Noise 5

Multiple Choice Quiz

TI Precision Labs – Op Amps



Quiz: Noise 5

1. Assume that a amplifier has a bandwidth of 100kHz. What should you set the start and end frequency to in order to find the total noise?

- a. 1kHz to 100kHz
- b. 100Hz to 10kHz
- c. 0.1Hz to 10MHz
- d. 0Hz to 100kHz

2. How can you test that the simulation circuit is connected correctly?

- a. If no error check messages appear, it is connected correctly.
- b. Noise will converge to a final value.
- c. Run an ac transfer characteristic and compare the bandwidth to a hand calculation.
- d. Carefully make sure that the circuit is wired correctly, and check all component values.

3. What is a quick way to ensure that noise is modeled?

- a. Run a transient simulation and look for noise in the time domain.
- b. Spice will issue a warning if noise is not modeled.
- c. Check the model using the net list viewer. The modeled parameters are listed.

Quiz: Noise 5

4. How do you find the integrated rms output noise using simulation?

- a. Output Noise Diagram
- b. Total Noise Diagram

5. How do you find the noise spectral density using simulation?

- a. Output Noise Diagram
- b. Total Noise Diagram

6. When looking at the total noise diagram, you should expect ____.

- a. The noise to flatten out or converge to a final value at high frequency.
- b. The noise to decrease or roll-off at high frequency.
- c. The noise to increase abruptly in the $1/f$ region.
- d. The peak noise to be 1 decade below the bandwidth.

Quiz: Input Offset Voltage (V_{OS}) & Input Bias Current (I_B)

7. When is a filter capacitor across the feedback resistor most effective?

- a. When the amplifier is in high gain.
- b. When the amplifier is in low gain.

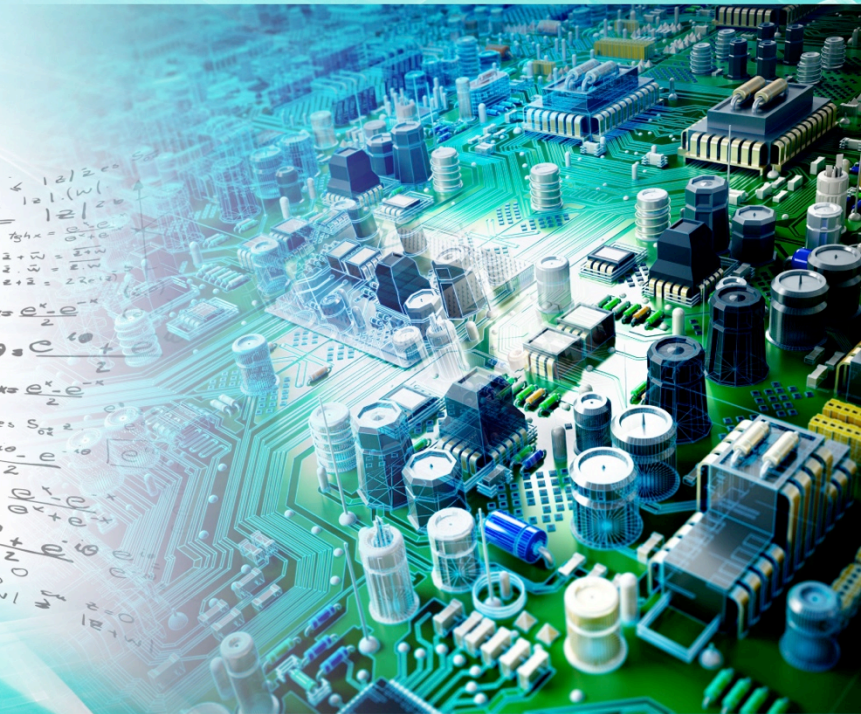
8. What is the drawback of using an external RC low pass filter as opposed to a feedback capacitor filter?

- a. This can cause instability under some conditions.
- b. It introduces a leakage path to ground.
- c. The output impedance of the amplifier is decreased.
- d. The output impedance of the amplifier is increased.

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Multiple Choice Quiz: Solutions

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