ece341_lab3

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Part I

Op-amp finite gain-bandwidth product

This lab investigates the trade-off between gain and bandwidth for an opamp under feedback.

1 Background

2 Procedure

Select one of the available opamps. Test your part to ensure it works before proceeding by operating the opamp as a voltage follower and checking that the gain is 1 up to around the part's unity gain frequency. Remember to always include a capacitor between the power supply pins directly at the opamp. Keep all wires short.

Design and implement a procedure to verify that an opamp's gain-bandwidth product remains constant when using varying amounts of feedback (closed-loop gains). Do this by operating the amplifier at 5 or more gains (β values) and find plot the frequency response at each. Specifically measure the $-3\,\text{dB}$ frequencies. Your analysis plots should follow the Compare your measurements with the opamp's datasheet value of gain-bandwidth product.

3 Report

Use the Lab Report Guidelines document to set the content and format for your report.