24 Fall ECEN 704: VLSI Circuit Design

Design Pre-lab Report

Lab5: Current Mirrors

Name: Yu-Hao Chen

UIN:435009528

Section:601

Professor: Aydin Karsilayan

TA: Troy Buhr

1. Make a table which lists the three current mirror topologies described in this lab. Rate each topology using good, medium and bad for the following design considerations: Rout, accuracy, complexity, and compliance voltage.
2. Design a simple 1:1 current mirror that has a compliance voltage of 100 mV to 150 mV. The output current should be 100 μA. Determine W/L for each transistor and what the expected output impedance should be.
3. Design a low-voltage cascode current mirror with a 1:2 input current to output current ratio. The low frequency output impedance should be greater than 1 MΩ. Assume a 50 μA input current.

