

14. Derive the current relationship and output resistance for two transistor MOSFET current source.

15. Derive the relationship for reference current I_{ref} for the circuit in which I_{ref} is established using an additional transistor.

16. Derive the output resistance of cascode current mirror and compare it with two transistor MOSFET current source.

17. Draw the small signal equivalent circuit of a differential amplifier using MOSFET and derive its CMRR.

18. Consider the differential amplifier in Neuman Book Example 11.10 (page no 778).

$I_Q = 0.5 \text{ mA}$, $\lambda = 0.02 \text{ V}^{-1}$ for M_4 .

Calculate CMRR in dB.