**+Assignment 1: Single Stage Amplifiers**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Group no. | Amplifying device | Load type | Degeneration realization | Gain (at least) | Voltage swing (at least) |
| 9. | PMOS | NMOS telescopic load | Saturated PMOS | 5000 | Vdd/4 |

1. **Common Source Amplifier with Source Degeneration**

**Specifications:**

* Less than 0.6mW power consumption
* Gain should be greater than 30 (for current source loads) and greater than 3 (for diode connected load)
* Max output swing should be at least Vdd/2 (current source load) and Vdd/6 (diode connected load).
* Choose a supply voltage of either 2.5V or 3.3V (this is a great level of freedom available to you! It is normally not available.).