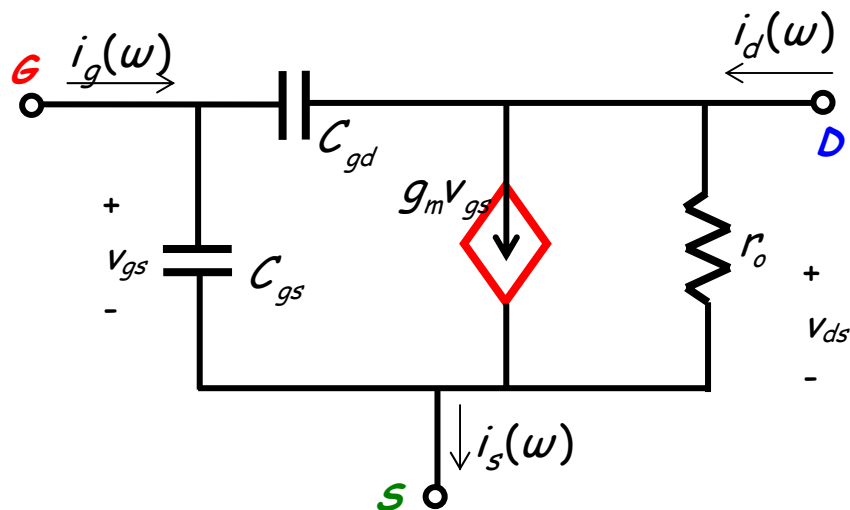


The MOSFET High-Frequency Small-Signal Model

Combine the internal capacitances in a **modified** MOSFET small-signal model.



- * Therefore use this model to construct small-signal circuit when v_i is operating at **high frequency**.
- * Note since ω , all currents and voltages will be **dependent on operating frequency** ω .
- * Note that at high frequencies, the gate current is **non-zero** (i.e., $i_g(\omega) \neq 0$)!!! Therefore, $i_d(\omega) \neq i_s(\omega)$.
- * Note at low-frequencies, the model reverts to the **original** MOSFET small-signal model.