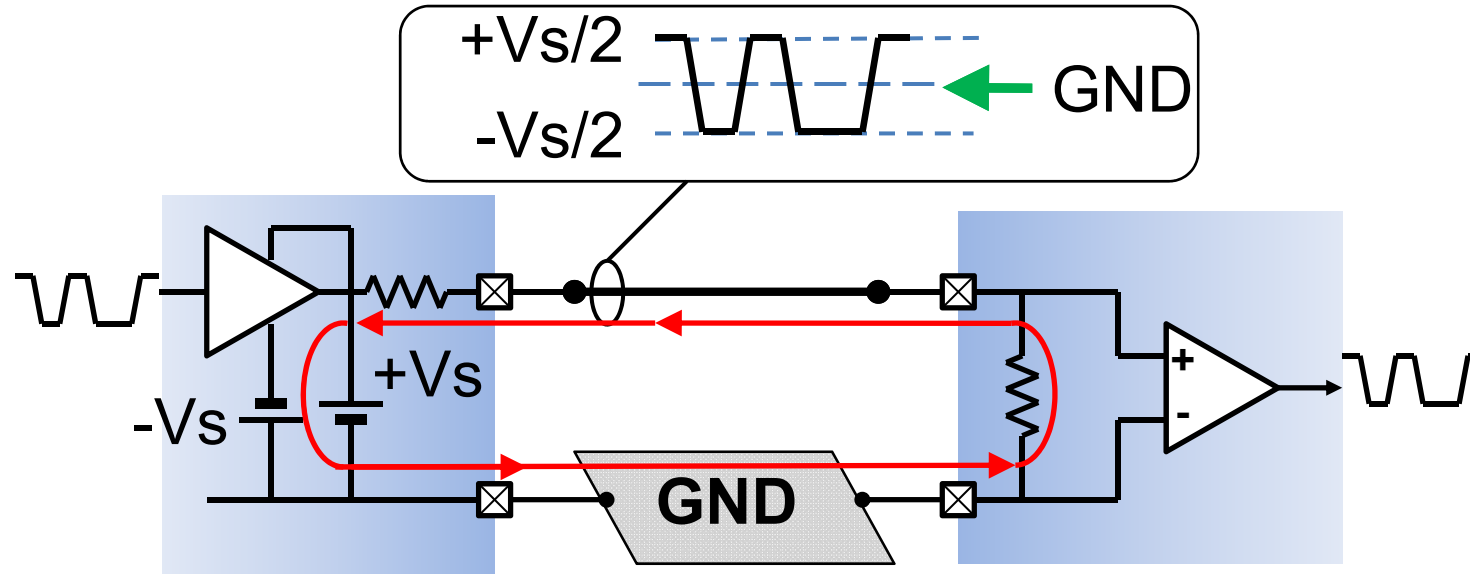


# Ground-Referenced Signaling (GRS)



**Reference Problem:** GND lowest  $Z$ , most robust network in a system, so Tx and Rx can more easily agree on  $V_{ref}$ .

**Return Problem:** Return current flows only in GND plane. So, no noise induced in power supply that circuits operate from.

**Simultaneous Switching Noise (SSN) Problem?**  
**How do we generate  $+V_s$  &  $-V_s$ ?**