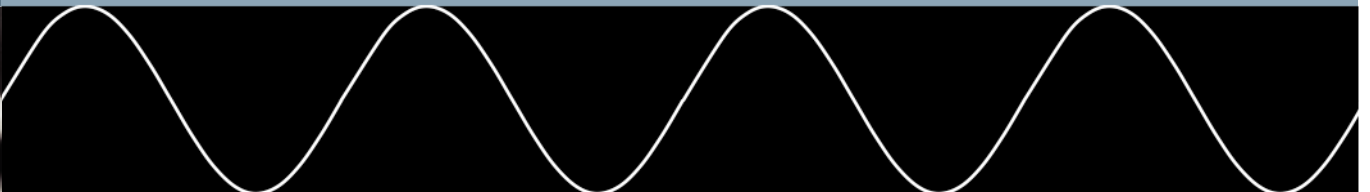# E2EUNB SPICE Simulation

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Linear Technology

E2EUNB Ad Hoc 8/19

LINEAR TECHNOLOGY

# Why SPICE?

- Alternate mathematical technique to develop accurate results

- "Second opinion" to check MatLab, Excel calculations

- Easy to set up simulations accurately: SPICE was designed to model electrical circuits

- Most electrical engineers are comfortable with SPICE simulations

# SPICE Simulation to Confirm E2EUNB Results
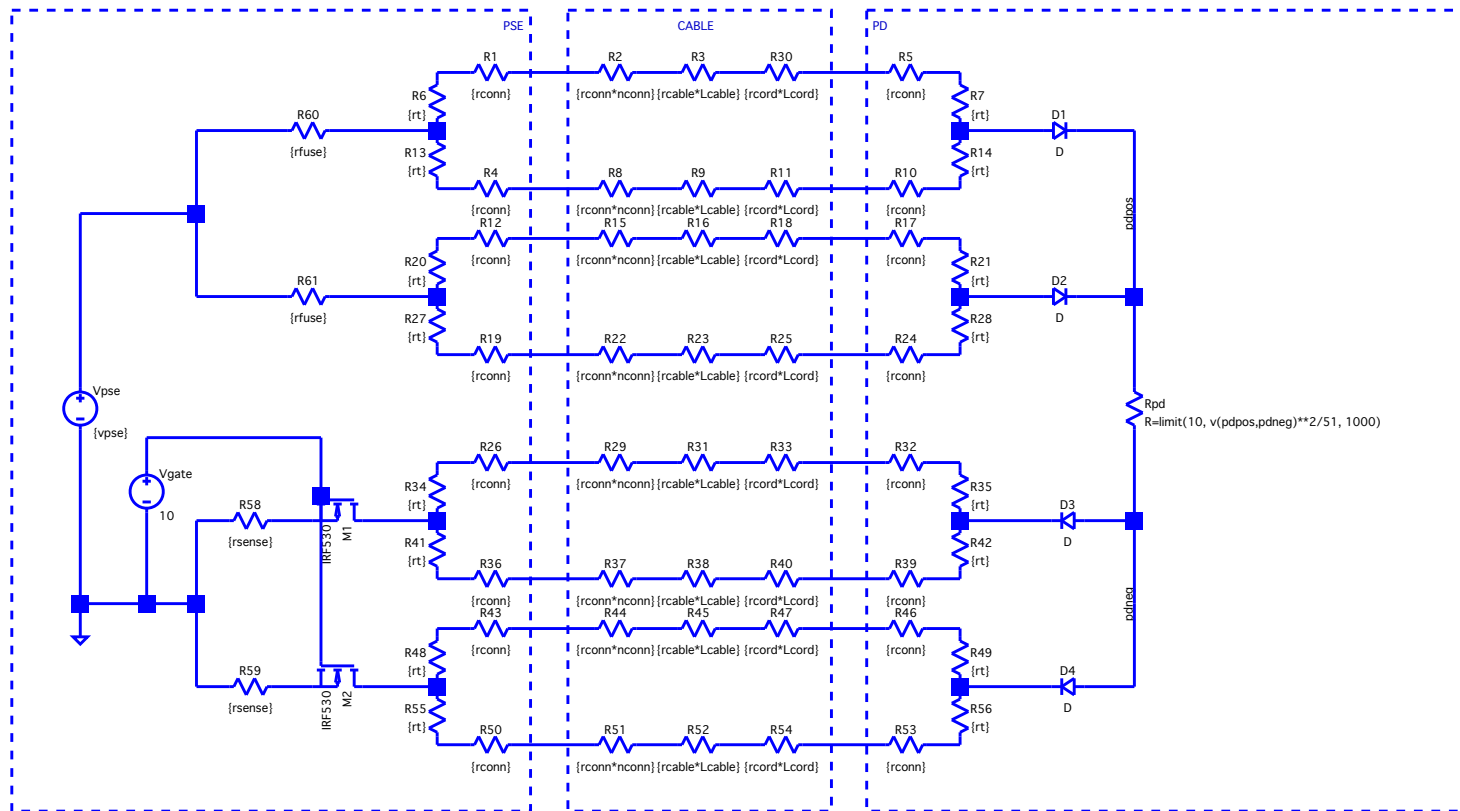
# SPICE Simulation: Work in Progress

- Basic circuit is in place
- Need to add tolerances to all components, setup parameters for Worst Case and Monte Carlo analyses
  - I should have it up and running with results by next adhoc meeting 8/26
  - Final results to be presented at Ottawa meeting 9/10
- .asc file works with LTSpice, .netlist should work with any SPICE simulator with minor edits

# What Does E2EUNB Tell Us?

- Cable unbalance (CP2PUNB) is what it is
  - Cabling, cordage and connectors are already in field
- We control PSE, PD unbalance specs
- Three possible approaches:
  - "no effort" balance specs, lower power limits
  - Tight PSE specs, allow PD balance to control PD power
  - Tight PD specs, PD power based on PSE specs

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