**PMOS CALCULATIONS**

**NOTE:** Calculations were performed assuming **ALL** strain gauges are connected. The resistance changes as strain Gauges are disconnected. Though it should be fine if we disconnect some.

For a PMOS

A diagram of a pulse

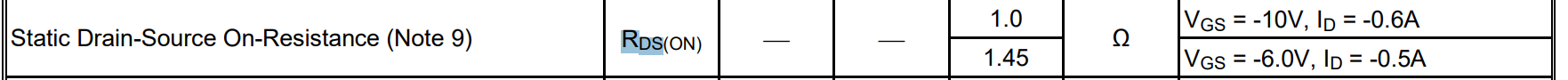
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Figure **Similar model** was run in stimulation, however not the same as what we choose

CUTOFF REGION:

YES IT can turn off

TRIODE REGION: (FULLY ON)



**ASSUME IN TRIODE REGION**

Our when turned on so we can **assume**

The unknown is

Very ON!

# Bypass capacitor calculations as PMOS switches 1KHz. Check LTSPICE documentation for more indepth stimulation

I\_load = 114mA

Delta T = 0.5ms

Delta V = 0.5V <- just setting it as such

I = C dV/dT

C = I \* dT/dV

C = 114mA \* 0.5ms / 0.5

= 114 uF ~= 100uF

A screen shot of a graph

AI-generated content may be incorrect.

Figure Assuming C=100uF, ended up not using due to high spike in current

# What happens to differential strain analog signal as 5V rail changes?

A computer screen shot of a computer

AI-generated content may be incorrect.

Figure : 5V rail = 5V, differential signal = 14.89mV

A screenshot of a computer

AI-generated content may be incorrect.

Figure : 5V rail = 4.5V, differential signal =13.47mV

A screenshot of a computer

AI-generated content may be incorrect.

Figure : 5V rail = 4.9, differential signal =14.59mV