

Re: Transmission Gate question

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Angmor wrote:

I've been staring at a transmission gate circuit for a while trying to figure out how it works and I'm not making any progress. The problem we have (yes, it's a homework problem) is to determine the on resistance for the specific gate we've been given. The circuit diagram is basically just an nmos and a pmos connected in parallel. The input side (I know they're interchangeable) is set to 5V and both of the fets are on (5v & 0v gate for n/p, respectively). No output voltage is given. I've searched for a while on google trying to find helpful information, but all I can find is that the input signal is supposed to pass through to Vout so that Vout is almost equal to Vin.

My question is... How can I determine the output voltage? I can't determine the transistor mode or currents without the output voltage, and if I can't do that I cannot determine the on resistance. I am not asking for an answer to my problem, I would just like a nudge in the right direction if possible. This problem is driving me crazy.

What happens to the bulk when you "turn the transistor on"?

What circuit node is the output terminated to, and through what (load)?

IOW first find what limits the output voltage can be within and go from there.

Mark L. Ferguson