

Re: Transmission Gate question

Source: <http://sci.tech-archive.net/Archive/sci.electronics.basics/2006-01/msg01492.html>

- *From:* <jwelser@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* Tue, 31 Jan 2006 16:33:20 +0000 (UTC)
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Noway2 <no_spam_me2@xxxxxxxxxxxx> wrote:

: Most text books focus too much on the $I_d = k(V_{gs} - v_t)^2$ equation.
: Unless you are getting into semiconductor physics, this equation is
: probably about worthless. It may help for you to look at some product
: data sheets for fets and look at the curves relating on resistance
: versus the V_{ds} and V_{gs} .

It's more a distinction between analog and digital circuits,
rather than semiconductor vs (? — MOSFETs are semiconductors.) Devices
in CMOS digital circuits spend most of their time in either the cutoff or
the linear region, only passing through the saturation region (whose drain
current is roughly given by the equation you presented above) when they
are switching. On the other hand, most useful analog circuits involve
amplifiers, which rely on devices that exhibit the controlled
current-source behavior characteristic of the saturation region of
operation.

Joe

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- *Follow-Ups:*
 - ◆ ***Re: Transmission Gate question***
◇ *From:* Anthony Fremont
- *References:*
 - ◆ ***Transmission Gate question***
◇ *From:* Angmor
 - ◆ ***Re: Transmission Gate question***
◇ *From:* Angmor
 - ◆ ***Re: Transmission Gate question***
◇ *From:* Pooh Bear
 - ◆ ***Re: Transmission Gate question***
◇ *From:* Noway2
- Prev by Date: ***Re: Transmission Gate question***

Re: Transmission Gate question

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