

# Switching Characteristics of Ferroelectric Transistor Inverters

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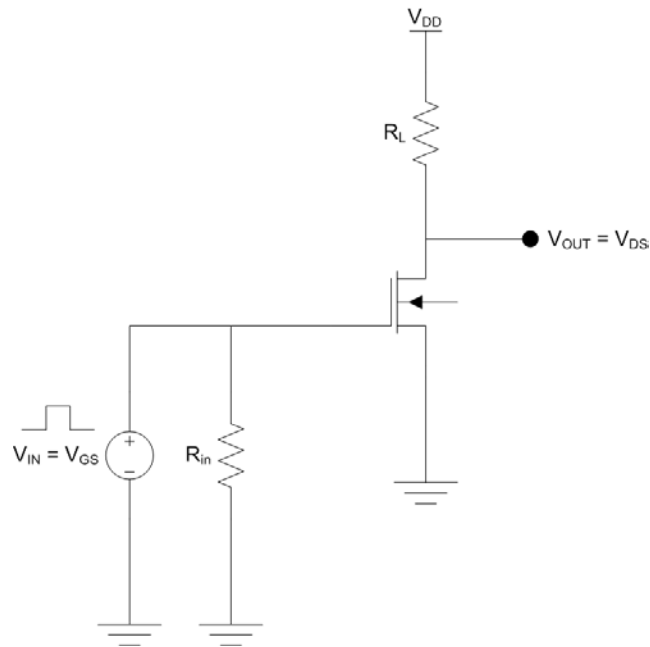
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## Abstract

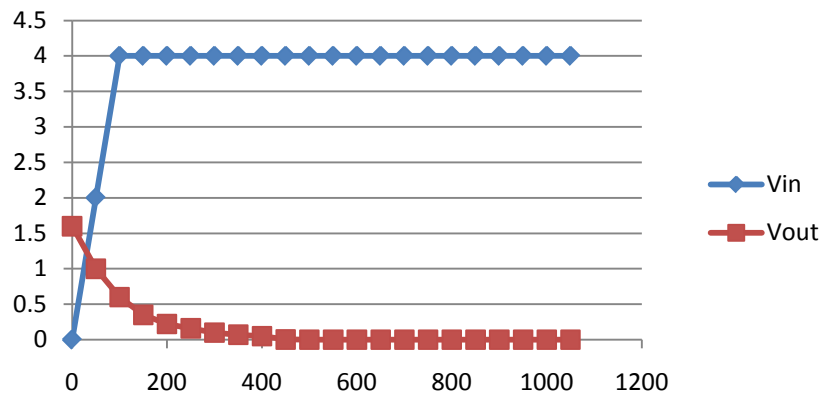
This paper presents the switching characteristics of an inverter circuit using a ferroelectric field effect transistor, FeFET. The propagation delay time characteristics,  $\tau_{phl}$  and  $\tau_{plh}$  are presented along with the output voltage rise and fall times,  $\tau_{rise}$  and  $\tau_{fall}$ . The propagation delay is the time-delay between the  $V_{50\%}$  transitions of the input and output voltages. The rise and fall times are the times required for the output voltages to transition between the voltage levels  $V_{10\%}$  and  $V_{90\%}$ . Comparisons are made between the MOSFET inverter and the ferroelectric transistor inverter.

**Keywords:** MOSFET, FeFET, ferroelectric transistor inverter

## Ferroelectric Inverter Circuit



### FeFET Inverter Fall Time



### FeFET Inverter Rise Time

