Switching Characteristics of Ferroelectric Transistor Inverters

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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, τ_{phl} and τ_{plh} are presented along with the output voltage rise and fall times, τ_{rise} and τ_{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