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# Field Effect High Power Inverter



## Overview

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A novel line-tunneling field effect transistor (LTFET) incorporating a reversed p-i-n structure is introduced. The line-tunneling process provides high  $I_{ON}$  and low SS while the reversed p-i-n structure keeps the I.

What are organic field-effect transistors (OFETs)?

Any queries (other than missing content) should be directed to the corresponding author for the article. Abstract Organic field-effect transistors (OFETs) with good flexibility and low operating voltage, are of great meaning for the low power stretchable and wearable electronic devices.

Are ternary inverters reliable during memory operations?

The presented ternary inverter showed reliable characteristics even after  $10^5$  cycles of memory operations, implying that the degradation of the three logic states of the ternary inverter is negligible during memory operations. (a, b) Logic retention, and (c, d) endurance characteristics of the ternary inverter in each of MW1 and MW2.

How does a ternary inverter work?

After write pulses with a time width of 2 s are applied, the ternary inverter stably maintains the logic '1' or '0' states at  $V_{IN} = -2.0$  V and the logic '0' or '-1' states at  $V_{IN} = -0.9$  V for a holding time of 150 s.

How ternary inverter can replace volatile memory block?

Accordingly, the ternary inverter can be embedded in the CPU and it can replace the volatile memory block or D-latch circuit. Holding operation of (a) logic '1' and '0' states in MW1, and (b) logic '0' and '-1' states in MW2 under dynamic condition.

## Field Effect High Power Inverter

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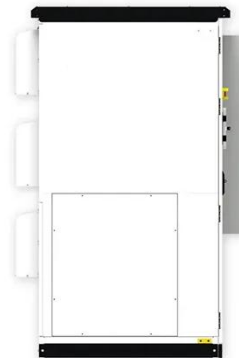


### Study of performance evaluation of various characteristics of ...

This paper reports the characteristics study of a single phase full bridge power electronic inverter circuit with a new type of technology namely surrounded channel ...

## Electrically Binary and Ternary Convertible CMOS Inverter ...

In this work, electrically binary and ternary reconfigurable complementary metal-oxide-semiconductor (T-CMOS) inverter that achieves stable multivalued logic (MVL) is ...



## High-Performance Organic Field-Effect Transistors and Inverters ...

Organic field-effect transistors (OFETs) with good flexibility and low operating voltage, are of great meaning for the low power stretchable and wearable electronic devices.



## Fully Printed Negative-Capacitance Field-Effect Transistors ...

Functional Inorganic Materials and Devices|Fully Printed Negative-Capacitance Field-Effect Transistors with Ultralow Subthreshold Swing and High Inverter ...



## Inverter design with positive feedback field-effect transistors

In this work, we propose an inverter circuit design with silicon-on-insulator (SOI) FBFETs; we verified this inverter design with mixed-mode technology computer-aided design ...

## Junction field-effect transistors based on ZnO/Te ...

Achieving minimal subthreshold swing (SS) in transistors is crucial for low-voltage operation and reduced power consumption, however, it remains a challenging issue for conventional ...



## A Novel High-Performance Tunneling Field-Effect

## Transistor Ternary Inverter

As the critical building block of the ternary system, massive research in recent years has mainly been focused on the ternary inverter. Particularly, the tunnel



## A Study on Dual-Gate Dielectric Face Tunnel Field-Effect

In this article, we propose a dual-gate dielectric face tunnel field-effect transistor (DGDFTFET) that can exhibit three different output voltage states. Meanwhile, according to ...



**12.8V 100Ah**



## A complementary ternary inverter based on the line tunneling field

A novel line-tunneling field effect transistor (LTFET) incorporating a reversed p-i-n structure is introduced. The line-tunneling process provides high I ON and low SS while the ...

## New ternary inverter with memory function using silicon feedback field

In this study, we present a fully complementary metal-oxide-semiconductor-compatible ternary inverter with a memory function using silicon feedback field-effect ...



## A Study on Dual-Gate Dielectric Face Tunnel ...

In this article, we propose a dual-gate dielectric face tunnel field-effect transistor (DGDFTFET) that can exhibit three different output ...

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