



Category: MOSFET

**CIRCUIT IDEAS FOR DESIGNERS**

Schematic no. fet\_11100.0

**Basic MOSFET / EPAD® MOSFET Inverter Circuit****Description**

This circuit shows a basic MOSFET (or EPAD MOSFET) inverter circuit. The drain terminal is the output and the gate terminal is the input. The output voltage  $V_O$  is determined by the input voltage and the output loading  $R$ .  $V_O$  can be a voltage either above or below threshold voltage, which depends on the drain current  $I_{ds}$  as controlled by the gate voltage, and which in turn depends on  $R$  value. The drain current is given by  $I_{ds} = (V_+ - V_{DS})/R$ .

At very high  $R$  values, the drain current may decrease to such a low level that leakage current becomes a significant factor. The drain leakage current is a function of ambient temperature, and it ranges from nA to a few pA, depending on the ambient temperature range of operation considered and the device selected.

For full schematic diagram and notes, please register and login at [aldinc.com](http://aldinc.com)