Description

This circuit shows an EPAD® MOSFET inverter circuit connected as a voltage controlled resistor circuit. The drain terminal is the output and the gate terminal is the input, which is connected to a voltage reference. The output voltage $V_o$ is determined by the reference input voltage and the output loading $R$. The drain to source voltage and the drain current $I_{ds}$ forms one leg of a resistor divider, and the resistor $R$ forms the other leg of the resistor divider. Depending on the value of $R$ selected, the output $V_o$ is biased in either negative tempco, zero tempco, or positive tempco modes. Note that the resistor $R$ itself also contributes its own tempco term. This circuit works best when the $V_o$ value is kept to a low level, such as at less than 1.0V. If a separate reference voltage is not available, a relatively stable voltage such as a regulated $V+$ or a voltage that is ratio-metric to $V+$ could be used, at increased $V_o$ variations.

For full schematic diagram and notes, please register and login at aldinc.com