



Category: MOSFET

CIRCUIT IDEAS FOR DESIGNERS

Schematic no. fet_11109.0

Diode-Connected (EPAD®) MOSFET with Buffer Amplifier Output**Description**

This circuit is a diode-connected EPAD MOSFET with buffer amplifier set up in the non-inverting amplifier configuration. V_o is equal to V_T multiplied by the gain $G=1+R_B/R_A$. The drain DN1 of the EPAD MOSFET is shorted to the gate terminal GN1. When connected in this manner, this circuit produces a drain current I_{ds} that flows through the MOSFET which increases exponentially with increases of V_o , with I_{ds} versus V_o characteristics similar to that of a forward biased diode. V_o is set by the selection of bias resistor R and the specific EPAD MOSFET part number. At a voltage about 55mV above threshold voltage of the EPAD MOSFET, or at 68 μ A I_{ds} , the V_o tends to be temperature stable. At other voltage or current levels, the tempco changes from positive to zero to negative as a function of drain current. This tempco characteristic is determined by appropriate selection of resistor value of R .

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