ABSTRACT

A SEMICONDUCTOR DEVICE

A VD (vertical diffusion) MOSFET device for use in RF power applications has a split gate structure and an additional, dummy gate is provided between the spaced apart gates and, in operation of the device, is electrically coupled to source electrodes provided outside of the gates. The split gate structure reduces gate overlap capacitance and the dummy gate induces depletion in the semiconductor body of the device and reduces the substrate capacitance. The gate overlap capacitance and the substrate capacitance both contribute to the feedback capacitance of the device which has to be as low as possible for high frequency operation. By reducing both of these components, the invention provides advantageous high frequency operation.

(Figure 3)