



**METHOD AND CIRCUIT FOR DRIVING POWER TRANSISTORS
IN A HALF BRIDGE CONFIGURATION FROM CONTROL
SIGNALS REFERENCED TO ANY POTENTIAL BETWEEN
THE LINE VOLTAGE AND THE LINE VOLTAGE RETURN
AND INTEGRATED CIRCUIT INCORPORATING THE CIRCUIT**

ABSTRACT OF THE DISCLOSURE

A circuit for driving power transistors in a half bridge configuration from a control signal referenced to any potential between the line voltage for the power transistors and the line voltage return. The circuit includes an input circuit receiving a control signal referenced to any potential between the line voltage and the line voltage return, the input circuit being supplied with two voltage levels floating with respect to a common voltage level, a first level shifting circuit receiving an output of the input circuit which shifts the level of the output of the input circuit so that it is referenced to the common voltage level, a low side driver circuit for the power transistor in the half bridge configuration which functions as the low side power transistor, the low side driver circuit receiving the output referenced to the common voltage level, a second level shifting circuit which shifts the level of the output from the first level shifting circuit to produce a signal referenced to a second higher voltage level than said common level, and a driver circuit receiving the signal referenced to the second higher voltage level for driving the power transistor comprising the high side power transistor in the half bridge configuration. The circuit can be incorporated in an integrated circuit comprising a single chip, i.e., a silicon chip.