

A FIVE VOLT OUTPUT CONNECTION FOR A CHIP
MANUFACTURED IN A THREE VOLT PROCESS

Abstract of the Disclosure

An output circuit for producing 5 volt output signals from a chip that is manufactured in a 3 volt process, is provided with a control signal logic circuit, a pseudoground generating circuit, and an output signal generation circuit. The control signal logic circuit receives 3 volt data signals from the internal logic circuitry of the chip, and produces control signals as a function of these 3 volt data signals. The pseudoground generating circuit is coupled to the control signal logic circuit and generates a pseudoground greater than zero volts and intermediate output signals as a function of the control signals produced by the control signal logic circuit. The output signal generation circuit is coupled to the pseudoground generating circuit and generates the 5 volt output signals as a function of the intermediate output signals generated by the pseudoground generating circuit. As a result of the creation of the pseudoground, the voltage differential to which the semiconductor devices in the output circuit are subjected is always less than 5 volts. This prevents the rapid degradation of the oxide layer in the semiconductor devices of the output circuit, allowing the 3 volt process chip to interface with 5 volt process devices without premature failure of the chip.

Figure 4