

THIN-OXIDE DEVICES FOR HIGH VOLTAGE I/O DRIVERS

ABSTRACT

[0033] An I/O driver includes a pull-down module and pull-up module. The pull-down module has one or more NMOS transistors serially coupled between ground and an output node. The pull-up module has one or more PMOS transistors serially coupled between a first voltage and the output node. The gates of the PMOS and NMOS transistors are controlled by a set of differential biases for selectively pulling the output node to the first voltage or ground. The differential biases are separately set for each of the transistors so that a voltage difference across each of the transistors does not exceed a predetermined value, thereby preventing the same from damage.

(FIG. 1A)