

ABSTRACT

INTEGRATED CIRCUITS WHICH COMPENSATE FOR LOCAL CONDITIONS

Apparatus for compensating for the effect of a local condition on an active element (105,117,119) in a portion (203) of an integrated circuit (301) includes a detecting element (205) in the portion of the integrated circuit which is subject to the local condition for producing a response to the local condition which is proportional to the local condition's effect on the active element, and a compensation element (207) which is coupled to the detecting element and to the portion for reacting to the response of the detecting element to the local condition by providing a compensating input to the portion which is proportional to the response and which compensates for the local condition's effect on the active element. An embodiment of the apparatus which compensates for leakage currents in FETs in a dynamic CMOS integrated circuit employs one or more FETs (302,309) which are interspersed among active FETs as the detecting element and a current mirror (307) as the compensating element. The current mirror responds to the leakage current in the detecting element FETs by producing a compensating current to compensate for the leakage current in the active FETs. The embodiment is employed in a dynamic NOR gate and a dynamic PLA.

Figure 3

This Sheet Has Been Replaced

