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(71) Applicant (for all designated States except US): **Micron Technology, Inc.** [US/US]; 8000 S. Federal Way, Boise, ID 83707-0006 (US).

(72) Inventor (for US only): **KIM, Kang, Yong**; 5979 S. Settlement Way, Boise, ID 83716 (US).

(74) Agent: **LEWIS, Terril, G.**; Wong, Cabello, Lutsch, Rutherford & Bruculeri, LLP, 20333 State Highway 249, Suite 600, Houston, TX 77070 (US).

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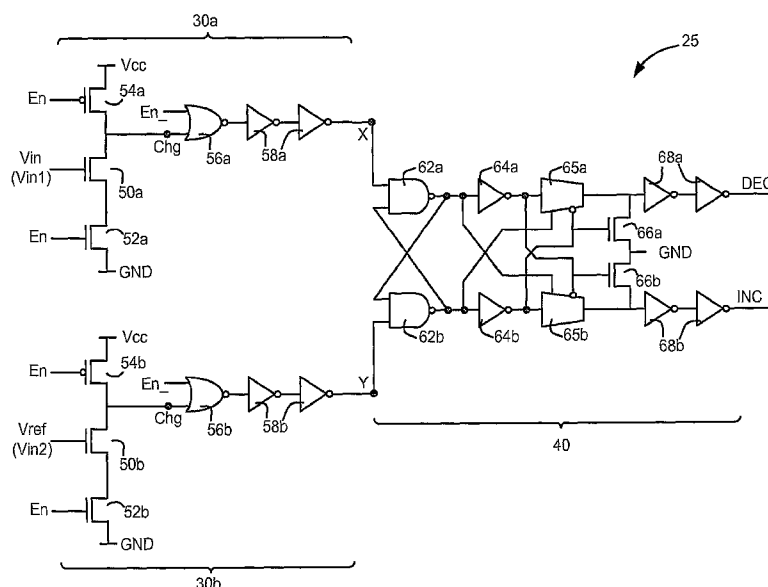
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(54) Title: COMPARATOR CIRCUIT



(57) Abstract: An improved comparator circuit and associated methods are disclosed. In one embodiment, the comparator circuit comprises two voltage-to-time converter circuits, one for each input voltage to be compared, and an arbiter circuit for receiving the time-converted output of each converter. Each converter assesses the magnitude of its input voltage, and outputs a signal that is asserted at a time in inverse proportion to the magnitude of the input voltage. In one embodiment, producing the output signal at the asserted time comprises using the input voltage to gate a transistor whose discharge rate dictates the timing of the output signal. The two output signals arrive at an arbiter circuit whose function is to determine which output arrived at the arbiter first, as is indicative of the higher magnitude input voltage, and to set the output of the comparator accordingly.

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