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- (71) Applicant (for all designated States except US): **MI-CRON TECHNOLOGY INC.** [US/US]; 8000 South Federal Way, Boise, Idaho 83716-9632 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **MORGAN, Donald, M.** [US/US]; 4620 South Martinel Lane, Boise, Idaho 83642 (US).

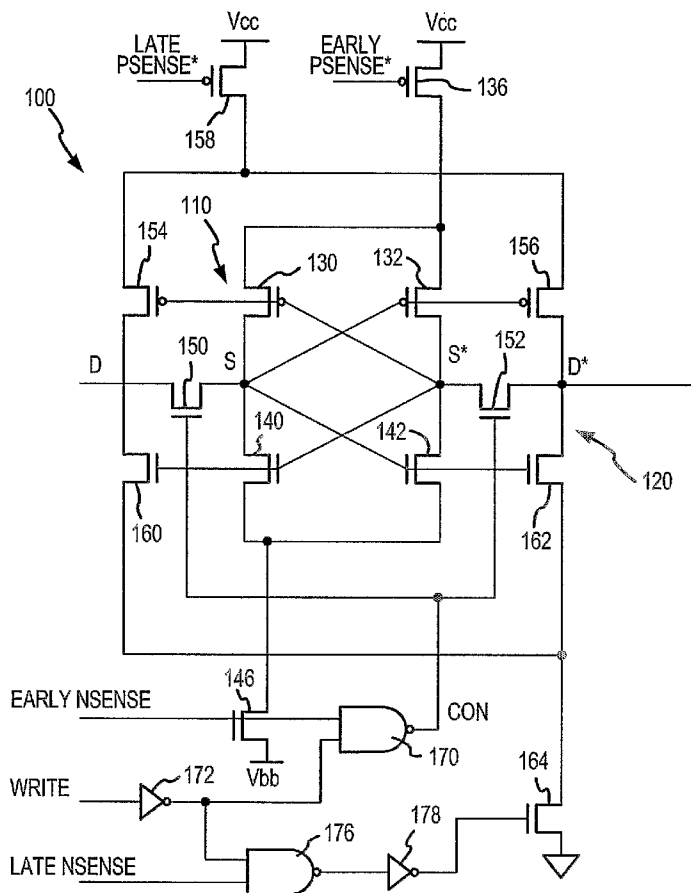
(74) Agents: **BULCHIS, Edward, W.** et al.; Dorsey & Whitney, LLP, 1420 Fifth Avenue, Suite 3400, Seattle, Washington 98101 (US).

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(54) Title: LOW-VOLTAGE SENSE AMPLIFIER AND METHOD



(57) Abstract: A first sense amplifier has complementary inputs and outputs coupled between a pair of complementary sense lines. Each sense line is connected to a respective complementary digit line through a coupling transistor. The coupling transistors are activated during an initial sensing period to couple a differential voltage from the digit lines to the sense lines. The sense lines are then isolated from the digit lines to allow the first sense amplifier to respond to the differential voltage without being loaded by the capacitance of the digit lines. The sense lines are also coupled to complementary inputs of a second sense amplifier that has complementary outputs coupled to the digit lines. By coupling the inputs of the second sense amplifier to the sense lines rather than the digit lines, the differential voltage applied to the second sense amplifier increases faster than the increase of the differential voltage between the digit lines.



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