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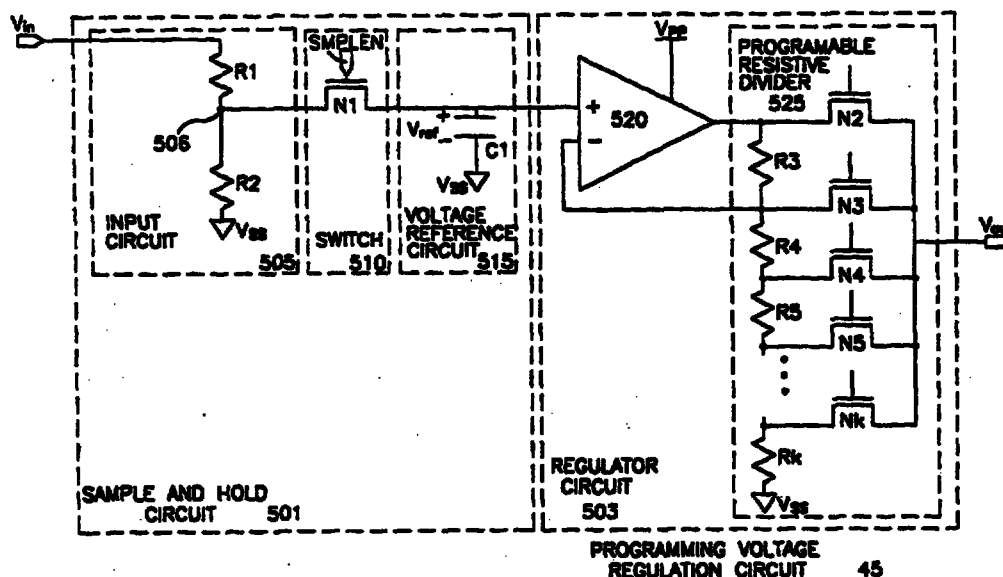
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(54) Title: HIGH PRECISION VOLTAGE REGULATION CIRCUIT FOR PROGRAMMING MULTILEVEL FLASH MEMORY



(57) Abstract

A voltage regulation circuit (45) that includes a sample and hold circuit (501) for sampling an input voltage (V_{in}). The sample and hold circuit (501) includes a capacitor ($C1$, 515) that holds the reference voltage. The voltage regulation circuit (45) also includes a regulator circuit (503) coupled to the capacitor ($C1$) of the sample and hold circuit (501). The regulator circuit (503) outputs an output voltage using the reference voltage supplied by the capacitor ($C1$). The voltage regulation circuit (45) may be used to provide a high precision programming voltage for programming memory cells having two or more analog states.