

Two new square-rooting circuits based on second-generation current-controlled current conveyors (CCCIIs) are presented. The first square-rooting circuit consists of two CCCII, one current-controlled resistor and two grounded resistors. The input signal of the first circuit is a voltage, and output is the voltage proportional to the square root of input voltage. The second one consists of two CCCII and a current-controlled resistor. In the second circuit, the input signal is a current, and output is the current proportional to the square root of input current. Each circuit realizes by using a current-mode technique; hence the proposed square-rooting circuits are simple circuitry, wide dynamic range and wide bandwidth. The proposed square-rooting circuits were confirmed by using PSPICE simulation.