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Abstract
In this paper, the current conveyors, up-down counter, and high-speed D/A converter are employed to implement the frequency-to-voltage converter (FVC). Based on the characteristics of successive-approximation technique, the conversion time less than one cycle of input signal can be achieved. Thus, the transient variation on input signal frequency can be detected rapidly. The input signal frequencies ranging from 55 Hz to 2 MHz are tested with the different choices of components and update clock rates. The output ripple voltage is verified so little that no low-pass filter is needed. The experimental and simulation results demonstrate the static characteristics and dynamic responses of proposed FVC.
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