

Abstract: A new universal voltage-mode second-order filter circuit is presented. The circuit has three inputs and one low-impedance output and can realize all the standard filter functions; low-pass, highpass, bandpass, notch, and allpass, without changing the passive elements. The proposed circuit uses only five passive components and enjoys independent control of the natural frequency and the bandwidth, orthogonal control of the natural frequency and the quality factor, as well as low active and passive sensitivities.