# Audio Digital Potentiometers

Maxim Integrated Products introduces the MAX5408/MAX5409, tiny digital potentiometers designed for use in audio applications. These space-saving potentiometers are available in the new 4 mm &#215 4 mm 16-pin QFN surface-mount package. They are also available in a 16-pin QSOP. Their logarithmic resistor tapers are ideal for controlling audio signals, including volume control and panning signals between speakers.
Both products contain two resistor strings. The MAX5408 has a single wiper contact for each of the resistor strings; whereas, the MAX5409 offers the advantage of two independently controlled wiper contacts for each resistor string. The extra wiper contact allows a stereo signal to be controlled via a single resistor string, eliminating the need for a solution with four independent potentiometers. The 2dB steps between resistor taps offer a gain range from 0 dB down to -64dB. The software-selectable mute option offers a maximum attenuation, beyond the lowest wiper position, to -90dB.
The MAX5408/MAX5409 consume less than 1 &#956A supply current when the wiper positions are static. Supply voltage range is from +7 V to +5.5 V. The end-to-end resistor temperature coefficient is a low 35 ppm/degrees Celsius, significantly lower than other available audio digital potentiometers. Clickless switching circuitry keeps audible clicks to a minimum when changing resistor taps. Each product uses the simple 10MHz SPITM compatible 3-wire serial interface to control wiper positions.

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