

DIFFERENTIAL PAIR-BASED FOLDING INTERPOLATOR CIRCUIT
FOR AN ANALOG-TO-DIGITAL CONVERTER

ABSTRACT OF THE DISCLOSURE

A current folding and interpolating circuit (80) in an analog-to-digital converter (10, 152) has L folders, each of them includes M differential pairs (82, 84), each having N first transistors (86-89, 100-103) biased by an input voltage and N second transistors (90-93, 96-99) biased by a reference voltage, and a current source (110, 112) coupled to the source terminals of the first and second transistors. The second transistors of different differential pairs are biased with different reference voltages. Selected drain terminals of the first transistors (89) of one folder (82) are coupled to selected drain terminals of the first transistors (100) of at least one other folder (84), and selected drain terminals of the second transistors (93) of one folder (82) are coupled to selected drain terminals of the second transistors (96) of at least one other folder (84). More than one interpolated signals may be generated between two folders.

Figure 6