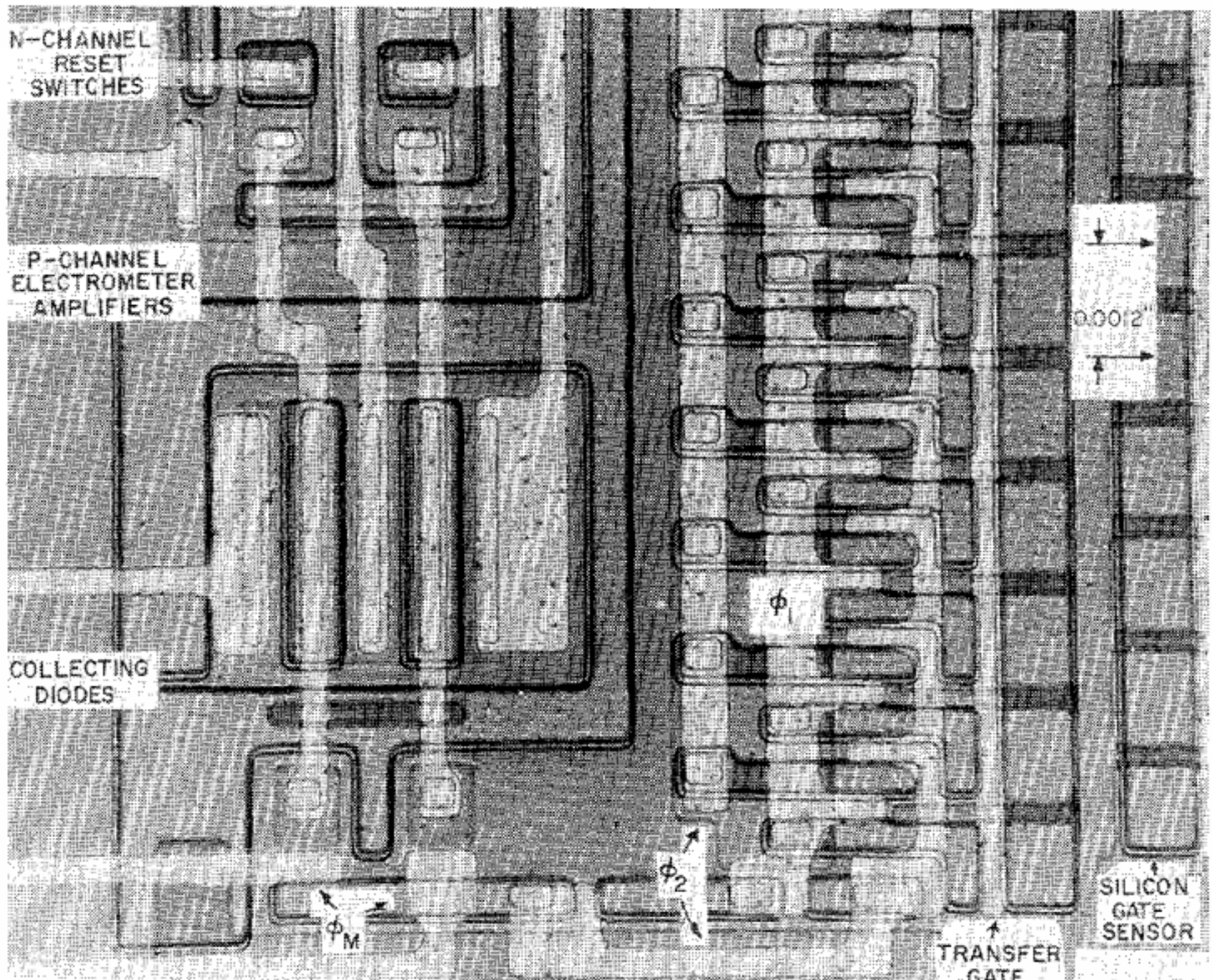


CORRELATED-DOUBLE SAMPLING

ISSCC 1973



Characterization of Charge-Coupled Device Line and Area-Array Imaging at Low Light Levels

THE MOST IMPORTANT noise source in an image sensor is the reset or kTC noise. Every time a pixel is being read out, it needs to be reset afterwards. This resetting action introduces the famous reset noise component. White et al. (Westinghouse Electric) described the so-called Correlated-Double Sampling (CDS) technique to cancel out the reset noise. This method is still popular today, and is applied in every CDD camera on the market. Designers of CMOS image sensors are trying also to incorporate CDS in their pixels to get rid of reset noise.