

A Fast Overall Reset Multi-tap Linear Image Sensor

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ABSTRACT

High speed, high resolution CCD image sensors that can be reset on a frame to frame basis are suitable for a variety of industrial applications. A 4096 element 4-phase device has been designed and fabricated which has a fast overall reset of both the photoelement as well as the CCD shift register to permit variable scan rates on a real time basis. The array has four outputs tapped at the center of the device. The pitch of the photoelement is 10 microns and the data rate of each output is 15 MHz. The device operates as a normal linear device with the added capability that it can be reset for both variable exposure as well as variable frame rate. The device has a charge storage capacity of 1,500,000 electrons.