SOLID STATE IMAGER HAVING GATED PHOTODIODES AND METHOD FOR MAKING SAME

ABSTRACT

A solid state imager is provided that comprises an imaging array of gated photodiodes. The imager comprises a plurality of photosensor pixels arranged in a pixel array, and each of the photosensor pixels includes a photodiode having a sidewall, the sidewall having a gate dielectric layer disposed thereon, and a field plate disposed around the photodiode body. The field plate comprises amorphous silicon disposed on the gate dielectric layer and extends substantially completely around the sidewall of said photodiode. The field plate is electrically coupled to the common electrode of the imaging array so that the field plate creates an electric field around the photodiode body in correspondence with the potential of said common electrode. A method of fabricating the gated photodiode array is also provided.

Figure 1