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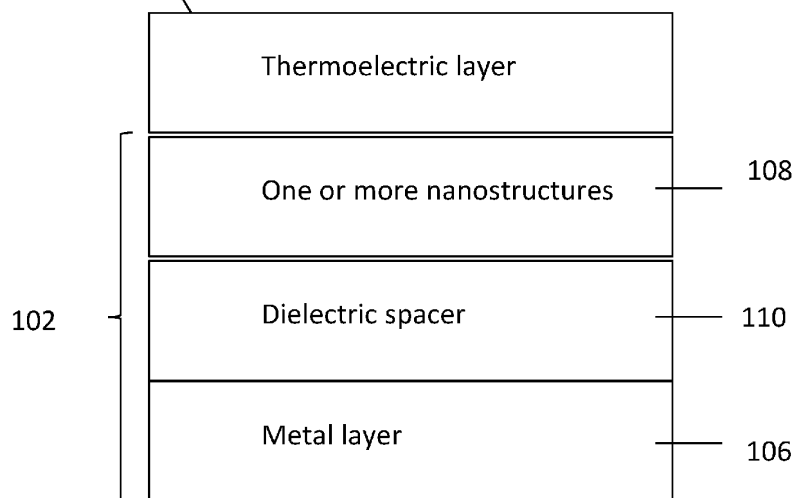
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(54) Title: PHOTODETECTOR PIXEL, PHOTODETECTOR AND METHODS OF FORMING THE SAME



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FIG. 1



(57) Abstract: Various embodiments may provide a photodetector pixel. The photodetector pixel may include a chiral plasmonic molecule array configured to generate heat upon incidence of an electromagnetic wave on the chiral plasmonic molecule array. The photodetector pixel may also include a thermoelectric layer configured to generate an electric current or voltage upon transfer of heat from the chiral plasmonic molecule array to the thermoelectric layer. The chiral plasmonic molecule array may include a metal layer, one or more nanostructures, and a dielectric spacer such that the dielectric spacer is between the metal layer and the one or more nanostructures. The one or more nanostructures may include one or more left hand (LH) chiral metamaterial nanostructures, one or more right hand (RH) chiral metamaterial nanostructures, or one or more left hand (LH) chiral metamaterial nanostructures and one or more right hand (RH) chiral metamaterial nanostructures.

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