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(54) **Title**: EFFICIENT LED ARRAY

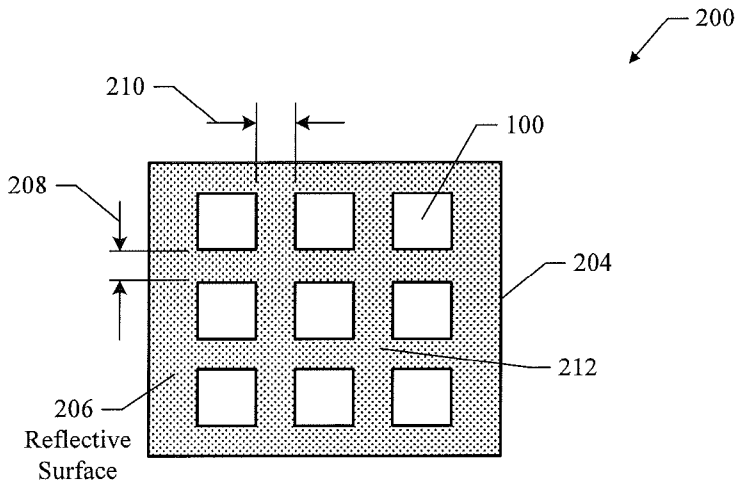


FIG. 2

(57) **Abstract**: An efficient LED array. In an aspect, an LED apparatus includes a metal substrate having a reflective surface, and LED chips mounted directly to the reflective surface to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips. In another aspect, a method includes configuring a metal substrate to have a reflective surface, and mounting a plurality of LED chips directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

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