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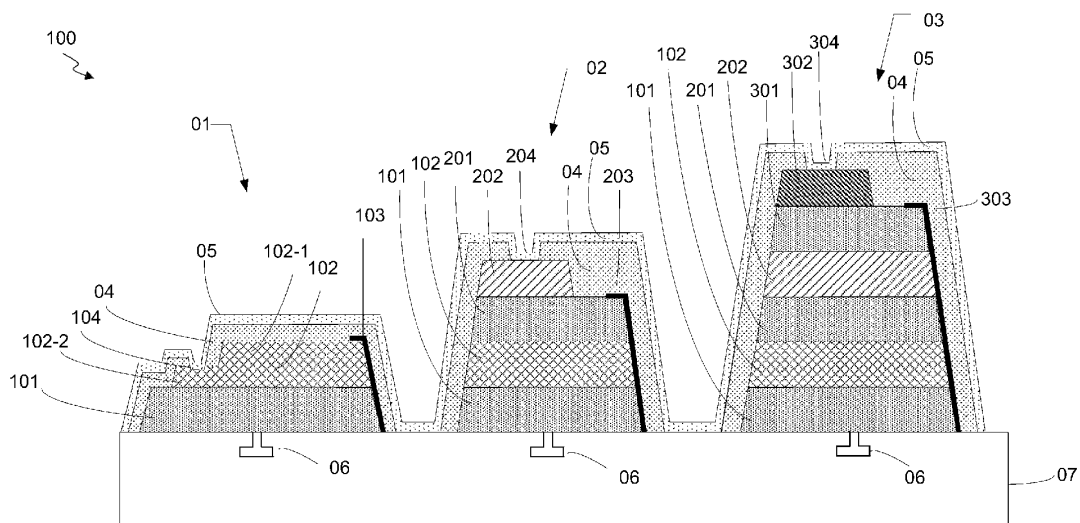


Figure 1A

(57) Abstract: A single pixel multi-color LED device includes two or more LED structures for emitting a range of colors. The two or more LED structures are horizontally formed as sub-pixels to combine light. In some embodiments, two or more light emitting layers are formed on a substrate with integrated circuits and the two or more light emitting layers are bonded together with bonding layers. In some embodiments, the two or more LED structures are formed by utilizing a respective top light emitting layer of the respective LED structure and by removing extra top light emitting layer(s) with the respective LED structure. In some embodiments, the up and down orientation of the P-type region and the N-type region within the first light emitting layer is different from the up and down orientation of the P-type region and the N-type region within the second light emitting layer.

[Continued on next page]

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