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(54) **Title:** METHODS OF MAKING FLIP CHIP MICRO LIGHT EMITTING DIODES

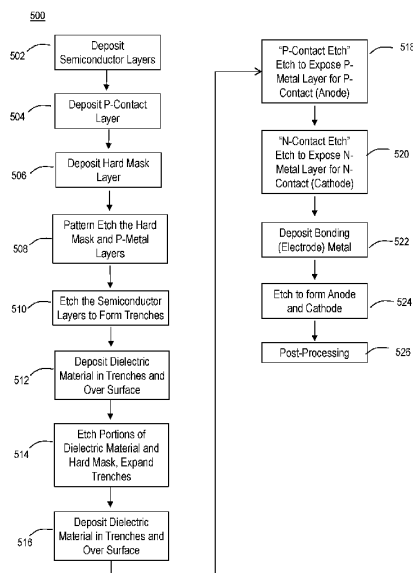


FIG. 5

(57) **Abstract:** A micro-light emitting diode (uLED) device comprises: a mesa comprising: a plurality of semiconductor layers including an n-type layer, an active layer, and a p-type layer; a p-contact layer contacting the p-type layer; a cathode contacting the first sidewall of the n-type layer; a first region of dielectric material that insulates the p-contact layer, the active layer, and a first sidewall of the p-type layer from the cathode; an anode contacting the top surface of the p-contact layer; and a second region of dielectric material that insulates the active layer, a second sidewall of the p-type layer, and the second sidewall of the n-type layer from the anode. The top surface of the p-contact layer has a different planar orientation compared to the first and second sidewalls of the n-type layer. Methods of making and using the uLED devices are also provided.

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