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- (54) **Title:** A HYBRID SILICON PHOTONICS MODULATOR AND METHOD TO MANUFACTURE THE SAME

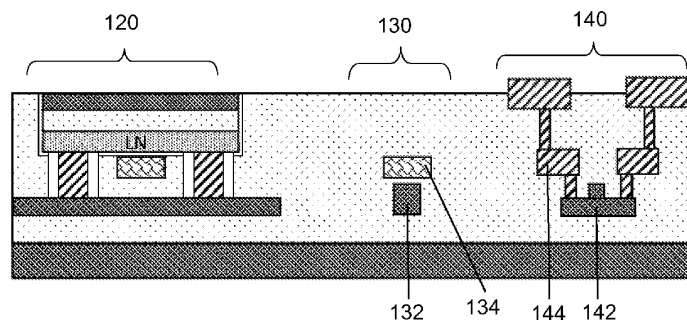


FIG. 5A

- (57) **Abstract:** The present disclosure relates generally to a hybrid modulator and methods of integrating hybrid materials, such as lithium-niobate-on-insulator, onto silicon-on-insulator (SOI) wafers for hybrid silicon photonics integration, while maintaining compatibility with standard silicon photonics components. In particular, the silicon on insulator (SOI) and lithium-niobate-on-insulator (LNOI) are bonded together to allow the modulator to be compatible with lithium-niobate devices or silicon devices via a single transition layer.



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