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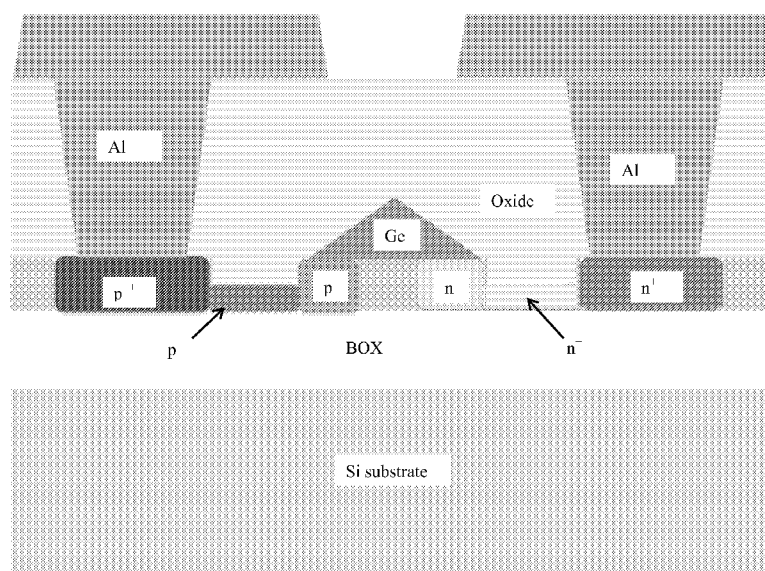
(54) **Title:** GERMANIUM METAL-CONTACT-FREE NEAR-IR PHOTODETECTOR

FIG. 2A

(57) **Abstract:** A Ge-on-Si photodetector constructed without doping or contacting Germanium by metal is described. Despite the simplified fabrication process, the device has responsivity of 1.24 A/W, corresponding to 99.2% quantum efficiency. Dark current is 40 nA at -4 V reverse bias. 3-dB bandwidth is 30 GHz.



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