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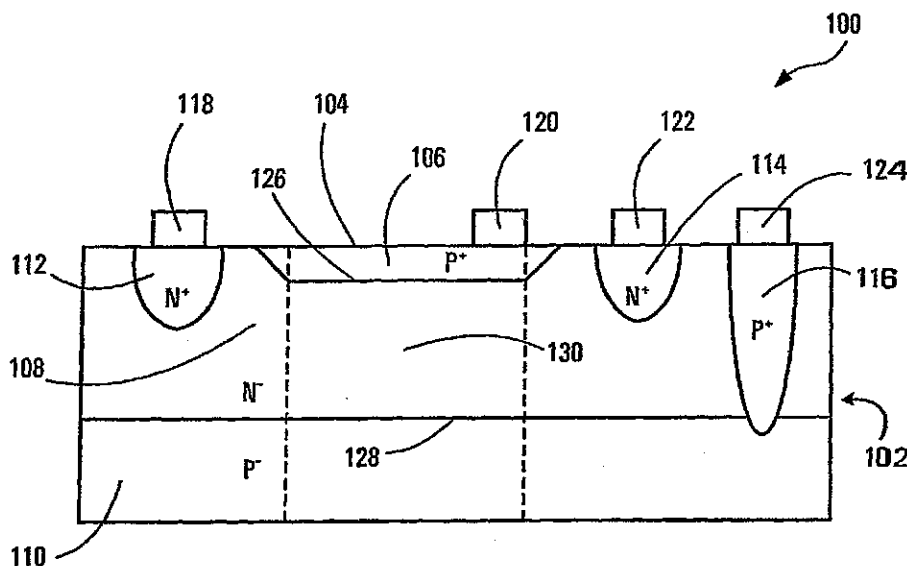
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(54) Title: METHOD AND DEVICE FOR WAVELENGTH-SENSITIVE PHOTO-SENSING



(57) Abstract: A semiconductor device includes a conducting channel (130) formed beneath a substrate surface with a pre-determined photo-conductivity spectral response. The channel is formed between two pn-junctions (126, 128) defining first and third photo-electric depletion regions at respective depths relative to the surface corresponding to penetration depths of light of different wavelengths. The first region (106) which has the light absorbing surface (104) above the first pn-junction (126) is specific to a first colour. The channel region (130) between the two pn-junctions (126, 128) is photo-conductive to a second colour. The third region below the second pn-junction (128) is sensitive to a third colour. Electrical contacts (118, 120, 122, 124) are disposed on the source (112), the top gate (106), the drain (114) and the bottom gate (116) for receiving the electrical currents induced by the presence of the absorbed wavelengths.



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