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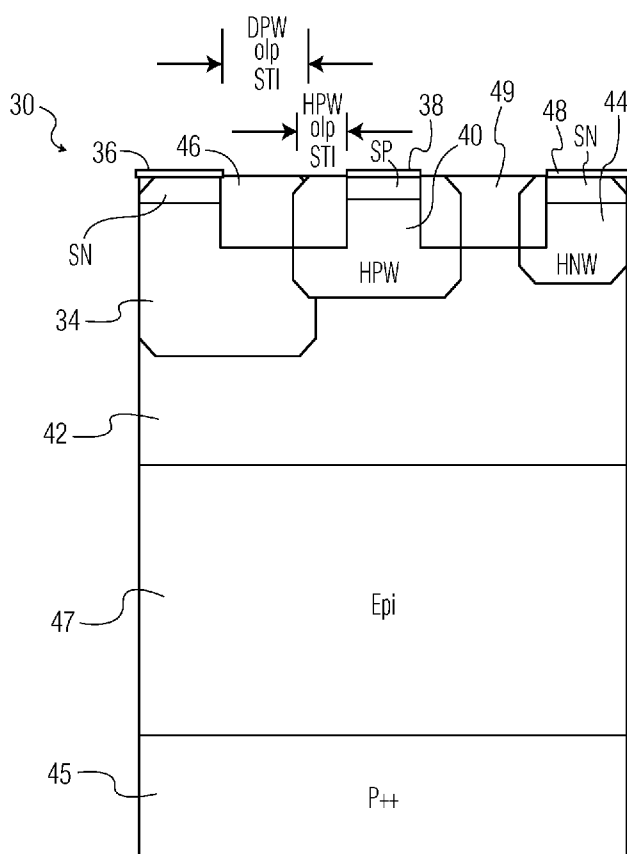
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(54) Title: INTEGRATED HIGH VOLTAGE DIODE AND MANUFACTURING METHOD THEREOF



(57) Abstract: An asymmetric semiconductor device (3) that includes an integrated high voltage diode (72), including: a substrate comprising an epitaxial layer (47) and a deep well implant (42) of a first type patterned above the epitaxial layer; a shallow trench isolation (STI) region (46) separating a cathode from an anode; a first well implant (40) of a second type residing below the anode; and a deep implant mask (34) of the second type patterned above the deep well implant and below both the cathode and a portion of the STI region.

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