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[Continued on next page]

(54) Title: HIGH VOLTAGE INSULATED GATE BIPOLAR TRANSISTORS WITH MINORITY CARRIER DIVERTER

(57) Abstract: High power insulated gate bipolar junction transistors are provided that include a wide band gap semiconductor bipolar junction transistor ("BJT") and a wide band gap semiconductor MOSFET that is configured to provide a current to the base of the BJT. These devices further include a minority carrier diversion semiconductor layer on the base of the BJT and coupled to the emitter of the BJT, the minority carrier diversion semiconductor layer having a conductivity type opposite the conductivity type of the base of the BJT and forming a heterojunction with the base of the BJT.

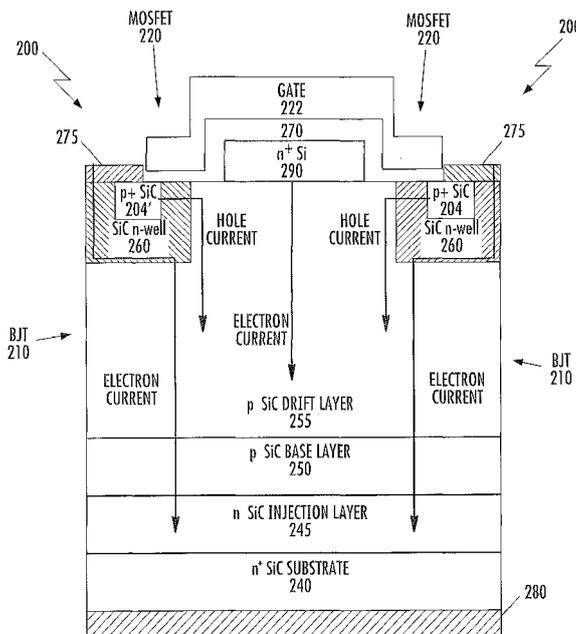


FIG. 5

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<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) H01L		
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<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
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Y A	EP 0 615 292 A1 (HITACHI LTD [JP]) 14 September 1994 (1994-09-14) Figs. 3-5 and associated text	16  1-15, 17-19
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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