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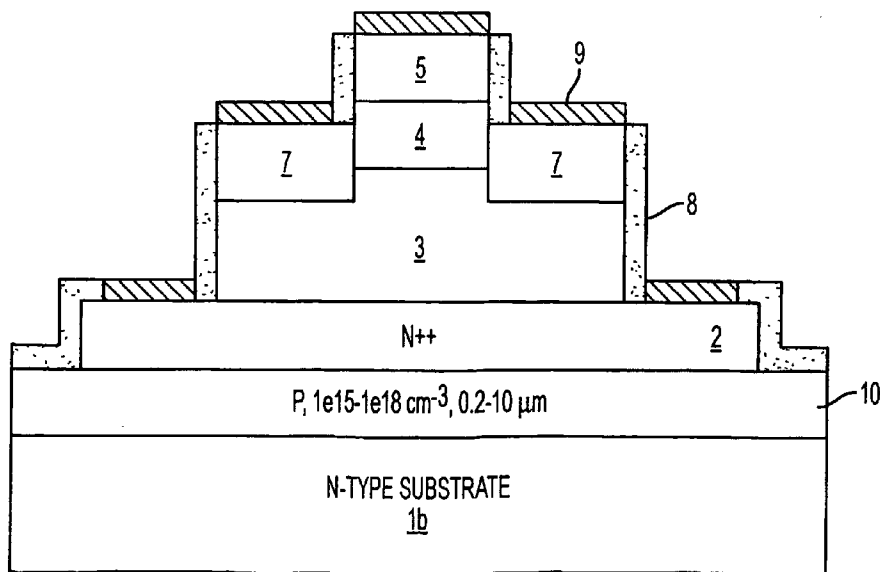
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(54) Title: WIDE BANDGAP SEMICONDUCTOR LATERAL TRENCH FET AND METHOD OF MAKING



(57) Abstract: A wide bandgap semiconductor junction field effect transistor comprises source, channel, drift, and drain semiconductor layers, as well as p-type implanted or Schottky gate regions. The source, channel, drift, and drain layers can be epitaxially grown. The ohmic contacts to the source, gate, and drain regions, can be formed on the same side of the wafer. The devices can have different threshold voltages depending on the vertical channel width and can be implemented for both depletion and enhanced modes of operation for the same channel doping. The devices can be used for digital, analog, and monolithic microwave integrated circuits. Methods for making the transistors and integrated circuits comprising the devices are also described.

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B. FIELDS SEARCHED
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/0067630 A1 (ZHAO) 31 March 2005 (31.03.2005), Paragraph 0021	1-27
A	US 6,958,275 B2 (METZLER) 25 Oct. 2005 (25.10.2005), column 4	1-27
A	US 6,545,297 B1 (NOBILE, JR. et al.) 08 April 2003 (08.04.2003), column 6	1-27
A	US 6,943,407 B2 (OUYANG et al.) 13 Sept. 2005 (13.09.2005), column 6	1-27

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