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(57) Abstract :
Disclosed is an AlGaN/GaN based HEMT (100) for RF and low noise application, which includes a Silicon Carbide (6-H SiC) substrate (102). The Gallium Nitride channel layer (104) is placed at the top of the Silicon Carbide substrate (102). Furthermore, the AlGaN barrier layer (106) is placed above the gallium nitride channel layer (104) and between two n+ wells. Additionaly, the n-GaN cap layer (108) is placed above the AlGaN barrier layer (106). Furthermore, the gate terminal (114) is embedded at the middle of the n-GaN cap layer (108) and between the source terminal (112) and the drain terminal (116). Fig. 1

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