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Method Of Growing M-Plane Gallium Nitride Film



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TECHNOLOGY READINESS LEVEL (TRL)

- TRL 3

PATENT/ GRANTED NUMBER

- MY-181772-A

▶ TECHNOLOGY OVERVIEW

A method of growing m-plane GaN on m-plane sapphire substrate using metalorganic chemical vapor deposition (MOCVD) is described. A suitable m-plane Al₂O₃ (10-10) is used as substrate. A growth of a planar aluminium nitride (AlN) nucleation layer is performed on the substrate with gaseous trimethylaluminium (Al(CH₃)₃) and ammonia (NH₃) flow. After a desired growth time has elapsed, both gas sources are interrupted. After a desired recrystallization time has elapsed, a growth of a planar m-plane GaN film is performed with gaseous (Ga(CH₃)₃) and NH₃.

The proposed process discarded nitridation step and ammonia is inhibited during recrystallization. The surface morphology of m-plane (10-10) GaN has improved as captured by scanning electron microscope.

CONTACT US!

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