

Title (en)

GROUP III NITRIDE BULK CRYSTALS AND THEIR FABRICATION METHOD

Title (de)

GRUPPE-III-NITRID-MASSENKRISTALLE UND DEREN HERSTELLUNGSVERFAHREN

Title (fr)

CRISTAUX MASSIFS DE NITRURE DU GROUPE III ET LEUR PROCÉDÉ DE FABRICATION

Publication

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Application

EP 15727806 A 20150524

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Abstract (en)

[origin: WO2015179852A1] In one instance, the invention provides a bulk crystal of group III nitride having a thickness of more than 1 mm without cracking above the sides of a seed crystal. This bulk group III nitride crystal is expressed as $Gax1Aly1In1-x1-y1N$ ($0 \leq x1 \leq 1$, $0 < x1 + y1 \leq 1$) and the seed crystal is expressed as $Gax2Aly2In1-x2-y2N$ ($0 \leq x2 \leq 1$, $0 \leq x2 + y2 \leq 1$). The bulk crystal of group III nitride can be grown in supercritical ammonia or a melt of group III metal using at least one seed crystal having basal planes of c-orientation and sidewalls of m-orientation. By exposing only c-planes and m-planes in this instance, cracks originating from the sides of the seed crystal are avoided.

IPC 8 full level

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