

Title (en)
DOPED DIAMOND SEMICONDUCTOR AND METHOD OF MANUFACTURE

Title (de)
DOTIERTER DIAMANTHALBLEITER UND HERSTELLUNGSVERFAHREN

Title (fr)
SEMI-CONDUCTEUR AU DIAMANT DOPÉ ET PROCÉDÉ DE FABRICATION

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Application
EP 18820671 A 20180618

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• US 201715836570 A 20171208
• US 2018038099 W 20180618

Abstract (en)
[origin: WO2018236760A1] A doped diamond semiconductor and method of production using a laser is disclosed herein. As disclosed, a dopant and/or a diamond or sapphire seed material may be added to a graphite based ablative layer positioned below a confinement layer, the ablative layer also being graphite based and positioned above a backing layer, to promote formation of diamond particles having desirable semiconductor properties via the action of a laser beam upon the ablative layer. Dopants may be incorporated into the process to activate the reaction sought to produce a material useful in production of a doped semiconductor or a doped conductor suitable for the purpose of modulating the electrical, thermal or quantum properties of the material produced. As disclosed, the diamond particles formed by either the machine or method of confined pulsed laser deposition disclosed may be arranged as semiconductors, electrical components, thermal components, quantum components and/or integrated circuits.

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Citation (search report)
• [I] US 8939107 B2 20150127 - YANG YINGLING [US], et al
• [XI] US 5633513 A 19970527 - KOYAMA HISASHI [JP], et al
• See also references of WO 2018236760A1

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