

Title (en)  
OXIDE-NITRIDE-OXIDE STACK HAVING MULTIPLE OXYNITRIDE LAYERS

Title (de)  
OXID-NITRID-OXID-STAPEL MIT MEHREREN OXYNITRIDSCHICHTEN

Title (fr)  
EMPILEMENT D'OXYDE-NITRURE-OXYDE COMPORTANT PLUSIEURS COUCHES D'OXYNITRURE

Publication  
**EP 2831917 A4 20151104 (EN)**

Application  
**EP 13767422 A 20130315**

Priority  
• US 201213436872 A 20120331  
• US 2013032339 W 20130315

Abstract (en)  
[origin: WO2013148343A1] An embodiment of a semiconductor memory device including a multi-layer charge storing layer and methods of forming the same are described. Generally, the device includes a channel formed from a semiconducting material overlying a surface on a substrate connecting a source and a drain of the memory device; a tunnel oxide layer overlying the channel; and a multi-layer charge storing layer including an oxygen-rich, first oxynitride layer on the tunnel oxide layer in which a stoichiometric composition of the first oxynitride layer results in it being substantially trap free, and an oxygen-lean, second oxynitride layer on the first oxynitride layer in which a stoichiometric composition of the second oxynitride layer results in it being trap dense. In one embodiment, the device comprises a non-planar transistor including a gate having multiple surfaces abutting the channel, and the gate comprises the tunnel oxide layer and the multi-layer charge storing layer.

IPC 8 full level  
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CPC (source: CN EP KR)  
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Citation (search report)  
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• See also references of WO 2013148343A1

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