

GALLIUM NITRIDE SEMICONDUCTOR STRUCTURE AND PROCESS FOR FABRICATING THEREOF

ABSTRACT

A semiconductor substrate structure and process for fabrication of the
5 semiconductor substrate structure are described. The semiconductor substrate structure
includes a silicon carbide (SiC) wafer substrate, an active gallium nitride (GaN) layer and a
layer of microcrystalline diamond (MCD) layer disposed between the SiC wafer substrate
and the GaN active layer. The MCD layer is bonded to the SiC wafer substrate and to the
GaN active layer.

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Fig 2