

ABSTRACT

A substrate includes a support structure comprising: a polycrystalline ceramic core; a first adhesion layer coupled to the polycrystalline ceramic core; a conductive layer coupled to the first adhesion layer; a second adhesion layer coupled to the conductive layer; and a barrier layer coupled to the second adhesion layer. The substrate also includes a silicon oxide layer coupled to the support structure, a substantially single crystalline silicon layer coupled to the silicon oxide layer, and an epitaxial III-V layer coupled to the substantially single crystalline silicon layer.

[FIG. 5]