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(54) BACKSIDE DEEP TRENCH CAPACITOR AND INDUCTOR STRUCTURES

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(57)**ABSTRACT**

Single-chip solutions that result in high capacitance and/or inductance densities. Embodiments provide relatively large capacitance and/or inductance values for applications utilizing DC and/or sub-KHz signals up to RF signals. Embodiments may include an integrated circuit having a substrate having a backside, a substructure formed on the substrate, and a superstructure formed on the substructure and having a metallization layer, the integrated circuit further including at least one backside deep trench capacitor structure including: one or more trenches formed in the backside of the substrate and lined with a first conductive layer, a dielectric, and a second conductive layer; a first electrical connection between the first conductive layer and a first portion of the metallization layer; and a second electrical connection between the second conductive layer and a second portion of the metallization layer. Embodiments may also include an integrated circuit having at least one backside deep trench capacitor structure.

