

ARTICLE COMPRISING ORGANIC THIN FILM TRANSISTORS**Abstract**

Articles according to an embodiment of the invention comprise an improved organic thin film transistor (TFT) that can have substantially higher source/drain current on/off ratio than conventional organic TFTs. An exemplary TFT (20) according to the invention comprises, in addition to a p-type first organic material layer (16) (e.g., α -6T), an n-type second organic material layer (21) (e.g., Alq) in contact with the first material layer. TFTs according to the invention can be advantageously used in, for instance, active liquid crystal displays and electronic memories, and a preferred embodiment is expected to find wide use in complementary circuits. The preferred embodiments are organic TFTs that can be either n-channel or p-channel transistors, depending on biasing conditions. In a specific embodiment the transistor comprises a 15 nm thick layer of α -6T (115) with a 40 nm thick layer of C₆₀ thereon (116). The latter was protected against degradation by the ambient by means of an appropriate electrically inert layer.

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