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[54] **THIN FILM TRANSISTORS**

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[58] **Field of Search** 438/678, 608, 438/625, 642, 650, 652, 629, 687, 913, 908; 427/98, 304, 305, 306

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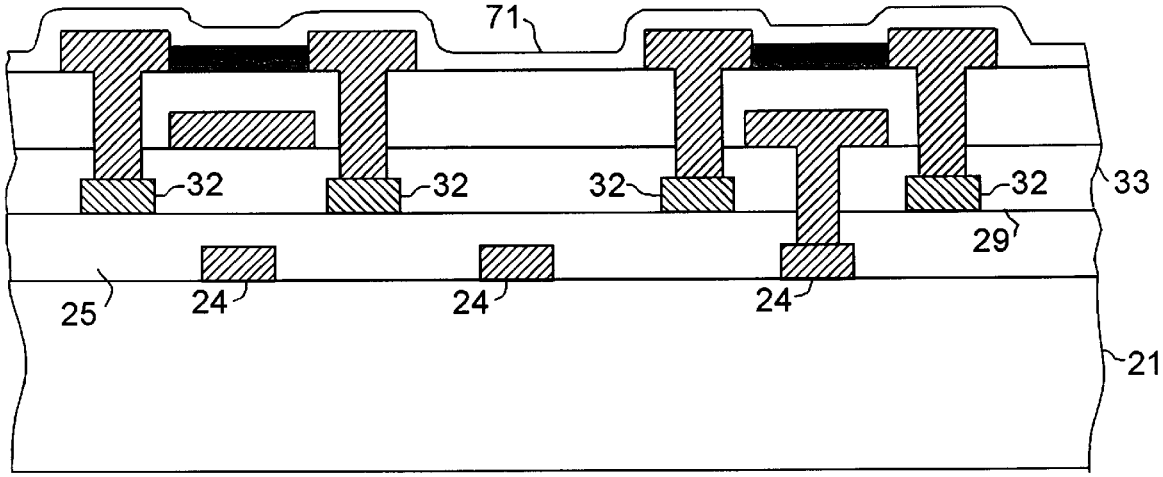
[57] **ABSTRACT**

The specification describes source/drain contact material that is compatible with organic semiconductors in thin film transistor integrated circuits. The contact material is nickel/gold wherein the nickel is plated as Ni—P on a base conductor, preferably TiN_x, by electroless plating, and the gold overlay is deposited by displacement plating. It was found, unexpectedly, that forming Ni/Au contacts in this way extends the lifetime of TFT devices substantially.

6 Claims, 9 Drawing Sheets