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(54) Title: OFFSET ELECTRODE TFT STRUCTURE

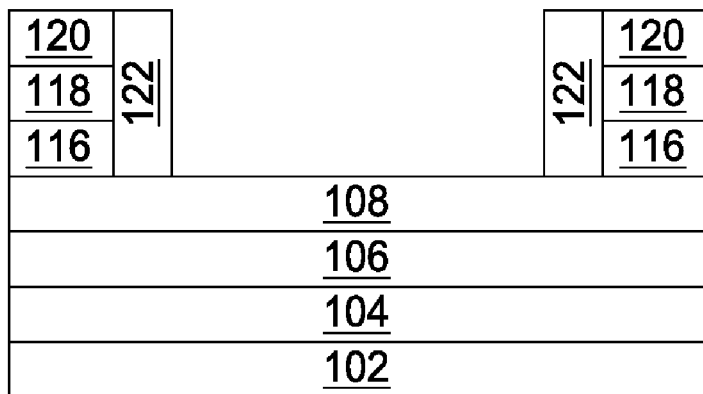


FIG. 10

(57) Abstract: The present invention generally relates to an offset electrode TFT and a method of its manufacture. The offset electrode TFT is a TFT in which one electrode, either the source or the drain, surrounds the other electrode. The gate electrode continues to be below both the source and the drain electrodes. By redesigning the TFT, less voltage is necessary to transfer the voltage from the source to the drain electrode as compared to traditional bottom gate TFTs or top gate TFTs. The offset electrode TFT structure is applicable not only to silicon based TFTs, but also to transparent TFTs that include metal oxides such as zinc oxide or IGZO and metal oxynitrides such as ZnON.



A. CLASSIFICATION OF SUBJECT MATTER**H01L 29/786(2006.01)i, H01L 21/336(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01L 29/786; H01L 21/312; H01L 51/54; H01L 21/34; H01L 51/50; H01L 51/56

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: offset, electrode, TFT, gate electrode, disposed, channel, semiconductor layer

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 2159845 A1 (SEMICONDUCTOR ENERGY LABORATORY CO, LTD.) 03 March 2010 See abstract; paragraphs [0070]-[0079]; claims 6-11 and figure 4.	1-15
A	US 2007-0278478 A1 (JANA ZAUMSEIL et al.) 06 December 2007 See abstract; paragraphs [0157]-[0159]; claim 1 and figure 2d.	1-15
A	US 2008-0122351 A1 (KITAZUME EIICHI) 29 May 2008 See abstract; paragraphs [0089]-[0095]; claims 1-3 and figures 3,4.	1-15
A	US 2010-0032668 A1 (YAMAZAKI SHUNPEI et al.) 11 February 2010 See abstract; paragraphs [0142]-[0150]; claim 1 and figure 6.	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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