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(54) Field effect transistor and method of manufacturing the same as well as liquid crystal display using the same as well as method of manufacturing the same

(57) A gate-overlap-drain structure is obtained by a single pair of a single impurity implantation process and a single laser anneal process, wherein the improved gate-overlap-drain structure includes lightly activated high impurity concentration regions exhibiting substantially the same function as the lightly doped drain regions, wherein the lightly activated high impurity concentration regions are bounded with high impurity concentration regions serving as source and drain regions. The boundaries are self-aligned to edges of a gate electrode. Side regions of the gate electrode overlap the lightly activated high impurity concentration regions.

FIG. 1A prior art

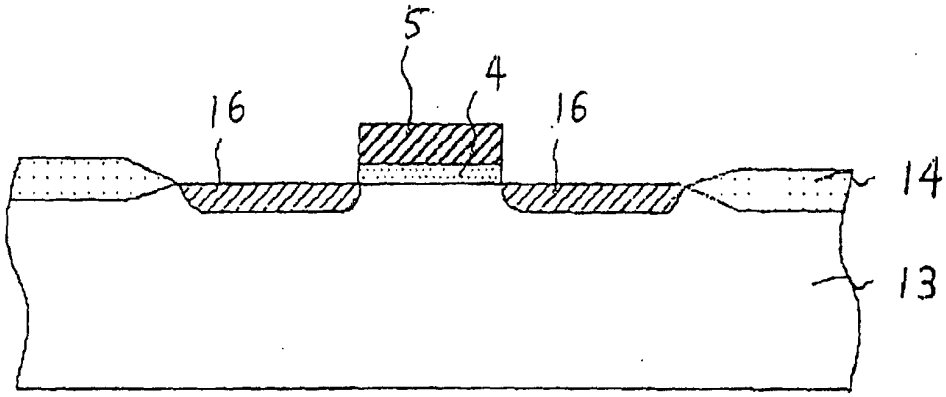

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FIG. 1B prior art

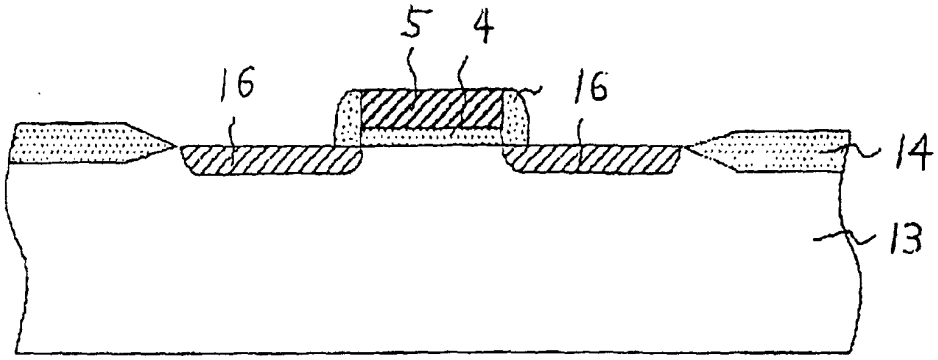
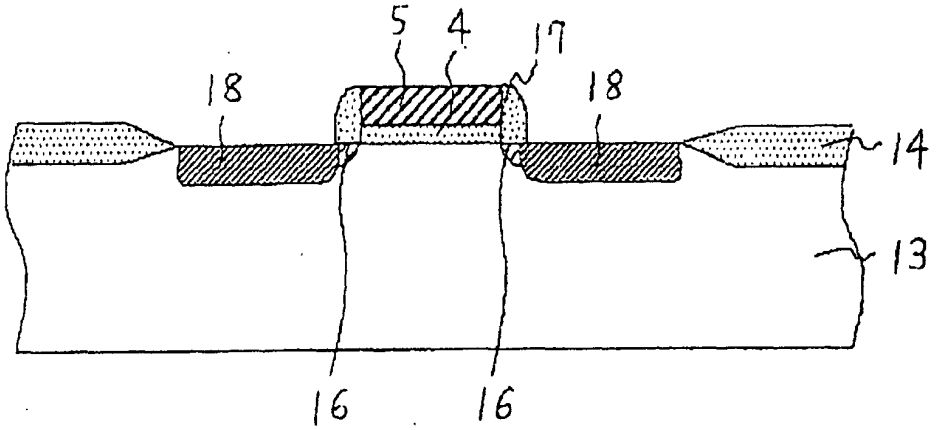


FIG. 1C prior art



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EUROPEAN SEARCH REPORT

Application Number
EP 02 01 7240

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 6 001 714 A (GOTO YASUMASA ET AL) 14 December 1999 (1999-12-14) * column 3, line 14 - line 19 * * column 10, line 28 - line 40; figures 9c,14 *	1-30, 38-41	H01L21/268 H01L21/336 H01L29/786
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X	EP 0 602 250 A (SEIKO EPSON CORP) 22 June 1994 (1994-06-22) * column 2, line 32 - line 41 * * column 5, line 21 - line 33 * * column 7, line 16 - column 15, line 22; claims; figures *	1-3, 6-10, 13-17, 20-23, 26,38-41	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	12 November 2004	Hoffmann, N

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X : particularly relevant if taken alone
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A : technological background
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EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	12 November 2004	Hoffmann, N

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专利名称(译)	场效应晶体管及其制造方法以及使用该场效应晶体管的液晶显示器及其制造方法		
公开(公告)号	EP1282173A3	公开(公告)日	2005-01-12
申请号	EP2002017240	申请日	2002-07-31
申请(专利权)人(译)	NEC公司		
当前申请(专利权)人(译)	GETNER FOUNDATION LLC		
[标]发明人	SERA KENJI		
发明人	SERA, KENJI		
IPC分类号	G02F1/1368 H01L21/268 H01L21/336 H01L29/417 H01L29/78 H01L29/786		
CPC分类号	H01L29/66757 H01L21/268 H01L29/41733 H01L29/4908 H01L29/78621 H01L29/78627 H01L29/78666 H01L2029/7863		
优先权	2001233256 2001-08-01 JP		
其他公开文献	EP1282173A2		
外部链接	Espacenet		

摘要(译)

通过单对单杂质注入工艺和单激光退火工艺获得栅极 - 重叠 - 漏极结构，其中改进的栅极 - 重叠 - 漏极结构包括轻微激活的高杂质浓度区域，其显示出与轻微相同的功能。掺杂漏极区域，其中轻微激活的高杂质浓度区域与用作源极和漏极区域的高杂质浓度区域界定。边界与栅电极的边缘自对准。栅电极的侧区与轻微激活的高杂质浓度区重叠。

FIG. 1A prior art