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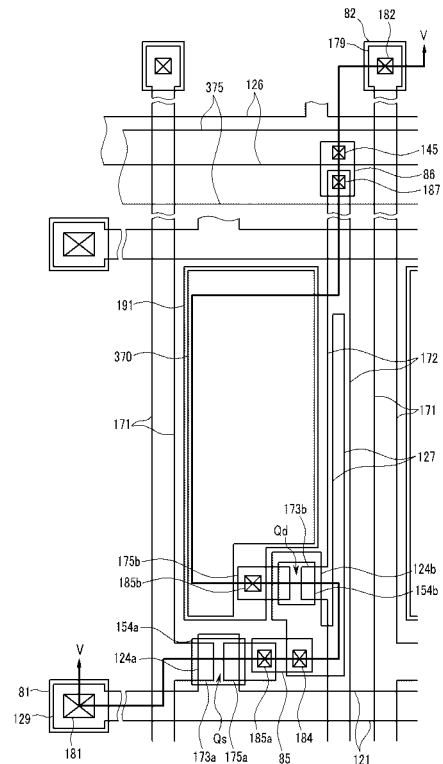
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(54) **Display device and manufacturing method thereof**

(57) A display includes a substrate, a plurality of first and second signal lines (171,121) formed on the substrate and insulated from each other, a plurality of driving voltage lines (172) formed with a same layer as the first signal lines (171), at least one driving voltage connection (126) formed with a same layer as the second signal lines (121), at least one connecting member (86) electrically connecting the driving voltage lines (172) and the driving voltage connection (126), at least one first thin film transistor (Qs) connected to the first and second signal lines, at least one second thin film transistor (Qd) connected to the first thin film transistor and the driving voltage lines, at least one first electrode (191) connected to the second thin film transistors, at least one second electrode (270) opposing the first electrode, at least one organic light emitting member (370) formed between the first electrode and the second electrode, and at least one assistant member (375) formed between the connecting member (86) and the second electrode (270).

FIG.4



EP 1 821 343 A3



EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	US 2005/179374 A1 (KWAK WON-KYU [KR]) 18 August 2005 (2005-08-18) * paragraphs [0054], [0056], [0058] - [0060], [0062], [0099]; figures 1,3,7A,9 *	1-8 9-11, 15-20	INV. H01L27/32
X A	----- US 2005/140306 A1 (PARK JAE Y [KR] PARK JAE YONG [KR]) 30 June 2005 (2005-06-30) * paragraphs [0044], [0046], [0048], [0049], [0053]; figures 4,5 *	1-4,7-9, 11 15-20	
X	----- US 2005/168138 A1 (OKUNAKA MASAOKI [JP] ET AL) 4 August 2005 (2005-08-04) * paragraphs [0018], [0022], [0029], [0047], [0051] *	12	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			H01L
Place of search		Date of completion of the search	Examiner
The Hague		12 March 2010	De Laere, Ann
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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EPO FORM 1503 03/82 (P04/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 10 2383

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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12-03-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005179374 A1	18-08-2005	CN 1658726 A	24-08-2005
		EP 1587154 A2	19-10-2005
		JP 4058440 B2	12-03-2008
		JP 2005227788 A	25-08-2005
		KR 20050081540 A	19-08-2005
		US 2008272992 A1	06-11-2008

US 2005140306 A1	30-06-2005	CN 1638542 A	13-07-2005
		JP 2005196167 A	21-07-2005
		KR 20050065947 A	30-06-2005

US 2005168138 A1	04-08-2005	JP 2005190779 A	14-07-2005

专利名称(译)	显示装置及其制造方法		
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摘要(译)

一种显示器，包括：基板；多个第一和第二信号线（171,121），形成在基板上并彼此绝缘；多个驱动电压线（172），形成有与第一信号线（171）相同的层，至少一个驱动电压连接（126）形成有与第二信号线（121）相同的层，至少一个连接构件（86）电连接驱动电压线（172）和驱动电压连接（126），至少一个第一薄膜晶体管（Qs）连接第一和第二信号线，至少一个第二薄膜晶体管（Qd）连接第一薄膜晶体管和驱动电压线，至少一个第一电极（191）连接第二薄膜晶体管，与第一电极相对的至少一个第二电极（270），在第一电极和第二电极之间形成的至少一个有机发光部件（370），以及形成的至少一个辅助部件（375）在连接构件（86）和第二电极（270）之间。

