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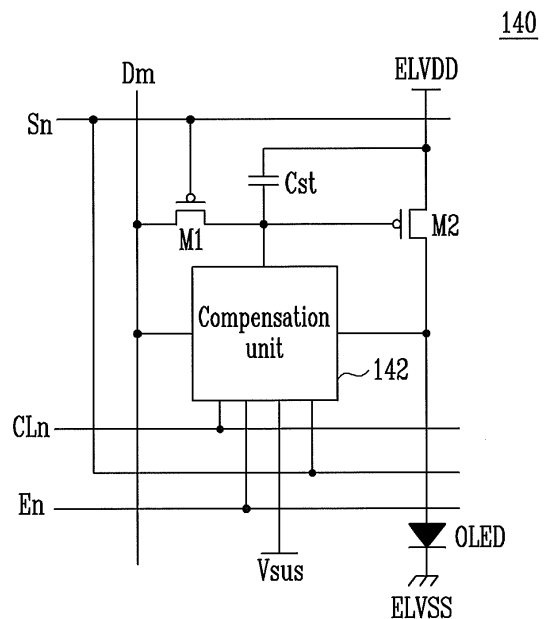
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(54) **Pixel and organic light emitting display device using the same**

(57) A display device displays an image having a substantially uniform brightness by compensating for variations of the threshold voltages of driving transistors and compensating for the deterioration of an organic light emitting diode. A pixel includes an organic light emitting diode, two transistors, a storage capacitor, and a compensation unit. A driving transistor supplies a current to an OLED corresponding to the voltage in the storage capacitor. The compensation unit controls a voltage of a gate electrode of the driving transistor corresponding to a deterioration of the organic light emitting diode, and couples one electrode of the driving transistor to the data line during a compensation period, during which a threshold voltage of the driving transistor is compensated.

FIG. 3





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	KR 100 821 041 B1 (SAMSUNG SDI CO LTD [KR]) 8 April 2008 (2008-04-08) * paragraphs [0034], [0077] - [0083]; figures 3-8 *	1	INV. G09G3/32
Y	----- US 2008/231562 A1 (KWON OH-KYONG [KR]) 25 September 2008 (2008-09-25) * paragraphs [0003], [0014], [0015], [0032] - [0060]; figures 2-12 *	8-13	
Y	----- EP 1 923 857 A2 (SAMSUNG SDI CO LTD [KR]) 21 May 2008 (2008-05-21) * paragraphs [0027], [0032] - [0037], [0044] - [0047], [0065] - [0067]; figures 2-17 *	8-13	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			G09G
Place of search		Date of completion of the search	Examiner
Munich		25 July 2011	Taron, Laurent
CATEGORY OF CITED DOCUMENTS 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 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			

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

EP 10 15 5346

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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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
KR 100821041	B1	08-04-2008	NONE	
US 2008231562	A1	25-09-2008	KR 100858615 B1	17-09-2008
EP 1923857	A2	21-05-2008	JP 2008122906 A	29-05-2008
			US 2008111804 A1	15-05-2008

专利名称(译)	使用其的像素和有机发光显示装置		
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其他公开文献	EP2237254B1 EP2237254A2		
外部链接	Espacenet		

摘要(译)

显示装置通过补偿驱动晶体管的阈值电压的变化并补偿有机发光二极管的劣化来显示具有基本均匀亮度的图像。像素包括有机发光二极管，两个晶体管，存储电容器和补偿单元。驱动晶体管向OLED提供与存储电容器中的电压对应的电流。补偿单元控制与有机发光二极管的劣化对应的驱动晶体管的栅电极的电压，并且在补偿时段期间将驱动晶体管的一个电极耦合到数据线，在补偿时段期间，驱动的阈值电压晶体管得到补偿。

FIG. 3

