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- **Takahashi, Kenji**
Tokyo (JP)
- **Hayashi, Ryo**
Tokyo (JP)
- **Kumomi, Hideya**
Tokyo (JP)

(74) Representative: **Weser, Wolfgang**
Weser & Kollegen
Patentanwälte
Radeckestrasse 43
81245 München (DE)

(72) Inventors:
• **Abe, Katsumi**
Tokyo (JP)

(57) A pixel circuit including at least a light emitting element (OLED), and a thin film transistor (TFT1) that supplies to the light emitting element (OLED) a first current controlling a gray scale according to luminance-current characteristics of the light emitting element (OLED), wherein the thin film transistor (TFT1) has a back gate electrode, at least a driving period in which the thin film transistor (TFT1) supplies the first current to the light emitting element (OLED), and a writing period in which a second current is written to the thin film transistor (TFT1) before the driving period in order to pass the first current to the thin film transistor (TFT1) during the driving period are included, and by changing voltages which are applied to the back gate electrode in the driving period and the writing period, current capability to a gate voltage of the thin film transistor (TFT1) is made to differ.

The diagram illustrates a pixel circuit for an OLED display. It consists of a data line (DATA), a scan line (S1), and a power supply (VDD1). The circuit includes three switches: SW1, SW2, and SW3. SW1 is controlled by S1 and connects the data line to the gate of a TFT transistor (TFT1). SW2 is controlled by S2 and connects the data line to the source of TFT1. SW3 is controlled by S1 and connects VDD1 to the source of TFT1. The drain of TFT1 is connected to an OLED pixel, which is then connected to ground (GND). A capacitor C1 is connected between the gate and source of TFT1.



EUROPEAN SEARCH REPORT

Application Number
EP 09 01 1059

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	HOJIN LEE ET AL: "Current-Scaling a-Si:H TFT Pixel-Electrode Circuit for AM-OLEDs: Electrical Properties and Stability", IEEE TRANSACTIONS ON ELECTRON DEVICES, IEEE SERVICE CENTER, PISACATAWAY, NJ, US, vol. 54, no. 9, 1 September 2007 (2007-09-01), pages 2403-2410, XP011191106, ISSN: 0018-9383, DOI: DOI:10.1109/TED.2007.902665 * the whole document *	1-15	INV. G09G3/32
A	US 2006/066512 A1 (AFENTAKIS THEMISTOKLES [US] ET AL) 30 March 2006 (2006-03-30) * the whole document *	1-15	
A	US 6 462 723 B1 (YAMAZAKI SHUNPEI [JP] ET AL) 8 October 2002 (2002-10-08) * the whole document *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			G09G
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 April 2011	Examiner Kunze, Holger
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 09 01 1059

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
US 2006066512 A1	30-03-2006	US 2006068532 A1	30-03-2006
US 6462723 B1	08-10-2002	JP 2001051292 A	23-02-2001

专利名称(译)	像素电路，发光显示装置及其驱动方法		
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[标]申请(专利权)人(译)	佳能株式会社		
申请(专利权)人(译)	佳能株式会社		
当前申请(专利权)人(译)	佳能株式会社		
[标]发明人	ABE KATSUMI TAKAHASHI KENJI HAYASHI RYO KUMOMI HIDEYA		
发明人	ABE, KATSUMI TAKAHASHI, KENJI HAYASHI, RYO KUMOMI, HIDEYA		
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优先权	2008226061 2008-09-03 JP		
其他公开文献	EP2161706A2		
外部链接	Espacenet		

摘要(译)

包括至少一个发光元件 (OLED) 的像素电路，以及根据发光元件的亮度 - 电流特性向发光元件 (OLED) 提供控制灰度级的第一电流的薄膜晶体管 (TFT1) (OLED)，其中薄膜晶体管 (TFT1) 具有背栅电极，至少是薄膜晶体管 (TFT1) 向发光元件 (OLED) 提供第一电流的驱动周期，以及写入周期其中，在驱动周期之前将第二电流写入薄膜晶体管 (TFT1) 以便在驱动周期期间将第一电流传递到薄膜晶体管 (TFT1)，并且通过改变施加到背面的电压在驱动时段和写入时段中，栅电极使得对薄膜晶体管 (TFT1) 的栅极电压的电流能力不同。

