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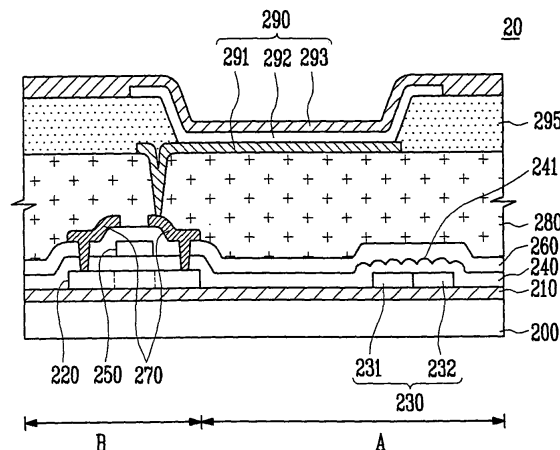
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(54) **Organic light-emitting display device and method for fabricating the same**

(57) An organic light emitting display device (20) includes a substrate (200), a thin film transistor having a gate insulating layer (240) and an inter-insulating layer (260), an organic light emitting diode (290) electrically

connected with the thin film transistor, and a photo sensor (230), wherein the gate insulating layer (240) includes a relief structure (241) positioned above the photo sensor (230).

**FIG. 1**



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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	JP 2001 085160 A (NEC CORP) 30 March 2001 (2001-03-30)	1-10, 14, 19	INV. H01L27/32
A	* paragraphs [0001], [0005], [0009] - [0011], [0016], [0017], [0026]; figure 2 *	11-13, 15-18	ADD. H01L31/0216
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A	EP 0 923 067 A1 (SEIKO EPSON CORP [JP]) 16 June 1999 (1999-06-16) * paragraphs [0113] - [0115]; figure 20 *	1-19	
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			TECHNICAL FIELDS SEARCHED (IPC)
			H01L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 27 September 2010	Examiner 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			

1  
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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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
JP 2001085160	A	30-03-2001	NONE
-----			
EP 0923067	A1	16-06-1999	DE 69825402 D1 09-09-2004
			DE 69825402 T2 04-08-2005
			WO 9840871 A1 17-09-1998
			JP 3887826 B2 28-02-2007
			KR 20000010923 A 25-02-2000
			TW 397965 B 11-07-2000
			US 2002180721 A1 05-12-2002
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	有机发光显示装置及其制造方法		
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其他公开文献	EP1865559B1 EP1865559A2		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

有机发光显示装置 (20) 包括基板 (200), 具有栅极绝缘层 (240) 和内部绝缘层 (260) 的薄膜晶体管, 与其电连接的有机发光二极管 (290)。薄膜晶体管和光传感器 (230), 其中栅极绝缘层 (240) 包括位于光传感器 (230) 上方的浮雕结构 (241)。

