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(43)2002 - 0075614
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(22) 2001 03 26

(71)

575

(72)

501 1 109 - 701

(74)

:

(54)

TFT

,

TFT

TFT

TFT

가

.

2

, TFT , ,

1

TFT

.

2

TFT

.

3

TFT

.

4 TFT (W/L) 1/10 Δ
 V_{gs} (V_{gs} 0 V, - 6 V , 0.4 V).

5 TFT (W/L) 1/1 ΔV
 V_{gs} (V_{gs} 0 V, - 3 V , 0.2 V).

1 : 3 : 1 TFT

5 : 2 TFT 7 :

9 :

[]

TFT , TFT
TFT .

[]

(AMOELD; active matrix organic electroluminescent display device)
(video image) 가

가 , TFT(thin film transistor)가

TFT

, EL 가

poly - Si TFT - (on - current) $\mu A (= 10^{-6} A)$
- (off - current)가

EL
(field effect mobility)가

, TFT (mobility)

,

, TFT TFT
TFT 가

, TFT 가 - TFT
TFT (polysilicone)

5,756,364

Ni 가 ,

Ni 가

5,302,966

, AMOLED

5,652,600

V (variation)

가 (R.M.A. Dawson et al.(Sarnoff Corp., Planar America, Estman Kodak Co., Princeton University) SID 98 Digest pp. 11 - 14), TRG(Time Ratio Gray Control)(M. Mizukami et al.(Semiconductor Energy Laboratory Co., Ltd., Kyushu University) SID 00 Digest pp. 912 - 915) ARG(Area Ratio Gray Control)(T. Shimoda et al.(Seiko Epson Corp., Cambridge Display Technologies Ltd.) IEDM)

TFT

(gray control) V_{gs}^2 가 가 V_{gs}^1 ,

[1]

$$I_d = 1/2 C_{ox} \mu (W/L) (V_{gs} - V_{th})^2$$

I_d - (가) , C_{ox} , W/L , V_{gs}
가 , V_{th} () .

1 , A (3) B (5)가 , (7) (9)가
(1) .

(W/L) 가 .

(가) 가 V_{gs} 가

TFT 가 TFT TFT 가

TFT

TFT

TFT

TFT

,
 .
 TFT AMOLED
 ((-) (drain current)가 TFT
 TFT
 .
 TFT (field effect mobility)가 TFT가
 (diode) V_{gs} 가 TFT가
 .
 TFT ((- ; I_d)가 (W/L)
 I_d V_{gs} 가 .

[1]

$$I_d = 1/2 C_{ox} \mu (W/L) (V_{gs} - V_{th})^2$$

I_d (가 -) , C_{ox} , W/L
 , V_{gs} 가 , V_{th} .
 2 TFT . ,
 .
 2 (1) TFT (5)
 (7) ,
 (W/L) ,
 (W/L) , V_{gs} 가 TFT I_d 가 V_{gs}
 .
 3 TFT .
 3 (1) TFT (5)
 (7) ,
 (W//L) 가 120 ° 가
 .
 4 (W/L) 가 5/50 TFT (Id) V_{gs}
 , 5 (W/L) 가 10/10 TFT
 (Id) V_{gs} .
 4 5 , 4 5 V_{ds} V_{gs} 가
 .
 4 Id 100 nA (4 a) 1.5 μ A (4 b)
 5 Id 100 nA (5 a) 1.5 μ A (5 b)
 (W/L) 가 V_{gs} 가
 가 .
 ΔV_{gs} 3.2 V ,
 ΔV_{gs} 1.4 V

50, 64
/L) 50 mV가 V_{th} 가 ΔV_{gs} (W/L) 가 10/10 22 mV, 5/
(bit) (W

(W/L) 1/40, 1/5, 1/40, 1/10

TFT
(W/L)

(100) 가 (W/L) 1/1 1/ 가 1

가

/5 TFT (mobility) TFT I_d (W/L) 1
(threshold voltage; V_{th}) V_{gs}

(9)

(7)

(57)

1.

TFT

TFT

TFT

TFT

2.

1,

TFT (W/L) 1/40 1/5 TFT

3.

1,

TFT

TFT

4.

3 ,

TFT .

5.

TFT ,

TFT

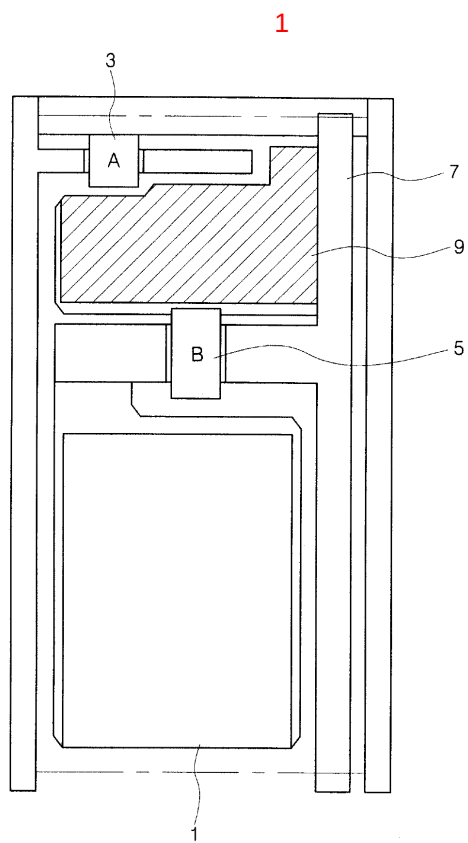
TFT

TFT .

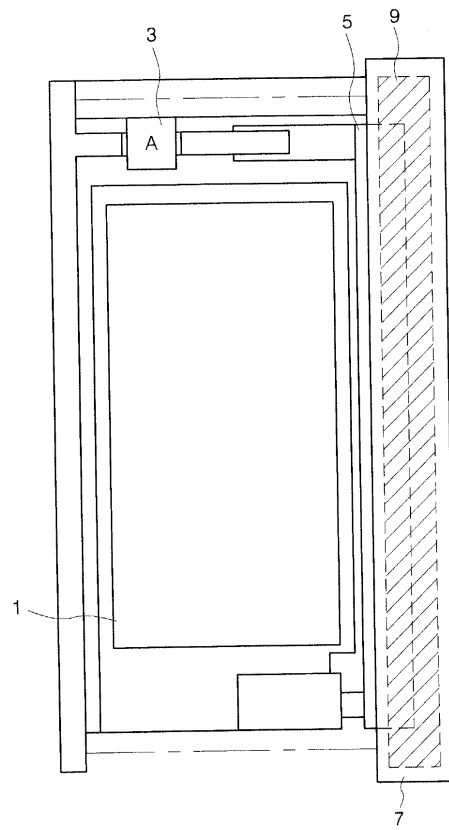
6.

5 ,

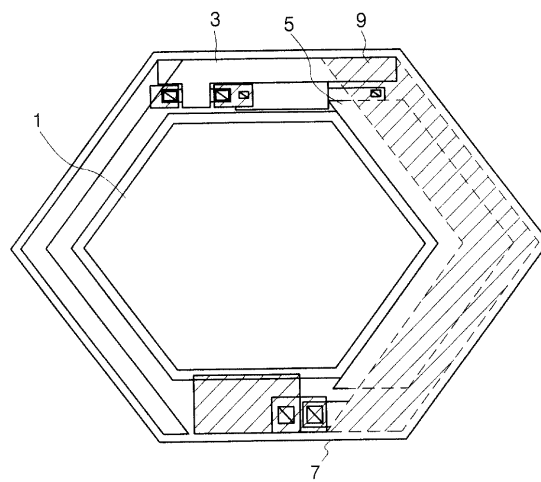
TFT (W/L) 가 1/40 1/5 TFT .



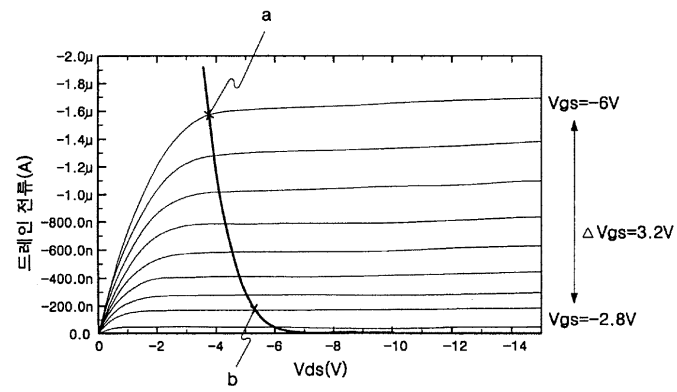
2



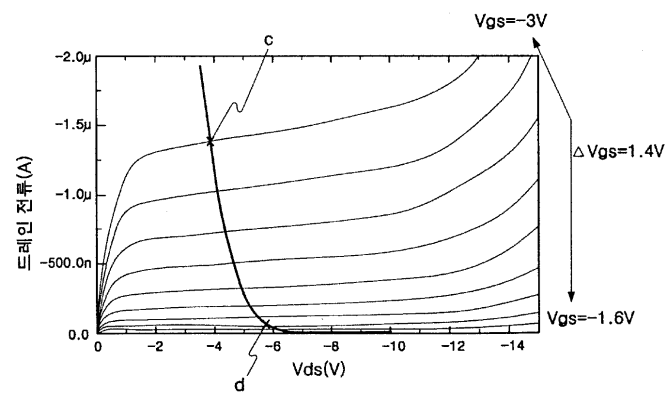
3



4



5



专利名称(译)	驱动T-的有机发光元件		
公开(公告)号	KR1020020075614A	公开(公告)日	2002-10-05
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外部链接	Espacenet		

摘要(译)

本发明涉及一种用于驱动有机发光元件的TFT像素部分，其中向有机发光元件提供电流的TFT的栅电极沿像素的外围布线平行且长，以形成沟道，本发明提供一种用于驱动有机发光二极管（OLED）的像素部分，其中OLED显示装置的灰度级易于控制并且可以提高开口率。2 指数方面有机发光器件，TFT像素，漏极电流，灰度等级

