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(12)

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(A)

(51) 。 Int. Cl.<sup>7</sup>  
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(43)

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2004 07 05

(21)	10-2004-7008847 ( )		
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	: 1998 08 21		2002 02 20
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(71)                      가                      가

3        1        1

(72)	299-02	가	가	1280	가	가
	299-02	가	가	1280	가	가
	299-02	가	가	1280	가	가

(74)

:

(54)

,                      ,                      가                      ,                      ,

.                      .

(2)	(3)	(4)	(5)
(1)	, -		0.1%
(6)	(9)	-	(6)
(3)	(8)	(2)	(sealing plate)
(sealing lid)(7)가			(9)
			(1)

1

1

EL

2

EL

3

4

5

6

7

8

9

10a

10c

11 2

12

X-Y

13 X-Y

14

15

\*

1: EL 2:

3: 4:

5: 6:

7: 8:

9: 10: 가

11:

12: 13:

14: 2 15: 1

20: SCAN

21: DATA

22: COMMON

23:

24: (pixel)

25:

(electroluminescent)

(display)

EL

)

(

가

가

가

(cross talk)  
(cladding)

가

(short-circuit)

EL

가

91-250583

EL

300 $\mu$ m

(counter electrode)

(masking)

(line pitch)

93-101884

EL

EL

(dark spot)

93-275172

EL

가 100 $\mu$ m  
가 ( )

(oblique)

가

insulator layer)

가

가

가

(inter-

5)

(2)

(1)

(3)

(4)

0.1%

(

(6) , (9) (6) (3) (9) - , (6)  
 , (sealing plate) (1) (sealing lid)(7)가 (8) (2) ,

(2) (3) , (3) (6) 1  
 (5) (1) , (4) (6) (9)  
 - , (9) (2) (1) (9) (4) (4) (9) (6) (cut off) 가 ,

(6) (9) (2) (1) (2) (3) (4) , (5)  
 , (sealing plate) (1) (sealing lid)(7)가 (8) (2) , (inv  
 erse taper) (6) (6) (9) (3) 0.1% ,

(2) (1) (3) (4) , (5) 1  
 (15) (14) (9) , (3) (6) (1) (2) (3) (14) , (4) 2  
 ) , (7)가 (8) (4) (2)

(6) (2) (3) , (3) 가  
 , 1 (5) (1) (14) , 1 (4) (15) (9)  
 , (3) 2 (14) , (4) (14) 가  
 (4) (1) 가 .

가 .  
 가 가 .  
 91-250583 가 ) . (

'h' , 'W<sub>2</sub>' , 3 'W<sub>1</sub>' 1 , .

$$a \approx \frac{W_2 - W_1}{2}$$

, a가 h/7 가 , a가 h/10 가 . a가 0 (h

) 0.5 $\mu$ m 50 $\mu$ m . (h) (4)

가  
( 93-275172 ). (4) 가 가

가 (10)  
(passing around) 가 가 , (9)

(6) 가 (4) 가 (9)

(a) (4) (6)  $\mu$ m 가

(b) (4) (4) 가  
(4) 가 가 가

(c) (photolithography)  
(4) 가 (6) 1 $\mu$ m 가  
 $\mu$ m (4)

(9) (4) 가  
(bending around) 가 (a) (b)  
가 가 6

(4) (5) (3)

2 (4) 2 (14) 1 (15) 1  
(15) 가 2  
(14) 가 가 2

a<(h/10) (a), (b) (c)가 2 (14)

가 가 가

SiO<sub>x</sub> (1<x<2), SiO<sub>2</sub>, SiO<sub>2</sub> Al<sub>2</sub>O<sub>3</sub> 가 S  
iN<sub>y</sub> (1<y<4/3), SiON AISiON ZnS

(6) 0.1%

( )  
가 가  
ASTM D-570 가

가

(i) 가 .  
 ( 7 ). , CVD, CVD, ECR-CVD, (sputtering), ECR

(ii) ( 8 ).  
 (contact) , (cutback) .

(iii) ( 9 ).  
 (3) ,

가 .  
 가 가 SiO<sub>2</sub>, SiO<sub>2</sub> Al<sub>2</sub>O<sub>3</sub> , 가 가 CHF<sub>3</sub> CF<sub>4</sub> 가 .  
 가 가 (paste) 가

(4) Mg:Ag, Al:Li, Pb:Li, Zn:Li, Bi:Li, Ln:Li, Al:Ca  
 (work function)

가 , EL  
 ZnO:Al, SnO<sub>2</sub>:Sb InZnO( (4) / ) ITO,  
 EL (6) 2 (14)  
 5μm 2mm , EL 가 500μm

L 가 EL (6) 2 E  
 14) EL (7) 50μm (

EL

가

:

(a) (7) (2)

(b) (7) (2)

(c) (7) ( EL )

가

(d) (7) (2)

가

(e)

(f) 가

(g) (color conversion film)

가

(6)

2

(14)

10a

10c

$$|a| < (h/7)$$

(b)

3가  
(c) a가 0  
가

(4)

(4)

(9) a > (h/5)

가

가

11

1

2

(15)

2

(14)

91-250583 ]

(4)

(4)

[

(i)

(3)

가

X-Y

12 X-Y , 13 X-Y .  
(ii) TFT (i) X-Y  
가 , EL .  
14 , 1  
15 ( Tr<sub>1</sub> Tr<sub>2</sub> ) (25)  
) COMMON(22) , SCAN(20), DATA(21)  
(4) Tr<sub>1</sub>, Tr<sub>2</sub>, SCAN, DATA COMMON  
AN, DATA COMMON Tr<sub>1</sub>, Tr<sub>2</sub>, SC  
, SCAN, DATA COMMON (4) 가 , COMMON SCAN 가 ,  
SCAN DATA 가 가 가 가 가 가 가 .  
가 가 가 가

1: \_\_\_\_\_

300μm (striped) 가 ITO 0.5mm (2) ZCOAT-1  
410( (Nippon Zeon Co., Ltd.) 가 )  
.35 1500rpm  
가 5.3μm 70 30 ( Z  
photomask) 436nm, 120mJ/cm<sup>2</sup> 가 20μm )  
COAT-1410가 100μm ITO  
, 250 2 .

2: \_\_\_\_\_ 가

1 가 2mm×2mm 10 ,  
. {( )-( )} / ( ) 20 .  
, 0.1 , 1 ( )  
, 0.07% (ASTM D 570 ) .

3: EL 가

1 3 , 가  
AC JAPAN Ltd.) 30 , ( ULV  
,1'- ]-4,4'- ( 'TPD' ) 200mg N,N'- -N,N'- -(3- )-[1  
, 200mg (8- ) ( 'Alq' ) (resistance heating boat) 가  
, 1×10<sup>-4</sup> Pa .  
, TPD- 가 가 80nm (hole transporting layer)  
, 가 Alg 가 75nm .  
, Mg (basket)  
, Mg 1.4nm/ 0.1nm/ 가 가 Mg 가 200nm Mg-Ag  
EL



(N<sub>2</sub>)  
 가  
 EL  
 EL 0.6mm 가 EL  
 100μm  
 EL 가 EL  
 7V  
 ±1μm ITO 1가 Mg:Ag 1가 ITO Mg:Ag  
 가 Mg:Ag  
 60% RH EL FI 50μm 5000 20  
 가 가 가 3μm  
 가 가

1  
 가 ITO  
 ( 30 4000rpm (Toray Industries Inc.) 'UR 3140' 80  
 30 80mJ/cm<sup>2</sup>  
 180 30 N<sub>2</sub>  
 가 300 30 ITO/ ((  
 )-( ))/( ) 1 3 ITO EL Mg:Ag Mg:Ag  
 가 ITO 1가 Mg:Ag 1가 ITO Mg:Ag  
 가 20 60% RH Mg:Ag  
 1 2%) Mg:Ag

4:( )  
 0.01% (ASTM D570 )  
 ( (Asahi Glass Co., Ltd.) (Sitop) CTX-809'  
 ) 1 가 4.8μm .30 600rpm 1  
 80 가 1 120 1 250 1 1  
 -1000(TORR-1000)' ( ) 3000rpm 90 20 500mW/cm<sup>2</sup>  
 1  
 , CF<sub>4</sub> , CHF<sub>3</sub> Ar (plasma etcher)  
 24, 24 98SCCm, 0.5Torr, 300W 50  
 , {{ ( )-( )}}/( )  
 0.1 2

5: 

---

300 $\mu$ m 가 ITO 0.5mm (2) ZCOAT-1410( )  
 . 40 1000rpm 가 )  
 . 가 8.8 $\mu$ m  
 , 80 , 15 , 365nm,  
 450mJ/cm<sup>2</sup> 가 50 $\mu$ m ITO  
 , 200 1  
 , 2 , {( )-( )}/( )  
 , 10b 10c

6: EL 가

5 가 EL 3  
 Mg:Ag 3 가 ,  $\pm 4\mu$ m

7: EL 가

300 $\mu$ m 가 ITO 0.5mm (2) SiO<sub>2</sub>  
 CVD 1 $\mu$ m 가 N<sub>2</sub>O SiH<sub>4</sub> 가 (1:1) 250 , 0.7 Torr,  
 200W , 가 (Tokyo Ohka K  
 , 4 , -1000' )  
 ogyo Co., Ltd.) 가 ITO 280 $\mu$ m 30  
 0 $\mu$ m 가  
 , SiO<sub>2</sub> ( 1:1:3.5) ITO  
 W . CF<sub>4</sub>, CHF<sub>3</sub> Ar . SiO<sub>2</sub> 0.01% 0.5Torr, 300  
 SiO<sub>2</sub> 가  
 , EL 가 3 , 가 1 $\mu$ m

8: EL 가

300 $\mu$ m 가 ITO 0.5mm (2) SiO<sub>x</sub> (x=1.8)  
 300nm  
 , 4 , ( 가 가 ' )  
 -1000' ) 280 $\mu$ m 350 $\mu$ m 가 IT  
 , 150 가  
 , 가 CF<sub>4</sub>, CHF<sub>3</sub> Ar ( 1:1:8)  
 0.2Torr, 200W  
 , 1 , 1 가 SiO<sub>x</sub> 가

1 0.0.1% 5 ZCOAT - 1410 5 1 2

EL 가 3 가 1μm

EL 가

EL OA

(57)

1.

(2) (3) (4) 0.1% (5) (6) (9) (sealing plate) (9) (s)  
 (6) (1) (9) - (6) (sealing lid)(7)가 (8) (2) (1).

2.

(2) (3) (4) (3) (6) 1  
 (5) (1) (9) (9) (cut off) (3) 가 (9) (2) (1)  
 (4) (4) (9) (6)

3.

(2) (3) (4) 0.1% (5) (6) (inverse taper) (6)  
 (1) (9) (3) (4) (sealing lid)(7)가 (8) (2) (1).  
 (6) (sealing plate)

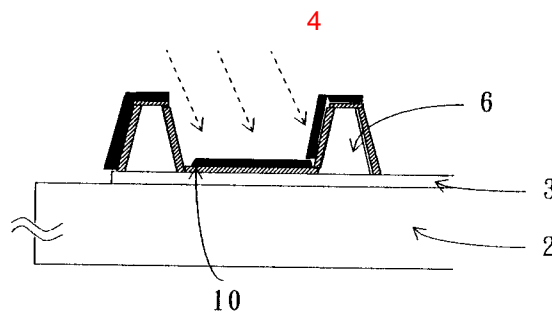
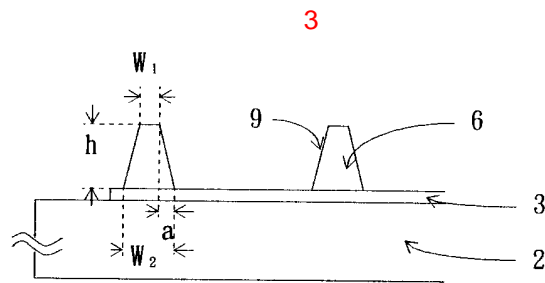
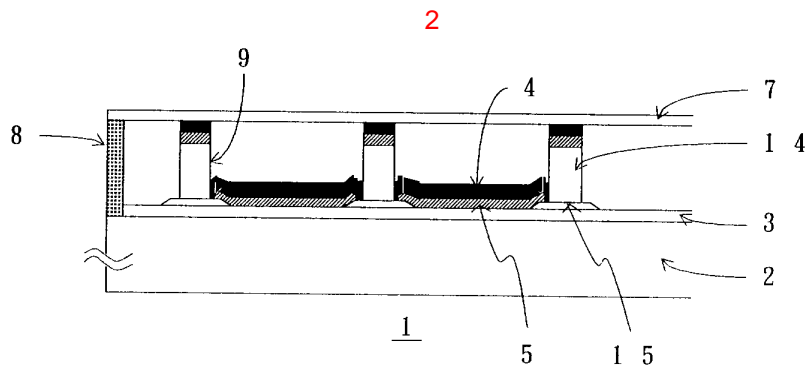
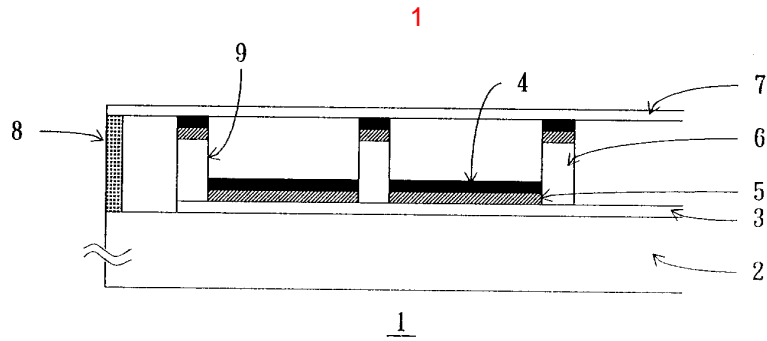
4.

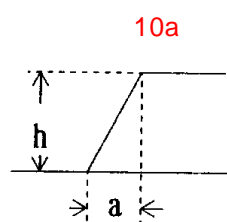
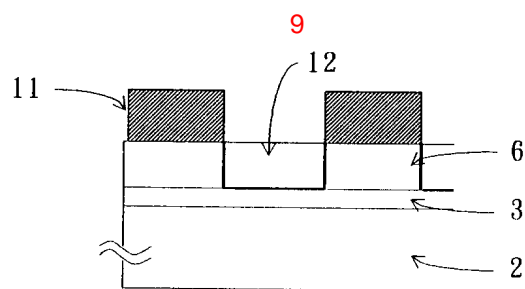
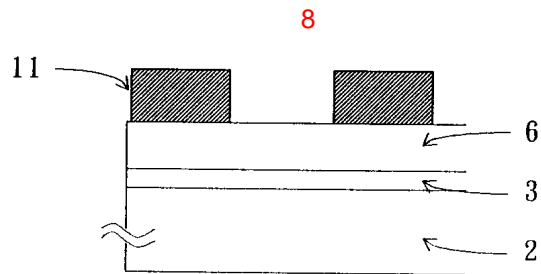
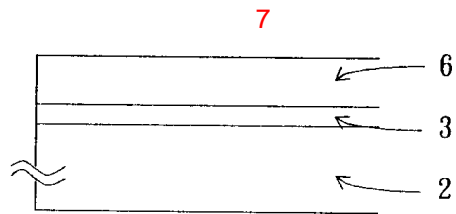
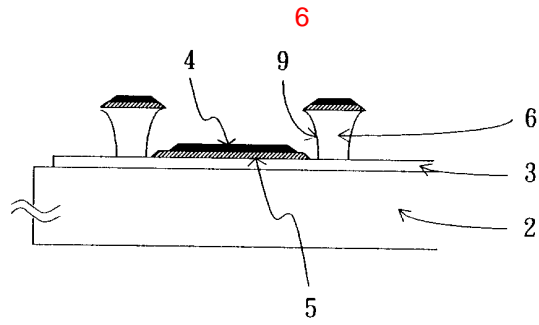
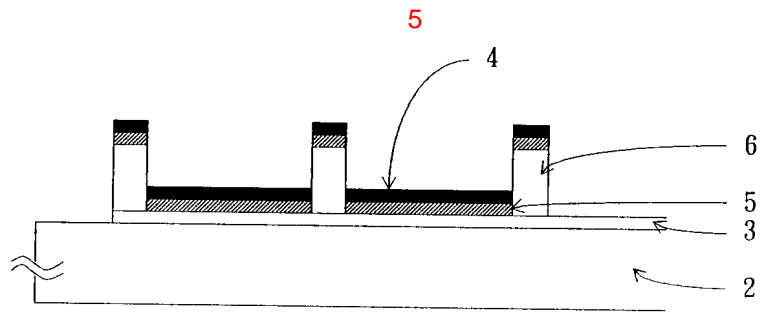
(2) (3) (4) (5) 1 (15)  
 (1) (3) (14) (14) 2 (14)  
 (9) (3) (6) (7)가 (8) (4) (2) (1).

5.

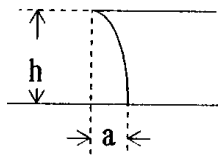
(2) (3) (3) 가 (6) 1  
 (5) (4) (15) 2  
 (1) (14) (14) (9) (3) 2

(4) 가 (4)  
(1)

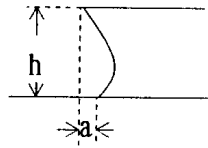




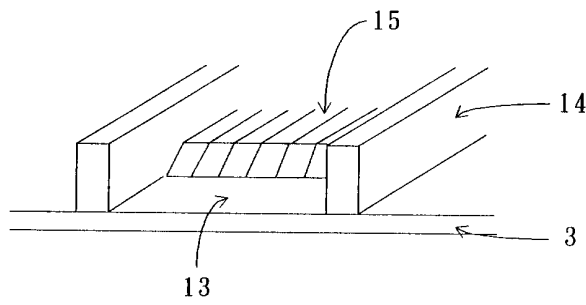
10b



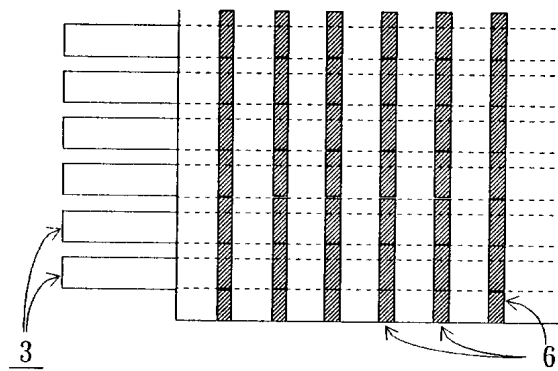
10c



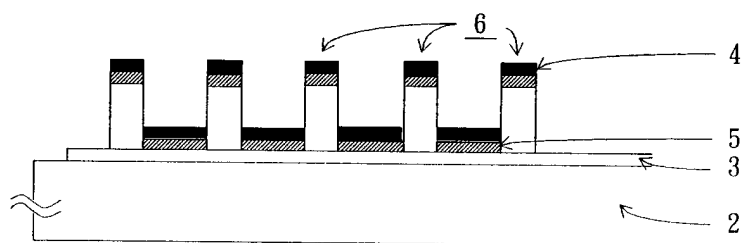
11



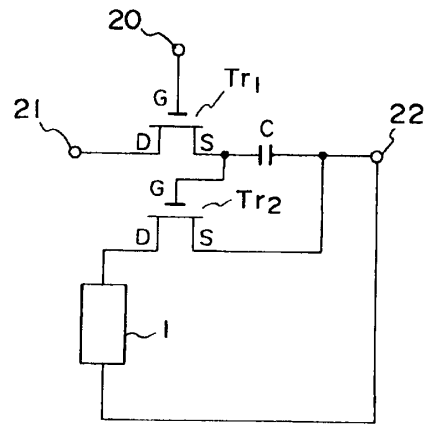
12



13



14



15

