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(71) 가 가 가 가 6 7 35

(72) , 141-0001 가 가 6 7-35 가 가

, 141-0001 가 가 6 7-35 가 가

가, 141-0001 가 가 6 7-35 가 가

, 141-0001 가 가 6 7-35 가 가

, 141-0001 가 가 6 7-35 가 가

(74)

:

(54)

가 ,
A (29)가 B (4) TFT (1) , (4)
, A (29) , (2) , (3) B (29a) ,
(33)가 , A (29)

, ,

, 가 .

, , (Personal Digital Assistant: PDA),
가 .

가 .

50%

가

가

가

가

가

가

가

1 2 ,

가

R, G, B

3

(R), (G)

(B)

6

3

가

가

가

가

가

가

가

가

가

가

가

가

가

1

가

2

1

가
가
, 1

가

가

가

가

가

가

가 가

가

가

가
가

가

가

4%

10% 가

TFT

가 2 R, G, B 3 가

1% 30%

1 1 2

가 1

가 1 2 1 2

가 1 2 1 2

가

3 1 2

가 1 1

가 1 2 1 2 가

가 1 2 가 가

2

가

가 가

3

25 3 .

26 24 c-c' , .

27 24 d-d' .

28 4 .

29 4 .

30 27 e-e' , .

31 5 .

32 5 .

33 31 f-f' , .

34 31 g-g' , .

35 6 , Cs
가 .

36 35 가 .

37 가 .

38A 6 2 , 38B

39A 39B 38B , 6 ,

40 38B , 5 ,

, , .

< 1 >

1 (1) , (1) , 2 1 Z-Z

4) 2 , (1) (8) (TFT)(9), ((30), (4) (30) (28) (29), (29a),

1 (4) , (4) 2 TFT(9) , 가 (5) , TFT(9) (6)

, (8), TFT(9) (5) (, CS (30))(7) . CS (7) , (21) CS (, CS ,

3, (3), TFT(9), (5), (6), CS (7), CS (4) 가

, 2 B가 (4) A

TFT(9) (8), (10), (10), (8), TFT(9), (13),
A B (4) (12)

TFT(9), (4)
4, TFT(9), (8)
(14) (15) (15), (5) (15), (

5) (Mo), (Ta) ON/OFF

TFT(9) (14) n+ (16, 17) (18) n+
(16) 1 (24) (24a), (19) n+
(17) 가 1 (24) (24b) (20)

(19) 가 (20), (Al) (19) (6)
2) (4) (20), 2 (21), (14) CS (7) (2

-Si) CS (14) (18), (15) CVD (poly

(18) (23)가 (23), (19)

(18)

TFT(9), (18), (18) 가 (a-Si)

5 6 a-Si poly-Si (18) TFT

5 6 A B, poly-Si (18) TFT(9) A
B

7 a-Si poly-Si (18) TFT(9) RFL, TRM

7 (4), 5 6, B가 126 μ m x 42 μ m

7, 8%가 poly-Si TFT(9), a-Si 7%, 25% 5%

(10) (11) TFT(9) 1 2 (24, 25) 1
(24) (19) (20) (24a, 24b)

(12), (12)

(Ag) A A

(微反射)

(13) ITO

(12) (13) (22) TFT(9)

(8) 가 , 1/4 (2)

6) (27)

(8)

(28) (28) (29) (3) (29a), (29a) (29a)

(29)

(29a) A (33)가

(33) 8A

A 8B (29a-1) 10% , 90%

(33) (29a) 가 (29a)

(33) (33) 가 (29a)

(33) (29a) (33) 가 B (29a)

-2) (29a-1) (29a-2) 가

A B (33)

B

(33) , 9A 9D (33)가

가

(33)가 가 (33)

(33) A B A (33) (

29a-1)

(33) (29a) 가 1 μ m

(33) (28) 20 μ m (33) A 가

가 가 (33) (33)가

1 μ m

A (29a-1) (33) A

B B

(30) (33)가 (29a) (29)
ITO

(28) , 1/4 (31) (32)

(4) (30) (3)
2

가 (3) 가

10

10 , 71a, 71b , 72 , 73 , 74

(1) (71a, 71b) , (72) , (71a, 71b)
(73) (71a, 71b) (1) (1)
(27) 1/4 (74) (26) (73) (8) B (74)

11 10

(74)가 가 , (73)

B 가 100ppi 140ppi 가
5% , 140ppi 50%

(4) B B 10 1 B

1 B 10 1 (1) (8, 28), TFT(9)
2 (24, 25), (3), (27, 32), 1/4 (26, 31)

200ppi , 5 μ m 126 μ m x 42 μ m B

40%가

(4) (4) A가 A 가 , A A B
60% 가 , A A 0%
A , 1% , 60%

가 (71a, 71b) 25% 가

(74) (71a, 71b) (71a, 71b) 가
가 (74) , 400cd/m² 20000cd

/m² 500cd/m² 25000cd/m² .
 , 150ppi , 4%
 , (71a, 71b) 가 , 4%
 , (1)
 12 , 가 2 34cd/m²
 , 12 , (AVR)
 LM , SMPLN
 8.9cd/m², (CTR) 7.5cd/m², RMS 10.9cd/m² .
 12 , 가 20cd/m² , 90% , 1000cd/m²
 , (1) 가 20cd/m² , 1000cd/m²
 d/m² (1) 20cd/m² , (1) 20c
 . 13 , TRM , BLM
 가 , 13
 가 가 , 4% , 4%
 10%가 (1) (8, 28), TFT(9) 1 2
 (24, 25), (3), (27, 32), 1/4 (26, 31) ,
 (1) , (27, 32) 50% , 50% (,) 2000cd/m², 5000lx
 8, 28), (3), TFT(9) 가 가 , (24, 25), 1/4 (26, 31) , (가 20c
 0% . 가 , 가 , (1) 50%() x50%(
) x40%(+TFT) = 10%가 .
 , , 4% , 10% 가 .
 (cd/m²)가 , , 가 , (,) 2000cd/m², 5000lx
 d/m² , 가 , PDA 1%가 , 가 20c
 , , 가 , Ag (12) , 42%
 , 14 , PNLN , RFL (12) , 14
 42.23% , (12)
 42% .
 , 4% , 40% , 100% , 60%
 , (1) 60%() x42%() = 25%가 . 100%
 , 100% , 100% .
 15 1 RFL , TRM 가 , 15 a . 15

< 2 >

19 2 (1A) .
 2 (1A) , X B (29b)가
 가 , X가 , (34)가 1
 , 1 가 . , 2
 , 19 (29a) X , (34)
 , (34) , (29b) 가 가 , 가 가
 , (34a) 가 가 .
 (34) 1 「 」 . , 가 1 ,
 20 1 (R), (G), (B) , (R), (G), (B)
 3 (4a, 4b, 4c) ,
 20 (4a, 4b, 4c) , 19 TFT(9)
) (5a, 5b) , TFT(9) (6a, 6b, 6c, 6d)
 , 20 , (4b 4c) , X , (6c) (85)가
 , (3) , (3) , (1A) ,
 X , (28 8) B , X , B ,
 , 가 가 . (22a, 22b, 22c) ,
 가 ,
 , , X (6c)
 (85) .
 21 (1) . (29R, 29G, 29B) (R), (
 G), (B) , (4a, 4b, 4c) , (4a, 4b, 4c)
 가 , R, G, B 3
 , 가
 (29R 29B) , (34a 34b)가 , (34a 34b)
 , (34a 34b)
 , (34a 34b)가 (29R, 29B) , 가 ,
 20 (6a, 6b, 6c, 6d) , 가 . ,
 (3) , 가 . ,
 (6a, 6b, 6c, 6d) , .

, 29B) , (6a, 6b, 6c, 6d) (82a, 82b) , 21 (6a, 6b, 6c, 6d) , (29R, 29G
 , , (29R, 29G, 29B) , , (82a, 82b) ,
 , 81a 81b , (29R 29B) (85)
 (29G 29B) X , (29G 29B) ,
 22 20 a-a' (1A) . 23 20 b-b' (1
 A)
 22 23 19 가 , .
 22 , (85) (11) (6c) ,
 (85) (29G 29B) (85)
 , 1/4 (31) , .
 23 (85)가 23 , (29G 29B)가
 (11) (6c) .
 (6) , (29b) (6) , (85)
 (34a 34b) , .
 , 가 , 가 ,
 , TFT(9)가 , TFT(9)
 , , 1 RGB 1 ,
 ,
 < 3 >
 3 , 19
 .
 24 R, G, B 3 3 (4a, 4b, 4c) , .
 (4a, 4b, 4c) , (5a, 5b) , (6a, 6b, 6c, 6d) .
 (4b 4c) , X , (6c) (95)가 .
 25 (1A) . (29R, 29G, 29B) R, G, B
 , (4a, 4b, 4c) , (4a, 4b, 4c)
 가 , R, G, B 3 (29G 29B) ,
 (95) (35a 35b)가
 (35a 35b) , (35a 35b) ,
 , ,
 24 (6a, 6b, 6c, 6d) , 25
 , (29R 29G, 29G 29B) , (92a 92
 b) , (6a, 6b, 6c, 6d) .

26 24 c-c' 1 (1A) 27 24 d-d'

(1A)

26 27 19 가

26 (95) (92b) (95) (11) (6c)

(95)

27 (95)가 27 (29G 29B)

(92b) (11) (6c)

6) 가 가 (35a 35b) (6) (95) (

가 가 가

, 1 RGB

< 4 >

4 19 (1A)

28 R, G, B 3 (4a, 4b, 4c) 28

(4a, 4b, 4c) (5a, 5b) (6a, 6b, 6c, 6d)

가 (6c) (5) (6c)

29 (1) (29R, 29G, 29B) R, G, B

(4a, 4b, 4c) (4a, 4b, 4c)

가 , R, G, B 3

(29R 29B) (36a 36b)가

(36a 36b) (36a 36b)

28 (6a, 6b, 6c, 6d) 2

29 (29R 29G, 29G 29B)

(102a 102b) (6a, 6b, 6c, 6d)

(6c) (5a) (6c) (5b)

(6c) (5a) (6c) (5b)

(29G 29B)

30 28 e-e' 19 (1A)

30 19 가

30 (105) (6c) (5a) (6c) (5b)

(25) (6c) (5a) (105)

(29G 29B) (102b)

5) (5) (6) (29b) (102) (6) (10) (36a 36b) (105) 가

< 5 >

5 19 (1A)

31 R, G, B 3 (4a, 4b, 4c) 31 (4a, 4b, 4c) (5a, 5b) (6a, 6b, 6c, 6d) 가 (5) (6c)

32 (1) (29R, 29G, 29B) R, G, B (4a, 4b, 4c) (4a, 4b, 4c) 가 R, G, B 3 (29R 29B) (37a 37b)가

31 (6a, 6b, 6c, 6d) 1 (112a) 32 (29R, 29G, 29B) (6c) (5a) (6c) (5b) 112b

33 31 f-f' 19 (1A) 34 31 g-g' 19 (1A)

33 34 19 가

33 (115) (6c) (5a) (6c) (5b) (25) (6c) (5a) (115) (29G 29B)가

34 (115)가 34 (29G 29B) (11) (6c)

(5) (6) (29b) (6) (37a 37b) (115)

< 6 >

35 40 5

C 1 5 Cs (7) Cs (7) (20)

6 35 Cs Cs Cs

Cs , 35 (5) (6)

(5) (6) TFT가 TFT (121)가 (4) (4) (6)

TFT (121) TFT (122) (6a)가 (5) (5) (4)

(, Cs (5) (5a) (122)

, 35 (5) (124) , (6) (125)

, 36 35 가 .

35 Vcom 가 Vcom 가 , 36 1H 가 ,

36 Vcom 5V . , 35 9V 가 ,

, 37 가 가 . , 37 , 35

36 가 .

37 , 35 36 SV , TMG SEL (6)

XS2, S3 XS3, ... () TMG S1 XS1, S2

38A, 38B 39A, 39B CS (7) (5) , CS

A

38A 2 x 2 , (5) (5) (6) TFT(9)가 .

(5) , (6) TFT(9) CS (7) . CS (7)

CS가 .

, CS , TFT

(62) A가 .

38B TFT TFT A , 39A A

A , 39B TFT A , 40 A

, B

(4)

, TFT가 TFT (121) (5) (6) , Cs (93)

A가

, 38A (4) , 38B Cs

A가 . (4) , A B

A (4) , (4) ()

(4) (33) , (4) ,

, 10% , 4% , 10% .

16 17. ,
 , 1 2 , 1 2 가

17 18. ,
 가

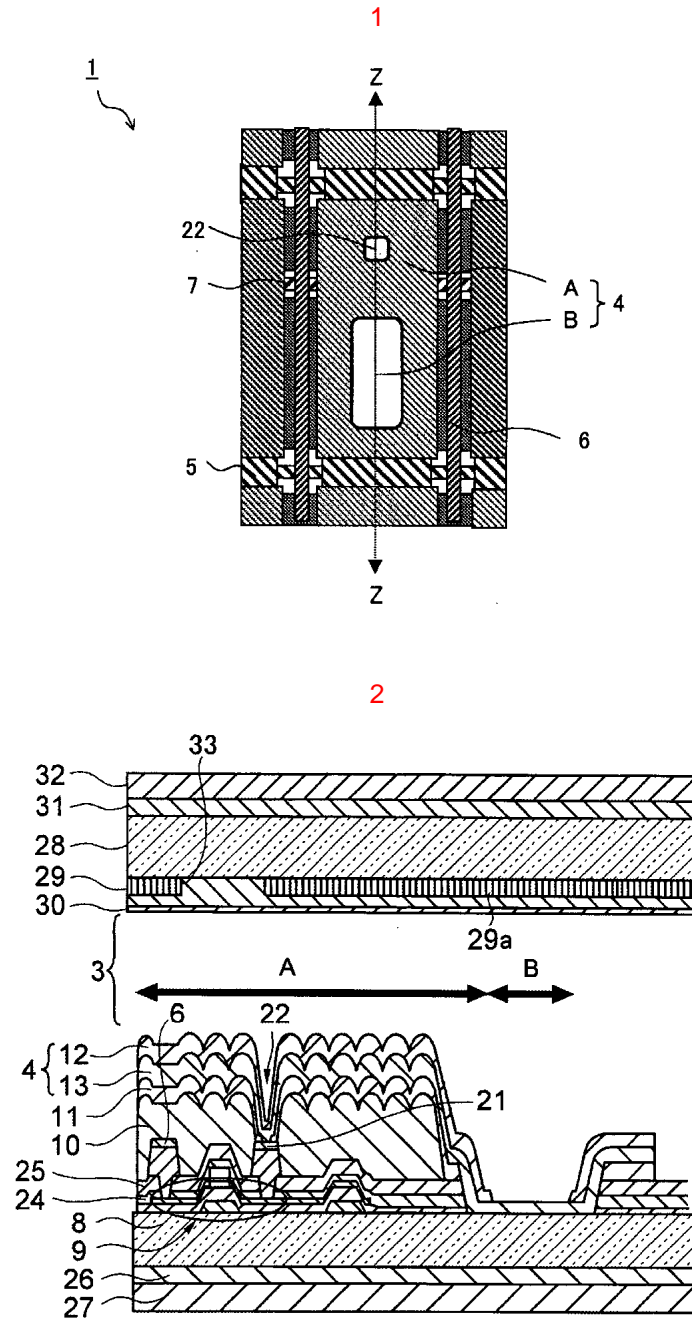
18 19. ,

16 20. ,
 가 , 1 2 , 1 2

20 21. ,
 가

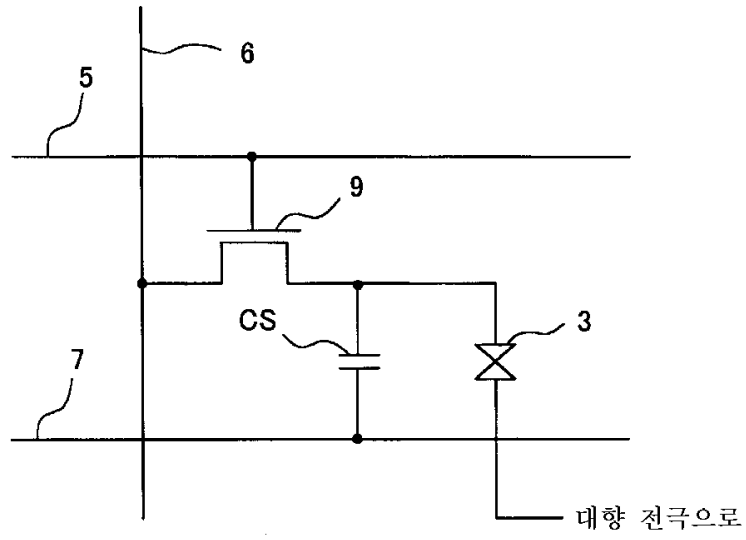
21 22. ,
 가

22 23. ,

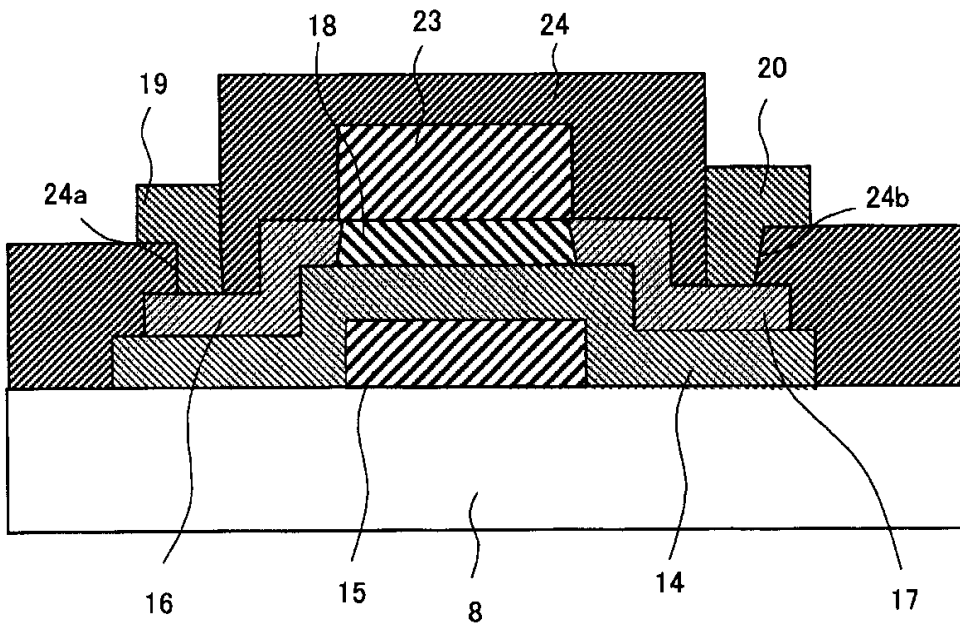


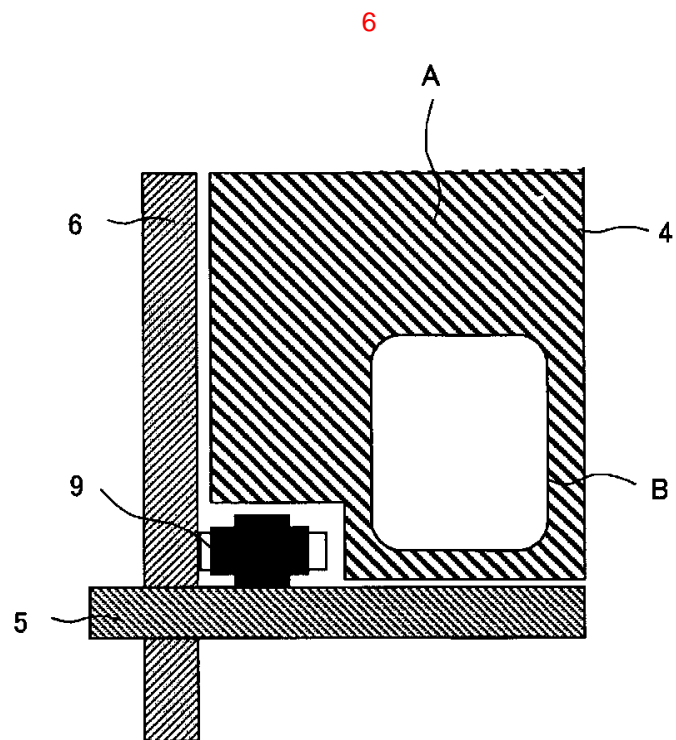
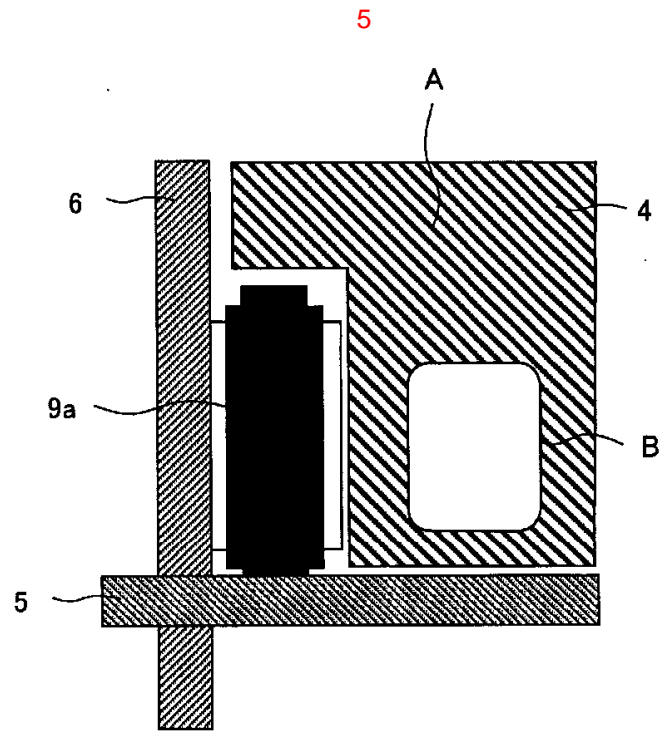
1 표시 패널

3

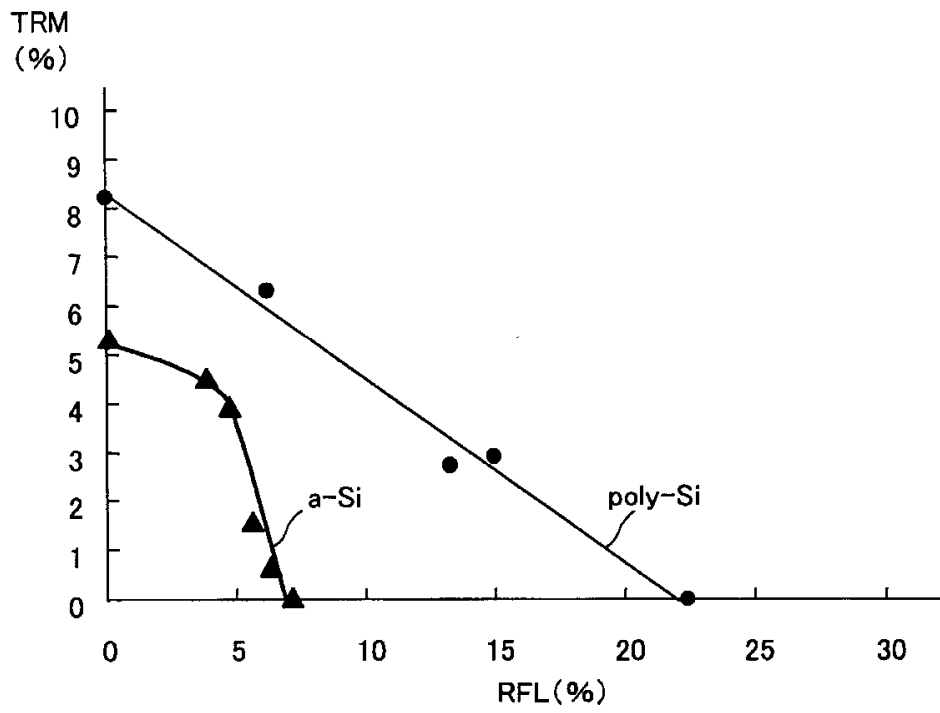


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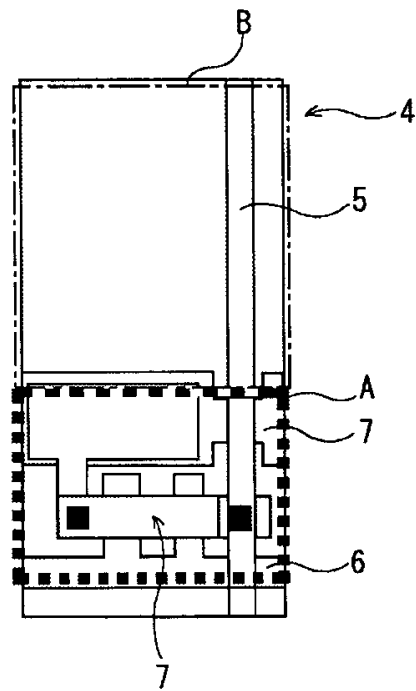


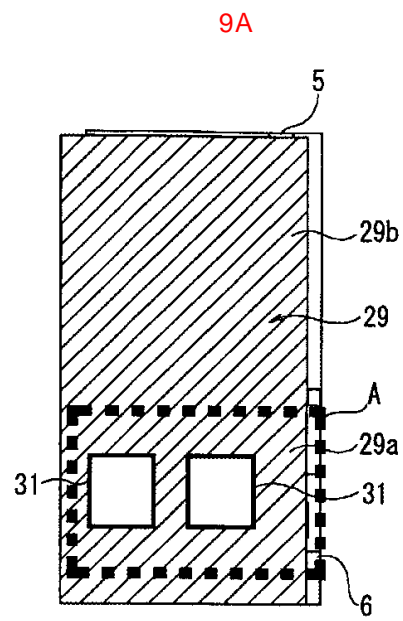
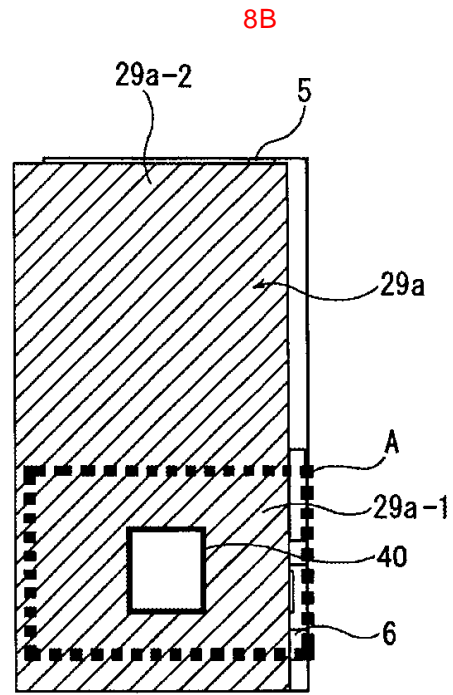


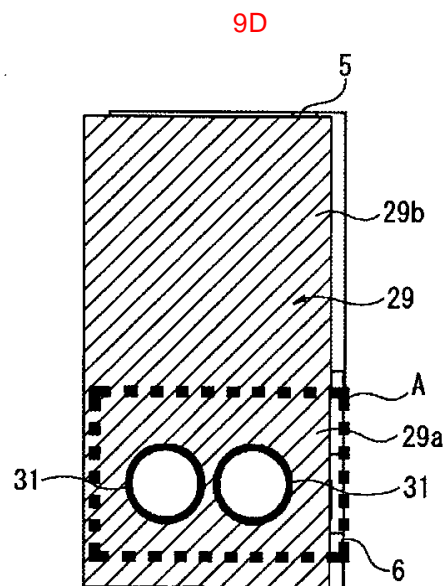
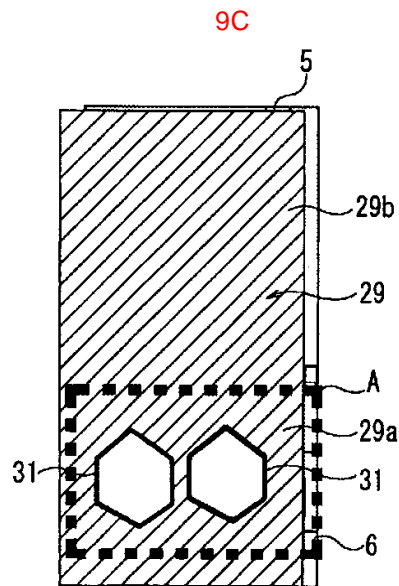
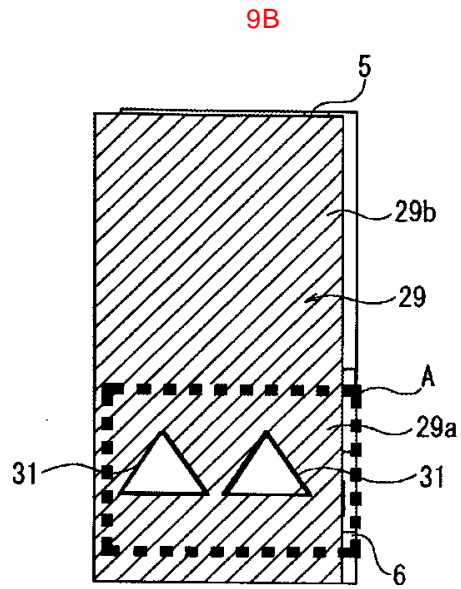
7

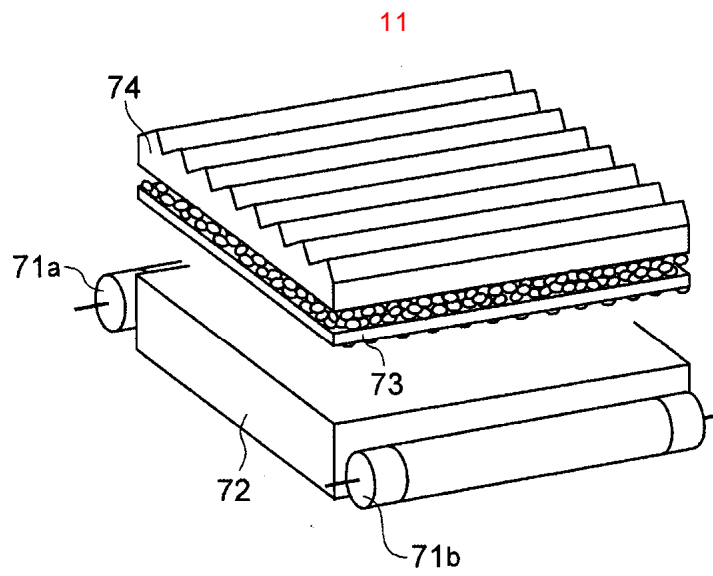
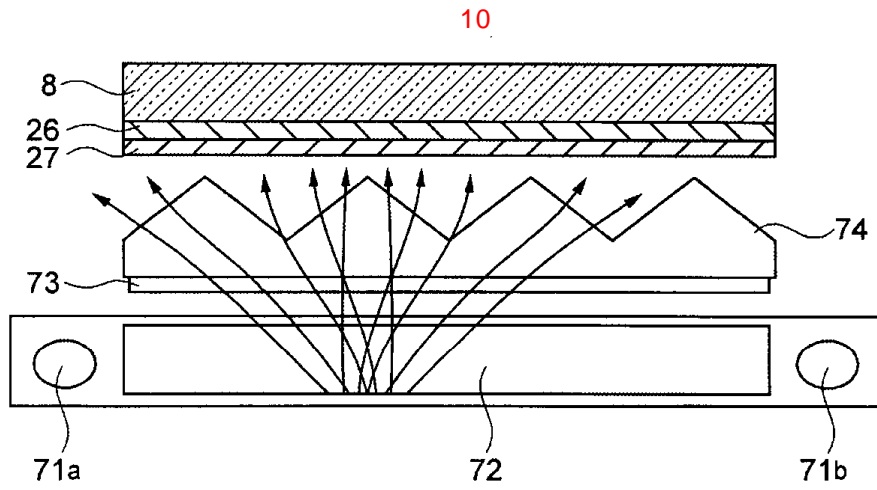


8A



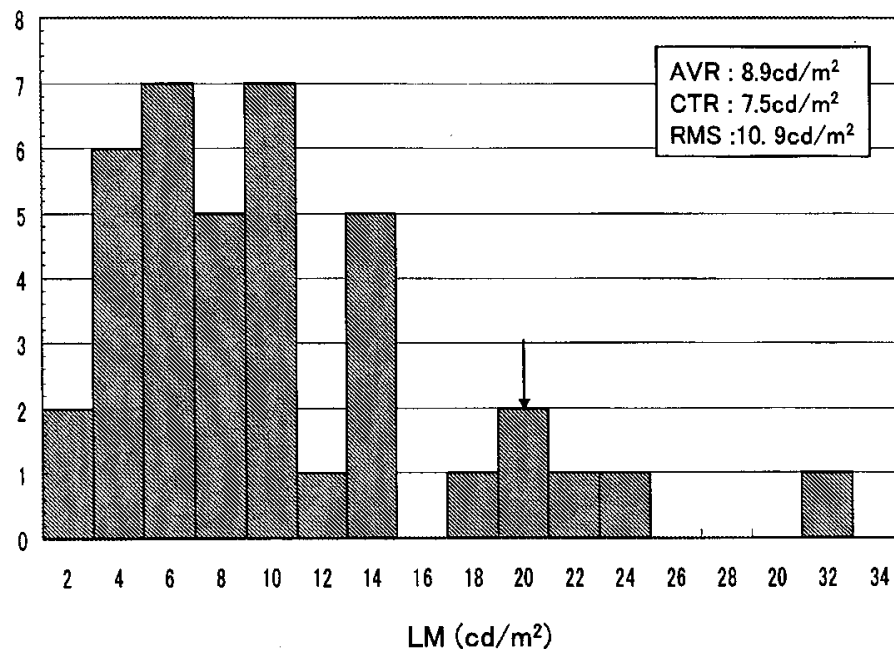




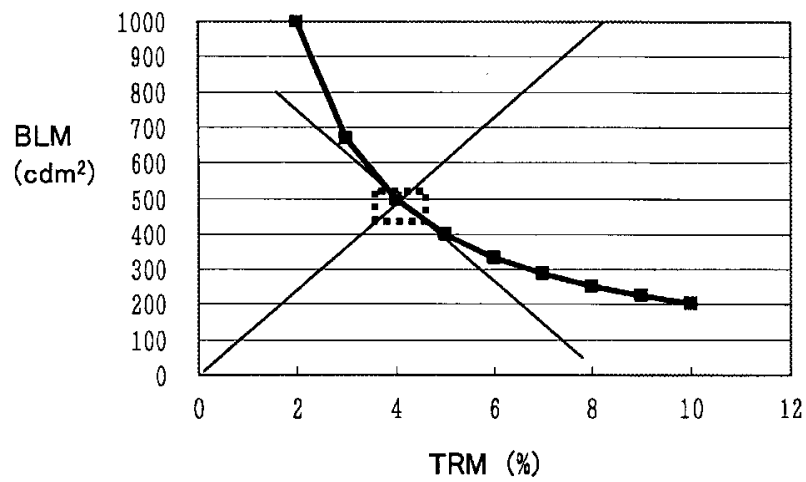


12

SMPLN



13

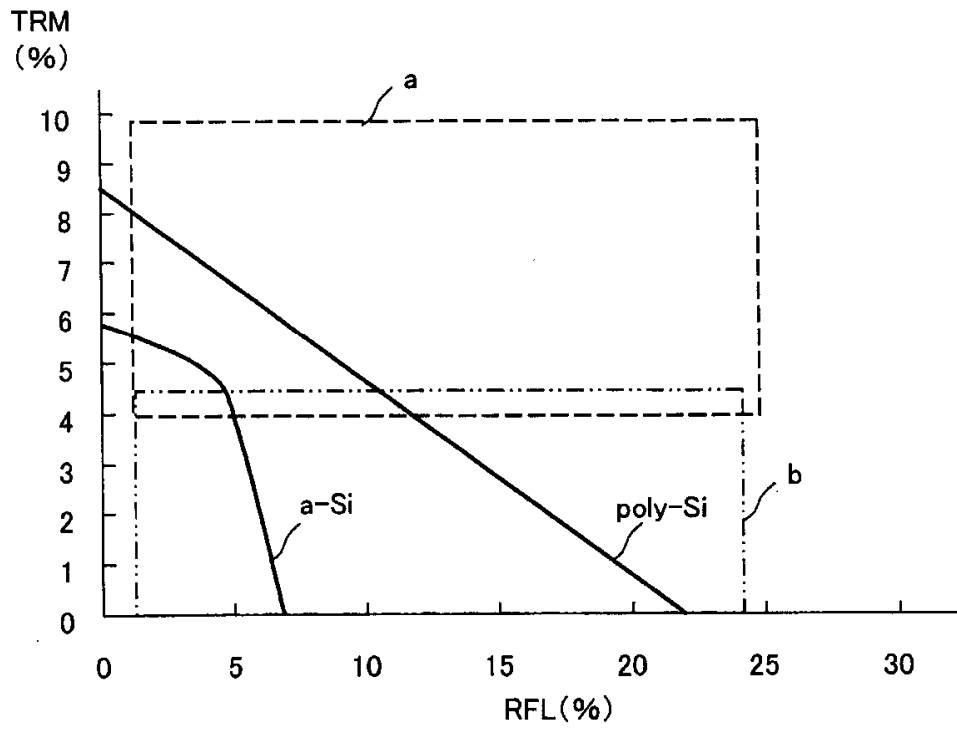


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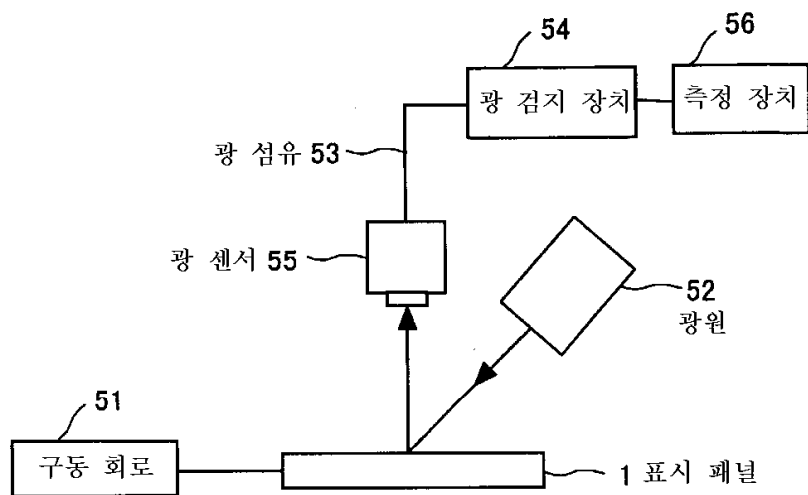
PNLN	RFL(%)
1	42
2	39
3	36
4	49
5	47
6	46
7	43
8	36
9	46
10	45
11	42
12	38
13	40

평균 반사율: 42.23%

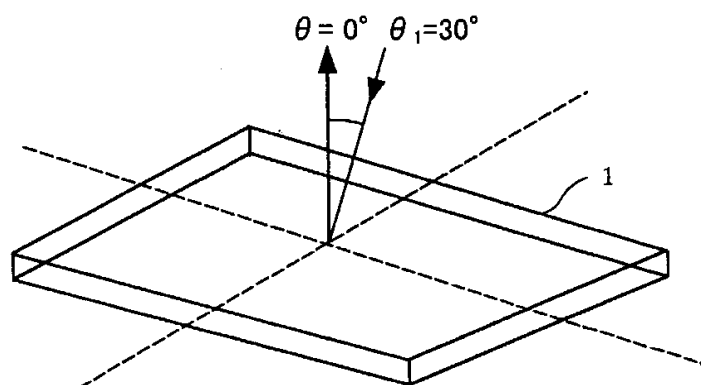
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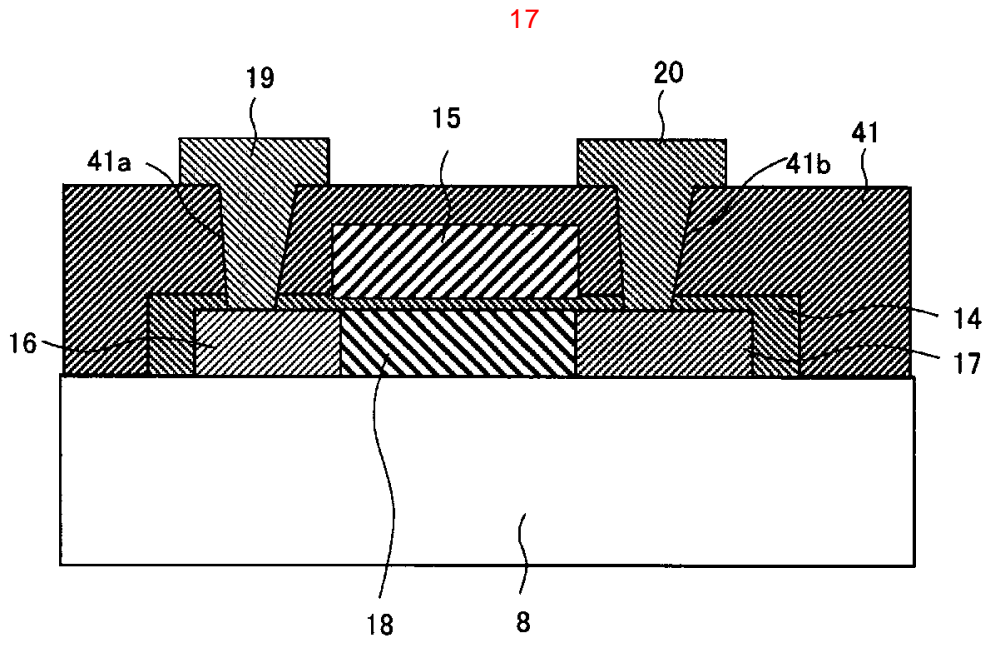


16A

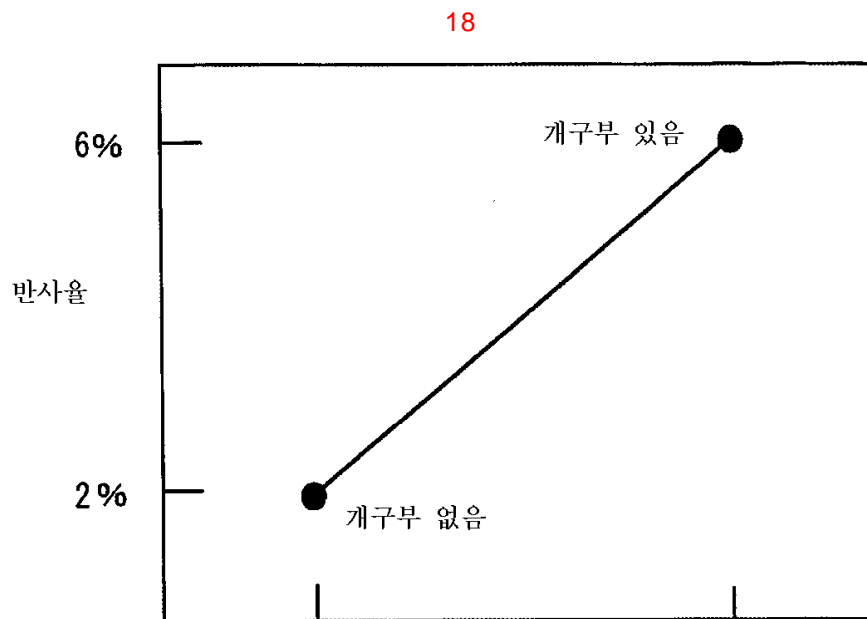


16B

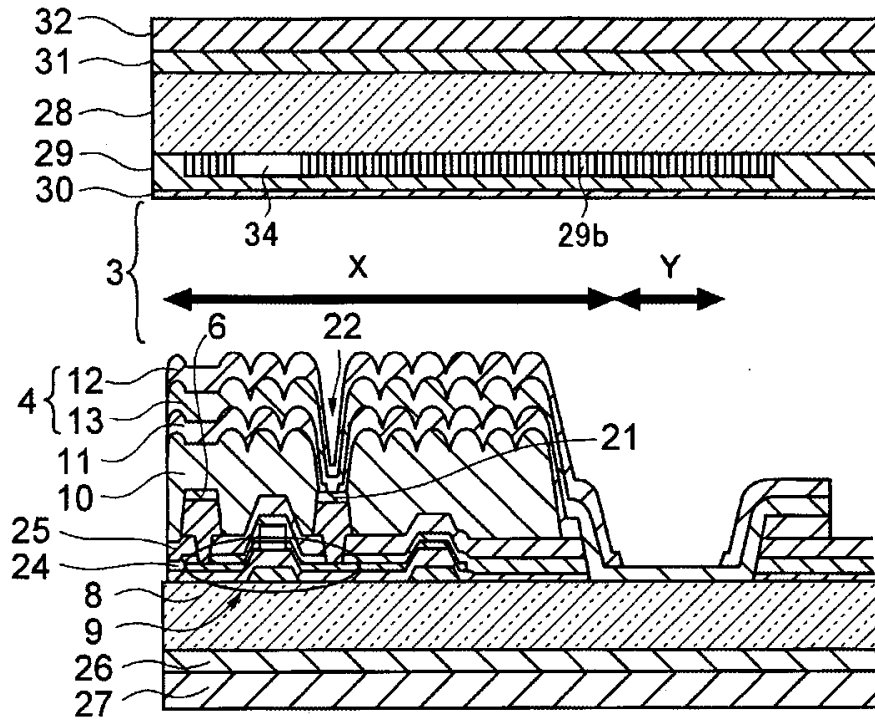




40 TFT

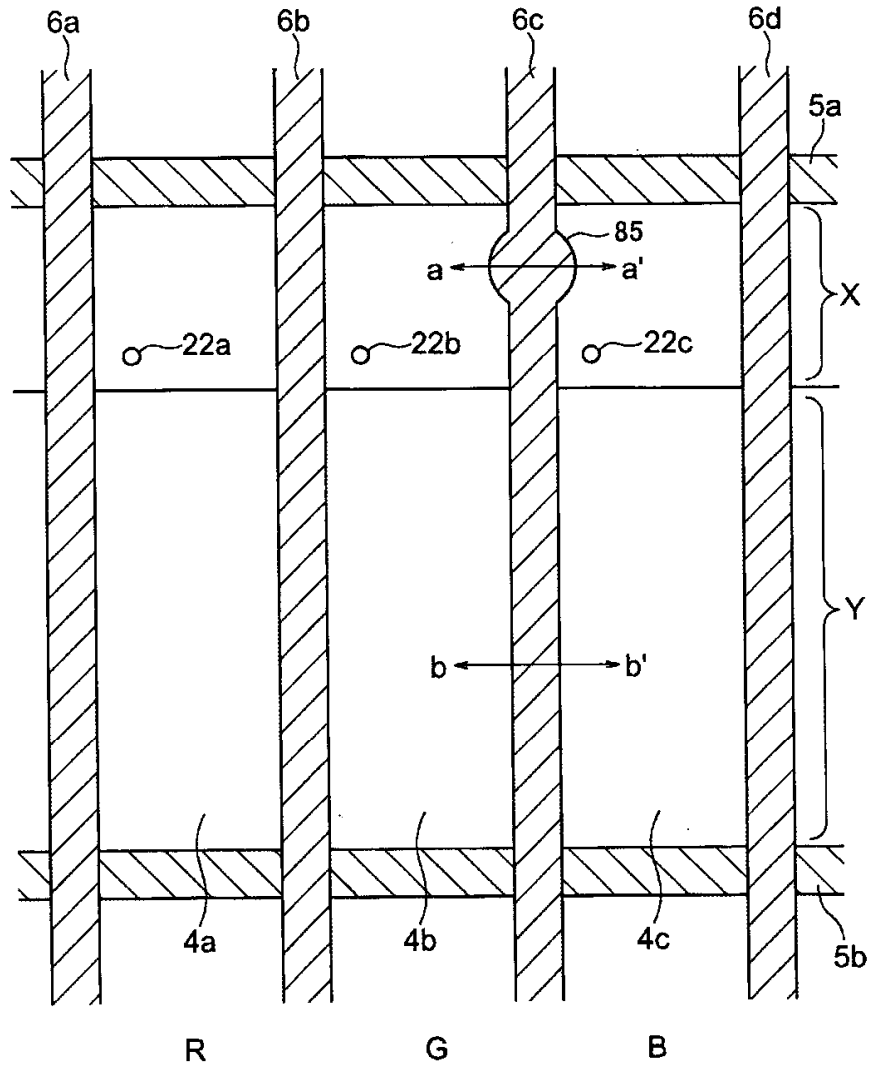


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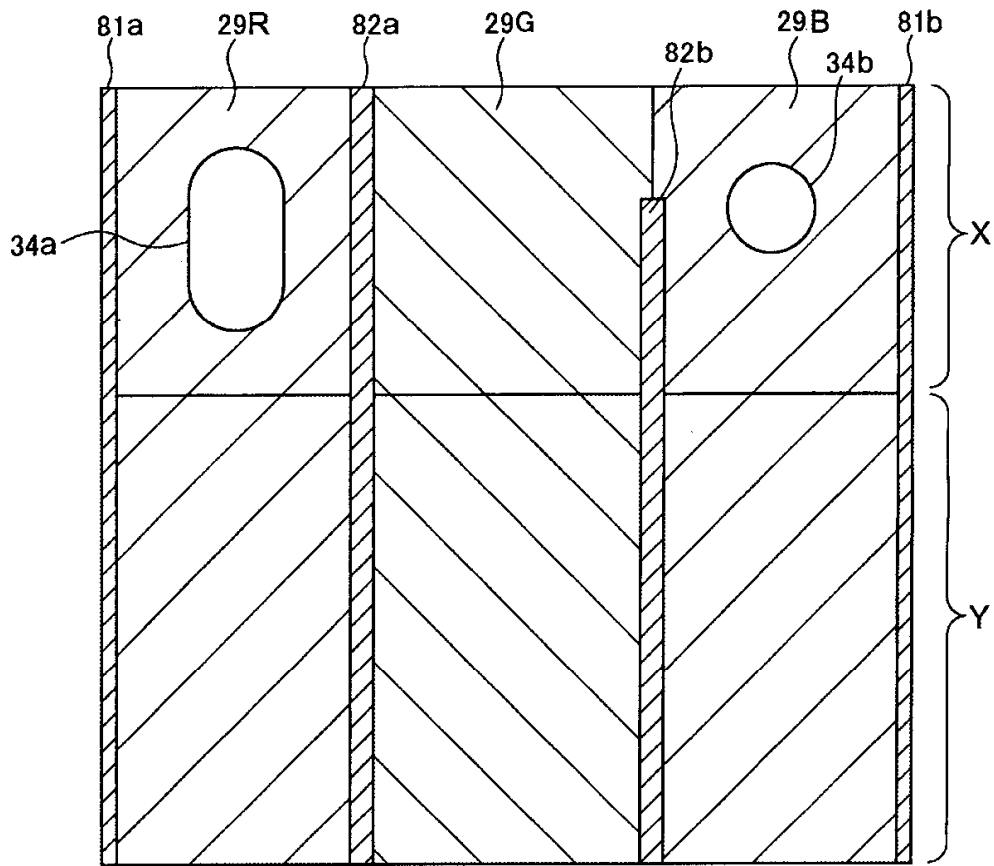


1A 표시 패널

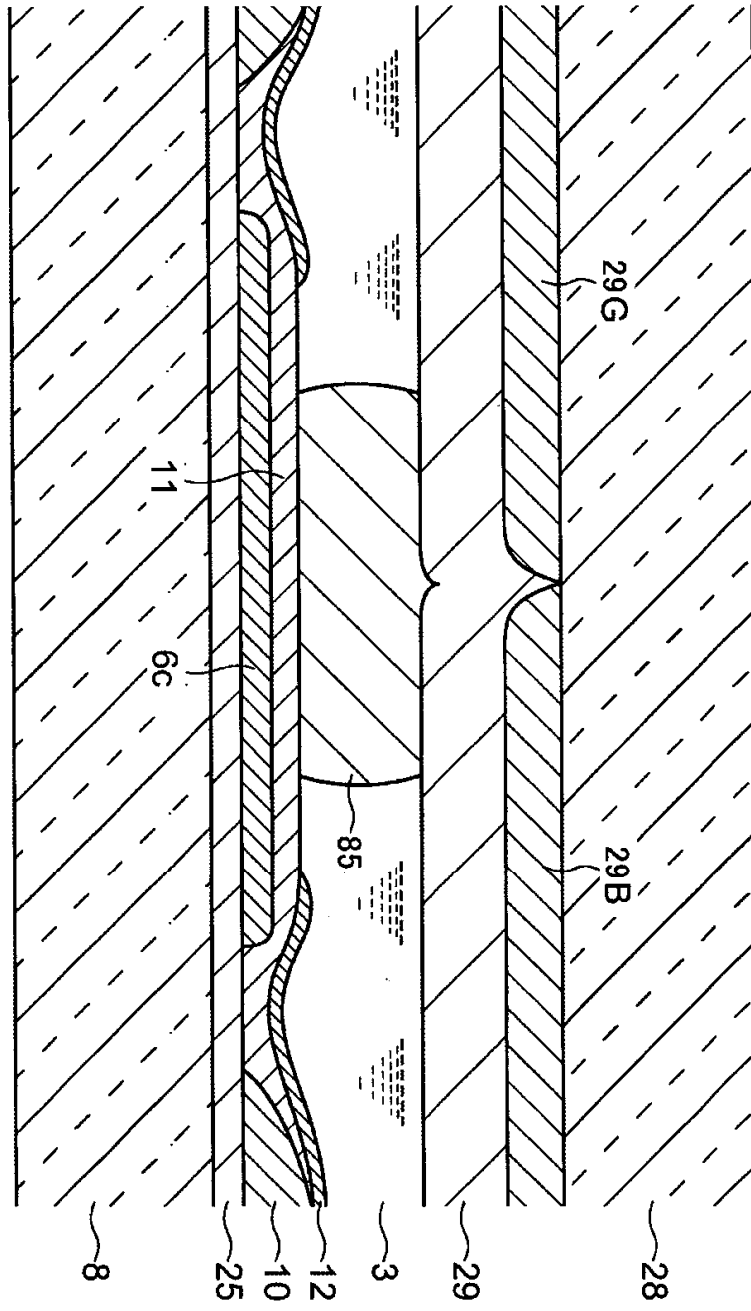
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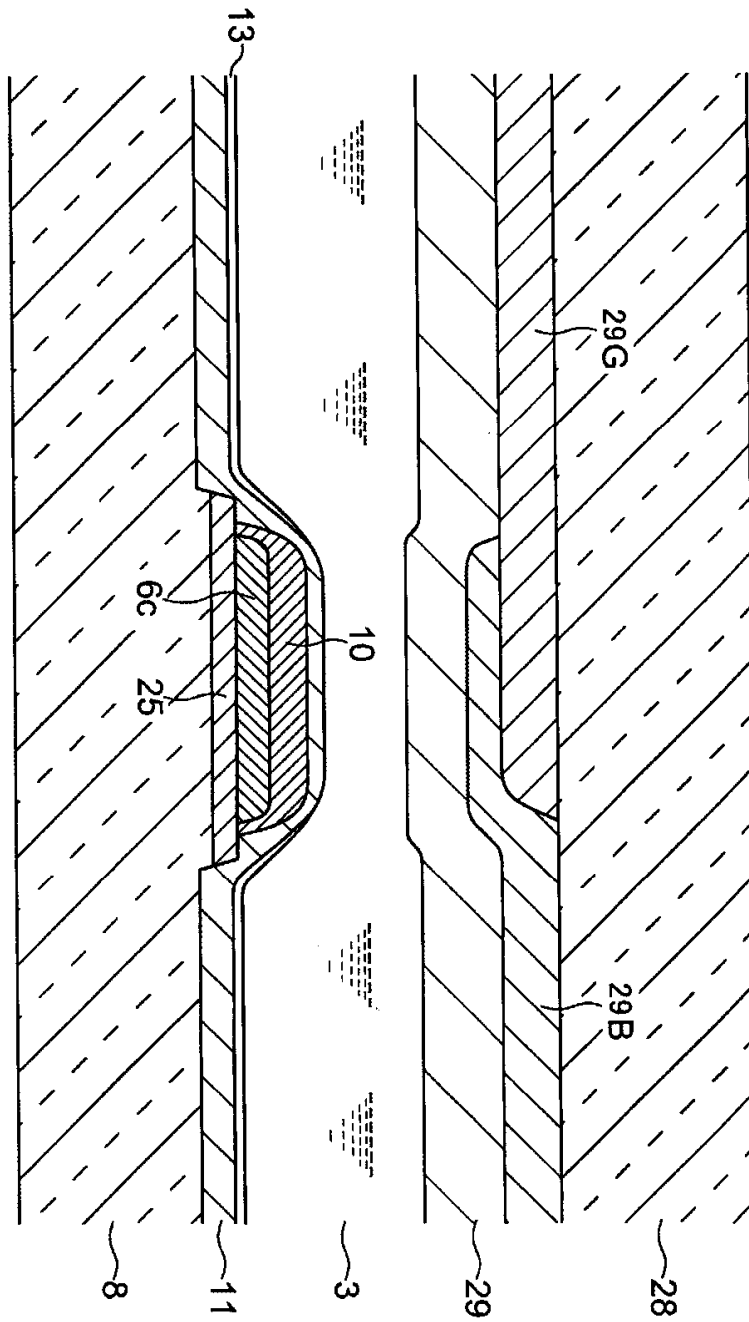
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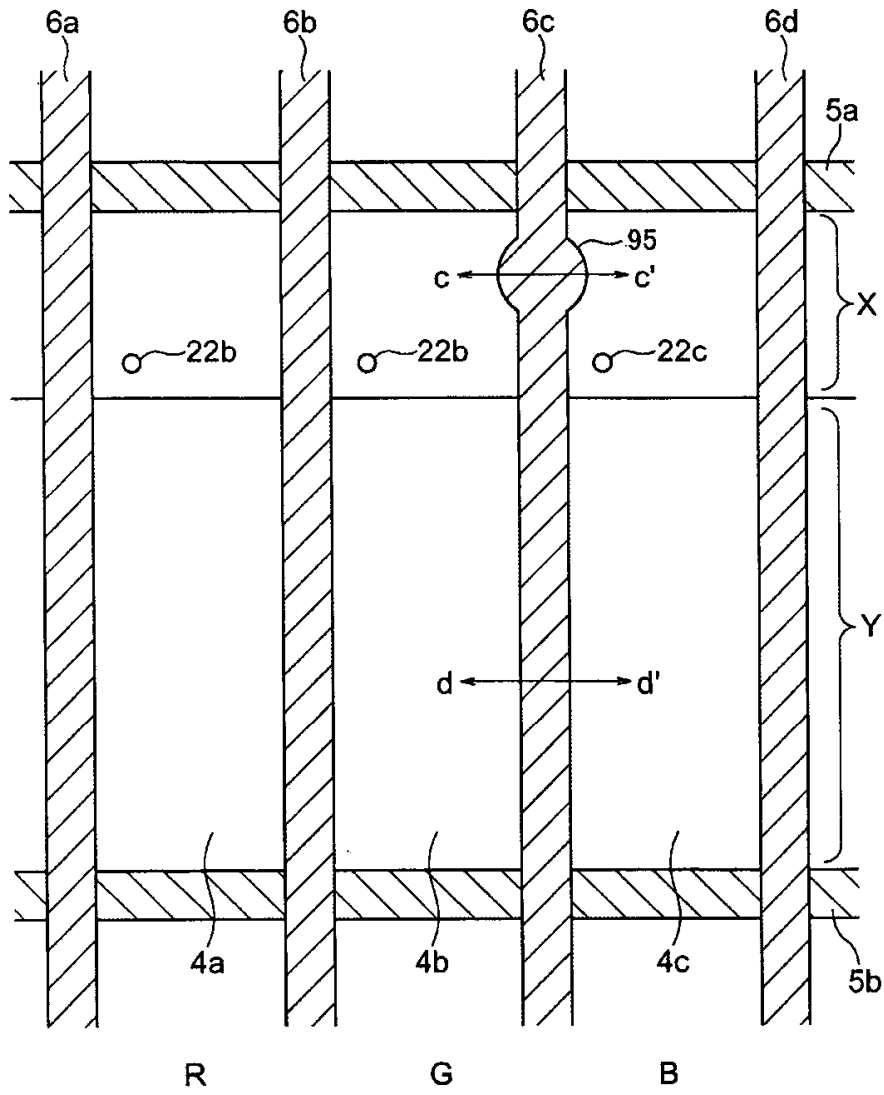
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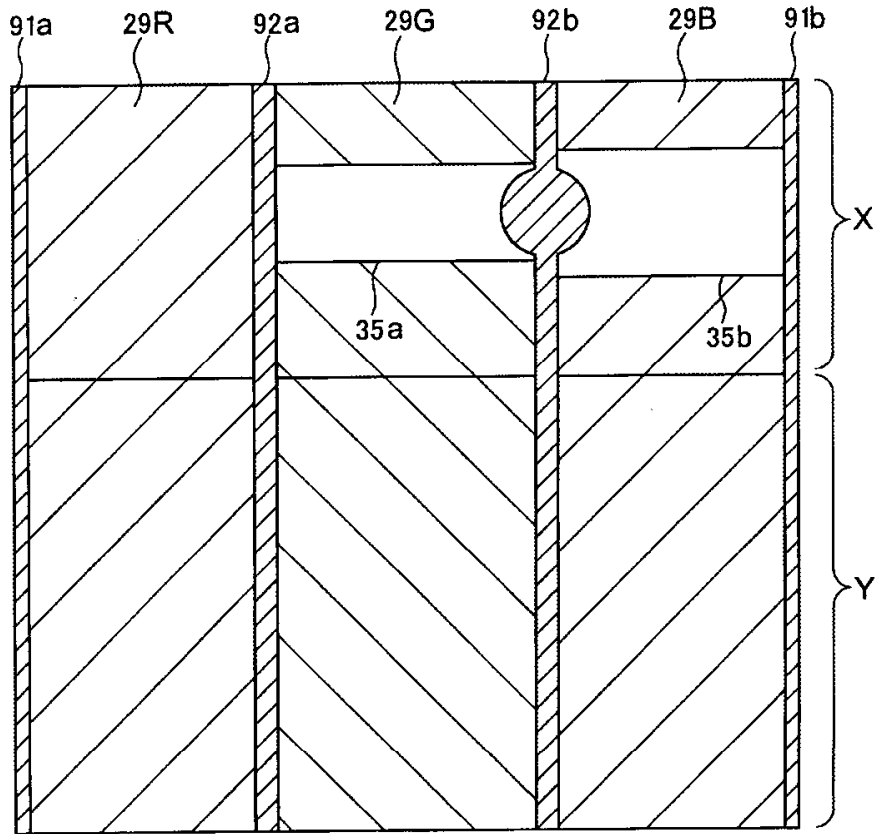
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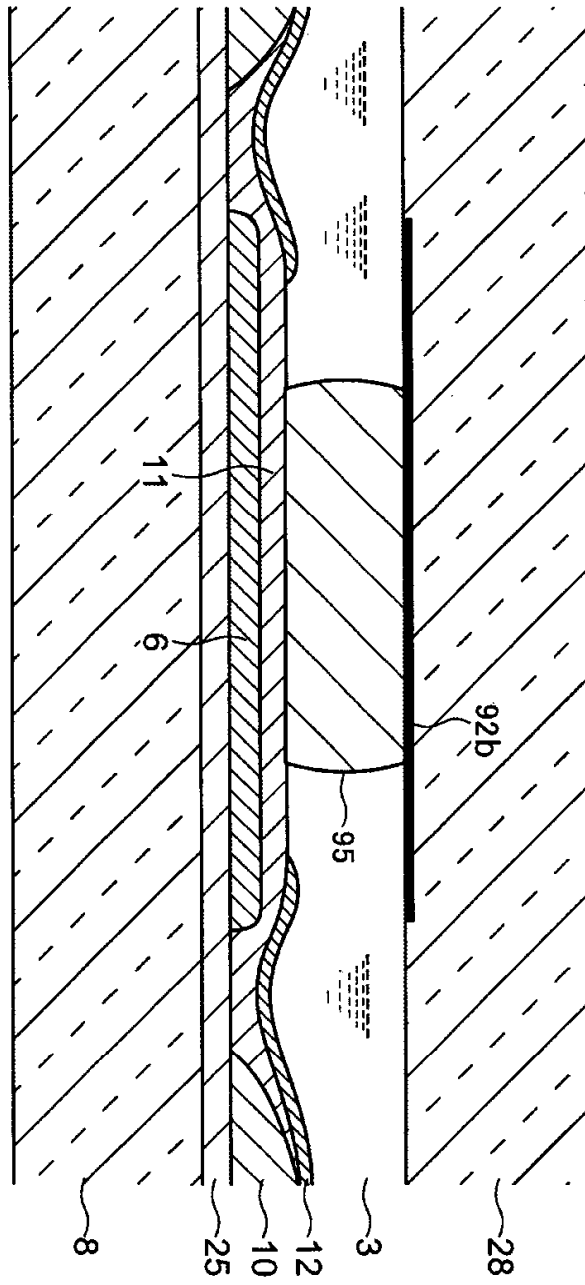
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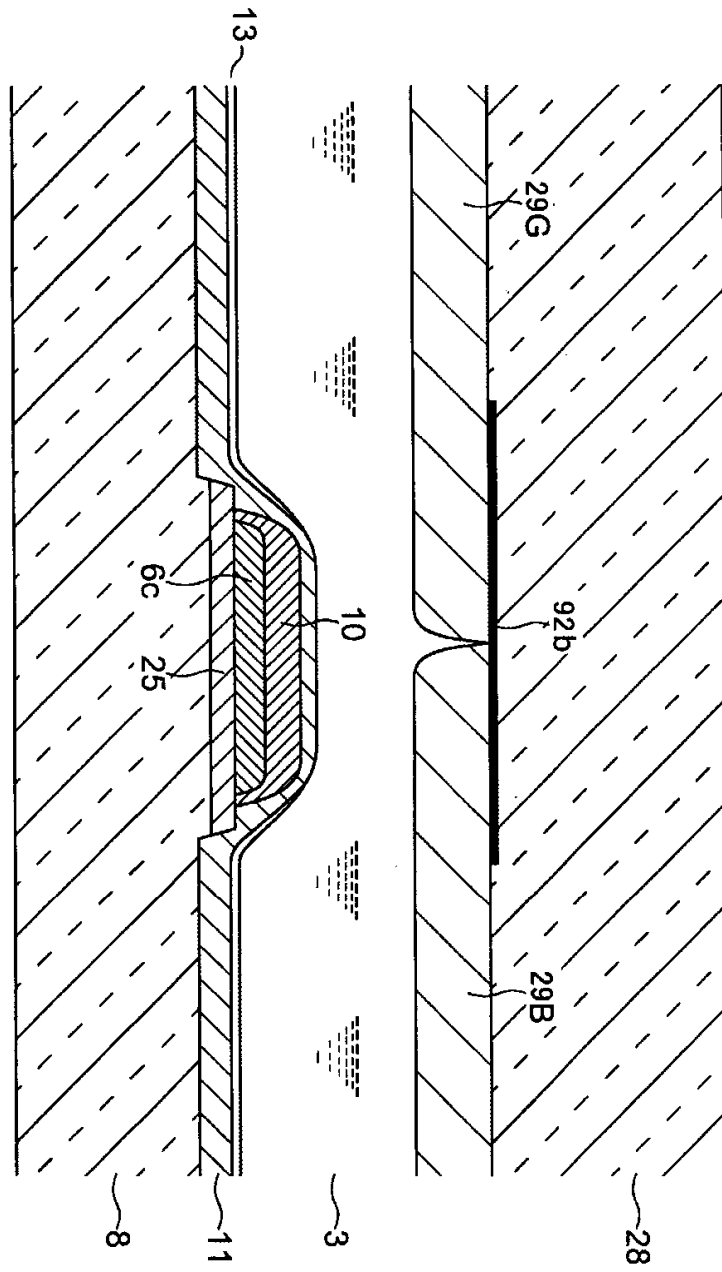
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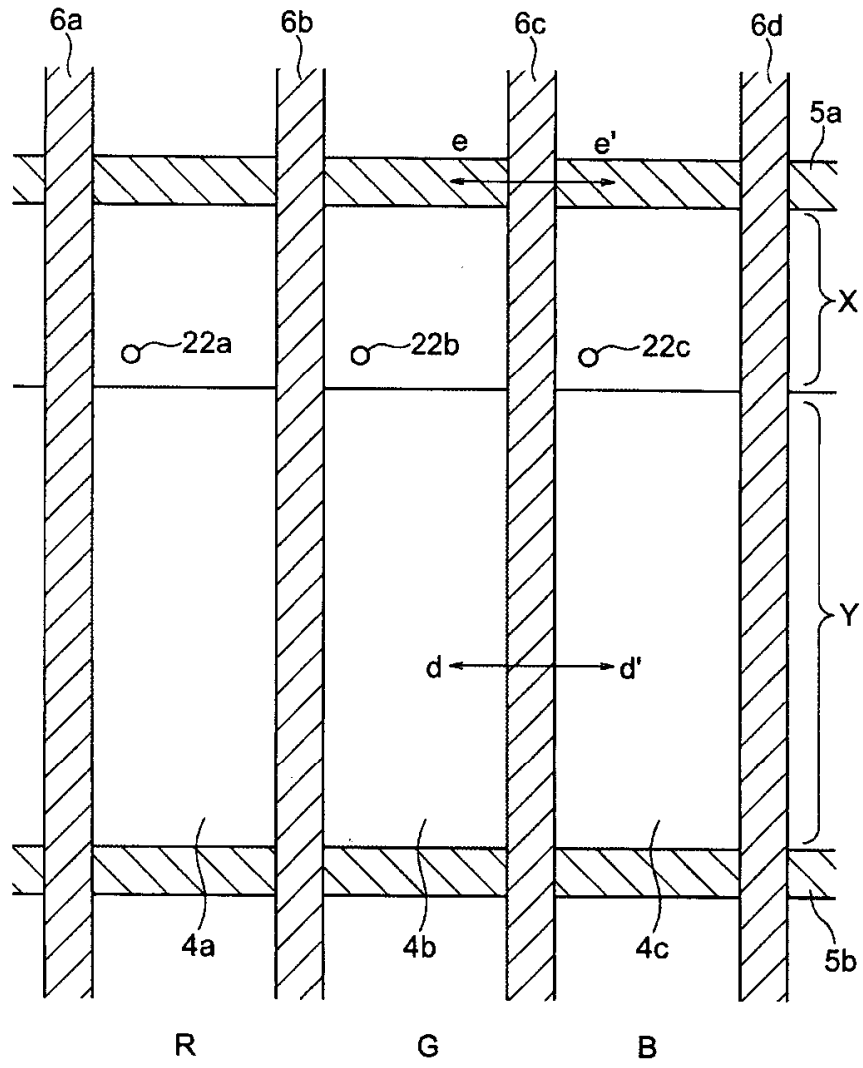
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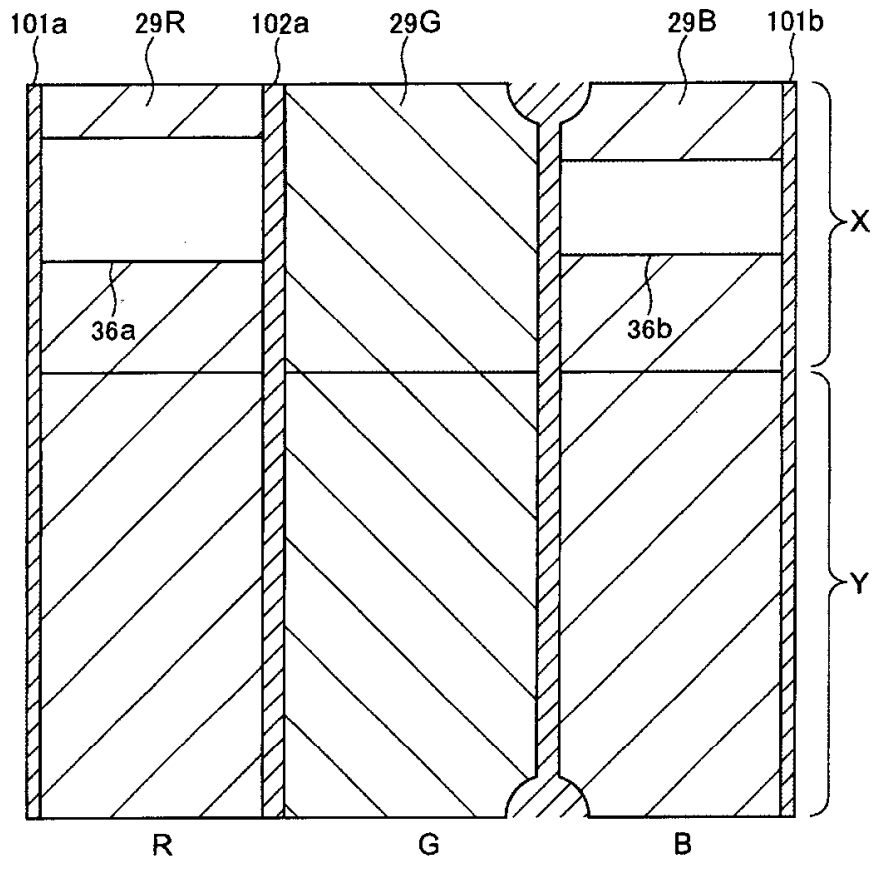
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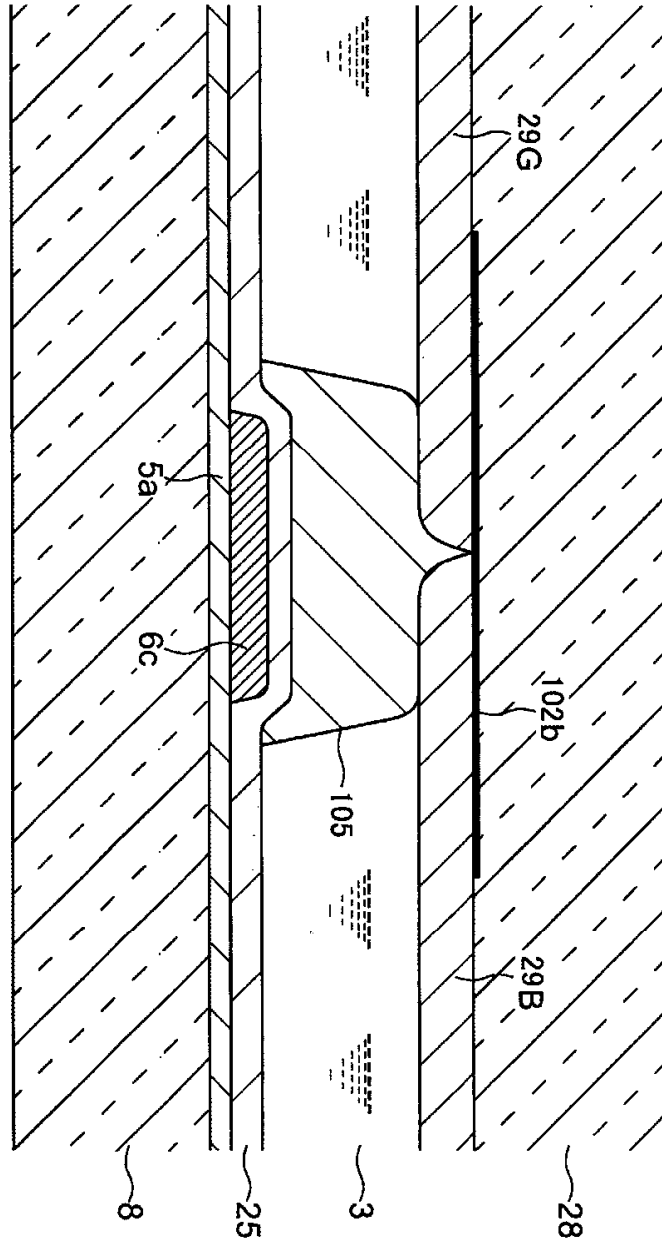
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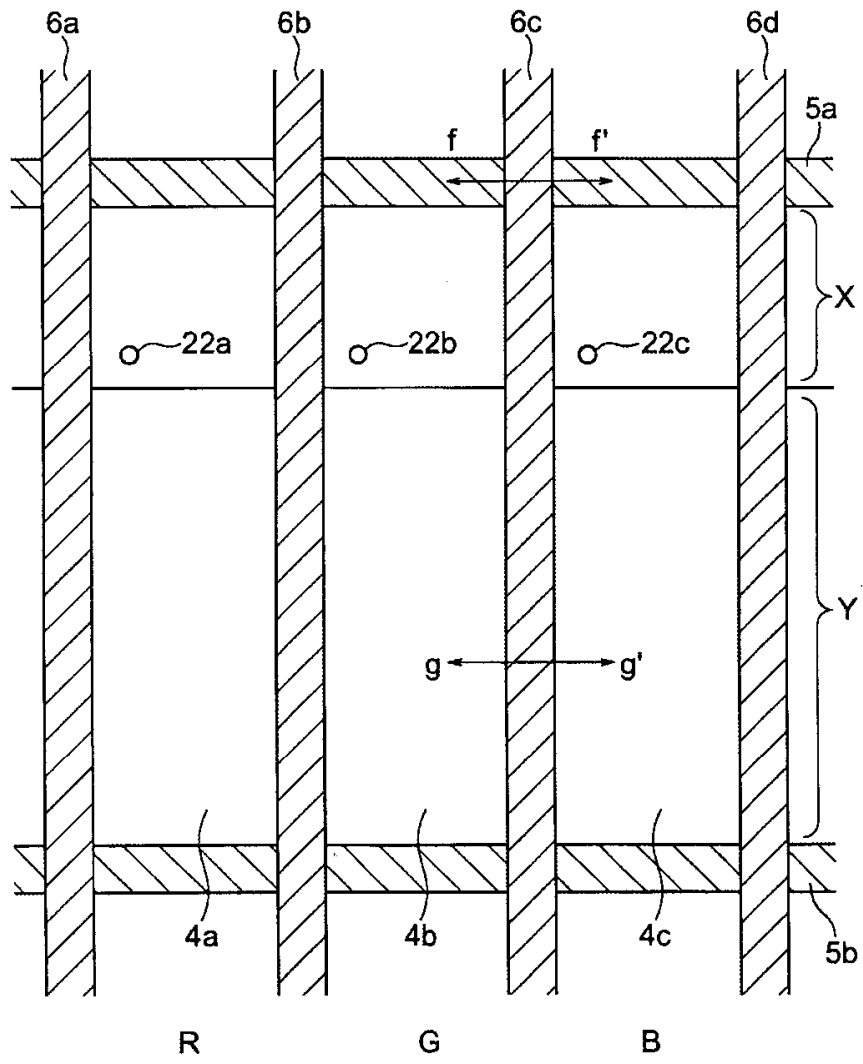
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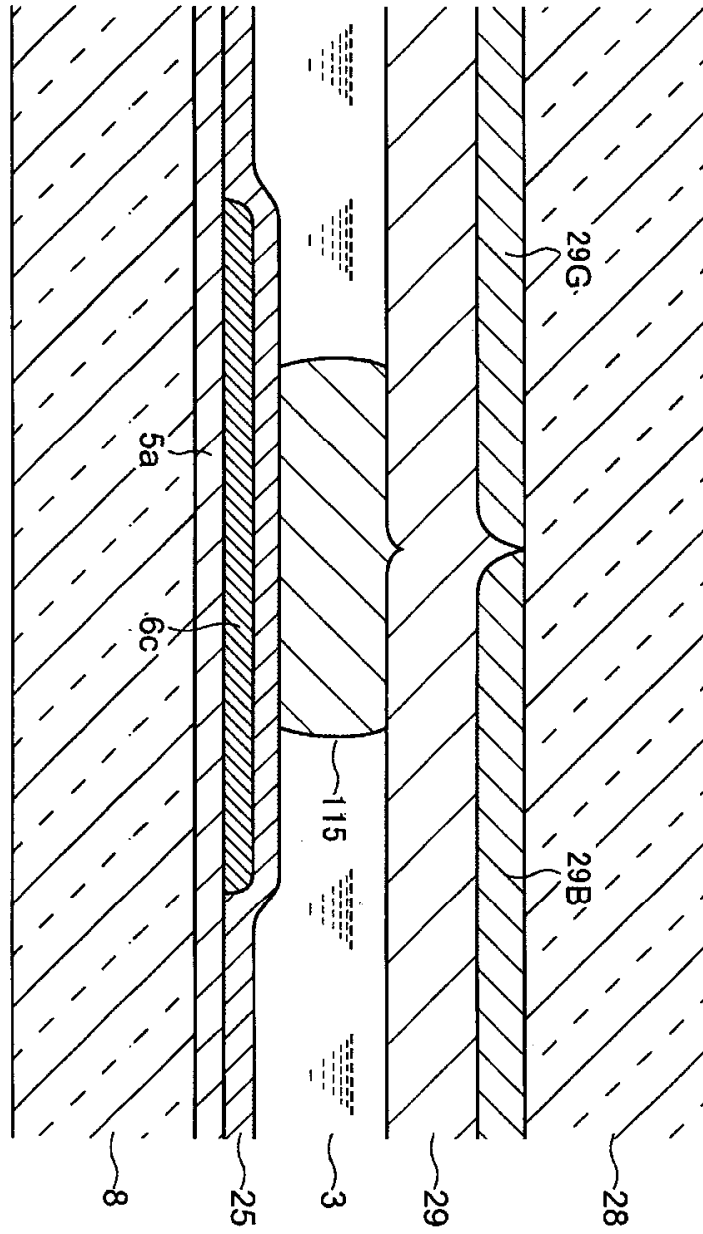
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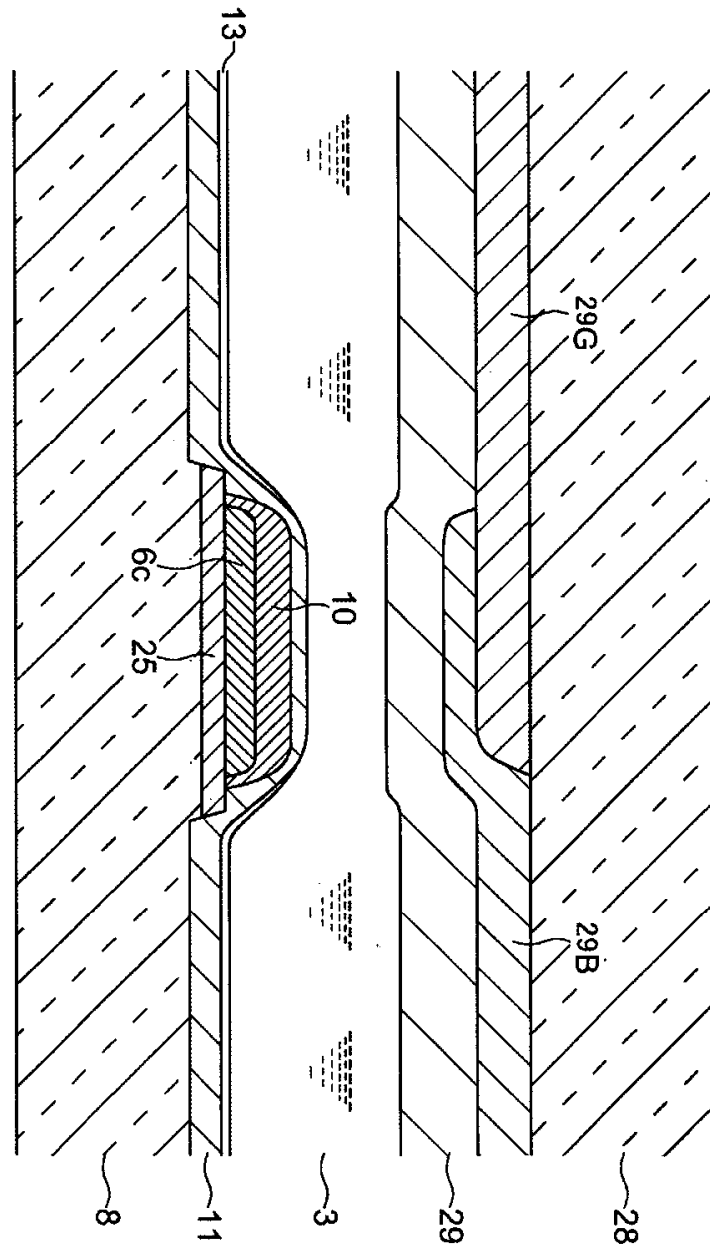
31



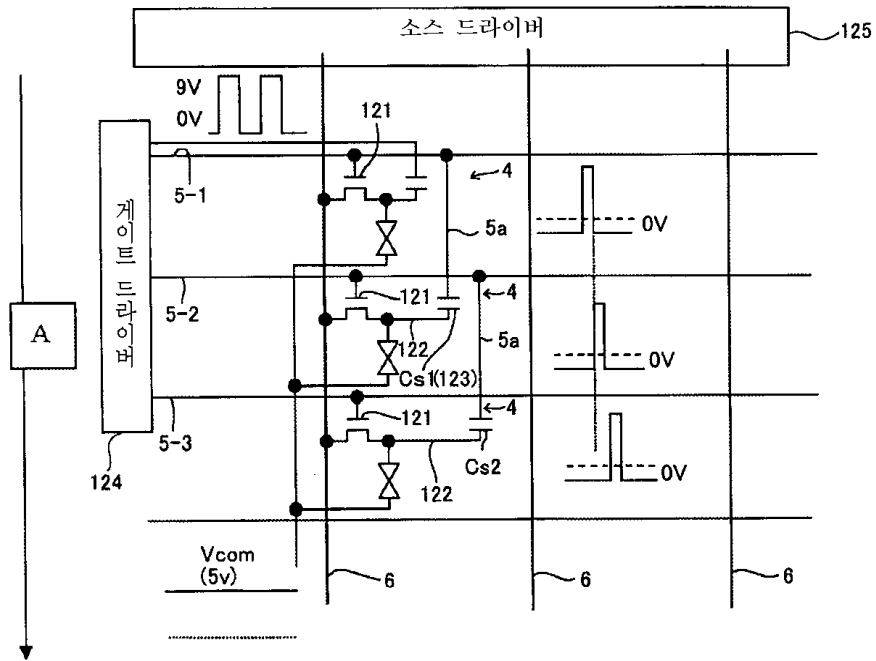
33



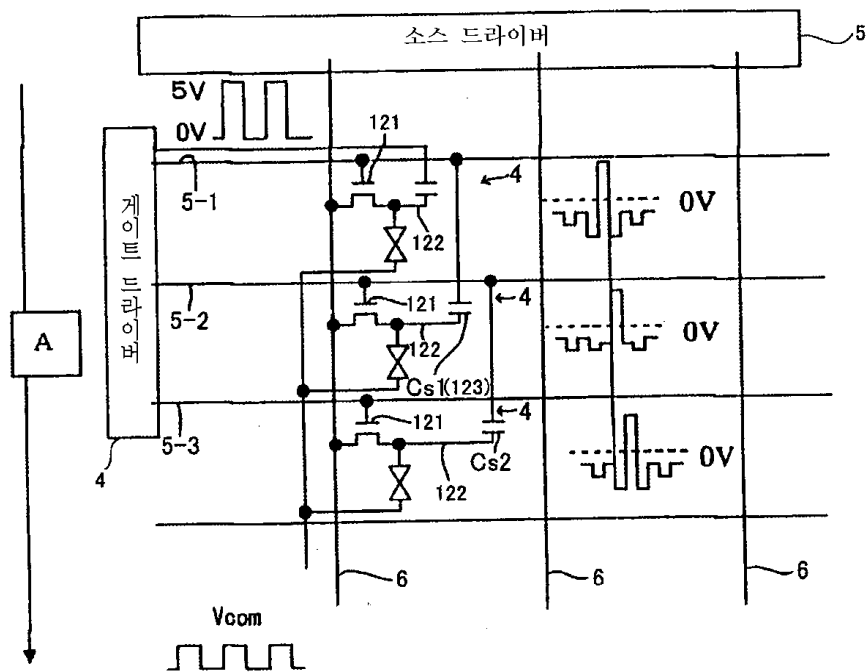
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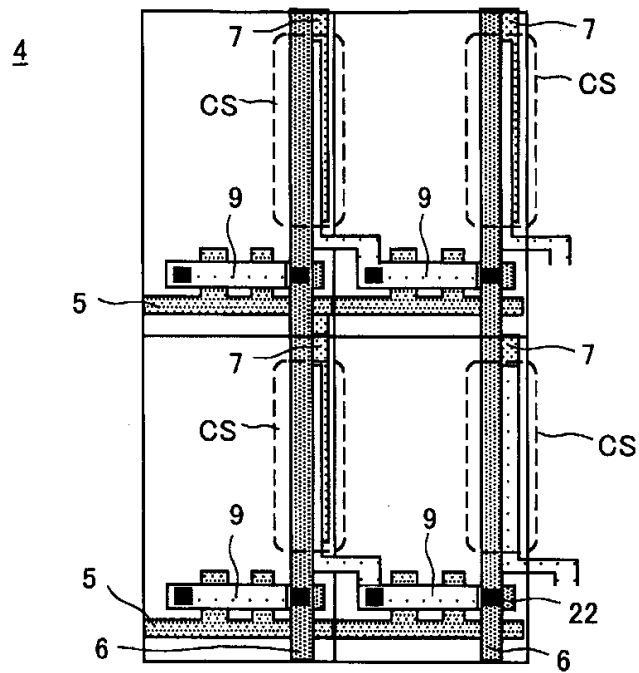
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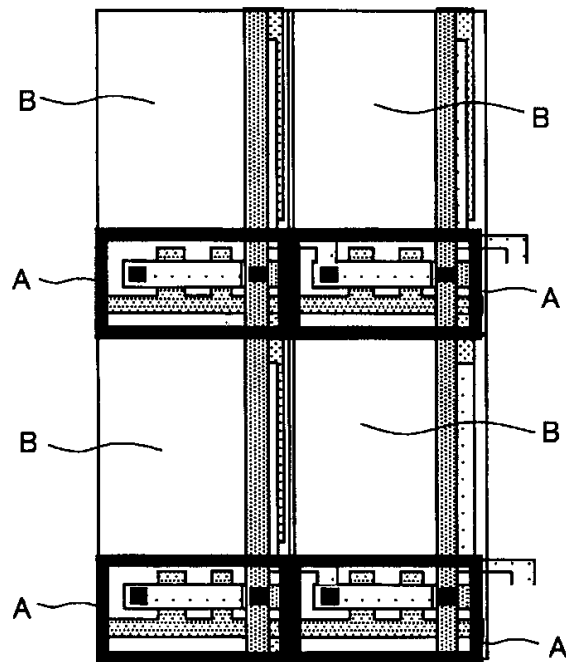
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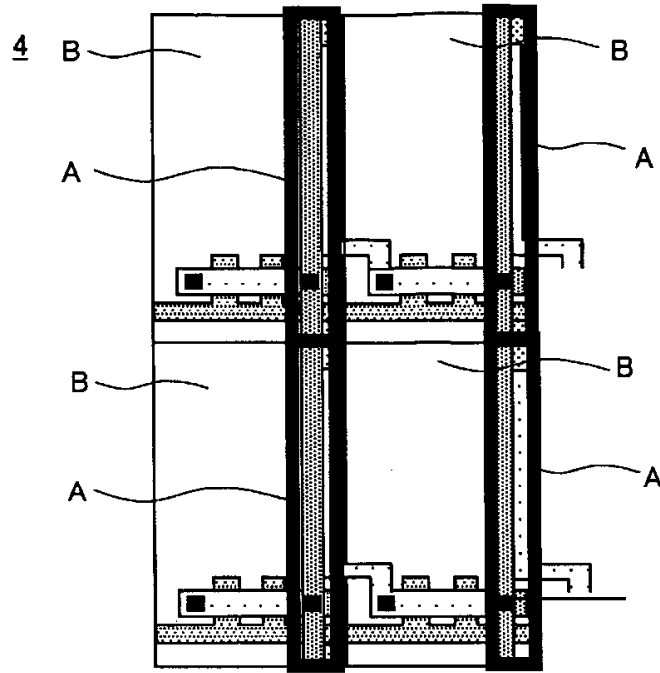
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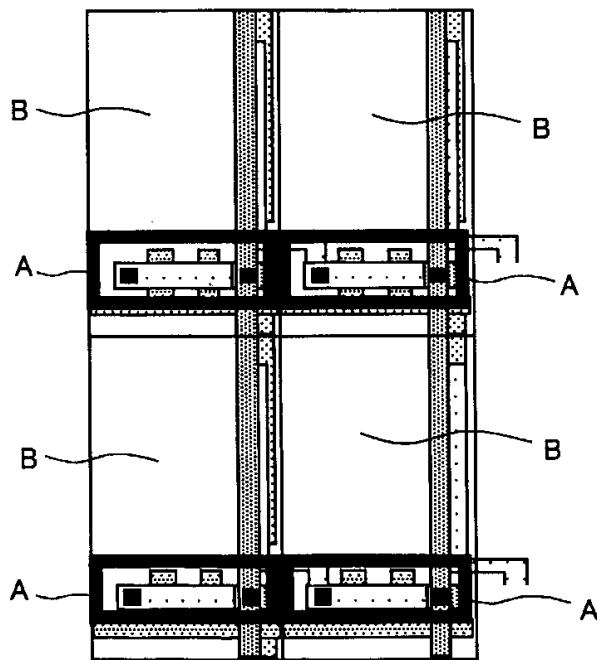
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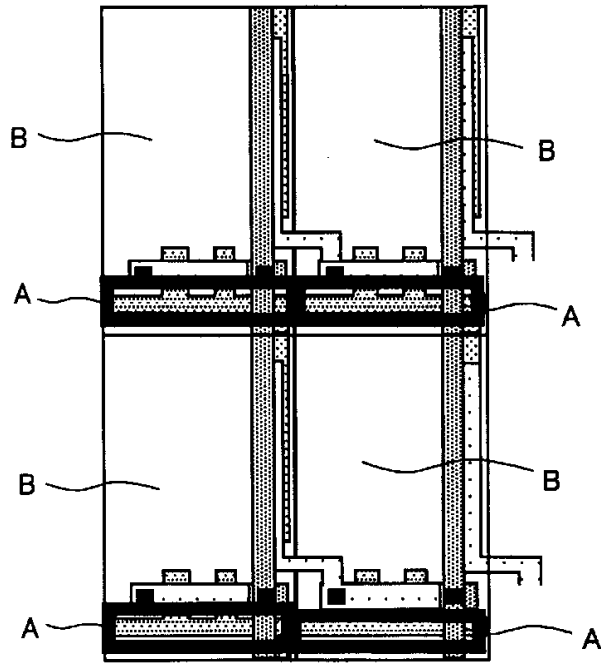
39A



39B



40



专利名称(译)	液晶显示器		
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[标]申请(专利权)人(译)	索尼公司		
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摘要(译)

具有改善反射显示亮度的液晶显示器，而不增加制造步骤的数量，并确保传输显示的亮度等同于仅透射显示的亮度。液晶显示器包括显示面板，其中设置有具有用于反射显示的反射区域 (A) 和用于透射显示的透射区域 (B) 的像素区域 (4) 的 TFT 基板 (1) 和滤色器基板 (2)，其中与像素区域 (4) 相对配置的滤色器 (29) 彼此相对地设置有液晶层 (3)。在与反射区域 (A) 相对应地设置的滤色器 (29) 在相同的条件下制造，具体地，与滤色器 (29a) 相同的厚度和相同的材料具有相同的厚度和相同的材料，传输区域 (B)。至少一个开口 (33) 形成在滤色器 (29) 中，以便对应于反射区域 (A)。©KIPO & WIPO 2007

