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10-2004-0090923
2004 10 27

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2003 04 18

EP(EP)

(71)

, . .

, -8500 , 35

(72)

1 390 45 5011 -4

02138-5321

11

15

-8400

36

-9810

7

300

2 623 55

(74)

:

(54)

100)

2)

(318)

4)

(1, 2, 3)

(118)

가

(OLED)(310, 312, 314)

(4 6, 7 12)

(118)

(118)

(118)

(OLED)(310, 312, 31

(11

[illegible]

OLED , OLED .

OLED DC , OLED .

, , , , , OLED ,

. ,

(LED) , , LCD LED (

, , LED 가 ,

, OLED 가 ,

OLED ,

OLED 가 ,

가 ,

가 ,

가 ,

가 ,

OLED ,

, (gray scale) , 가,

. OLED ,

가 , OLED

가 , . ,

OLED

(+) (positive power supply)

(+)

가

OLED
가

OLED

OLED 가

0.3mm

0.1mm²

1.0mm

0.3 50mm²

50%

(fill factor,

10mm

).

OL

ED OLED

(inherent capacitance)가

가 , OLED

가, OLED

(line resistance and capacitance)

e) OLED

OLED
ling)

2

(ti

(seamless large display) , OLED

OL

ED

OLED

(Interconnect

ed circuit board assembly and method of manufacture thereof)

2002/0084536

(conductive spacer)

(complementary bond pad)
(mechanical integrity)
(solder),

가,

OLED

가

OLED

(OLED)

(OLED)

OLED

가, OLED

OLED
 ,
 ,
 ,
 ,
 가
 OLED
 OLED (high par
 asitic series resistance)
 - OLED (ITO)
 OLED
 OLED
 가 OLED
 가
 ,
) (backing element) (back-couple) (interconnect system
 ,
 ,
 (local interconnection)
 가 OLED
 ,
 가
 (required minimum seam)
 가
 가 2 가 2
 가
 ,
 OLED
 ,
 가
 ,
 ,
 ,
 OLED
 ,
 가

OLED
가

), (PCB), (PCB OLED

(redundancy)

OLED (Eastman Kodak)()
(Cambridge Display Technology)()
(Dow Chemical)(), 가
(Covion Organic Semiconductors GmbH)()
(dendrimer) OLED
(Universal Display Corporation)()
(phosphorescent) OLED
LED OLED O

1 2 OLED (100)()
(114) OLED (100) (116) PCB
(114) / (118)가 (112) (116) PCB

OLED (112) (120) (120)
(124) (122)가 PCB(114) (120)
FR4 PCB PCB(114) OLED (112) / (118)
PCB(114) OLED (112) (120)
가 , PCB(114) OLED OLED (112)
PCB(114) PCB(114) OLED (112)
D OLED (112) PCB(114) (116) OLE
PCB(114) / (118) PCB(114) 가
(elastomer), (pogo-pin)
3 10 OLED (100)

3 (122) 3
(124e), (124f), (124g), (124h), (124j) (124a), (124b), (124c), (124d),
(124g) 4 A 가, (124a), (124d)

4 3 (122) OLED (300)
10), OLED(G-OLED)(312), OLED(B-OLED)(314)(OLED (122)가 OLED(R-OLED)(3
(124) R-OLED(310), G-OLED(312) B-OL
ED(314) (124a) R-OLED(310a), G-OLED(312a) B-OLED(314a)
(124d) R-OLED(310b), G-OLED(312b) B-OLED(314b) (124g) R-OLED (310c), G-
OLED(312c) B-OLED(314c) OLED(310, 312, 314)

4 OLED R-OLED(310a), G-OL
ED(312a) B-OLED(314a) (1)
12b) B-OLED (314b) (2) , R-OLED(310b), G-OLED(312c
) B-OLED(314c) (3) 가, R-OLED(310a, 310b, 310c)
(4) , G-OLED(312a, 312b, 312c) (5)
, B-OLED(314a, 314b, 314c) (6)

3 (, 1.5V - 2V +) 15-20 (+)
 (+V_{BANK}) (316) MOSFET (316)

b) , +V_{BANK1} (316a) (1) , +V_{BANK2} (316) (316)
 (2) (I_{SOURCE}) (318) , +V_{BANK3} (320) (316c) (3)
 (320a)가 , I_{SOURCE} (318a) (4) . I_{SOURCE} (318a)
 (320b)가 . I_{SOURCE} (318b) (5) . I_{SOURCE} (318b)
 (320c)가 . I_{SOURCE} (318c) (6) . I_{SOURCE} (318c)
 (320c)가 . I_{SOURCE} (318) 5 50mA
 (Toshiba) TB62705(

8- LED) (Silicon Touch) ST2226B(LED PWM-
)가 (320) MOSFET
 . +V_{BANK1} , +V_{BANK2} , +V_{BANK3} , (316), I_{SOURCE} (318),
 (320) / (118) , OLED (112)
 OLED (112)

, R-OLED(310), G-OLED(312) B-OLED(314) () ,
 (316, 320) 1
 , G-OLED(312a) , (316a) +V_{BANK1} (1) 가 ,
 (320b) 가 I_{SOURCE} (318b) (5) . , G-
 OLED(312a) 가 G-OLED(312a) 0.7
 , G-OLED(312a)가 . G-OLED(312a) (316a) (320b)
 가 . G-OLED(312a) , (320b)

2 , R-OLED(310c) , (316c) +V_{BANK3} (3)
 가 , (320a) 가 I_{SOURCE} (318a) (4) .
 , R-OLED(310c) 가 R-OLED(310c) 0
 .7 , R-OLED(310c)가 . R-OLED(310c) (316c) (
 320a)가 . R-OLED(310c) , (320a)

, OLED가
 . , OLED

R-OLED(310), G-OLED(312) B-OLED(314) (124b, 124c, 124e, 124f, 124h, 124j)
 , (124b, 124c) (1) , (12
 4e, 124f) (2) , (124h, 124j) (3) .
 가, (124b, 124e, 124h) I_{SOURCE} (318)() (7, 8, 9)
 , (124c, 124f, 124j) I_{SOURCE} (318)() (10, 11, 12)

4 OLED (300) OLED
 ,

5 3 4 (124a, 124b, 124c, 124d
 , 124e, 124f, 124g, 124h, 124j) OLED (112) (
)

5 (120) (1, 2, 3)
 - (ITO)
 ITO , 4 R
 -OLED(310), G-OLED(312) B-OLED(314) (124) , (12
 4a, 124b, 124c) R-OLED(310), G-OLED(312) B-OLED(314) (1) ITO
 , (124d, 124e, 124f) R-OLED(310), G-OLED(312) B-OLED(314) (2) ITO
 , (124g, 124h, 124j) R-OLED(310), G-OLED(312) B-OLED(314) (3)
 ITO R-OLED(310), G-OLED(312) B-OLED(314) () ,
 () , (EL) , ()

5 (120) (4 12) 3
가 (4 12) (1, 2, 3)
R-OLED(310), G-OLED(312) B-OLED(314) EL
R-OLED(310), G-OLED(312) B-OLED(314)
EL (4) (1, 2, 3)
(124a) R-OLED(310a), (124d) R-OLED(310b) (124g) R-OLED(310
c)가 (5) (1, 2, 3) (124a) G-OL
ED(312a), (124d) G-OLED(312b) (124g) G-OLED(312c)가 (6)
(1, 2, 3) (124a) B-OLED(314a), (124d) B-OLED(314b)
(124g) B-OLED(314c)가 (124b, 124c, 124e, 124f, 124h, 124j)
R-OLED(310), G-OLED(312) B-OLED(314) 1 0.55
7.07mm R-OLED(310), G-OLED(312) B-OLED(314)
2 0.16 2.35mm
, OLED (112) (412)
(412)
가 (column)
가
(412) OLED (112) (412)가
ITO
OLED (112) OLED 가 (412)
(412) OLED
5 (412)가
(412)가
가 (414) (wire trace)(413) (412)
OLED (112) (416)() OLED 가
(particulate) (416)
(parylene) (Si₃N₄)
(112) 가 6 9 . OLED
6 OLED (112) 5 VI-VI ()
) (1) ITO가 (120) (1)
. EL (510) 1 (4) , EL (510) 2 ()
5) , EL (510) 3 (6) , (124a) R-OLED(310a), G-OL
ED(312a), B-OLED(314a) (416) OLED
(112) OLED 가
(120) 0.1 1.1 mm (4, 5, 6) 100
170 nm
가 (1) (4, 5, 6) R-OLED(310a), G-OLED(312a)
B-OLED(314a) EL (510) 가
7 OLED (112) 5 VII-VII ()
) (1, 2) (120) (120) ITO가
, EL (510) (120) (1)
(2) , EL (510) (4) , (124a)
) R-OLED(310a) (124d) R-OLED(310b) (416) 6
OLED (112)

8 OLED (112) 5 VIII-VIII (((412) 1 (414) (412) (413) (414) (in an unobstructed fashion) 2 (414) 2 (412)가 (in a n unobstructed fashion) 가 (416) 8 (412) 2 (412)가 (in a

9 OLED (112) 5 IX-IX ((412) 1 (414) (412) (413) (412) (8) (5) 1 (414) 2 (414) 가 , 2 (412) (6) (5) 1 (414) 1 (414) (6) , Si₃N₄ (6) 가 , (8) 2 (810) (414) 2 (414) (9) (9) (412) , 2 (810) (9) 가 (416) 9 (412)

10 OLED (100) 1 X-X (124a) B-OLED(314a) ((100) 10 5 PCB(114) PCB(114)가 (912) (112) (910) (912) (112) (91) (912) PCB(114) . OLED (112) (116) (1) (2) OLED (112) (412) , 가 OLED (1) (12) PCB(114) (914) (914) (112) PCB(114) (anisotro pic conductive adhesive, ACA) z- (z-axis material), (silver filled epoxy) (912) (118) I/O (9) / (118) (118) (100) OLED (112) PCB(114) (116) 가 (116) (914)

10 14) (910) OLED (112) , OLED PCB(1 ITO ITO 2 (412) 1/2 . ITO , / (118) (316a) PCB(114) (912) (910), (914), (1 24a) B-OLED(314a) EL (1) OLED 가, / (112) (4 SOURCE (318c) PCB(114) (912) (910), (914), (124a) B-OLED(314a) (6) OLED (112) (412) OLED (112) (10))가 10 가 , 10 가

1 10 , OLED (100) (116)
 OLED (112) OLED (edge-coupled),
 가 (112) OLED (112) 4
 (edge connector)
 OLED (100) (116) , OLED (11)
 2) OLED PCB(114) / (118) 가
 , 가 , 4 OLE
 D (100) OLED (300) (412))
 가, OLED (112) (,
 ITO , OLED (100) OLED (112)
 , (122)가 OLED (112)
 가

(57)

1.

(100) ,
 (OLED)(310, 312, 314) (112)
 ,
 (1, 2, 3) (4 6, 7 12) (318)
 (118)
 (OLED)(310, 312, 314)
 (118) (118)

2.

1 , (318) , OLED

3.

1 2 , OLED(310, 312, 314) 가 (+)

4.

1 3 , (112)
 (116)

5.

4 , (112)

6.

4 5 , (112)
(PCB)(114) .

7.
6 , (118) ,
(116)
(114) .

8.
4 7 , (116) (112)
(silver epoxy connection)(914)
.

9.
4 8 ,
(910)
.

10.
4 9 , OLED (112)
(910)
.

11.
9 10 , (112) (1, 2, 3) .

12.
1 11 , (1, 2, 3) (120)
(124)
OLED(310, 312, 314)
.

OLED(310, 312, 314) , (4
(1, 2, 3) 가
6, 7 12)
.

13.
1 12 , (414) (112)
(118) 가 (412)

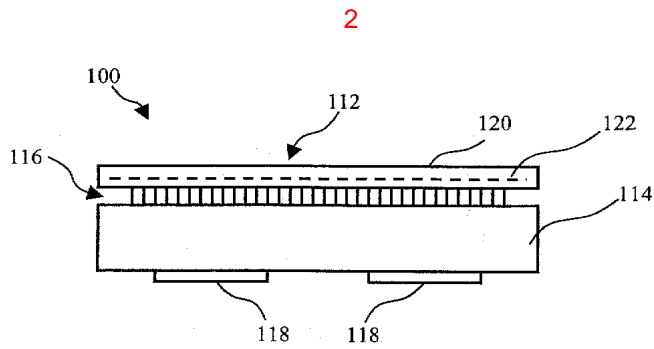
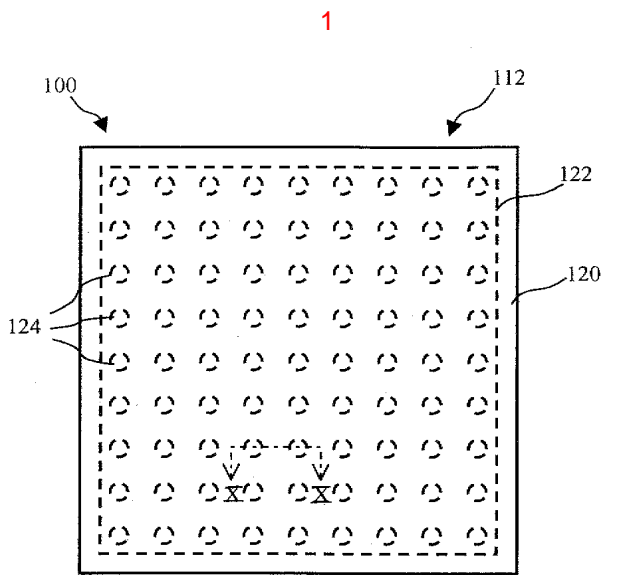
14.
13 가 , 가
(414)

15.
13 14 , (1, 2, 3) (4 6, 7 12)
가 ,
(414)가 (4 6, 7 12)
.

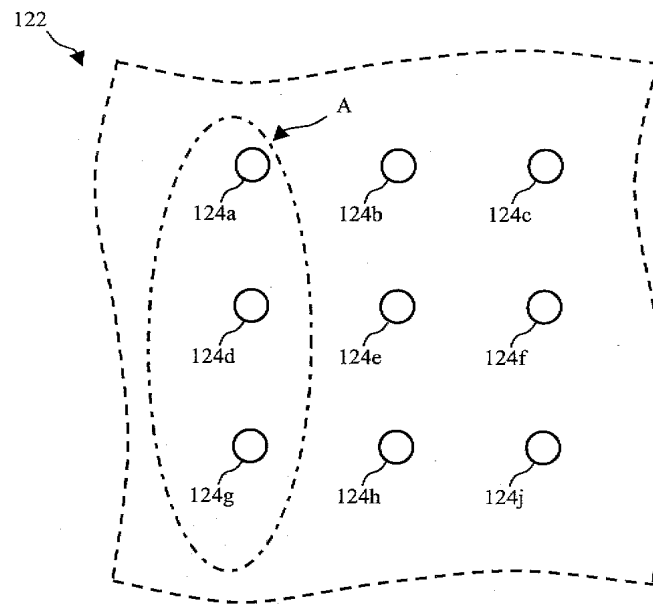
16.
1 15 , (1, 2, 3) (4 6, 7 12)

가 (124) (1, 2, 3) (118)
가
17. 16 (100)

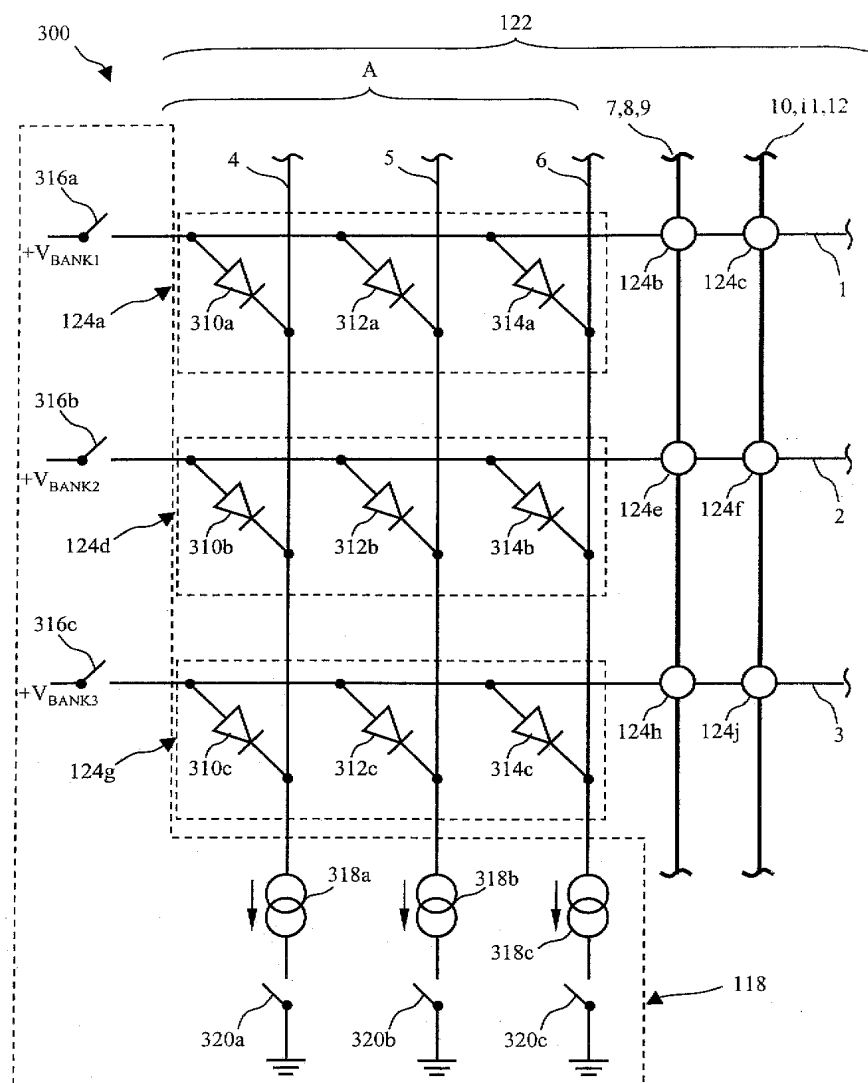
17. 17 OLED



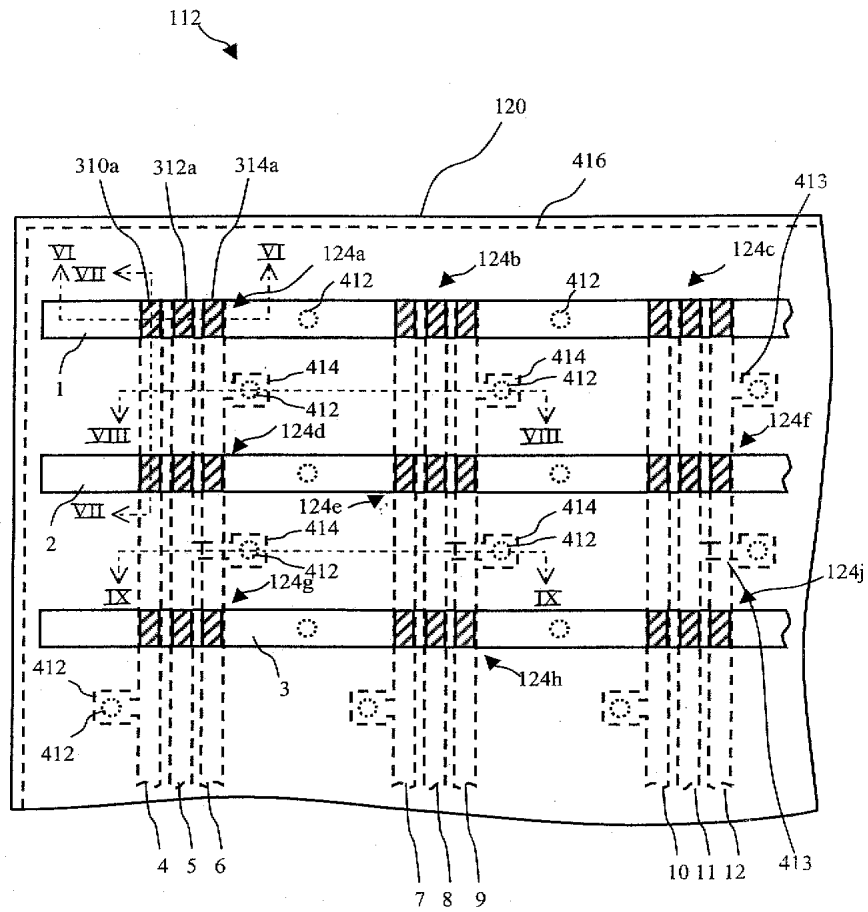
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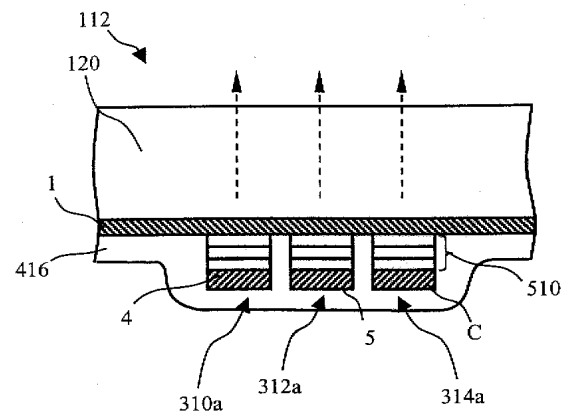
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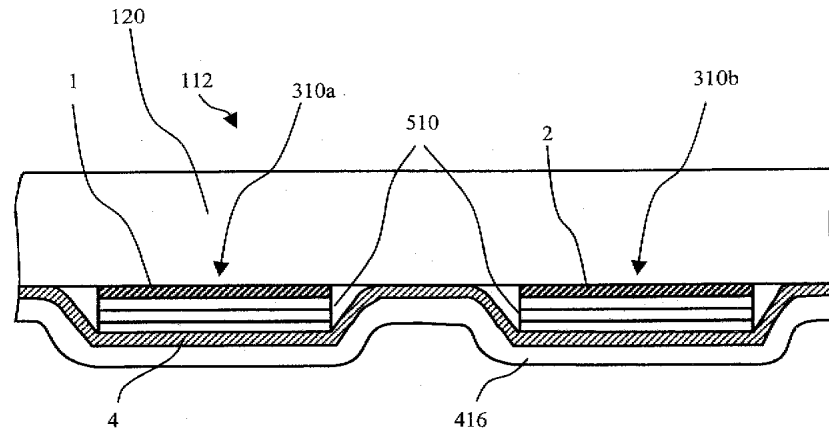
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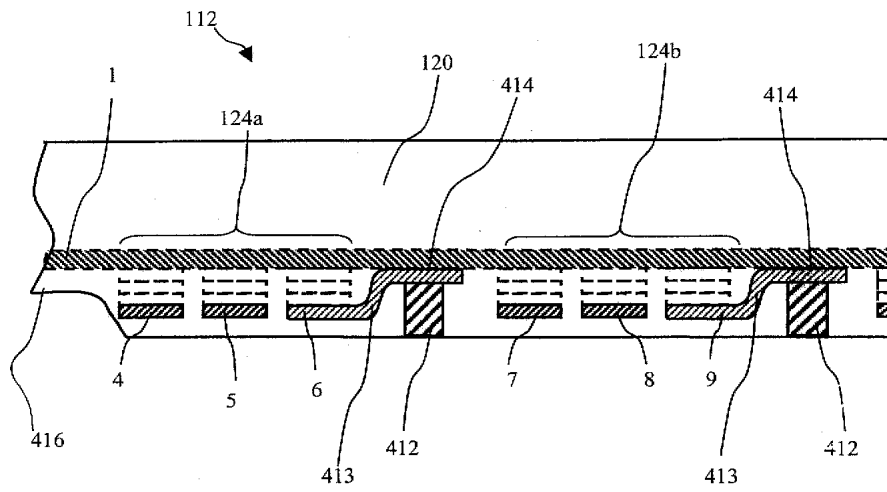
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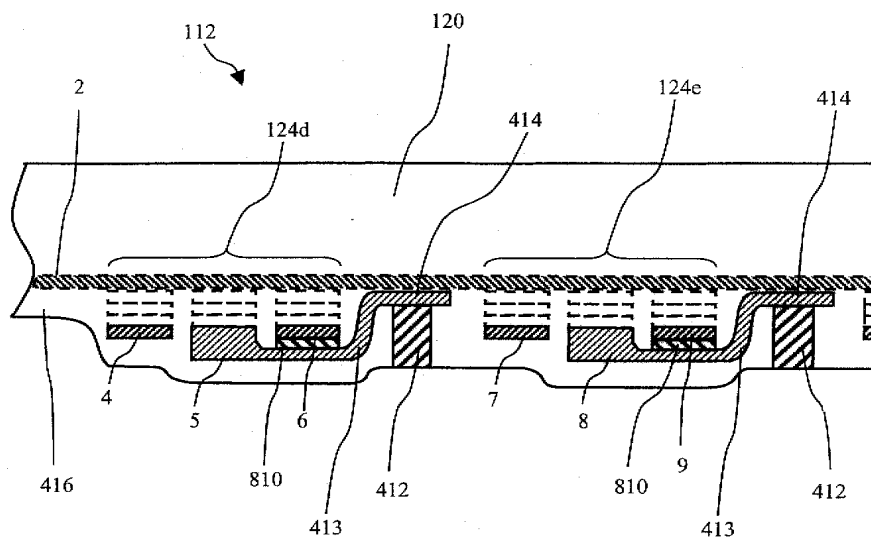
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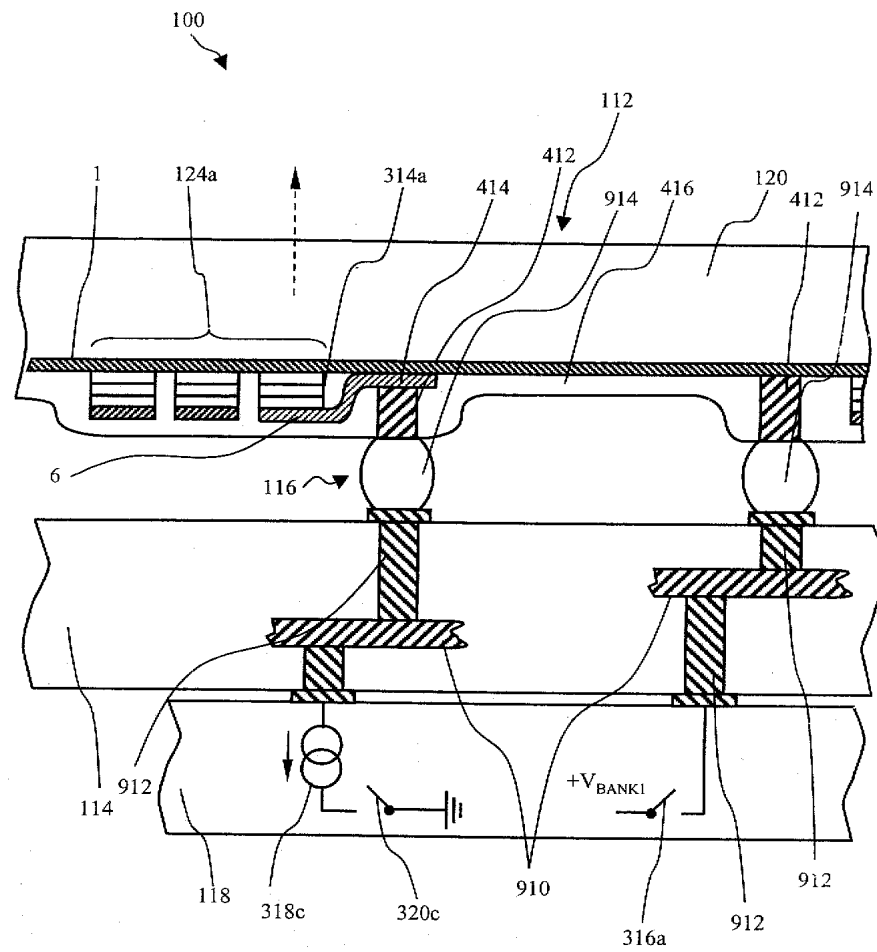
8



9



10



专利名称(译)	有机发光二极管显示器组件，用于大屏幕显示器应用		
公开(公告)号	KR1020040090923A	公开(公告)日	2004-10-27
申请号	KR1020040026334	申请日	2004-04-16
[标]申请(专利权)人(译)	巴科公司		
申请(专利权)人(译)	擦鼻子.V.		
当前申请(专利权)人(译)	擦鼻子.V.		
[标]发明人	JOU CHORNG SHYR VANHILLE HERBERT 반힐레허버트 WILLEM PATRICK THIELEMANS ROBBIE 티엘레만스로비 TANG TUNG YANG		
发明人	조우초어링쉬어 반힐레허버트 윌리엄패트릭 티엘레만스로비 탕통양		
IPC分类号	G09G3/30 H01L51/50 H01L27/32 H05B33/12 G09F9/30 G09G3/32 G09F9/00 G09G3/20 G09F9/40 B26D1/14 B26D1/29 B26D3/22		
CPC分类号	G09G2300/026 G09G3/3283 G09G2300/0452 H01L27/3288 G09G3/2014 H01L51/5237 G09G3/3216 H01L27/3293 H01L27/3211 H01L51/5253 A01B59/042 A01G13/0287 Y10T83/8791		
代理人(译)	KIM , SEONG KI		
优先权	2003447094 2003-04-18 EP		
外部链接	Espacenet		

摘要(译)

一种用于大屏幕显示器应用的有机发光二极管显示器组件，该显示器组件100包括具有多个有机发光二极管（OLED）310,312,314的显示器件112，所述有机发光二极管具有阳极和阴极，并且还包括至少一个驱动装置118，其具有由阳极线1,2和3以及阴极线4至6和7至12形成的电极线以及单独的电流源318。其中，有机发光二极管（OLED）（310,312,314）以共阳极配置布置，并且驱动装置（118）配置为共阳极驱动器（118）/RTI 4

