

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl.7  
B41M 3/00

(11)  
(43)

2003-0077646  
2003 10 01

(21) 10-2003-7011065

(22) 2003 08 22

2003 08 22

(86) PCT/US2002/08164

(87)

WO 2002/70271

(86) 2002 02 21

(87)

2002 09 12

(30) 60/272,440

2001 03 01

(US)

(71)

( 19898)

1007

(72)

19807

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(74)

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(54)

(donor)

( )  
1

1

(color proofing)  
 76 ; (Foley) 4,942,141 ; (Kellogg) 5,156,938 ; (Baldock) 5,019,549 ; (Evans) 5,171,650 ; (DeBoer) 4,948,7  
 oshizuka) 4,643,917 ; (Ellis) 5,171,650 ; (K

(receiver) (' ') (donor)

( ) 가 (base) 가 가 가

5,857,709 5,937,292

), 1, ( ) (exciton) ( ) (hole) (半)

가

0, (Heeger) 5,408,109 (Tang) 4,356,429 (Friend) 5,247,19  
 (Nakano) 443 861

(C<sub>60</sub>: Buckminsterfullerene)  
 (Yu), (Gang)  
 ['photovoltaic cells and photodetectors made with semiconductor polymers: Recent Progress', Conference 3  
 939, Photonics West, San Jose, CA, January 22-28, 2000]

가

가

가 Drury, C.J.) ['Low-cost all-polymer integrated circuits', Appl. Phys. Lett., vol. 73, No.1, 6 July 1998, pp. 108-110] 가 가

(Dimitrakopoulos) 5,981,970 , (Bauntech) 5,625,199 , 가  
(Garnier) 5,347,144 , (Klauk, Hagen) ['Deposition: Pentacene  
organic thin-film transistors and ICs', Solid State Technology, Vol. 43, Issue 3, March 2, pp. 63-75]

1

가 ( )

가 , ,

가 350 100  
, 6,087,196 ,  
(resist)

EP 0880303A1 , WO99/66483  
(short run)

WO99/43031  
5,989,945 . 35

( / ) ( )

/ / (cross-talk)  
)

\_\_\_\_\_

2 가 / ,  
/

3 / , /

4 (n  
egative image)

5 ; 1 1 ; 1 ;  
2 2

6 가

7 1 ; 2 ; 1 2  
10,000



1 2 가 (10) 1 (13)  
 (12), (14) (14) (12) 가 (16) (14)  
 가 (16) (12) (12) 1 가 (14)  
 (15) 1 (13) 가 (16) (15) / ( ) (1)  
 5) , (13) 가 (16) (20) (22) (24)  
 (20) (10) (12) 1  
 (13) (22) 가 가  
 (10) (14) (14) (22) 가 가  
 (14) (14) (22) 1 (R) 가 가  
 (12) (14) ( ) ( ) ( ) ( )  
 6) (14) ( ) ( ) ( ) (10) (14) 가 (1  
 (22) ( )  
 Tyvek( ) (spunbond) ( )  
 (E.I. Dupont de Nemours and Company, ) (22)

가

2 가 (10) 가 (16) (12) 가  
 (R) 가 가  
 가 (16) 가  
 가  
 , 13, 14, 15 16 ( [Handbook of Chemistry and Physics, 81 (CRC Press, Boca  
 Raton, FL 2000-2001)] IUPAC 1-18 )  
 ) 1 2 ) 1  
 2 , 4 가 , (30) .  
 (W)  
 14 , 가 가  
 가 , 80-100 , 가  
 500 40-50 가 가 , 가  
 1,000 가 , 1 가 가  
 가 (16) (14) , ,

rf (14) 가

3-5 가 (16) 2 (12')

13) (15)( ) ,가 (16) (17)

가 (16) (12) 45 90 (17) 가 (16) 가

가 (16) 가

Inc.(Polyscience, Inc., )

Inc.(Gelest Inc., )

Inc.(Arch Chemicals, Inc., )

Inc. (HMDS),

mical Technologies, Inc., )

-1,1,2,2- (release material)

---

1 2 가 , 1 (12)

500 2,000 100-5,000 ( ) ( ) ,

(12) 1 (13) 1 (15)

/ ( ) 가 ( )

( ) / /

---

( ) ,가 (16) (12)

(12) 가 (20) 가 ( 350 ) 가 1

325 , 1 가 350 가

5,766,819 가 가 (16)

5,766,819

가 가

(17) 가 (16) 가 (16)

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1-3 가 (20) (24) (12)

(20) (24) (12)

(12) (24) (24)

), ( ) , ( ) ( )

- ), ( )

(12) 1 (10) 1 (13),(15)  
 (25) (20) (22) 2 가 (20) (20)  
 25) (10) (10) (20) (10)  
 (20) / (10) (20) (10)  
 (20) (10) (20)  
 (R) (12) (10)  
 (22)가 (R) 가 (R)  
 (12) (10) (16) (R)  
 (20) (10) (12)  
 (10) (20) ; (10) (20)  
 3 가 (10) (20) 1  
 (13) 2 (15) (12') (10) (12)  
 (12') (20)  
 2 가 (R) 1J/cm  
 2 75-440mJ/cm<sup>2</sup> (fluence)  
 50 가 5  
 (12)  
 가 750 870nm 가  
 80 850nm 가 가 ) 가 (16) 가  
 (Spectra Diode Laboratories, )  
 (10) (20) (25)  
 3 가 (10) 1 (13) 2  
 (15) (12') (20)( ) (10) 4  
 가 (12') (10) (30)  
 (30) (32) (34) (12') (12')  
 (34) (20) (22) (12')  
 (17) (30) (16) (30) (12')  
 (12') (30) - - (roll-to-r  
 oll) ( ) ( ) - - Wate  
 rProof( ) Laminator (10) (30)  
 가 가 가 5,000-10,000  
 ( 500-1,000kg)

(30) (12') 5 (10) 가 , 1 (13) 2 (15)

(30)

5,000 100  
500 2,000

---

(20)  
6-8

6 가 (100) (102)  
, 1 (104) ,  
0) 1 (104) 1 (13) 2 (15) (1)  
(12')  
/ 1 (13) 2 (15) , 2 (12')  
1-3 (10) 4-5  
1 (104) 1 (13) 2 (15)

7 8 가 (13) 2 (15)  
(12') 1 (104) , 1 (125)  
125) 2 (114) , (13)  
가 (120) 2 (114) . 8 ( )  
200)

2 1 1 2 (15)  
(12)

/ (15) (100)

(200)

---

100) 1 (102) 2 (20) 가 ( )  
PCT/US00/11534 , 1 2000 4 17 ( )  
4) 1 (13) 2 (15) (12') 가 (104)(11  
, 2b)(120b) 2 6 8 가 (10)

1 10mil( 25-250 )

1 가

가 PCT/US00/11534 (100) (102)  
 8 , 200-500 가  
 (102a) (102b)  
 (102)(120) (104)(114) (102)(102)  
 ) (104)(114) (104)(114) (1  
 02)(120)  
 가 가 가 , (102) (Nakamura)  
 5,427,858 , (Tony) 5,482,896 (Scozza) 5,073,4  
 46

1

(100) (200)  
 1 , (104) ('ITO') 2, 3 4 가  
 ( ) 가  
 가 (102)  
 가 ,  
 1 (104) 1  
 (13) (12') (address) 2 (114) 1  
 (104) (13) (12') 1 (104) (200) 1  
 2 (104)(114)  
 1 (104) (102) 1 (102)  
 1 (104)  
 1 (104) (102) , 1  
 1 500 5,000  
 1 (114) ( )  
 가 , (via)가 가  
 가 (Sinnadurai) [handbook of Micr  
 oelectronic Packaging and Interconnection Technologies(Electrochemical Publications Ltd., 1985)]  
 가 가

/

1 2 /  
 (104) / (15) ( ) ( ) (13) (13) / 1  
 5) (10) 가 (16) , (13) (13) / (1  
 (15) / (15) (100)  
 (13) (12') / (15) / (15)  
 (13) (13) (10) 가 (16) ( (17))  
 (Y. Wang) [Kirk-Othmer Encyclopedia of Chemical Te  
 chnology, Fourth Edition, Vol. 18, p. 837-860, 1996] 가



(13) (12') 10,000 가  
 , 5 100 .5 (100)  
 , 30 x30  
 10 x10  
 500 2,000 100-5,000  
2  
 2') (215) 2 (114) 1 (13) (12') (1)  
 1 (104) 2 (114)  
 (125) 2 (114) (200) 1 1 (104)  
 , 2 ( , Li, Cs), 2 ( )  
 2 (114) (12') , 1  
 (104) 2 (114) 1  
 (104)  
 2 (104) 500-5,000 가 500-5,000 50  
 500-5,000  
 (12) 2 (114)  
 1 (104) , 2 (114)  
 ( )

---

가 1 2 (104)(114) 5,877,695  
 (Kubes)  
 ('PPV') PPV -p- 가  
 GmbH(Covion Organic Semiconductors GmbH, )

1  
 8 x4 (20.32cm x10.16cm), 4 mil(0.00635 mm)  
 (Vaccum Deposit Incorporated, ) 40%

80 가

30 1

0.5 Torr . 80

90

0.5% 0.5% (9,9- -2,7- ) 1.5 ml 0

5

7,000

(9,9- -2,7- )

4 x7 (10.16 cm x17.78 cm)

citex, Inc.,

CREO 3244 Spectrum Trendsetter

, Inc.(Creo-S

30 x40 (76.2 cm x101.6 cm)

91 cm , 81.2 cm

.40

, 830

240

5 x2

, 30

00mJ/cm<sup>2</sup> ).

100 200RPM

(100 3

30

50X

30

II

2mil(0.00325mm)

가

35%

90

CREO 3244 Trendsetter

7 mil(0.036285 mm) 2 x2 (5.08 cm x5.08 cm)

Inc.(Southwall Technologies, Inc.,

Altair™ 0-60-HS

7 mil(0.036285 mm)

60 /cm<sup>2</sup>

'PSS')

) P

(Bayer, 1.3 % )

(3,4-

)(PEDOT')

(

. Baytron( ) P

Baytron( ) P

. Baytron(

. 60 g Baytron( ) P, 3.2 g

('PSSA')

2 %

PSSA(30% ) 23.80 g

87.00 g

2 ml

0.45

2,000 RPM 90

100

60

1,000

) - - Waterproof( ) Laminator

( 125 100 mm/

30 50X 30 1,000

III

가

1 mil(0.0254 mm) 가 가

35%

가

etter I I 30 30 CREO 3244 Trends

II 1

(Monsanto Company)

5,863,465 XICIP-OSO1 48.16 % , 12.62 % XICIP-OSO1 Cellosolve(

)( 2- ) 41.4 % (PANI) Cellosolve( )

(DNNSA)

(Sigma Aldrich Corporation, )

99 %

PANI/DNNSA 2.60 % 0.9624 g XICIP-OSO1 14.3594 g (EM (E

M Science), : 98.5 % 2.60 % PANI/DSSA 0.45

100 60 1500RPM 90 가

125 400mm/ Waterp

roof( ) Laminator 50X

20 2 x2 mm 2 mm x2 mm

1500 2

가 6 . DC

(57)

1.

(donor)

2.

1 가

3.

2

(receiver)

- 4. 2 , , 가 (base) 가
- 5. 1 , , 가 (re lease material) , , -1,1,2,2- -1-
- 6. 2 , 1 가 , , 2
- 7. 2 / , , 1 2 , 1 1 2 , 2 2 , 1 , / , 2-
- 8. 2 , , ,
- 9. ; 가 , 1 2 ,
- 10. 9 , 1 2 1 / , / , 2-
- 11. 9 , , 가 , 가
- 12. 9 , , 가
- 13. 1 ; 2 ; 1 2 ;

10,000

14.

1 ;

2 ;

1 2 ;

100 , 10  
50

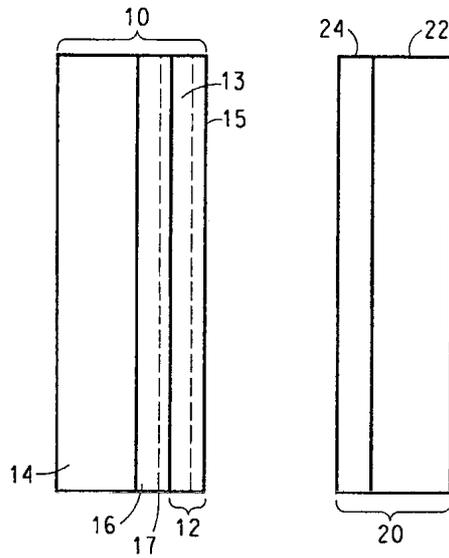
50

100 , 10  
가 ,

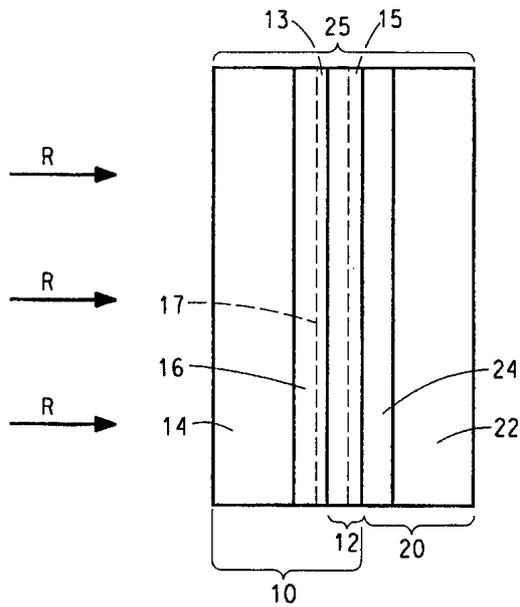
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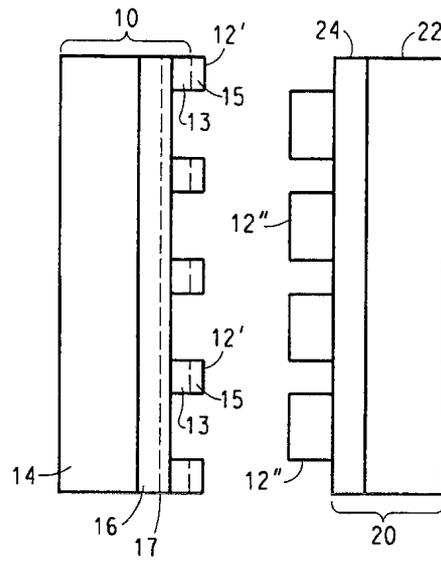
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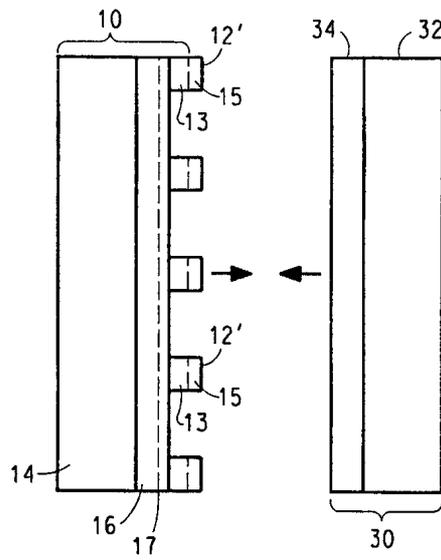
2



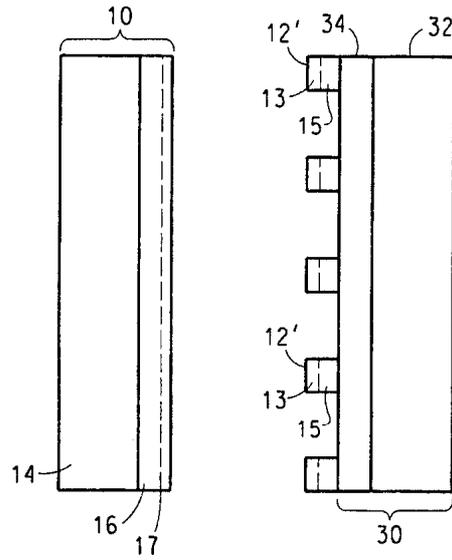
3



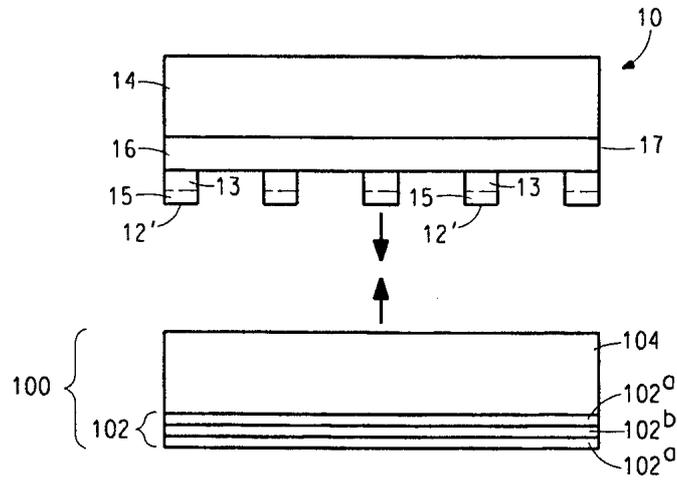
4



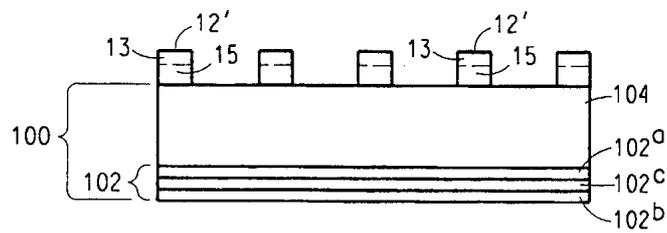
5



6



7



8

