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(30) 10/083,914

2002 02 27

(US)

(71)

94088-3453

68

(72)

94043

. #8.

1958

95050

1747

(74)

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(54)

1 2

. 1

가

2

. 1

3

(UV)

가 IC 가

가

( )

365nm, 248nm / 193nm<sup>1</sup>

가 ( , 157nm, 126nm, 13.4nm)

가 . 365nm, 248nm 193nm

가

(thinner layer)( 가

) 가

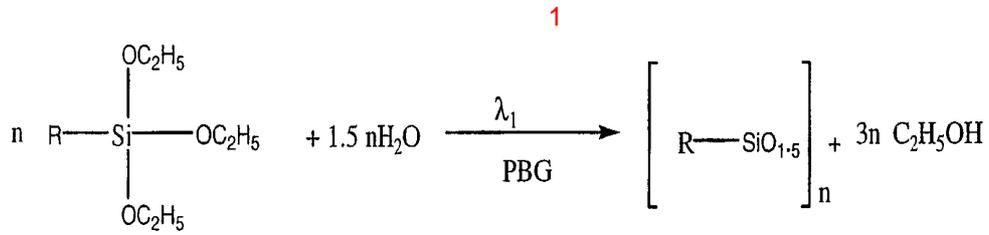
DUV(deep UV) EUV(extreme UV)

(mask overlay)가

1							1
1	2		2	2			2
2	2	2	1	1	1		1
				1			1
	DUV -248nm	DUV -193nm		157nm, 127nm	13.4nm		
		1		1			
		1					

1  
 2 가 ,  
 3 1 1 2  
 4 1 1 가  
 5 3  
 6 4 , 가 /  
 7 , 가 5  
 8 2 6  
 9 7  
 10 8  
 11 150nm-200nm 가

1 10 , 1 1 (  
 )  
 1 , (14) 1 가 (IC) (12)  
 (12) (12) IC , (12)  
 (12) (12) (14) (12)  
 (14) 1 (18)( 3) (14) 193nm 248nm  
 500nm (12) (photosensitive lipophilic polymeric material) 100-  
 (photoacid generator)가  
 1 (18) 1 (18) (157nm, 126nm) EUV(1  
 1.4nm, 13.4nm) 1 (18) DUV(193nm, 248nm) (16) (urethane)  
 ) (1) , o- (o-nitrobenzoyl cabamate) (arylti  
 , o- (o-acyloxime), (benzoin carbamate), - (oxim-urethane)  
 (photobase generator: PBG) (catalytic amount of water)  
 ethoxysilane) 가 (organotrialkoxysilane monomer)



R=

1 (18) F<sub>2</sub> (157nm), XeCl (193nm), KrF (248nm),  
 Xe (13.4nm, 11.4nm), (13.4nm, 11.4nm), (18) 2 , , ,  
 (14) (18) (16)가 (20) (20) (20) ( , ) ( , )  
 , (18) (14) ( , ) (14) ( )  
 , 가 (arylalkoxysilane monomer) (15)( 2) (he  
 xamethyldisilazane) (14) 가 (phenyl-t-  
 butyl-ether triethoxysilane), 1- -1- -t- , -t- Si  
 가 . Si 가 , ,  
 가  
 (20) , 가 (15)  
 , ( ) ( 3, 4). ( 19 )가 157nm  
 ( 10 ). ( 17). ( ) 157nm 193nm  
 / ( 17, 19 (15))  
 7) ( 5). (baking) , ( ) ( 1  
 ( 6).  
 2 / (14, 15)  
 (21) ,  
 (teramethylammonium hydroxide)(TMAH) (aqueous base)  
 , (23)  
 (14) (365nm, 248nm, 193nm) (157nm, 126nm, 13.4nm)  
 mo Chemical) PAR720™, PAR707™ 193nm (14) (Sumito  
 ley) UV110™ ( (ESCAP)) 248nm (Ship  
 (15) (14) 가 (1  
 5) (14)



(14) 2 ( 2) 2 (30)

1 2 ( 1) 2 ( 2) (14)

2.

1 ,

1 157nm, 126nm, 13.4nm

3.

1 ,

2 365nm, 248nm, 193nm

4.

1 3 ,

1 2

5.

4 ,

2 (14)

6.

5 ,

가

7.

4 ,

10nm

8.

1 ( 1) 1 1 (18) ,

2 ( 2) 2 2 (28) ,

(14) , 1 1

9.

8 ,

(15) / (17)

10.

8 9 ,

(14)

10-10000nm

