

(19)
(12)

(KR)
(A)

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(11)
(43)

10-2004-0106676
2004 12 18

(21) 10-2003-0037481
(22) 2003 06 11

(71) 416

(72) 1104 106-805

102-303

(74)
:

(54)

가

DBR(Distributed Bragg Reflector)

;

,

4

,

1 (GC-SOA)

2 (GC-SOA)

3 (SOA) 가

,

4
5
6
7
8
9

70km

DBR

DBR
(Bragg peak)

가

가

가

가

가

EDFA(Erbium Doped Fiber Amplifier),

(Raman Amplifier),

(SO

A)가

EDFA
se Figure; NF),

(

Er)가 가

(saturation output power)

1.5 μ m

(metro)

(Noi

(SOA)

mm

- (band-gap)

1

(Gain Clamped-Semiconductor Optical Amplifier; GC-SOA)

2

가

(~8dB)

(metro)

(access)

가

(Raman amplifier)

(pumping light)

(gain)

(Raman scattering)

100nm

가

가

가

가

3

(SOA)

가

DM) (100) (111) , (Single Mode Fiber; SMF)(112) , (W)
 (113) , (114) (110) (121) 2
 (122) (120)

(112) (113) (Raman scattering) (114) 1470nm
 (121) (120) (121) 2 (122) 1560nm
 (121) (110)
 , 가 가 가 가

DBR(Distributed Bragg Reflector)

DBR(Distributed Bragg Reflector)
 (power)

70nm

ted Bragg Reflector)

; DBR(Distribu

가

4 (200) (201) , (202) , (203)

100nm (201) (gain) , (Raman scattering) 가

5 70km

(flatness) (GC-SOA)가 (gain clamping wavelength) (power)

5

ted Bragg Reflector) (202) 가 , DBR(Distribu
가 가 .

6 , ,

6 (304), (309), (202) n-InP (305), (310), (301), InGaAsP (306), p-InP (311) (307), (302), InP (303), DBR p-InGaAsP (308),

DBR (input) (output) DBR 7 8 (a) (b)

가 10:1 (power)

(Bragg peak) DBR , (a) , (b) DBR , 7

DBR (gain) 80 100nm 10

(202) 4 (ASE) (203)

9 , B , C- 100mW (gain flatness) 0.5dB 0.02dB/mW 가 , A , C 9 , DBR

가 10:1 (power) DBR (input) 가 (output) 가

(gain) 80 100nm 100n

가 가

DBR 가 가

, 가 , 가

(57)

1.

;

DBR(Distributed Bragg Reflector)

2.

1

DBR(Distributed Bragg Reflector)

10:1 (power)

3.

2

100mW

4.

1

70nm

가

5.

1

6.

5

7.

;

DBR(Distributed Bragg Reflector)

8.

7

10:1 (power)

9.

8

100mW

10.

7

70nm

가

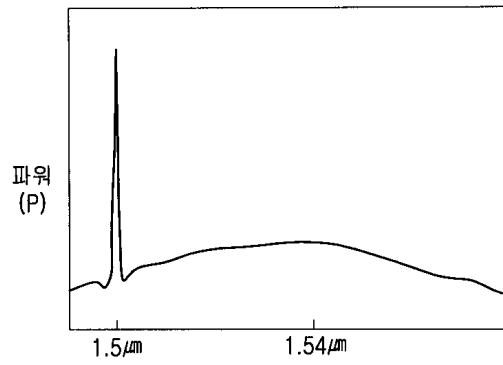
11.

7

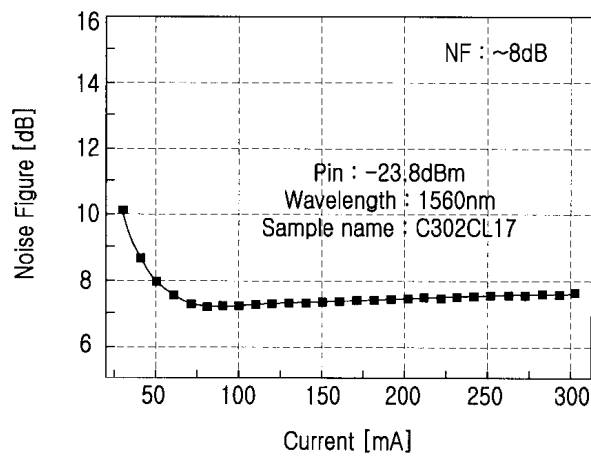
12.

11

1

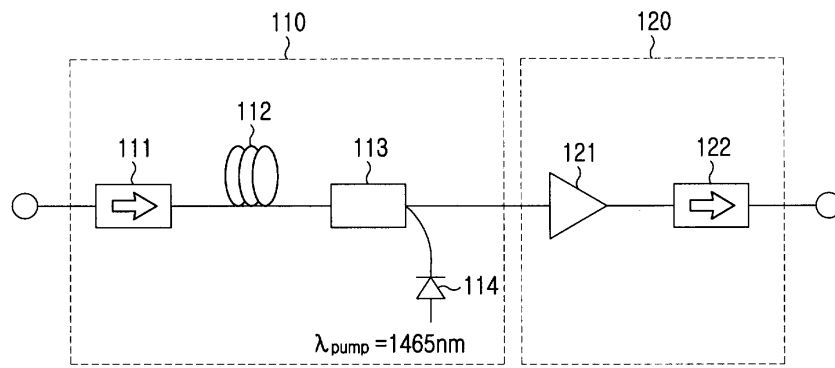


2



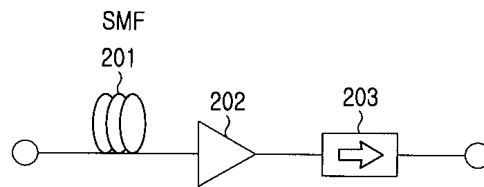
3

100



4

200



5

