

## 1.4μm FBG LD MODULE

### AF4B222CUxxxF / 226CUxxxF / 230CUxxxF

**Optical fiber output power 220, 260 and 300mW**

The AF4B2xxxU SERIES is designed for Raman amplifier. The wavelength is stabilized with FBG. The laser is installed in a new 14-pin butterfly package with monitor photodiode (PD) and thermo-electric cooler (TEC).

#### ■ FEATURES

##### ◆ Optical output :

Range of Wavelength :  $1420\text{nm} \leq \lambda < 1500\text{nm}$

AF4B222CUxxxF : 220mW ( $I_F \leq 800\text{mA}$ )

AF4B226CUxxxF : 260mW ( $I_F \leq 950\text{mA}$ )

AF4B230CUxxxF : 300mW ( $I_F \leq 1100\text{mA}$ )

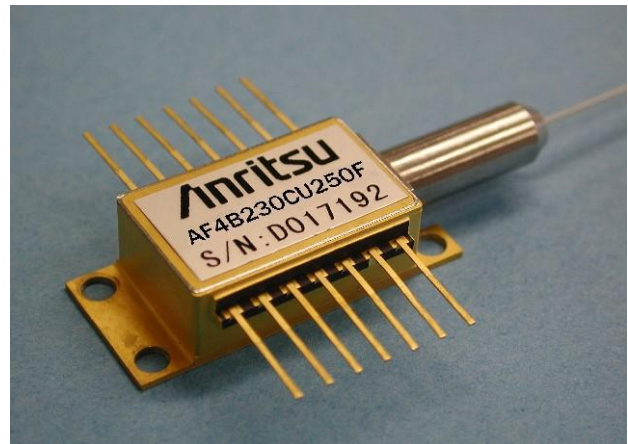
eg. xxx = 755  $\lambda = 1475.5\text{nm}$   
(0.5nm spacing is available)

##### ◆Fiber

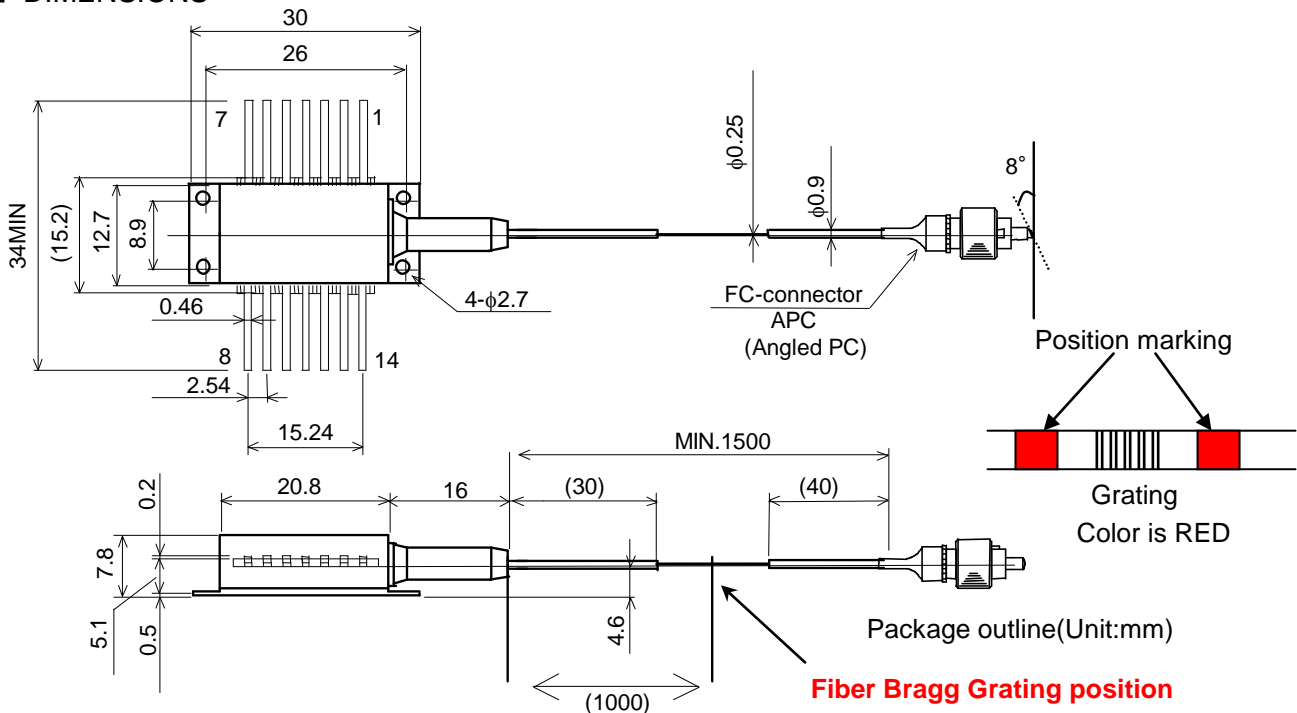
•PMF output (UV coating fiber:φ0.25mm)

##### ◆14pin butterfly package

##### ◆Internal monitor PD and TEC



#### ■ DIMENSIONS



(Note) Polarization state of LD is aligned parallel to the slow axis.

(Note) Slow axis of PMF is not fixed in parallel to the connector key.

(Note) Please consult with our sales offices when slow axis of PMF is to be fixed in parallel to the connector key.

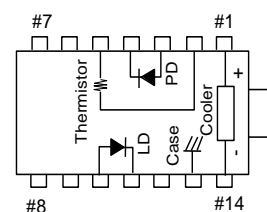
## ■ ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Rating		Unit
Model No.	-	AF4B222CU AF4B226CU	AF4B230CU	-
LD Forward Current	IF	1300	1500	mA
LD Reverse Voltage	VR	2		V
PD Forward Current	IFD	10		mA
PD Reverse Voltage	VRD	20		V
Operating Case temperature	Tc	-20 to +70		°C
Storage Temperature	Tstg	-40 to +85		°C
Cooler Current	Ic	5.8		A

## ■ Pin Configuration

No.	FUNCTION	No.	FUNCTION
1	Cooler anode	8	NC
2	Thermistor	9	NC
3	PD anode	10	LD anode
4	PD cathode	11	LD cathode
5	thermistor	12	NC
6	NC	13	Case
7	NC	14	Cooler cathode

## ■ TOP VIEW



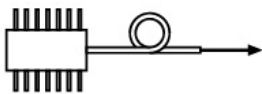
## ■ OPTICAL AND ELECTRICAL CHARACTERISTICS

( $T_{LD}=25^{\circ}\text{C}$ ,  $T_C=25^{\circ}\text{C}$ ,  $P_f$  rage=30mW to  $P_{max}$ , unless noted otherwise)

Item	Symbol	Test condition		AF4B222CUxxxF	AF4B226CUxxxF	AF4B230CUxxxF	Unit
Output power	$P_f$	-	Min.	220	260	300	mW
Forward Voltage	$V_F$	At Output Power	Max.	2			V
Threshold Current	$I_{th}$	-	Typ.	70			mA
			Max.	150			
Forward Current (BOL)	IF	At Output Power	Max.	800	950	1100	mA
Center Wavelength	$\lambda_c$	At Output Power RMS (-20dB)	Min.	$\lambda - 1$			nm
			Typ.	$\lambda$			
			Max.	$\lambda + 1$			
Spectral width	$\Delta\lambda$	At Output Power -10dB	Max.	3.5			nm
Monitor Current	$I_m$	At Output Power	Min.	100			$\mu\text{A}$
			Typ.	—			
			Max.	2000			
PD Dark Current	$I_d$	$V_{RD}=5\text{V}$	Max.	0.1			$\mu\text{A}$
Tracking Error	$\Delta P_f$	$I_m=\text{const.}$ , $T_c=-20\sim 70^{\circ}\text{C}$	Max.	0.5			dB
Cooler Voltage	$V_c$	IF=*EOL, Tc=70°C	Typ.	2.2	2.3	2.5	V
			Max.	2.6	2.7	2.9	
Cooler Current	$I_c$	IF=*EOL, Tc=70°C	Typ.	2.0	2.1	2.3	A
			Max.	2.4	2.5	2.7	
Thermistor Resistance	$R_{th}$	$T_{LD}=25^{\circ}\text{C}$	Min.	9.5			K $\Omega$
			Typ.	10			
			Max.	10.5			
Extinction Ratio	$X_p$	At Output Power	Min.	17			dB

\*EOL=BOL  $\times$  1.2

## SEMICONDUCTOR LASER



**AVOID EXPOSURE**  
Invisible laser radiation is emitted from this aperture



INVISIBLE LASER RADIATION  
AVOID DIRECT EXPOSURE TO BEAM

OUTPUT POWER 500mW  
WAVELENGTH 1.40 to 1.50 μm  
CLASS IIIb LASER PRODUCT

Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This Product Complies with 21 CFR 1040.10 and 1040.11

Manufactured Anritsu Corp. 5-1-1 Onna, Atsugi-shi, Kanagawa, Japan

Anritsu Corporation reserves the right to change the design or specification of the product at any time without notice.

## ANRITSU CORP. <http://www.anritsu.co.jp/>

### Anritsu Corporation

5-1-1 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan  
Phone: +81-46-223-1111  
Fax: +81-46-296-1238

### • U.S.A.

#### Anritsu Company

1155 East Collins Blvd., Suite 100, Richardson, TX 75081, U.S.A.  
Toll Free: 1-800-267-4878  
Phone: +1-972-644-1777  
Fax: +1-972-671-1877

### • Canada

#### Anritsu Electronics Ltd.

700 Silver Seven Road, Suite 120, Kanata, Ontario K2V 1C3, Canada  
Phone: +1-613-591-2003  
Fax: +1-613-591-1006

### • Brazil

#### Anritsu Eletrônica Ltda.

Praça Amadeu Amaral, 27 - 1 Andar  
01327-010 - Bela Vista - São Paulo - SP - Brazil  
Phone: +55-11-3283-2511  
Fax: +55-11-3288-6940

### • Mexico

#### Anritsu Company, S.A. de C.V.

Av. Ejército Nacional No. 579 Piso 9, Col. Granada 11520 México, D.F., México  
Phone: +52-55-1101-2370  
Fax: +52-55-5254-3147

### • U.K.

#### Anritsu EMEA Ltd.

200 Capability Green, Luton, Bedfordshire, LU1 3LU, U.K.  
Phone: +44-1582-433200  
Fax: +44-1582-731303

### • France

#### Anritsu S.A.

12 avenue du Québec, Bâtiment Iris 1- Silic 612, 91140 VILLEBON SUR YVETTE, France  
Phone: +33-1-60-92-15-50  
Fax: +33-1-64-46-10-65

### • Germany

#### Anritsu GmbH

Nemetschek Haus, Konrad-Zuse-Platz 1 81829 München, Germany  
Phone: +49-89-442308-0  
Fax: +49-89-442308-55

### • Italy

#### Anritsu S.r.l.

Via Elio Vittorini 129, 00144 Roma, Italy  
Phone: +39-6-509-9711  
Fax: +39-6-502-2425

### • Sweden

#### Anritsu AB

Borgarfjordsgatan 13A, 164 40 KISTA, Sweden  
Phone: +46-8-534-707-00  
Fax: +46-8-534-707-30

### • Finland

#### Anritsu AB

Teknobulevardi 3-5, FI-01530 VANTAA, Finland  
Phone: +358-20-741-8100  
Fax: +358-20-741-8111

### • Denmark

#### Anritsu A/S (Service Assurance)

**Anritsu AB (Test & Measurement)**  
Kay Fiskers Plads 9, 2300 Copenhagen S, Denmark  
Phone: +45-7211-2200  
Fax: +45-7211-2210

### • Russia

#### Anritsu EMEA Ltd.

**Representation Office in Russia**  
Tverskaya str. 16/2, bld. 1, 7th floor.  
Russia, 125009, Moscow  
Phone: +7-495-363-1694  
Fax: +7-495-935-8962

### • United Arab Emirates

#### Anritsu EMEA Ltd.

**Dubai Liaison Office**  
P O Box 500413 - Dubai Internet City  
Al Thuraya Building, Tower 1, Suit 701, 7th Floor  
Dubai, United Arab Emirates  
Phone: +971-4-3670352  
Fax: +971-4-3688460

### • Singapore

#### Anritsu Pte. Ltd.

60 Alexandra Terrace, #02-08, The Comtech (Lobby A)  
Singapore 118502  
Phone: +65-6282-2400  
Fax: +65-6282-2533

### • India

#### Anritsu Pte. Ltd.

##### India Branch Office

3rd Floor, Shri Lakshminarayan Niwas, #2726, 80 ft Road, HAL 3rd Stage, Bangalore - 560 075, India  
Phone: +91-80-4058-1300  
Fax: +91-80-4058-1301

### • P.R. China (Hong Kong)

#### Anritsu Company Ltd.

Units 4 & 5, 28th Floor, Greenfield Tower, Concordia Plaza, No. 1 Science Museum Road, Tsim Sha Tsui East, Kowloon, Hong Kong  
Phone: +852-2301-4980  
Fax: +852-2301-3545

### • P.R. China (Beijing)

#### Anritsu Company Ltd.

##### Beijing Representative Office

Room 2008, Beijing Fortune Building, No. 5, Dong-San-Huan Bei Road, Chao-Yang District, Beijing 100004, P.R. China  
Phone: +86-10-6590-9230  
Fax: +86-10-6590-9235

### • Korea

#### Anritsu Corporation, Ltd.

502, 5FL H-Square N B/D, 681 Sampyeong-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, 463-400 Korea  
Phone: +82-31-696-7750  
Fax: +82-31-696-7751

### • Australia

#### Anritsu Pty. Ltd.

Unit 21/270 Ferntree Gully Road, Notting Hill, Victoria 3168, Australia  
Phone: +61-3-9558-8177  
Fax: +61-3-9558-8255

### • Taiwan

#### Anritsu Company Inc.

7F, No. 316, Sec. 1, NeiHu Rd., Taipei 114, Taiwan  
Phone: +886-2-8751-1816  
Fax: +886-2-8751-1817