

# 1.3μm SOA Module AA3F215CA

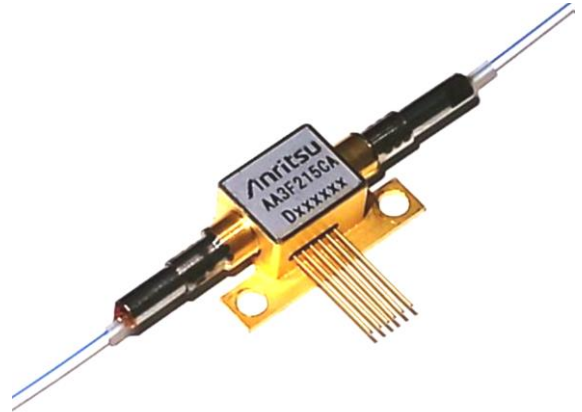
AA3F215CA is 1.3μm high gain and low polarization dependent gain SOA (Semiconductor Optical Amplifier) module with optical isolator and thermo-electric cooler (TEC).

## FEATURES

- Gain :  $\geq 15\text{dB}$
- Polarization Dependent Gain (PDG) :  $\leq 1.5\text{dB}$
- Built-in optical isolator (input side)
- Low power consumption : 1.0W typ.( $T_c=75^\circ\text{C}$ )

## APPLICATIONS

- 100GBASE-ER4 CFP/CFP2 transceiver
- Preamplifier

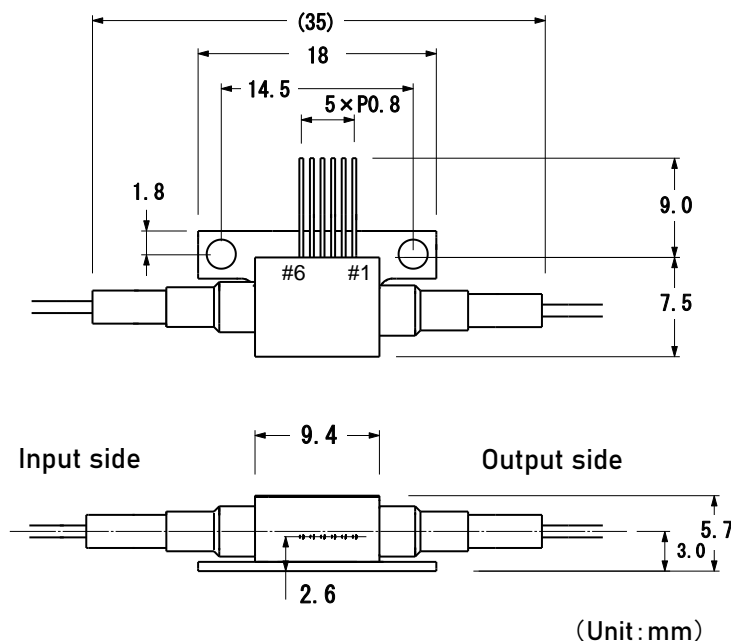


## ABSOLUTE MAXIMUM RATINGS ( $T_{SOA}=25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
SOA Forward Current	$I_F$	150	mA
SOA Reverse Voltage	$V_R$	2	V
Operating Case Temperature	$T_C$	-5 to +75	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to +85	$^\circ\text{C}$
Cooler Current	$I_C$	1.0	A
Cooler Voltage	$V_C$	2.5	V

\*Excess over the absolute maximum ratings may lead to damage.

## DIMENSIONS



## PIN CONFIGURATION

No.	Functions
1	Cooler cathode
2	Cooler anode
3	Thermistor
4	Thermistor
5	SOA cathode
6	SOA anode

Fiber Characteristics	
Fiber type	SMF
Diameter of Fiber	0.25 mm
Minimum Fiber bend radius	5.0 mm
Fiber length (both sides)	1,000 mm
Connectors (both sides)	LC Connector

## OPTICAL AND ELECTRICAL CHARACTERISTICS

( $T_{SOA}=25^{\circ}\text{C}$ ,  $T_C=25^{\circ}\text{C}$ )

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Optical Gain	G	$I_F=120\text{mA}$ , *1, *2, *3	15			dB
Polarization Dependent Gain	PDG	$I_F=120\text{mA}$ , *1, *2, *3			1.5	dB
Forward Current	$I_F$		100		150	mA
Forward Voltage	$V_F$	$I_F=120\text{mA}$			2.0	V
Wavelength Range	$\lambda$	$I_F=120\text{mA}$	1294		1311	nm
Saturation Power	$P_S$	$I_F=120\text{mA}$ , *4		7		dBm
Noise Figure	NF	$I_F=120\text{mA}$ , *1, *2, *3, *5		7		dB
Cooler Current	$I_C$	$I_F=120\text{mA}$ , $T_C=75^{\circ}\text{C}$			0.6	A
Cooler Voltage	$V_C$	$I_F=120\text{mA}$ , $T_C=75^{\circ}\text{C}$			2.2	V
Thermistor Resistance	$R_{th}$	$T_{SOA}=25^{\circ}\text{C}$ , $B=3435\pm 105\text{K}$	9.5	10	10.5	k $\Omega$

\*1: Optical input signal condition: Continuous Wave(CW)

\*2: Optical input signals are 4 ranges of wavelength listed below. Characteristics are measured for each wavelength range.

Wavelength range of optical input signals are as follows:

$\lambda 0$  : 1294.5~1296.6nm     $\lambda 2$  : 1303.5~1305.7nm

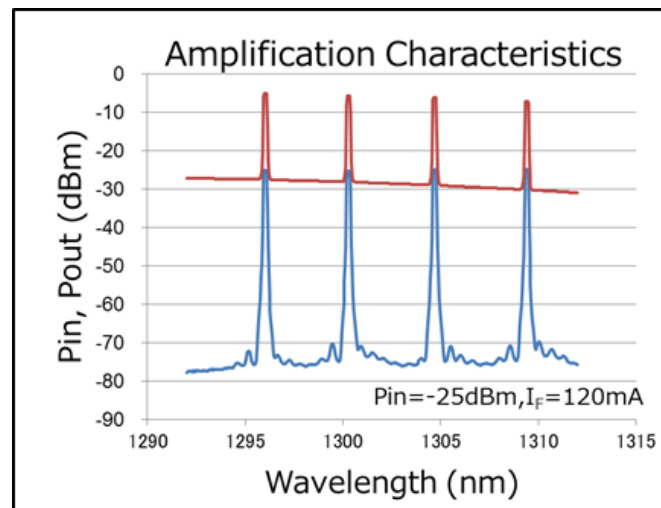
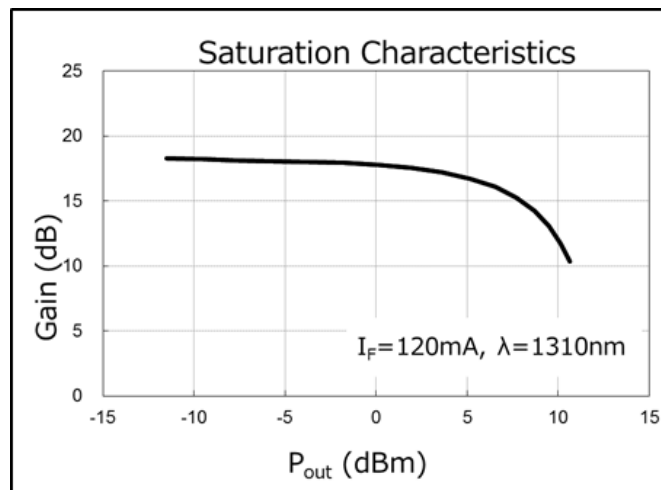
$\lambda 1$  : 1299.0~1301.1nm     $\lambda 3$  : 1308.0~1310.2nm

\*3: Optical Input signal Power ( $P_{in}$ ) = -25dBm

\*4: Saturation power is measured by using single wavelength( $\lambda=1310\text{nm}$ ).

\*5: Without polarization adjustment.

## TYPICAL CHARACTERISTICS





**CAUTION** : Handle the fiber of the enclosed device(s) with extreme care ; glass fiber is subject to breakage if mishandled and permanent damage to the device may result. Do not pull the device by the fiber or protective sleeve.  
Do not coil the fiber into a loop of than 5 mm in radius.

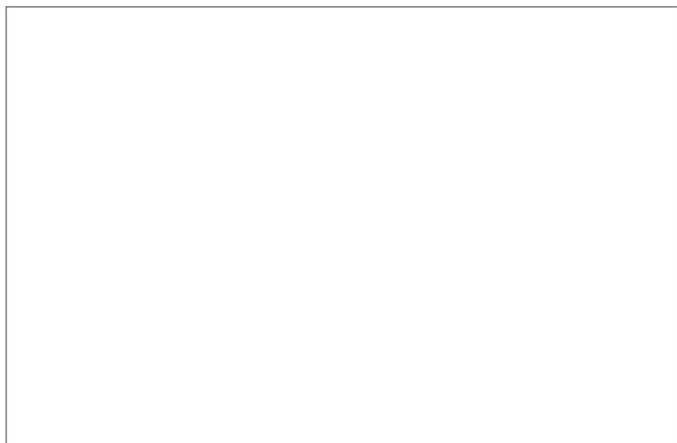
<p>SEMICONDUCTOR LASER</p>	<p><b>DANGER</b></p> <p>INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION</p>
<p><b>AVOID EXPOSURE</b> Invisible laser radiation is emitted from this aperture</p>	<p>OUTPUT POWER 500mW WAVELENGTH 0.80 to 1.80 μm CLASS IIIb LASER PRODUCT</p>
<p>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</p>	

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