

## 1.31 $\mu\text{m}$ SOA (Chip Carrier Type) AA3T115CY

The AA3T115CY is 1.31  $\mu\text{m}$  high gain and low polarization dependent gain SOA (Semiconductor Optical Amplifier) chip on carrier. The SOA chip is p-side up mounted on an AlN sub-mount of the size of 1.1  $\times$  2.0 mm.

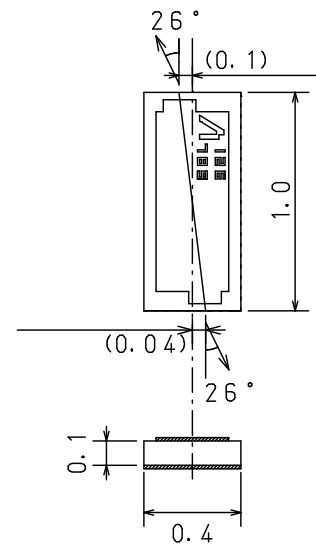
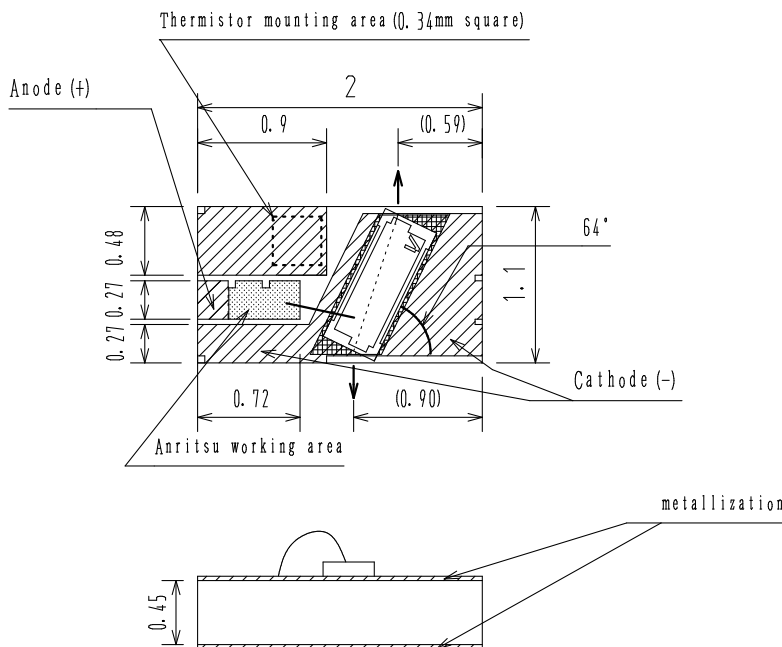
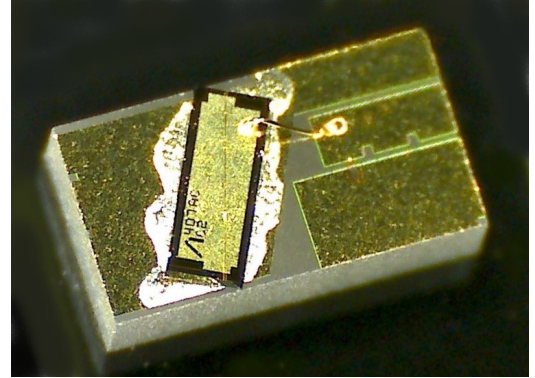
### FEATURES

- Gain : 18 dB
- Polarization Dependent Gain (PDG) : 1.5 dB
- Low Power Consumption : 0.18 W

### APPLICATIONS

- Optical transceiver
- Preamplifier

### DIMENSIONS (Unit: mm)



(Enlarged view of the SOA chip)

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

Item	Symbol	Rating	Unit
SOA Forward Current	$I_F$	350	mA
SOA Reverse Voltage	$V_R$	2	V
Storage Temperature *1	$T_{\text{stg}}$	-40 to +85	$^{\circ}\text{C}$
Process/Soldering Temp. vs Time			
300 $^{\circ}\text{C}$		< 20	s
200 $^{\circ}\text{C}$		< 2	hour
120 $^{\circ}\text{C}$		< 100	hour
ESD (Human Body Model)	ESD	500	V

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

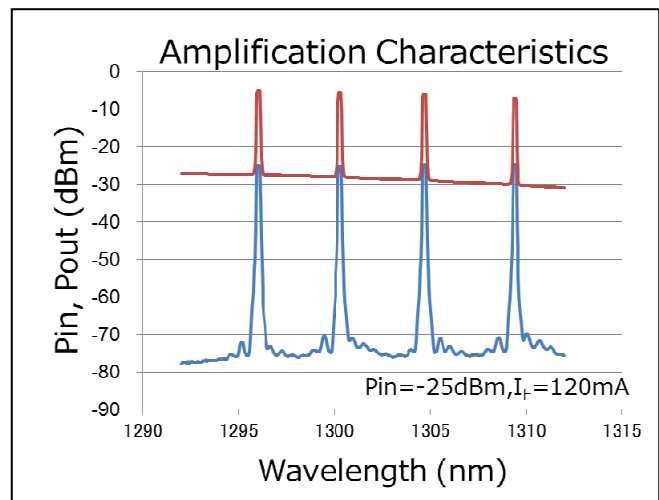
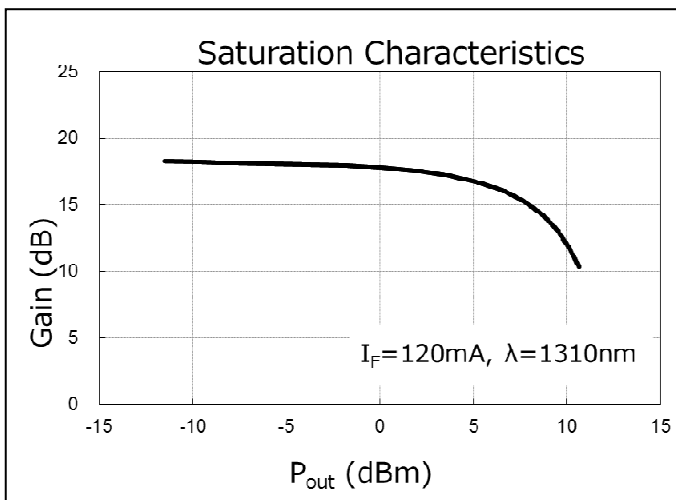
\*1 No condensation

## OPTICAL AND ELECTRICAL SPECIFICATIONS ( $T_{sub}=25^{\circ}C$ )

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Gain	G	$I_F=120\text{ mA}$ , $\lambda_{in}=1310\text{ nm}$ , $P_{in}=-25\text{ dBm}$		18		dB
Polarization Dependent Gain	PDG	$I_F=120\text{ mA}$ , $\lambda_{in}=1310\text{ nm}$ , $P_{in}=-25\text{ dBm}$		1.5		dB
Saturation Power	$P_S$	$I_F=120\text{ mA}$ , $-3\text{ dB}$ , $\lambda_{in}=1310\text{ nm}$		7		dBm
Noise Figure	NF	$I_F=120\text{ mA}$ , $\lambda_{in}=1310\text{ nm}$ , $P_{in}=-25\text{ dBm}$		7		dB
Beam Divergence Angle Lateral (Parallel)	$\theta_t$	$I_F=120\text{ mA}$ , FAHM		21		deg.
Beam Divergence Angle Transverse (Perpendicular)	$\theta_p$	$I_F=120\text{ mA}$ , FAHM		29		deg.
Optical output	$P_{ASE}$	$I_F=120\text{ mA}$	0.7	0.9	1.9	mW
Forward Voltage	$V_F$	$I_F=120\text{ mA}$	1.0	1.1	1.5	V

\* The measured data may be different with these specifications depending on the measurement settings. Hermetic sealing is recommended for long term reliability.

## 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.

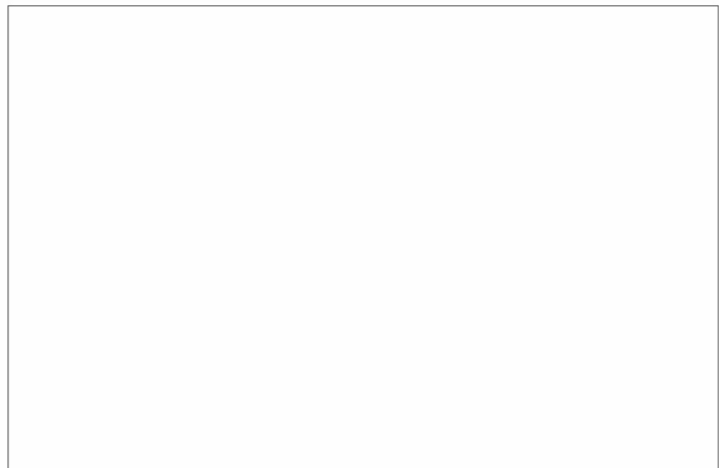


**ANRITSU CORPORATION**  
**SENSING & DEVICES COMPANY**  
**OVERSEAS SALES DEPT**

Tel +81 46 296 6783 fax +81 46 225 8390  
5-1-1 Onna, Atsugi-shi, Kanagawa  
243-8555 Japan

URL: <https://www.anritsu.com/sensing-devices>

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