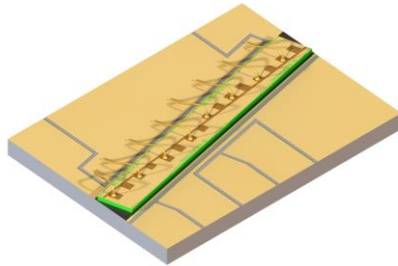


# BOA1290065CC550MXXXX

## Booster Optical Amplifier on Carrier



### Features:

- High output power > 550mW @ 1290nm
- High saturation output power (22dBm)
- Proprietary anti-reflection coating technology enabling high reliability

### Applications:

- LiDAR
- Datacom
- Swept sources, tunable lasers
- Optical coherence tomography (OCT)

## Recommended Operating Conditions

@ CW, sample is mounted on cooper heatsink

Parameter	Min.	Typ.	Max.	Unit
Heatsink Temperature	20	25	30	°C
Forward Current		2000	3000	mA
Output Power in Amplification Mode			550	mW
Input Optical Power*	-20	10	15	dBm

\* - considering fiber-chip coupling efficiency

## Gain Characteristics

@ CW, 25°C, 2000mA, with input signal 10dBm, 1290nm

Parameter	Min.	Typ.	Max.	Unit
Forward Current @ 550mW			3000	mA
Saturation Output Power @ -3dB	18	22		dBm
Gain	13	18		dB
Small Signal Gain @ -20dBm	36	43		dB
Peak Wavelength	1280	1290	1300	nm
Bandwidth @ -3dB		65		nm
Noise Figure @ Pin=-20dBm (excluding input coupling)			5	dB

## Amplified Spontaneous Emission (ASE) Characteristics

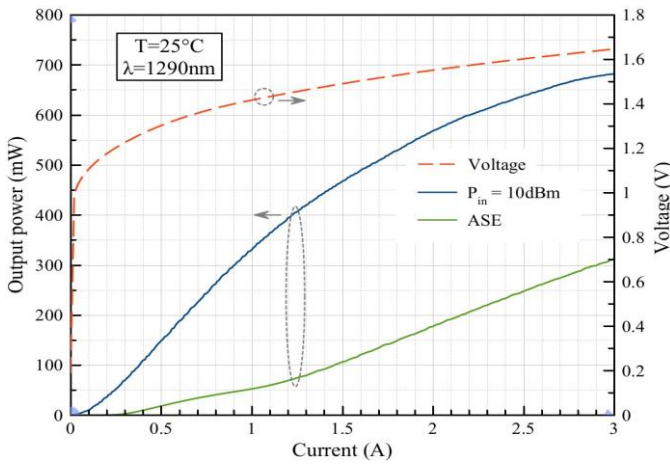
@ CW, 25°C, 2000mA, no input signal

Parameter	Min.	Typ.	Max.	Unit
Output Power (each port)		175		mW
Forward Voltage		1.6	2.2	V
Mean Wavelength		1225		nm
Bandwidth (FWHM)		15		nm
Ripples** (RMS)		0.04	1	dB
Slow Axis Beam Divergence (FWHM)	4	8	11	deg
Fast Axis Beam Divergence (FWHM)	24	28	33	deg
Polarisation Extinction Ratio (PER)	14	18		dB
Polarization		TE		

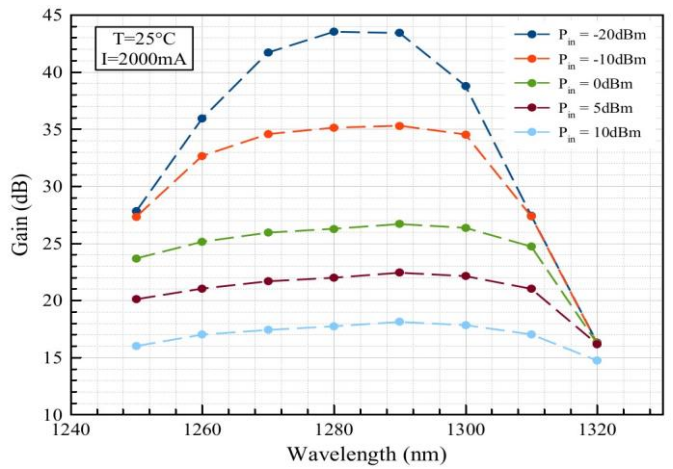
\*\* - measured in 1nm span around spectrum maximum with 20pm resolution.

### Typical Performance (for reference only)

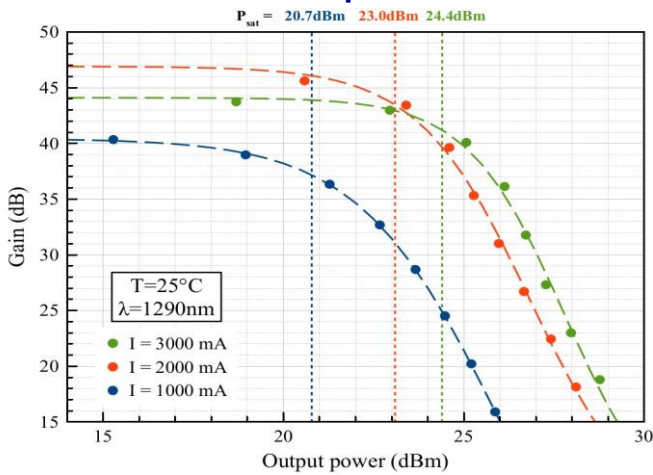
#### Output Power vs Operating Current



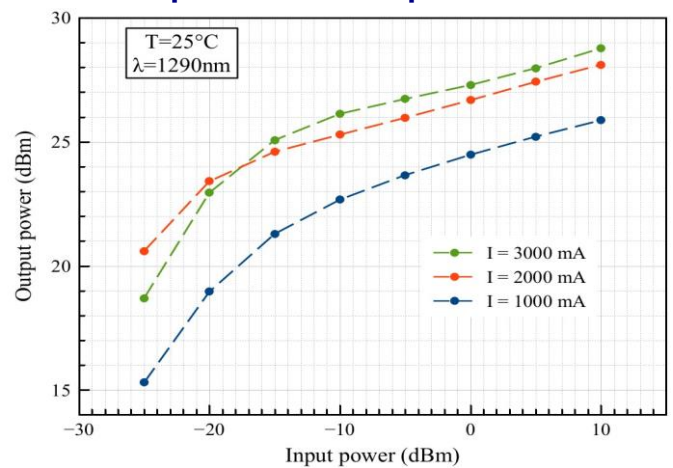
#### Gain Spectra



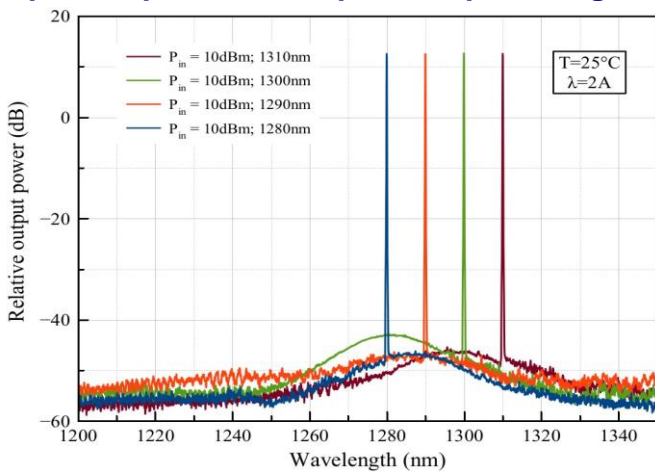
#### Gain vs Output Power



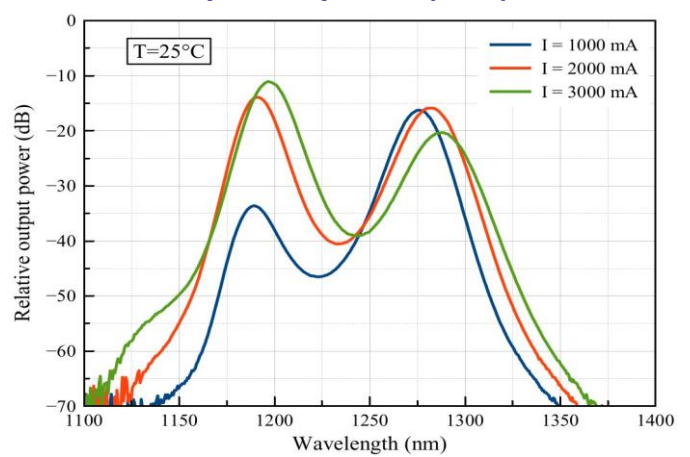
#### Output Power vs Input Power



#### Optical Spectra of Amplified Optical Signals



#### Optical Spectra (ASE)



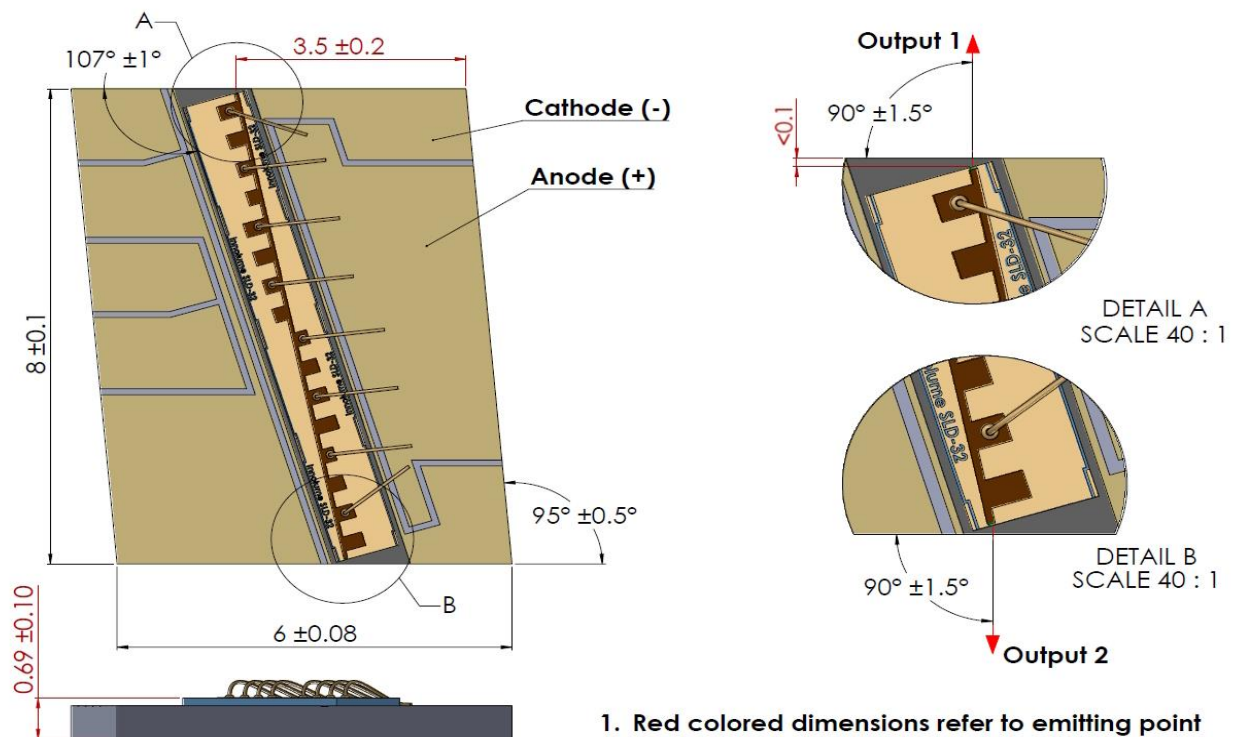
### Absolute Maximum Ratings

Parameter	Min	Max	Unit
Output Optical Power		1300	mW
Input Optical Power		20	dBm
Forward Current		4000	mA
Reverse Voltage		2	V
Soldering Temperature (5 sec. max)		250	°C
Chip Operating Temperature (above dew point)	5	50	°C
Storage Temperature	5	50	°C

### Chip Parameters

Parameter	Min.	Typ.	Max.	Unit
Chip length		8		mm
Back-reflection from Front Facet			0.001	%
Back-reflection from Back Facet			0.001	%

### Dimensions (in mm)



### Safety and Operating Instructions

The laser light emitted from this Device is invisible and harmful to the human eye. Avoid looking directly into the fiber output or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation.

Absolute Maximum Ratings may be applied to the device for short period of time only. Exposure to maximum ratings for extended period of time or exposure to more than one maximum rating may cause damage or affect the reliability of the device. Operating the device outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum forward current cannot be exceeded.

A proper heatsink for the Device on thermal radiator is required. It's recommended using of Indium foil or thermal conductive and soft material between bottom of the carrier and heatsink for thermal interface. It's undesirable to use thermal grease for this. Thermal conductance to the heatsink could be ensured by flux-free soldering.

Avoid back reflection to the device. It may give impact on the device performance in aspects of spectrum and power stability. It also may cause fatal facet damage.

The Device is an Open-Heatsink Diode Laser; it may be operated in cleanroom atmosphere or dust-protected housing only. Operating temperature and relative humidity must be controlled to avoid water condensation on the laser facets. Any contamination or contact of the laser facet must be avoided.

ESD PROTECTION - Electrostatic discharge is the primary cause of unexpected product failure. Take extreme precautions to prevent ESD. During device installation, ESD protection has to be maintained - use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling the product.



### Part-number Identification

BOA1290065CC550MXXXX -> 550mW output power at 1290nm mean wavelength, 65nm bandwidth, chip on carrier

**NOTE:** Innolume product specifications are subject to change without notice