RedChip 2900C

2.9µm High Brightness CW Chiplaser

The RedChip series of lasers are compact, high efficiency laser platforms capable of operating at wavelengths from <1000nm to >3000nm. Based on the unique combination of specialty ZBLAN glass and laser inscribed waveguides, the chiplaser brings performance characteristics normally only available in solid-state solutions to the size and economy regime of diode and fibre lasers.

Chiplaser technology enables compact footprints and high wall efficiencies over a range of wavelengths, requires no active cooling and delivers TEM00 mode with near-perfect mode-quality, and low variance in space, time and energy.

The RedChip 2900C is a 10mW grating-stabilized Holmium:ZBLAN chiplaser designed for applications that require:

- Fixed wavelengths between 2820-2945nm
- Extreme focusability and stability
- Compact / low mass packages
- Long term reliability
- Excellent power efficiency
- No service requirements

Features

Standard

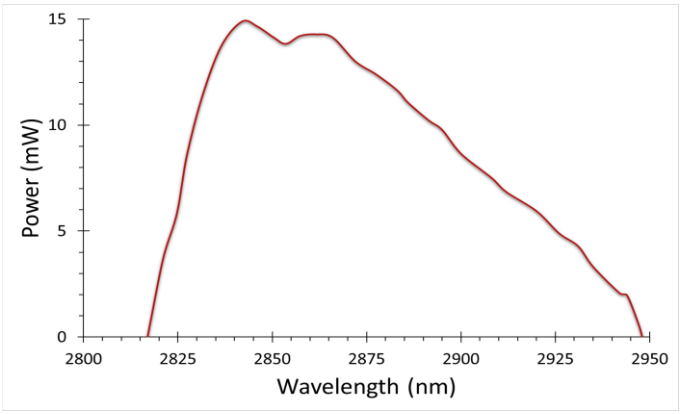
- Fixed wavelength between 2820-2945nm
- Waveguide chip laser technology
- Sealed, nitrogen back-filled cavity
- Long-lifetime telecom-grade pump diode
- Ambient/passive air-cooled design

Optional

- Analog voltage power control and monitor
- Modulation to 2MHz
- Direct DC Supply (5V, 12V, 24V)
- High Power Version
- OEM Customization
- Tunable version*

*coming soon – please enquire

2900C Spectral Range[1]



Typical powers available at given wavelength configurations of the 2900C

RedChip Photonics
info@redchipphotonics.com

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Specifications[2]

Optical

Wavelength[3]	2820-2945 nm
Average Power	>10 mW
Power stability (p2p)[4]	< ± 1.0 %
Optical linewidth (nom)	2.5 GHz
Beam Diameter (1/e²)	<1.5 mm
Divergence	<1.5 mrad
M²	<1.1

Electrical

Voltage	110/240VAC
Power	<25W

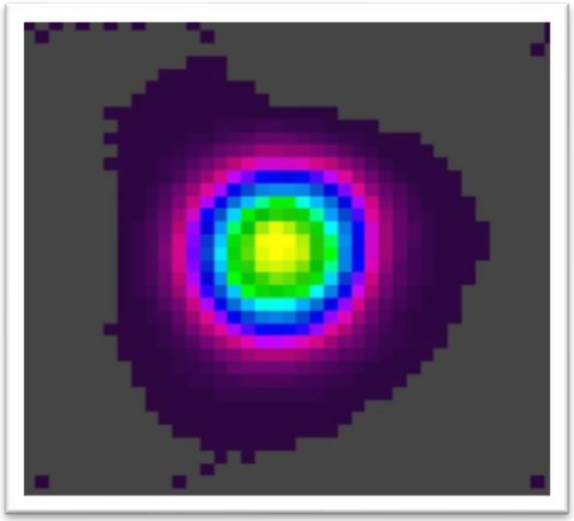
Physical

Laser Head:	
Mass	750 g
Dimensions (mm)	198x85x63
Controller:	
Dimensions (mm)	170x108x58
Mass	400 g

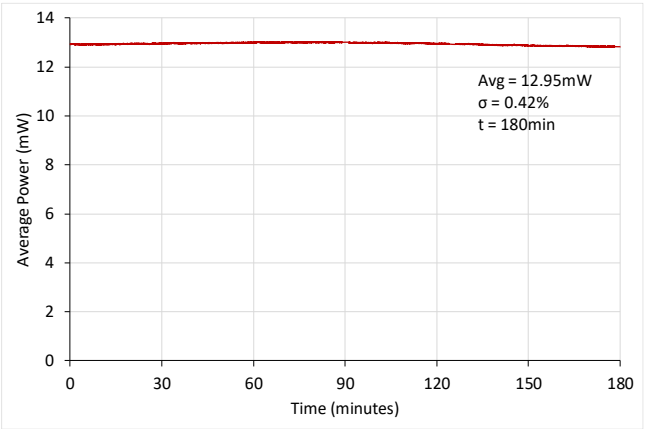
Applications

Example applications include:

- Aerospace requirements
- High resolution IR imaging
- Direct water sensing
- OEM/Instrumentation
- IR Counter Measures



The RedChip chiplaser design leads to a near perfect beam quality and profile.[2]



Power stability after 30min warmup over 180 minutes[2]

Notes

1) Typical spectral output capability of a RedChip 2900C. Consult RedChip Photonics regarding tuneable options.
2) All specifications measured using 2870nm configured laser after 30 min warmup time.
3) The 2900C is a fixed wavelength source. Select a specific wavelength at time of order, or consult with us about possible tuning capabilities. Residual 1155nm light may also be present.
4) Power stability is measured as peak-to-peak over 1 hr after 30 min warmup time.

This product is undergoing continuous design improvement. Specifications are subject to change without notice.

RedChip Photonics Pty Ltd
Mawson Lakes, South Australia
ABN 68 166 388 058
info@redchipphotonics.com

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