

RedChip 2900C

2.9 μ m HIGH BRIGHTNESS CW CHIPLASER



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

Chip laser 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 chip laser designed for applications that require:

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

Features

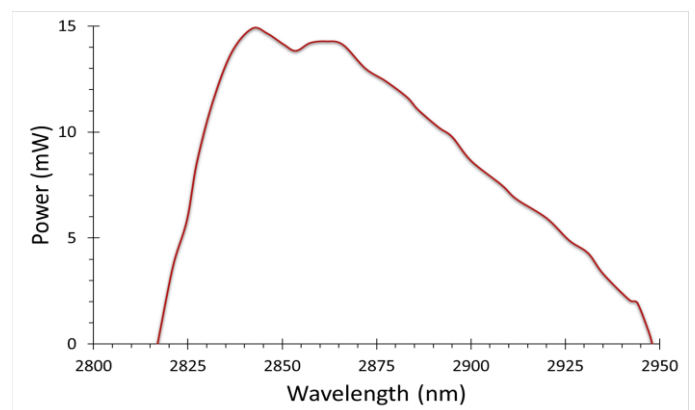
Standard

- 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*

2900C Spectral Range¹



Typical powers available at given wavelength configurations of the 2900C



RedChip Photonics

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Specifications²

Optical

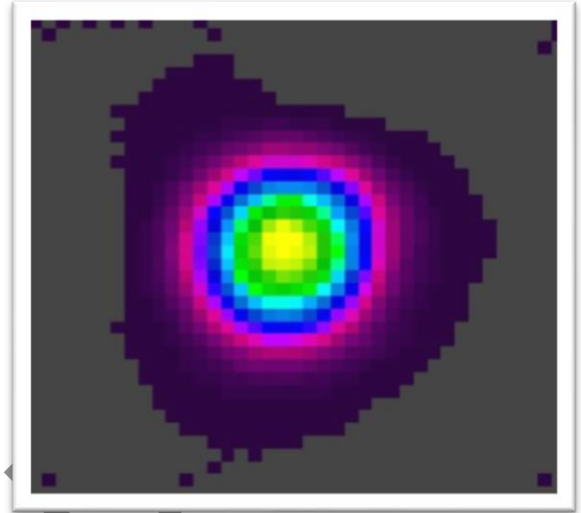
Wavelength ³	2820-2945 nm
Average Power	>10 mW
Power stability (p2p) ⁴	< \pm 1.0 %
Optical linewidth (nom)	2.5 GHz
Beam Diameter (1/e ²)	<1.5 mm
Divergence	<1.5 mrad
M ²	<1.1

Electrical

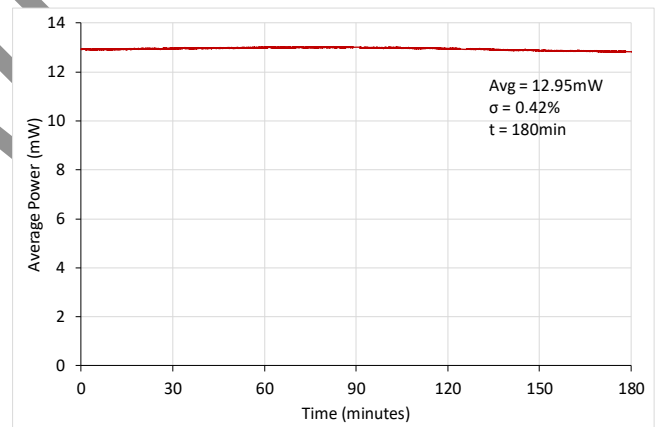
Voltage	5VDC
Power	<25W

Physical

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



The RedChip chip laser design leads to a near perfect beam quality and profile.²



Power stability after 30min warmup over 180 minutes²

Applications

Example applications include:

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

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.

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