

CF3 Ultra-narrow linewidth laser

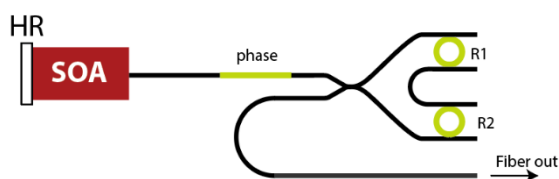
Introduction

Chilas B.V. develops and commercializes ultra narrow linewidth external cavity lasers. The lasers are used in a wide range of applications. The concept uses state-of-the-art Photonic Integrated Circuit (PIC) technology and has distinctive advantages of which the most important are:

- Ultra narrow linewidth
- Low frequency noise
- Small footprint/size

Tunable laser concept

The main concept is schematically drawn in the figure below. A gain section is attached to a tunable reflector PIC creating an external cavity laser. The gain section creates the first mirror and the necessary gain, the silicon nitride (Si₃N₄) based TriPleX™ PIC acts as a wavelength dependent mirror. By means of heating, the resonant wavelength of the mirror can be selected.



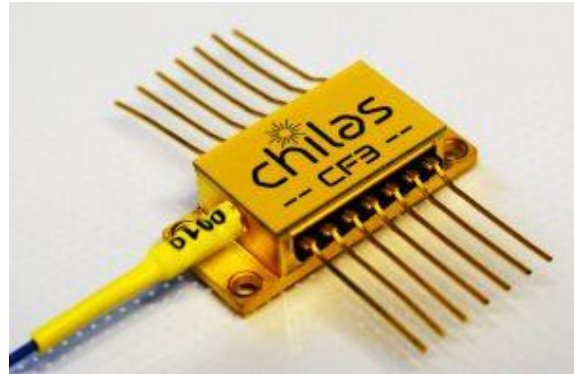
Optical specs

Parameter	Specification
Fiber output	> 13 dBm
Wavelength tuning range	1550 nm ± 5 nm
Intrinsic linewidth	< 5 kHz
SMSR	> 50 dB
Mode hop free fine tuning	> 0.25 nm
Package	14 pins butterfly



Mechanical specs

The laser is mounted inside a standard 14-pins butterfly package, equipped with Peltier element. The output light is coupled into a PM fiber, with FC/APC connector. Upon request, other packages and fibers can be made available.



Application fields

Chilas' lasers can be used for a wide variety of applications, such as LiDAR, Fiber Sensing, and gas-sensing,

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