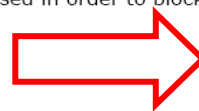


# Full C-band Tunable Laser W/ Integrated SOA

## Performance Characteristics

Parameter	Sym	Conditions	Min	Typ	Max	Unit
Output power	$P_{\max}$	Full tuning range, EOL	13			dBm
Output power variation	$\Delta P$	Locked operation, over case temperature and tuning range, EOL	-0.5		0.5	dB
Output power adjustment range <sup>1</sup>		Full tuning range	4			dB
Dark tuning suppression <sup>2</sup>		Reverse biased SOA, full tuning range	40			dB
Lowest emission frequency	$\nu_{\min}$				191.50	THz
Highest emission frequency	$\nu_{\max}$		196.25			THz
Frequency accuracy	$\Delta \nu$	Locked operation, over case temperature and tuning range, EOL	-2.5		2.5	GHz
Side-mode suppression ratio	SMSR		40			dB
Linewidth	LW	Phase noise density meas.			10	MHz
Relative intensity noise	RIN	Worst point over 0.1 – 10 GHz		< -140	-135	dB/Hz
Power consumption	$P_{\text{diss}}$	All sections, 75°C case temperature		< 2.5	3.1	W

1. Range over which the output power can be adjusted by changing the SOA current, while maintaining all other optical specifications.
2. Attenuation of output power achieved by reverse biasing the SOA, used in order to block the laser output while tuning to another channel.



The laser chip in the [redacted] module has an integrated semiconductor optical amplifier (SOA), which gives the device a high output power (> 13 dBm), offers the flexibility to adjust the output power over a wide range (> 4 dB) on the fly, and allows light to be blocked while tuning from one channel to another.

The devices are packaged into a compact, low-profile hermetically sealed package, with an integrated optical isolator and wavelength locker, which allows the emission frequency to be stabilised to within  $\pm 2.5$  GHz over life.

