

Low Linewidth Fast Tunable Laser

Pilot Photonics' tunable lasers are InP monolithic single mode lasers in the C-band. The lasers exhibit a tuning range of > 30 nm centered at 1550 nm, with distinct mode-islands and high side-mode suppression ratio. The tuning of these devices rely on reverse-voltage controlled electro-optic effect which results in a fast switching, low linewidth < 150 kHz and low power consumption.

These lasers are offered in standard 14-pin butterfly packages, with a thermo-electric cooler, internal isolators, and polarization-maintaining (PM) fiber pigtail with FC/APC connectors. Other configurations are available upon request.

Features

- Single mode laser chip
- Monolithic design
- C-band wavelength
- Very wide tuning range, > 30 nm
- High side-mode suppression ratio > 45 dB
- Output power > 0 dBm
- Low linewidth laser, <150 kHz
- Fast switching & tunable through voltage
- Nanosecond switching times

Applications

- Dense Wavelength Division Multiplexing (DWDM)
- Coherent optical communications
- Distributed fiber sensing & gas sensing
- Sensor interrogation
- Fiber optic testing

Typical Specifications

Central wavelength	1550 nm
Tuning range	> 30 nm
Side-Mode-Suppression Ratio	> 45 dB
Output power	> 0 dBm
Linewidth	< 150 kHz

Available for sampling

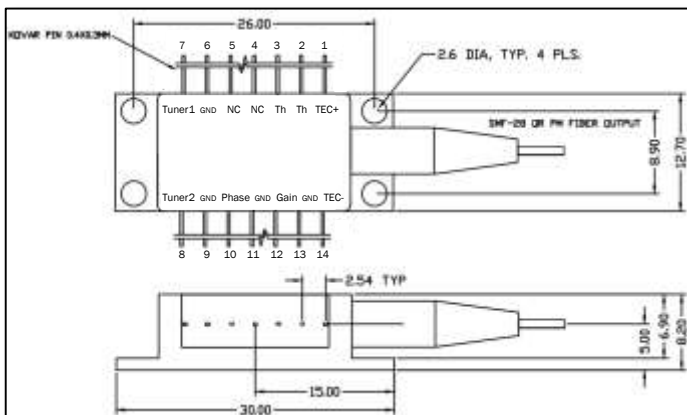


Tunable Laser

Fast, widely tunable & low linewidth

Optical Specifications	Min.	Typ.	Max.	Unit	Notes
Centre Wavelength		1550		nm	
Tuning Range	30	-	40	nm	
Output Power	0	-	15*	dBm	*With SOA at the output
Side-mode suppression ratio (SMSR)	45	50	60	dB	
Linewidth	100	150	200	kHz	
Operating Specifications					
Reverse Voltage (any section)	-	-	10	V	
Total Power Consumption		3		W	PIC and TEC
TEC Voltage	-2		2	V	
TEC Current	-1	0	1	A	
Chip Temperature	15	20	40	°C	
Case Temperature	-5	25	75	°C	
Storage Temperature (Non-operational)	-40		60	°C	
Thermistor Resistance at 25 C		10		kΩ	NTC, Beta 3575 k
Physical Specifications					
Dimensions		2.3 x 1		mm	Bare die
Optical isolation		30		dB	
Polarization Extinction ratio	17	20	25	dB	
Fiber type		Corning PANDA PM			In butterfly packages, slow axis aligned
Fiber connector		FC/APC			In butterfly packages, narrow key

Available for sampling



Pin Description

1	TEC+	8	Tuner 2
2	Thermistor	9	Ground
3	Thermistor	10	Phase
4	Not Connected	11	Ground
5	Not Connected	12	Gain
6	Ground	13	Ground
7	Tuner 1	14	TEC-