

### Typical Specifications

Wavelength	Any in C-band
Optical Power	> 10 mW
Modulation Bandwidth (3 dB)	> 20 GHz
Side-Mode-Suppression Ratio	45 dB
Operating Current	40 – 80 mA
Forward Voltage	2 V
Input Impedance Matching	50 Ω

## High-Speed Lasers

### 20 GHz+ directly-modulated lasers

Pilot Photonics offers DFB lasers with a 3dB frequency response bandwidth above 20 GHz for applications that rely on high-speed direct modulation.

These lasers are offered in standard 7-pin butterfly package with RF (K) connector, internal thermo-electric cooler, isolator, and polarization-maintaining (PM) fiber pigtail with FC/APC connectors.

Other configurations (TOSA, no-isolator, single mode fiber, etc) are available upon request.

### Features

- Side-Mode-Suppression Ratio > 45 dB
- C-band wavelength
- High bandwidth > 20 GHz
- CW output power > 10 mW

### Applications

- Direct modulation
- High speed optical communications
- Gain switching
- Quantum Random Number Generation
- RF Photonics
- Laboratory testing and measurement

### Available in a Lyra driver module.

Each LYRA module consists of rugged metal housing containing a heat-sink and embedded control electronics. On the back panel it has a DC power (12V nominally) and USB for computer control. On the front panel there are two ports, an optical bulkhead adapter (FC-type) for connecting to optical fibre patch-cords, and an RF connector, through which the RF or data signal is applied.



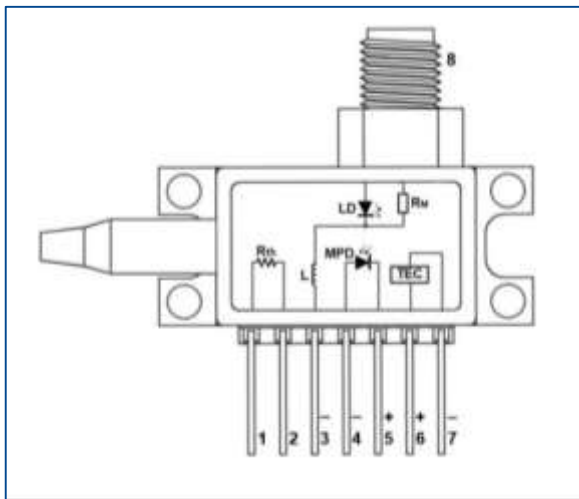


## High-Speed Lasers

20 GHz+ directly-modulated lasers

Optical Specifications	Min.	Typ.	Max.	Unit	Notes
Centre Wavelength		1550		nm	
Tuning Range	-1	-	1	nm	Thermal tuning
Output Power	10	15	20	mW	Fiber-coupled
Side-mode suppression ratio (SMSR)	45	50	60	dB	SMSR can only be ensured if internal isolator is installed
Modulation bandwidth	15	20	25	GHz	At 80 mA bias current
Operating Specifications					
Laser drive current	20	60	90	mA	
Laser threshold current	8	10	15	mA	
Laser bias voltage	-	1.5	2.5	V	At 60 mA
RF Input power	-	-	25	dBm	
Reverse Voltage	-	-	2	V	
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					
Optical isolation		30		dB	No isolator option available
Polarization Extinction ratio	17	20	25	dB	
Optical output connector		FC/APC PM			Key aligned to slow axis
RF input connector		2.92 mm (K)			Female

**Available for sampling**



Pin Description			
1	Thermistor	5	Monitor PD -
2	Thermistor	6	TEC +
3	Laser Cathode	7	TEC -
4	Monitor PD +	8	RF in (K-connector)
Case	Laser Anode, Ground		
Note: 1-7 are insulated from the case			

