



ROITHNER LASERTECHNIK GmbH

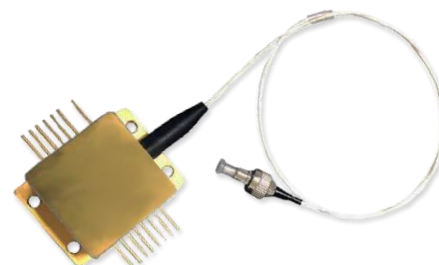
WIEDNER HAUPTSTRASSE 76
TEL. +43 1 586 52 43 -O. FAX. -44

1040 VIENNA AUSTRIA
OFFICE@ROITHNER-LASER.COM



SPM1470-2W5-2W5-PDTA-15P

- IR Fiber-pigtailed Laser Diode
- 1470 nm, >2 W
- 105 μm Multi-mode Fiber
- Build-in PD and TEC
- **Integrated Pilot Laser**



Description

SPM1470-2W5-105M-PDTA-15P is an infrared fiber-pigtailed laser diode, typically emitting at 1470 nm, with an output power of >2 W. It comes in a 15-pin package with 105 μm multi-mode fiber and FC/PC connector, built-in TEC (thermo-electric cooler), thermistor, photodiode, and **red pilot laser**. Different fibers and connectors, as well as a green pilot laser, are optionally available.

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Voltage	U_R		2.0	V
Operating Temperature	T_{OPR}	+ 10	+ 30	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	- 20	+ 80	$^{\circ}\text{C}$
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	$^{\circ}\text{C}$

Electro-Optical Characteristics ($T_{CASE} = 25^{\circ}\text{C}$)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ_P	1440	1470	1500	nm
Output Power	P_O	2.0	2.5		W
Recommended Case Temperature	T_C		25		$^{\circ}\text{C}$
Spectral Width (FWHM)	$\Delta\lambda$		10		nm
Temperature Coefficient	α		0.7		nm/ $^{\circ}\text{C}$
Operating Voltage	V_F		1.9	2.4	V
Threshold Current	I_{th}		0.5	0.8	A
Operating Current	I_F		9.0	11.0	A
TEC Current	I_{TEC}			6	A
TEC Voltage	V_{TEC}			9.8	V
Thermistor	R		10K		Ω
Fiber spec.	Type		Multi-mode		
	Core		105*		μm
	Numerical Aperture		0.22		
	Connector		FC/PC*		
	Length		80		cm
Pilot Laser			2 mW @ ~635 (520)* nm @ 3-5 VDC		



* SC or SMA905 con. and 200, 400 μm core diameter available on request



Electrical Connection

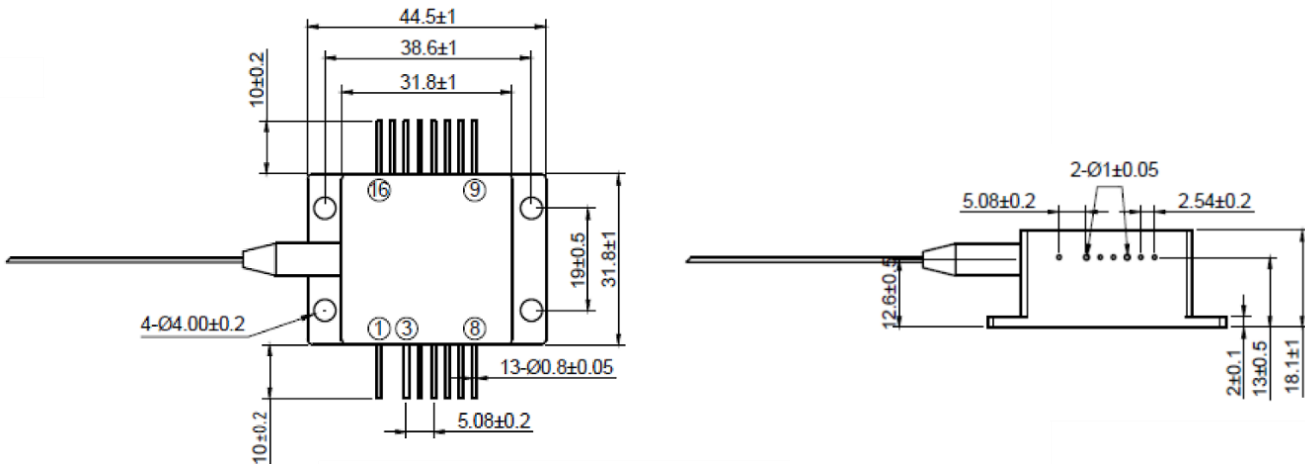
Pin Configuration*

PIN #	Function	PIN #	Function
1	CASE	16	TEC +
		15	Pilot Laser - [GND]
3	LD +	14	Pilot Laser + [3-5 VDC]
4	Thermistor	13	n.c.
5	Thermistor	12	n.c.
6	LD -	11	n.c.
7	PD +	10	n.c.
8	PD -	9	TEC -



* subject to change

Outline Dimension



all dimensions in mm

Precautions

Safety

Laser light emitted from any laser diode may be harmful to the human eye. **Avoid looking directly into the laser diode's aperture.** The use of optical lenses will increase eye hazard



ESD Caution

Always do handle laser diodes with care to **prevent electrostatic discharge.** We advise to **wearing wrist straps, and grounding all applicable work surfaces,** when handling laser diodes

Operating Considerations

Usage of current regulated drive circuits is mandatory We advise to operate this laser diode with a current source and heat sink, and to never exceed the maximum specifications as outlined in this datasheet.

