



SPM450-3W5-50M-PDT-9P

- Blue Fiber-pigtailed Laser Diode Module
- 450±10 nm, 3.5 W
- 50 µm Multi-mode Fiber
- Build-in PD and TEC
- 9-Pin Package



Description

SPM450-3W5-50M-PDT-9P is a blue fiber-pigtailed laser diode module, typically emitting at 450 nm, with an output power of **3.5 W**. It comes in a 9-pin package with 50 µm multi-mode fiber and FC/PC connector, built-in TEC (thermo-electric cooler), thermistor and photodiode. Different fibers and connectors are optionally available.

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Reverse Current	I_R		80	mA
Operating Temperature	T_{OPR}	0	+ 60	°C
Storage Temperature	T_{STG}	- 40	+ 85	°C
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	°C

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

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ_P	435	450	465	nm
Output Power	P_O	3.0	3.5		W
Spectral Width (FWHM)	$\Delta\lambda$		3.0		nm
Operating Voltage	V_F		4.5	5.5	V
Threshold Current	I_{th}		0.3	0.5	A
Operating Current	I_F		3.0	3.3	A
TEC Current	I_{TEC}			6	A
TEC Voltage	V_{TEC}			9.8	V
Fiber spec.	Type		Multi-mode		
	Core		50*		µm
	Numerical Aperture		0.22		
	Connector *		FC/PC*		
	Length		80		cm



* SC or SMA905 con. and 105, 200, 400 µm core diameter available on request



Electrical Connection

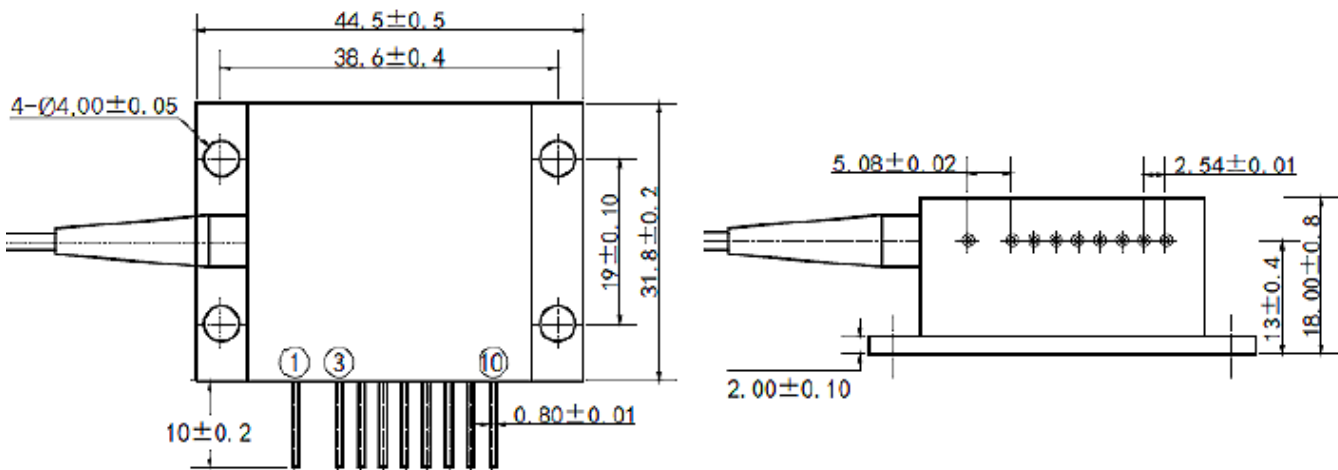
Pin Configuration*

PIN #	Function	PIN #	Function
1	TEC -	6	Thermistor
2	-	7	LD Cathode
3	Case	8	PD Anode
4	LD Anode	9	PD Cathode
5	Thermistor	10	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.

