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AUSTRIA



## SPM980-10W-105M-PDT-9P

- IR Fiber-pigtailed Laser Diode Module
- 980 nm, 10 W
- 105  $\mu\text{m}$  Multi-mode Fiber
- Build-in PD and TEC
- 9-Pin Package



### Description

**SPM980-10W-105M-PDT-9P** is an infrared fiber-pigtailed laser diode module, typically emitting at 980 nm, with an output power of **10 W**. It comes in a 9-pin package with 105  $\mu\text{m}$  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 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 ( $T_{CASE} = 18^{\circ}\text{C}$ )

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	$\lambda_P$	966	976	986	nm
<b>Recommended Case Temperature</b>	<b><math>T_C</math></b>		<b>25</b>		<b><math>^{\circ}\text{C}</math></b>
Temperature Coefficient	$\alpha$		0.3		nm/K
Output Power	$P_O$		10		W
Spectral Width (FWHM)	$\Delta\lambda$		4		nm
Operating Voltage	$U_F$		1.8	2.3	V
Threshold Current	$I_{th}$		0.7	1.2	A
Operating Current	$I_F$		14.0	14.5	A
TEC Current	$I_{TEC}$			6	A
TEC Voltage	$U_{TEC}$			9.8	V
Thermistor	$R_T$		10		k $\Omega$
Fiber spec.	Type		Multi-mode		
	Core		105*		$\mu\text{m}$
	Numerical Aperture		0.22		
	Connector *		FC/PC*		
	Length		100		cm



\* SC or SMA905 con. and 200, and 400  $\mu\text{m}$  core diameter available on request



## Electrical Connection

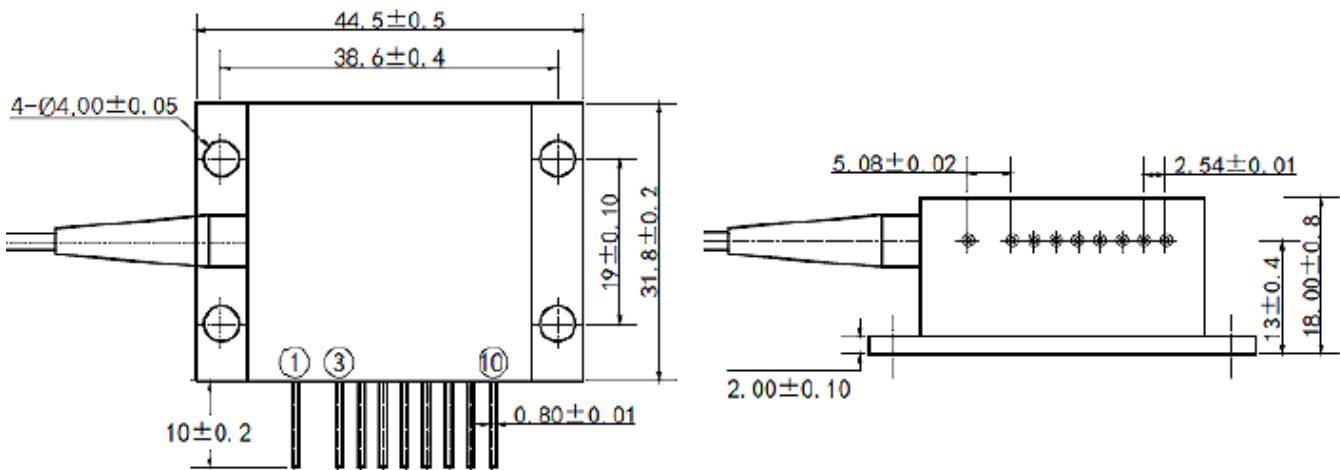
Pin Configuration\*

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.



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