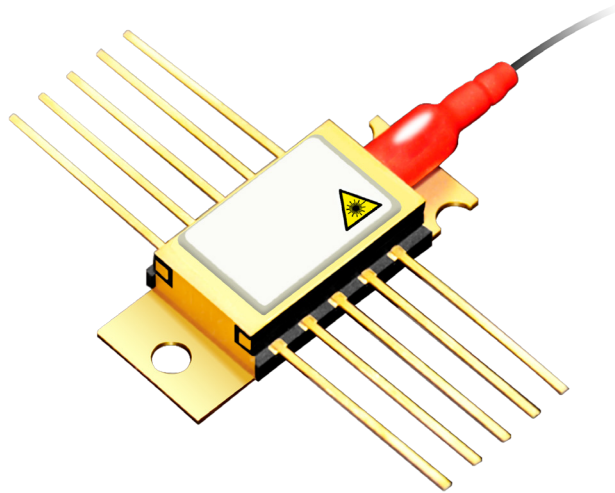



# 976 nm MINI-BUTTERFLY LASER DIODE PUMP MODULE WITH FBG AND PM FIBER

## CM97-1000-76PM

The Coherent CM97-1000-76PM wavelength stabilized high power single mode laser diode module has been designed as a pump source for industrial pulsed fiber pre-amplifiers as well as for erbium doped fiber amplifier (EDFA) laser applications. Processes and techniques of coupling the fiber to the laser allow very high output powers that are stable with both time and temperature. The pump module utilizes a Polarization maintaining fiber pigtail and a fiber Bragg grating design for enhanced wavelength and power stability performance. Devices achieve high kink free output powers of 1 W.



## FEATURES

- High output power, 1 W kink free
- Wavelength stabilized at 976 nm
- Polarization maintaining single-mode optical fiber
- Internal thermoelectric heat pump and monitor diode
- Hermetically sealed 10-pin mini-butterfly package
- Telcordia GR-468-CORE compliant
- RoHS compliant 

## APPLICATIONS

- Fiber lasers
- Sensing
- EDFA

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### Characteristics

Conditions unless otherwise stated:

Case temperature: -20 to +75 °C, Submount temperature: 25 °C, Monitor diode bias: -5 V, CW operation

Parameter	Min	Typ	Max	Unit
Threshold current		60	80	mA
Forward current			1360	mA
Operating power	910			mW
Kink free current			1500	mA
Kink free power	1000			mW
Operating forward voltage		2	2.2	V
Peak wavelength	975	976	977	nm
Spectral width (-13 dB)		0.2	1	nm
Signal to noise ratio	20			dB
Monitor detector responsivity (at -5 V bias voltage)	1		10	μA/mW
Monitor dark current (at -5V bias voltage)			50	nA
Thermistor resistance (at 25 °C)	9.5	10	10.5	kΩ
Heat pump current ( $\Delta T = 35\text{ °C}$ , $I_f = I_f \text{ max}$ )			2.0	A
Heat pump voltage ( $\Delta T = 35\text{ °C}$ , $I_f = I_f \text{ max}$ )			3.0	V
Polarization extinction ratio		13		dB

### Absolute Maximum Ratings

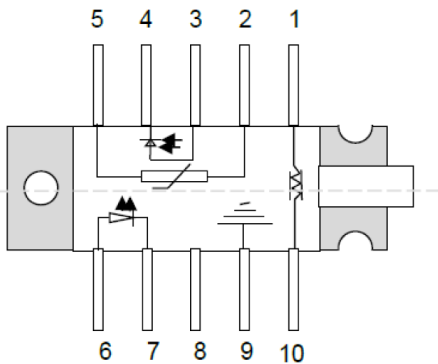
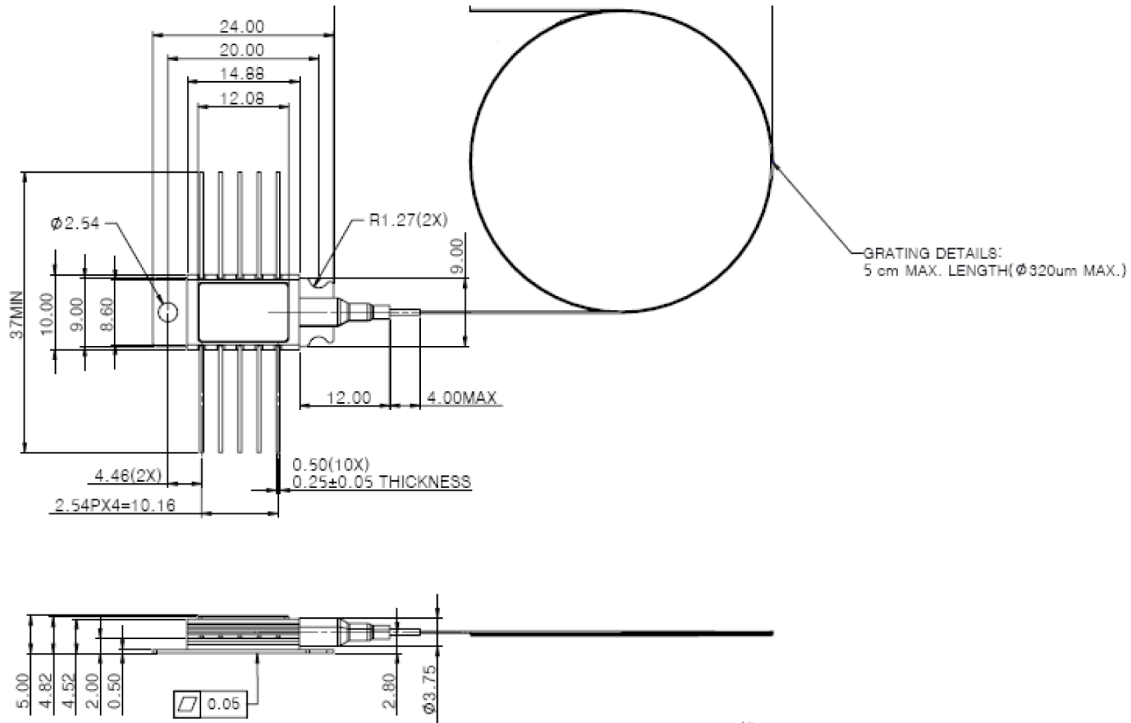
Parameter	Min	Max	Unit
Storage temperature	-40	85	°C
CW laser forward current (10 s max)		1.5	A
Laser reverse voltage		2	V
Heat pump current	-2.2	2.2	A
Heat pump voltage	-3.3	3.3	V
Lead soldering temperature (10 s max)		350	°C
Fiber bend radius	20		mm

### Fiber Characteristics

Parameter	Min	Typ	Max	Unit
Fiber type: Polarization maintaining Nufern PM980-XP or Corning PM 98-U25				
Mode field diameter	5.6	6.6	7.6	μm
Buffer diameter	230	250	270	μm
Pigtail length (module case to fibre end)	2.1			m
Module case to FBG center	1.4			m
Pristine fiber proof test level	200			psi
Fiber pull to housing	150			psi

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## Module Outline Drawing and Pin Connections



Pin	Description	Pin	Description
1	TEC (+)	6	Laser anode (+)
2	Thermistor	7	Laser cathode (-)
3	Monitor anode (-)	8	NC
4	Monitor cathode (+)	9	Package ground
5	Thermistor	10	TEC (-)

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## RoHS Compliance

Coherent is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

## Ordering Information

CM97-1000-76PM	976 nm Mini-Butterfly Laser Diode Pump Module with FBG and PM Fiber
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## Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Coherent before they become applicable to any particular order or contract. In accordance with the Coherent policy of continuous improvement specifications may change without notice. Further details are available from any Coherent sales representative.

## Safety Labels



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.