


# ULTRA High Power 980nm Pump Laser Module - Grating Stabilized, 750mW LC96U\*

www.DataSheet4U.com These lasers are designed as pump sources for erbium doped fiber amplifier (EDFA) applications. Processes and techniques of coupling the fiber to the laser allow high output powers that are very stable with both time and temperature. The grating is located in the pigtail to stabilize the wavelength.

Devices are available with kink free output powers to 750mW.

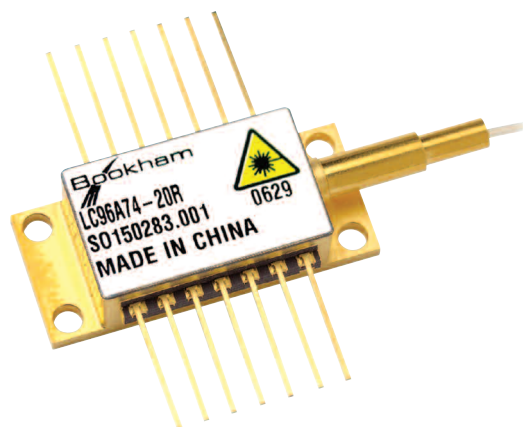
The LC96 'U' series pump module utilises a double Fiber Bragg Grating design for enhanced wavelength and power stability performance. This product has been designed to ensure superior wavelength locking over drive current, temperature and optical feedback changes.

## Features:

- Double Fiber Bragg Grating wavelength stabilization
- Ultra High output power, up to 750mW kink free
- Polarization maintaining fiber pigtail
- Internal thermoelectric heatpump and monitor photodiode
- Hermetically sealed 14 pin butterfly package
- Telcordia GR-468-CORE compliant
- Field proven high reliability
- RoHS compliant 

## Applications:

- Low noise erbium doped fiber amplifiers (EDFAs)
- Dense wavelength division multiplexing (DWDM) EDFAs
- CATV Applications



## Characteristics

Conditions unless otherwise stated:

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

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Kink-free fiber-coupled output power:  
(wavelength = 974nm)

LC96UA74-20R 625mW  
LC96UB74-20R 650mW  
LC96UC74-20R 675mW  
LC96UD74-20R 700mW  
LC96UE74-20R 725mW  
LC96UF74-20R 750mW

Parameter	Min	Typ	Max	Unit
Threshold current ( $I_{th}$ )		40	55	mA
Operating drive current ( $I_f$ )			1080	mA
Forward voltage		2.2	2.6	V
Centre wavelength ( $\lambda_c$ )	973	974	975	nm
Spectrum stability (t = 60 secs)			±0.2	nm
Temperature dependence of peak wavelength			0.02	nm/°C
Monitor detector responsivity	1.0		10	µA/mW
Monitor dark current			50	nA
Thermistor resistance (at 20°C)	11.8	12.3	12.8	kΩ
Power Stability Peak-to-peak, T = 60s, DC to 50kHz sampling, T <sub>c</sub> = 25°C				
>30mW			0.15	dB
20 – 30mW			0.25	dB
10 – 20mW			0.5	dB
Heatpump current ( $\Delta T = 55^\circ\text{C}$ , $I_f = I_f \text{ max}$ )			2.2	A
Heatpump voltage ( $\Delta T = 55^\circ\text{C}$ , $I_f = I_f \text{ max}$ )			3.3	V

## Absolute Maximum Ratings

Parameter	Min	Max	Unit
Operating temperature	-20	75	°C
Storage temperature	-40	85	°C
Laser forward current		1500	mA
Laser reverse voltage		2	V
Heatpump current		2.4	A
Lead soldering temperature (10s max)		350	°C
Fibre bend radius	30		mm

## Package Outline Drawing and Dimensions

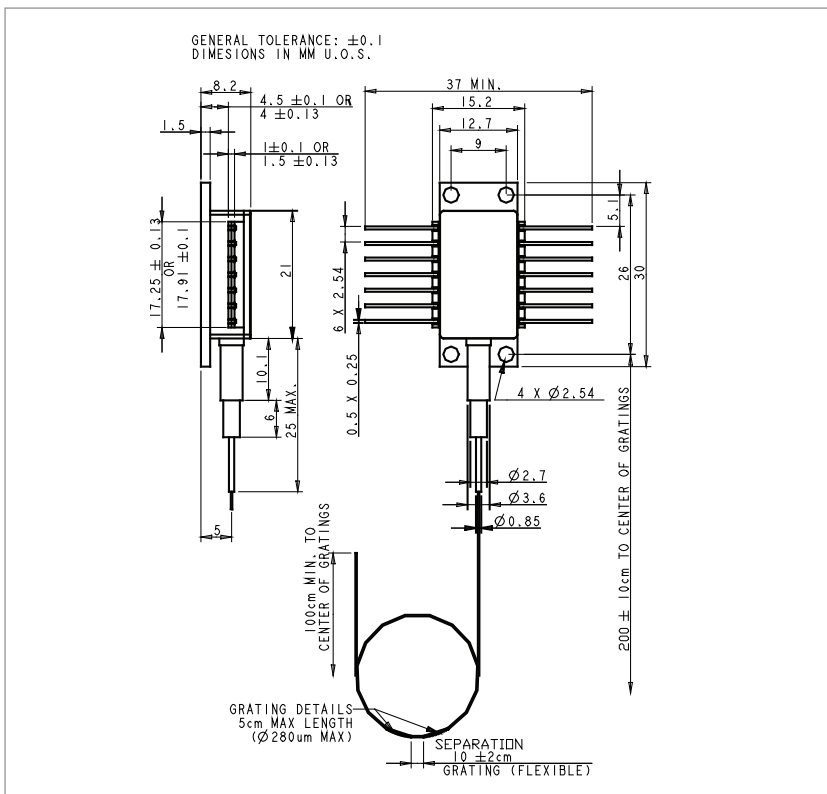


Figure 1: Package Outline Drawing and Dimensions (mm)

### Fiber Specification

Nufern PM980-HP or equivalent 250µm primary coated.

**Connections**

Pin #	Description	Pin #	Description
1	Peltier cooler (+)	8	Not connected
2	Thermistor	9	Not connected
3	Monitor anode (-)	10	Laser anode (+)
4	Monitor cathode (+)	11	Laser cathode (-)
5	Thermistor	12	Not connected
6	Not connected	13	Case ground
7	Not connected	14	Peltier cooler (-)

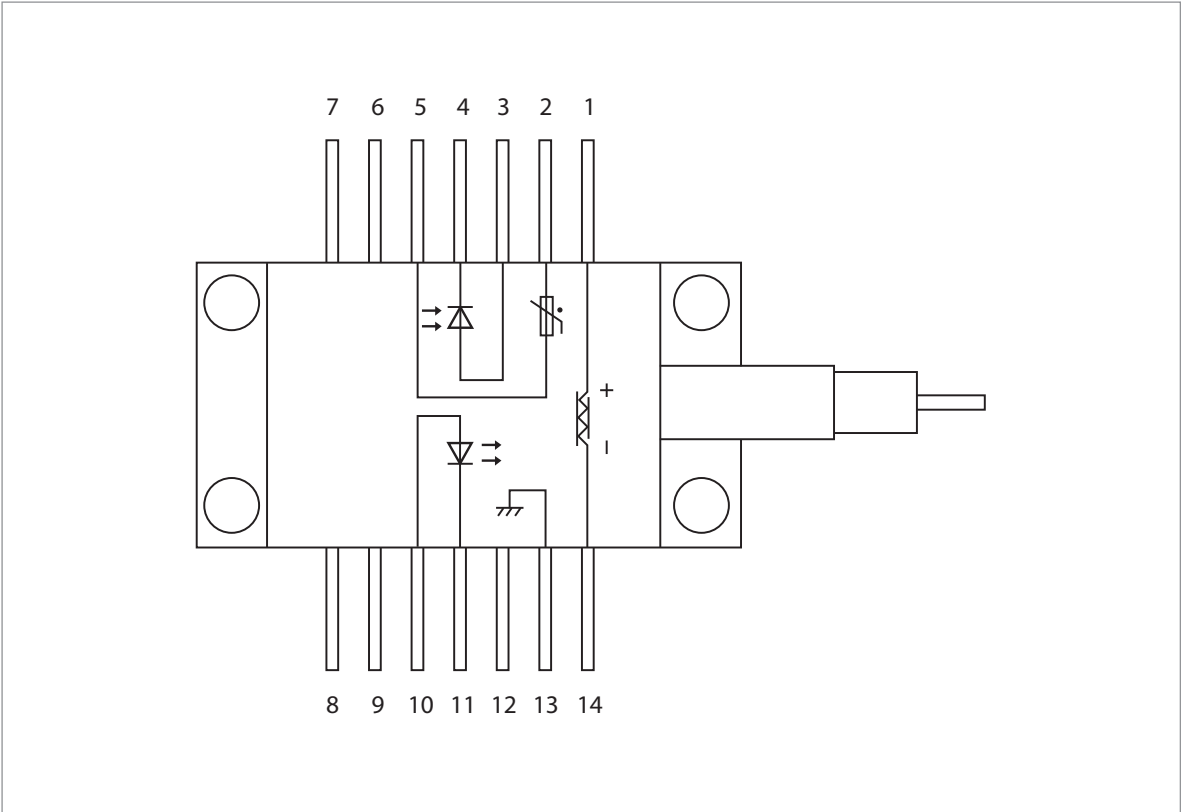


Figure 2: Connections

## RoHS Compliance



Bookham 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:

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LC96UB74-20R 650mW  
LC96UC74-20R 675mW  
LC96UD74-20R 700mW  
LC96UE74-20R 725mW  
LC96UF74-20R 750mW

## Contact Information

### North America Bookham Worldwide Headquarters

2584 Junction Ave.  
San Jose  
CA 95134  
USA

- Tel: +1 408 919 1500
- Fax: +1 408 919 6083

[www.bookham.com](http://www.bookham.com)  
[sales@bookham.com](mailto:sales@bookham.com)

### Europe Paignton Office

Brixham Road  
Paignton  
Devon  
TQ4 7BE  
United Kingdom

- Tel: +44 (0) 1803 66 2000
- Fax: +44 (0) 1803 66 2801

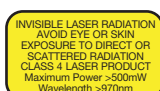
### Asia Shenzhen Office

2 Phoenix Road  
Futian Free Trade Zone  
Shenzhen 518038  
China

- Tel: +86 755 33305888
- Fax: +86 755 33305805  
+86 755 33305807

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Edition 1.2



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