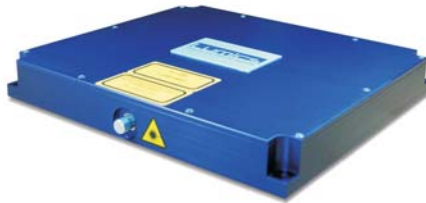




LU0808C070-C Fiber coupled Diode Laser Up to 70W Operation Power



Description:

The Lumics LU0808C070-C series offers an optical output power of up to 70W at 808nm in c.w. operation from a 600µm core diameter fiber. The device consists of hermetically sealed single emitter modules in a rugged industrial package. Long lifetime is ensured due to extensive burn-in testing and screening of the individual single emitter. The performance makes it a valuable tool for various applications.

Features & Functions:

- Wavelength 808nm
- Hermetically sealed and tested single emitters
- 400 or 600µm, NA 0.22 Fiber
- D80 or SMA905 Connector
- Temperature Sensor
- Fiber detectors
- Power monitor
- Red pilot laser

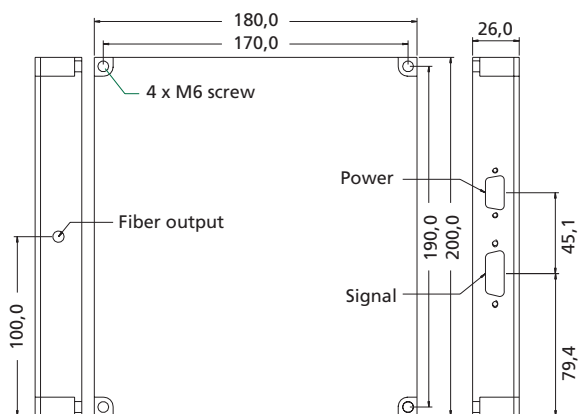
Benefits:

- Custom Interfaces
- Ultra long Lifetime
- Cost effective
- High Efficiency

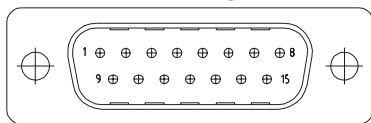
Applications:

- Solid State Laser Pumping
- Material Processing
- Medical Laser Treatment
- Illumination
- Marking

Module Drawing (dimensions in mm)



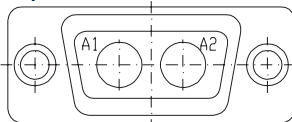
D-Sub 15-pole Signal Connector



| Pin | Function | Pin | Function |
|-----|----------------------------------|---------|-------------------------------------|
| 1 | Fiber Connector V+* | 7 / 8 | Temp. Sensor 1 for Diode Laser* |
| 2 | Fiber Connector Gnd* | 9 | Photo Diode 1 + |
| 3 | Fiber Connector Sensor 1 output* | 10 | Photo Diode 2 +* |
| 4 | Fiber Connector Sensor 2 output* | 11 | Photo Diode Gnd |
| 5 | Pilot Laser +* | 12 / 13 | Temp. Sensor 1 for Fiber Connector* |
| 6 | Pilot Laser - * | 14 / 15 | Temp. Sensor 2 for Diode Laser* |

* = Option

2-pole Pin Connector



| Pin | Function |
|-----|----------------|
| A1 | LD Anode (+) |
| A2 | LD Cathode (-) |

Your ideas are welcome.

Electrical and Optical Characteristics (Laser specifications at 25°C):

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---|--------------|-----------------|-----|----------|------|------|
| C.W. Output Power | | Pop | | 70 | | W |
| Operating Current | | I _{op} | | 4.8 | 5.0 | A |
| Peak Wavelength | LU0808C070-C | λ | 798 | 808 | 818 | nm |
| Spectral Width (FWHM) | | Δλ | | 3 | 5 | nm |
| Threshold Current | | I _{th} | | 850 | 1050 | mA |
| Operating Voltage | | V _f | | 38 | | V |
| Wavelength Tuning vs. Temperature | | Δ / T | | 0.35 | | nm/K |
| Wavelength Tuning vs. Operating Current | | D / I | | 2 | | nm/A |
| Monitor Diode | | | | 0.5 - 20 | | μA/W |
| Temperature Sensor | | NTC | | 10 | | kOhm |

Output Fiber Options

Standard - Bundle of fibers

| | | | | | | |
|--|--|----|-----|------|------|----|
| Length of Fiber Bundle | | | 2 | | | m |
| Fiber Cable Bend Radius | | | 200 | | | mm |
| Core Diameter of Fiber Bundle 105 / 125 μm | | | | 600 | | μm |
| Numerical Aperture | | NA | | 0.15 | 0.19 | |
| D80 Connector on Fiber end | | | | | | |

Option - 400μm fiber

| | | | | | | |
|-------------------------|--|----|-----|------|--|----|
| Length of Fiber | | | 2 | | | m |
| Fiber Cable Bend Radius | | | 150 | | | mm |
| Fiber Core Diameter | | | | 400 | | μm |
| Numerical Aperture | | NA | | 0.22 | | |

Option - D80 Connector on Case

| | | | | | | |
|--|--|----|--|------------|--|----|
| Fiber Core Diameter (please specify) | | | | 400 or 600 | | μm |
| Numerical Aperture | | NA | | 0.22 | | |
| Fiber Connector Sensor Operating Voltage | | | | 12 | | V |
| Fiber Connector Sensor Signal Voltage | | | | 12 / 0 | | V |

Other Option

Red Pilot Beam

| | | | | | | |
|-----------------------|--|--------------|-----|-----|-----|----|
| C.W. Output Power | | at 5V | | 1.0 | 1.5 | mW |
| Peak Wavelength | | as specified | 625 | 650 | 660 | nm |
| Spectral Width (FWHM) | | | | 1 | 2 | nm |
| Operating Voltage | | | | 5 | | V |

Water Cooling Plate

| | | | | | | |
|-------------------|---|--|--|-----|--|----|
| Water Temperature | T | +10 | | +40 | | °C |
| Water Quality | | Industrial Water, no DI-water, filtered particle size <0.1mm | | | | |

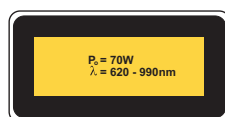
Absolute Maximum Ratings

| Parameter | Symbol | Min | Max | Unit |
|------------------------------|--------------------------|-----|-----|------|
| Storage Temp. | T _{max} | 0 | 60 | °C |
| Operating Case Temp. | T _{op, case} | 10 | 40 | °C |
| LD Forward Current | I _{op, max} | | 5.5 | A |
| LD Reverse Voltage | V _{R, max} | | 2 | V |
| Maximum Power Red Pilot Beam | P _{max, red LD} | | 1.5 | mW |

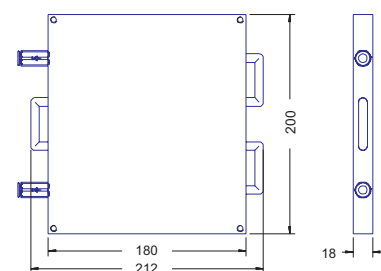
Important Note:

Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

User Safety



Option: Water Cooling Plate:
Dimensions of water cooling plate (mm)
Water flow rate should be >1.5l/min.



Your ideas are welcome.