



LU0808T070 Industrial Laser Diode Up to 7W Operation Power @ 808nm



Description:

The LU0808T070 series offers an optical power of 7W from a 200µm core diameter, NA 0.22 multi-mode fiber. At this common wavelength our Laser Diode offers a very competitive price-performance value for applications in materials processing, illumination and medicine. Very high life time is achieved due to the Lumics proprietary laser diode facet passivation technology and due to extensive burn-in testing.

Features & Functions:

- Wavelength 808nm
- 200µm core diameter, NA 0.22 fiber
- Hermetically sealed single emitter
- Floating anode / cathode
- Direct modulation up to 100 MHz

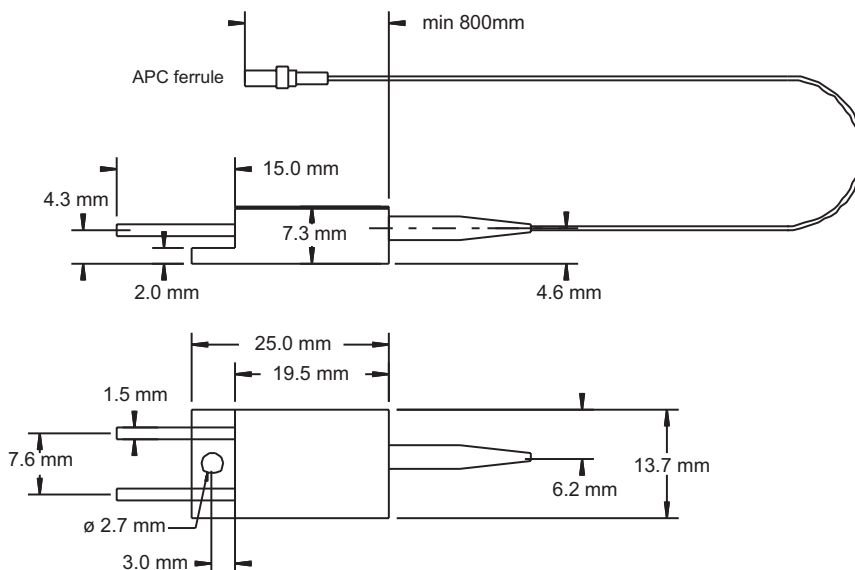
Benefits:

- Ultra long lifetime
- Burn-in tested
- Cost-effective
- Robust design
- Easy to mount

Applications:

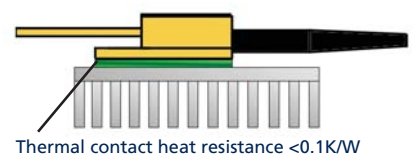
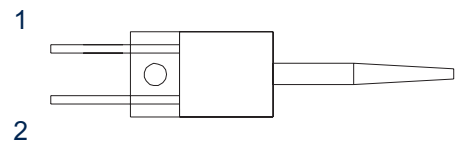
- Printing
- Pumping
- Materials processing
- Illumination
- Medical laser treatment

Modul Drawing (dimensions in mm)



Pin Connections

Pin	Function	Pin	Function
1	LD Anode (+)	2	LD Cathode (-)



Your ideas are welcome.

Electrical and Optical Characteristics Typical Laser specifications at 25°C

Parameter	Symbol	Typical	Unit
Output Power c.w.	LU0808T070 / P _{op}	7	W
Peak Wavelength at P _{op}	λ _{peak}	808 +/-10	nm
Spectral Width (FWHM)	λ _{rms}	4	nm
Threshold Current	I _{th}	1.8	A
Operating Current	LU0808T070 / I _{op}	8.5	A
Operating Voltage	V _{op}	1.9	V
Connector Type (optional)		APC ferrule (*SMA, FC/APC, FC/PC connector)	
Heat Resistance LD to bottom of base plate	R _H	3.5	K / W
Power Conversion Efficiency		42	%
Recommended Case Temperature	T _{op}	20 - 30	°C
Wavelength Shift vs. Temperature		0.35	nm / K
Wavelength Shift vs. Current		1	nm / A
Fiber Specifications			
Fiber Core Diameter		200	μm
Fiber Numerical Aperture	NA	0.22	
Fiber Cladding Diameter		240	μm
Fiber Buffer Diameter		320-400	μm
Fiber Length		1	m
Min. Bend Radius		100	mm

Application Note:

- (1) For pulsed operation max peak power can be 1.2xPop if pulse time is <100μsec and average power is lower than Pop (c.w.)
- (2) Keep the heat sink at <= 35°. The heat sink should have a flatness of better than 0.02mm and a roughness grade not less than N7 (i.e. Ra=1.6μm)
- (3) A conductive material between TO-220 laser diode module and the modul base is highly recommended. The thermally conductive material should have a sufficient thickness and elasticity to compensate for the non-planarity between the module base and the heat sink surface
- (3) Electrostatic discharge (ESD) can lead to latent or catastrophic failure of a multimode laser diode module
- (4) The power supply should have a transient suppression and an over-voltage protection. Before connecting the module to the power supply and during Power-off the power supply output should be short circuited
- (5) By no means should the fiber be touched by hot solder because this can lead to lower output performance and reliability. During the soldering process the fiber temperature should always be below 85°C

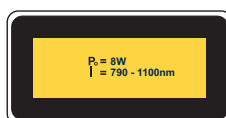
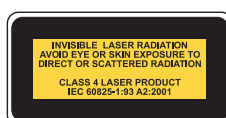
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T _{max}	-30	70	°C
Operating Case Temp.	T _{op, case temp.}	-10	40	°C
Maximum Processing Temp.-max 10sec.	T _{op, Processing}		180	°C
LD Forward Current c.w.	I _{op, max}		10	A
LD Reverse Voltage	V _{R, max}		2	V
Rel. Humidity		0	85	%

Note:

Absolute maximum ratings may be applied to the laser module for short periode of time only. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the device

User Safety



Your ideas are welcome.