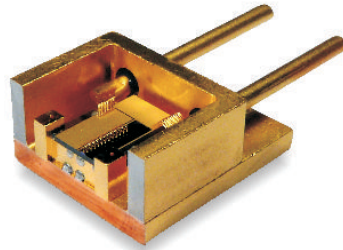


## LU1064U120 Industrial Laser Diode Up to 12W c.w. / 16W Pulsed Power @ 1064nm



### Description:

The Lumics LU1064U120 laser chip contains an optimized GaInAsP / AlGaAs quantum well laser structure on GaAs substrate. The extremely stringent reliability requirements are achieved through our proprietary patent facet passivation technology. The process includes careful design, exactly defined manufacturing and extensive burn-in testing. The qualification contains life time tests and a set of thermal and mechanical tests. Each laser chip is individually serialized for traceability and is shipped with a specified set of test data. Applications are in solid state laser pumping, illumination, printing or medical treatment.

### Features:

- High c.w. / Pulse Power
- Mounting Poles for FAC / SAC
- 910 - 985nm

### Functions:

- Single Emitter
- 48h Burn In
- Easy to Mount

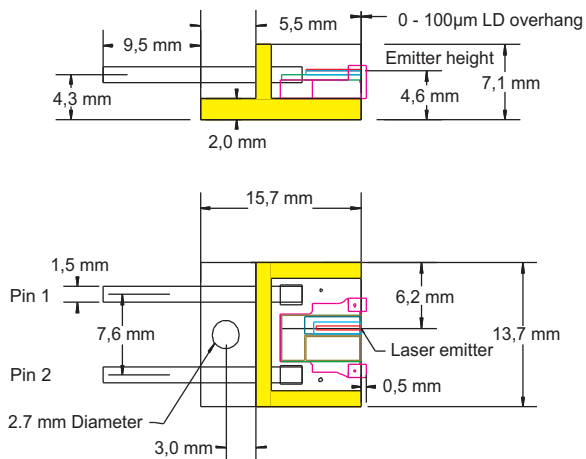
### Benefits:

- Cost Effective
- Easy to Handle
- OEM-quantities

### Applications:

- Plastics Welding
- Illumination
- Medical Treatment
- Marking

### Module Drawing (dimensions in mm)



### Pin Connections

Contact Pad	Function
-	LD Anode (+)
+	LD Cathode (-)

Your ideas are welcome.

## Typical Electrical and Optical Characteristics

Parameter	Symbol	LU1064U120	Unit
Emitter Width	W	190	µm
c.w. Operating Power	P <sub>op (c.w.)</sub>	12	W
c.w. Operating Current	I <sub>op (c.w.)</sub>	14.2	A
Pulsed (1) Operating Power	P <sub>op (&lt; 30µsec pulse / &lt; 30% d.c.)</sub>	16	W
Pulsed (1) Operating Current	I <sub>op (&lt; 30µsec pulse / &lt; 30% d.c.)</sub>	19.5	A
Threshold Current	I <sub>th</sub>	840	mA
Forward Voltage	V <sub>op</sub>	2	V
Slope Efficiency	λ <sub>diff</sub>	0.9	W / A
Peak Wavelength	λ <sub>peak</sub>	1064 +/-10	nm
Spectral Width (FWHM)	λ <sub>rms</sub>	4	nm
Beam Divergence (horizontal) <sup>(2)</sup>		7	deg
Beam Divergence (vertical) <sup>(2)</sup>		30	deg
AR Reflectivity <sup>(3)</sup>	r <sub>f</sub>	2	%
HR Reflectivity	r <sub>r</sub>	95	%
Spectral Shift with Temp.	λ <sub>T_shift</sub>	0.3	nm / K
Spectral Shift with Current	λ <sub>P_shift</sub>	1	nm / A
Operating Temp.	T <sub>op</sub>	20 - 30	°C

### Important Notes:

- (1) Typical pulse condition: pulse <100µsec / d.c. 1%
- (2) FWHM at Pop
- (3) Optionally other coatings are offered on request

## Absolute Maximum Ratings

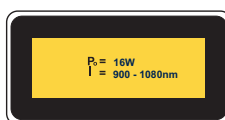
Parameter	Symbol	Min	Max	Unit
LD c.w. Forward Current	I <sub>op, (c.w.) max</sub>		16	A
LD pulsed (<30µsec) Forward Current	I <sub>op, (pulsed) max</sub>		22	A
LD Reverse Voltage	V <sub>R, max</sub>		2	V
Maximum Processing Temp. <sup>-max. 10sec</sup>	T <sub>Op, Processing max</sub>		180	°C
Rel. Humidity, Storage Temperature and Operating Heat Sink Temperature <sup>(1)</sup>				

### 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.

- (1) Operating Temperature and Rel. Humidity must be choosen such that the dewpoint of humid air around the laser diode is below the operating heat sink temperature to avoid condensing of water on the laser diode facet.

## User Safety



Your ideas are welcome.