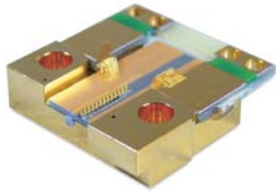


## LU1064Fyyy 1064nm Laser Diode on F-Mount Up to 12W c.w. and 16W in pulsed mode



### Description:

The LU1064Fyyy series offers high optical output power of up to 12W in c.w. operation. Long lifetime is ensured due to the Lumics proprietary laser diode facet passivation technology. This performance makes them a valuable tool for the highly efficient medical laser treatment. Further important applications are micro material processing with exceptional power densities and illumination applications.

### Features & Functions:

- Wavelength 1064nm
- Burn-in tested
- Up to 12W c.w. operation
- Up to 16W peak power
- 94 or 190µm emitter
- Screw holes for mounting
- Mounted on copper base
- Electrically isolated
- Option: FAC lens

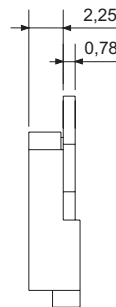
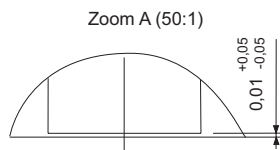
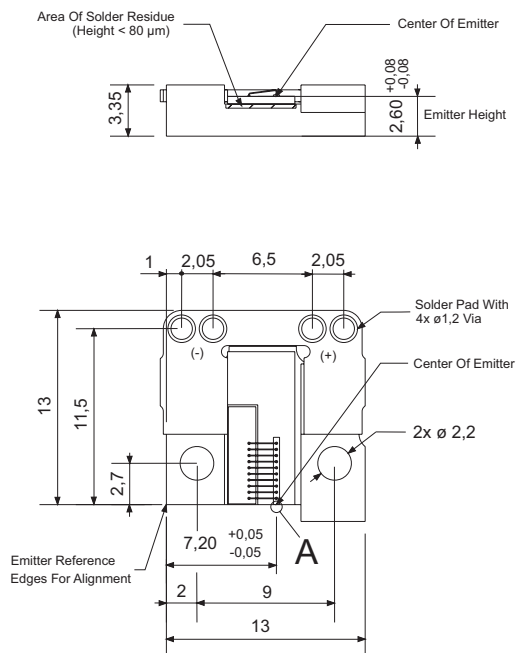
### Benefits:

- Small footprint
- High reliability
- Field proven reliability

### Applications:

- Pumping (SSL)
- Fiber Laser pumping
- Plastic welding
- Marking
- Illumination
- Medical treatment

### Drawing (dimensions in mm)

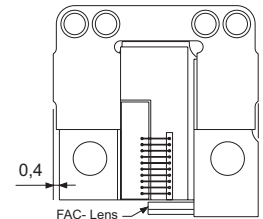


### Connections

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

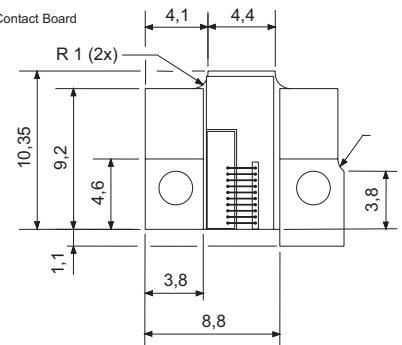
#### Option

Additional FAC-Lens



#### Option

Without Contact Board



**Your ideas are welcome.**

## Typical Electrical and Optical Characteristics

Parameter	Symbol	LU1064F090	LU1064F120	Unit
Emitter Width	W	94	190	µm
c.w. Operating Power	P <sub>op (c.w.)</sub>	9	12	W
c.w. Operating Current	I <sub>op (c.w.)</sub>	11	14.2	A
Pulsed (1) Operating Power	P <sub>op (&lt; 30µsec pulse / &lt; 30% d.c.)</sub>	12	16	W
Pulsed (1) Operating Current	I <sub>op (&lt; 30µsec pulse / &lt; 30% d.c.)</sub>	15.1	19.5	A
Threshold Current	I <sub>th</sub>	500	1000	mA
Forward Voltage	V <sub>op</sub>	2	2	V
Slope Efficiency	λ <sub>diff</sub>	0.9	0.9	W / A
Peak Wavelength	λ <sub>peak</sub>	1064+/-10	1064+/-10	nm
Spectral Width (fwhm)	λ <sub>rms</sub>	4	4	nm
Beam Divergence (horizontal) <sub>(2)</sub>	slow axis	7	7	deg
Beam Divergence (vertical) <sub>(2)</sub>	fast axis	30	30	deg
AR Reflectivity <sub>(3)</sub>	r <sub>f</sub>	2	2	%
HR Reflectivity	r <sub>r</sub>	95	95	%
Spectral Shift with Temp.	λ <sub>T_shift</sub>	0.3	0.3	nm / K
Spectral Shift with Current	λ <sub>P_shift</sub>	0.5	0.5	nm / A
Operating Temp.	T <sub>op</sub>	20 - 30	20-30	°C

### Option: FAC lense

Fast axis (vertical) divergence	NA	< 3	< 3	mrad
Vertical width of the beam		< 0.8	< 0.8	mm

### 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	LU1064F090	LU1064F120	Unit
LD c.w. Forward Current	I <sub>op, (c.w.) max</sub>	12	16	A
LD pulsed (<30µsec) Forward Current	I <sub>op, (pulsed) max</sub>	16	22	A
LD Reverse Voltage	V <sub>R, max</sub>	2	2	V
Maximum Processing Temperatures:				
Solder pads for LD contacts / max 5sec.	T <sub>Op max, solder pad</sub>	250	250	°C
Soldering of Cu base block / max 5sec.	T <sub>Op max, Cu base</sub>	150	150	°C

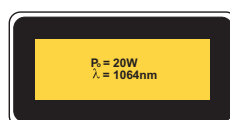
### Note:

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.

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.

This product contains 1.5% BeO as solid fully metallized ceramic (CAS Number 1304-56-9), 0.05% of solid metallized InAlGaAsP crystal, as well as 0.05% Pb (CAS Nummer 7439-92-1)

## User Safety



Your ideas are welcome.