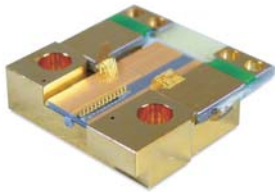


LU0808Fyyy 808nm Laser Diode on F-Mount Up to 9W c.w. or 13W in pulsed operation



Description:

The LU0808Fyyy series offers an optical power of 9W. 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 808nm
- Up to 9W c.w. operation
- Up to 13W peak power
- 94µm and 190µm emitter
- Screw holes for mounting
- Mounted on copper base
- Electrically isolated
- Option: FAC lenses mounted

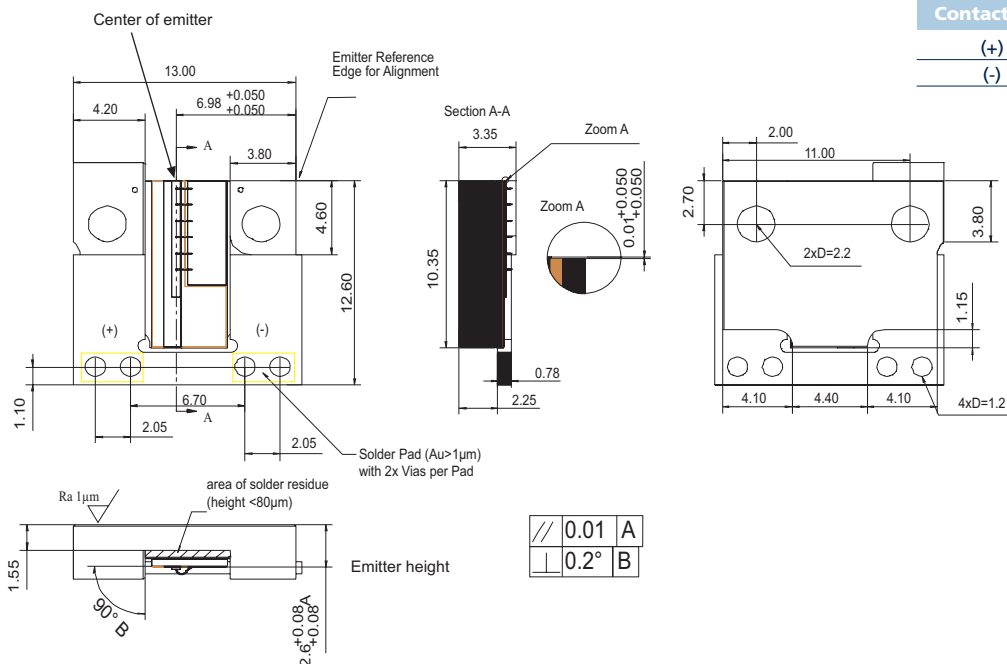
Benefits:

- Small footprint
- High reliability
- Field proven reliability

Applications:

- Pumping (SSL)
- Plastic welding
- Illumination
- Medical treatment

Drawing (dimensions in mm)



Connections

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

Your ideas are welcome.

Typical Electrical and Optical Characteristics

Parameter	Symbol	LU0808F050	LU0808F090	Unit
Emitter Width	W	94	190	µm
c.w. Operating Power	P _{op (c.w.)}	5	9	W
c.w. Operating Current	I _{op (c.w.)}	5.2	9.6	A
Pulsed (1) Operating Power	P _{op (< 30µsec pulse / < 30% d.c.)}	7	13	W
Pulsed (1) Operating Current	I _{op (< 30µsec pulse / < 30% d.c.)}	8.2	15	A
Threshold Current	I _{th}	1000	2100	mA
Forward Voltage	V _{op}	1.8	1.9	V
Slope Efficiency	λ _{diff}	1.2	1.1	W / A
Peak Wavelength	λ _{peak}	808+/-10	808+/-10	nm
Spectral Width (fwhm)	λ _{rms}	3	3	nm
Beam Divergence (horizontal) ⁽²⁾	slow axis	8	8	deg
Beam Divergence (vertical) ⁽²⁾	fast axis	28	28	deg
AR Reflectivity ⁽³⁾	r _f	3-5	3-5	%
HR Reflectivity	r _r	95	95	%
Spectral Shift with Temp.	λ _{T_shift}	0.3	0.3	nm / K
Spectral Shift with Current	λ _{P_shift}	0.5	0.5	nm / A
Operating Temp.	T _{op}	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

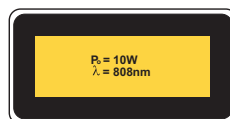
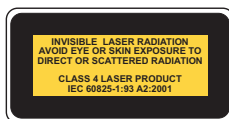
Parameter	Symbol	LU0808F050	LU0808F090	Unit
LD c.w. Forward Current	I _{op, (c.w.) max}	6	10.5	A
LD pulsed (<30µsec) Forward Current	I _{op, (pulsed) max}	9	16	A
LD Reverse Voltage	V _{R, max}	2	2	V
Maximum Processing Temp. _{max, 10sec}	T _{Op, Processing max}	170	170	°C
Rel. Humidity, Storage Temperature and Operating Heat Sink Temperature ⁽¹⁾				

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.