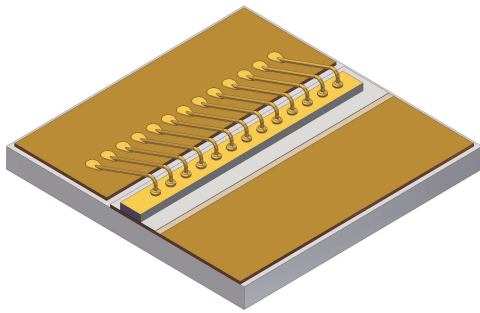


LU0785I050 and LU0808I050 785 nm and 808 nm Laser Diode on Submount Up to 5W c.w.



Features & Functions:

- Wavelength 785, 808 nm
- Up to 5W c.w. operation
- 94µm emitter width
- Burn-in tested single emitter

Benefits:

- Electrically isolated
- Very small footprint
- Efficient heat sink
- High reliability
- OEM quantities

Description:

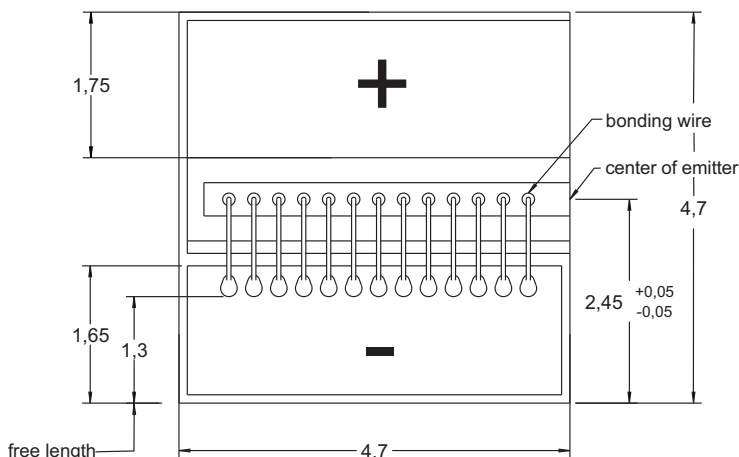
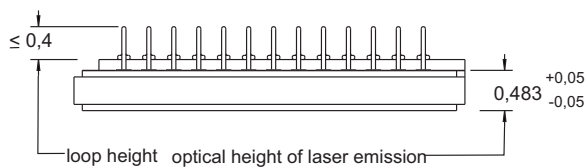
The LU07/8xxlyyy series laser diodes contains a highly optimized AlGaInAsP/AlGaAs quantum well laser structure on GaAs substrate. Long lifetime is achieved through the Lumics proprietary laser diode facet passivation technology. The process includes careful design, precisely defined manufacturing and extensive burn-in testing of each individual emitter. The device qualification includes life time testing and a set of thermal and mechanical tests.

Each laser diode chip is individually serialized for traceability, and is shipped with a specified set of test data. Applications are mainly in solid state laser pumping, illumination, printing or medical treatment.

Applications:

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

Drawing (dimensions in mm)



Connections

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

Surface Finish

Top / Bottom Ni / (Au ≥ 0,5µm)

all dimensions in millimeter

Your ideas are welcome.

Electrical and Optical Characteristics (at 25°C (T_{chip} and T_{case}) and Begin of Life (BOL)):

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Emitter Width		W		94		µm
Operating Power	c.w.	P _{op}		5		W (1)
Operating Current		I _{op}		5.5		A
Pulsed Operating Power	(< 100µsec pulse / < 10% d.c.)	P _{op_puls}		6		W
Pulsed Operating Current	(< 100µsec pulse / < 10% d.c.)	I _{op_puls}		6		A
Threshold Current		I _{th}		0.9		A
Forward Voltage	at I _{op}	V _{op}		1.85		V
Peak Wavelength	LU0785	λ _{peak}	780	785	790	nm
	LU0808	λ _{peak}	803	808	812	nm
Spectral Width (FWHM)	λ _{FWHM}			2		nm
Beam Divergence (horizontal) (2)	slow axis			7		deg
Beam Divergence (vertical) (2)	fast axis			22		deg
Polarisation Extinction Ratio	I _{op} (E-vector perpendicular to top surface - TM)	PER		8		dB
AR Reflectivity (3)		r _f		3		%
HR Reflectivity		r _r		95		%
Spectral Shift with Temp.		λ _{T_Shift}		0.3		nm / K
Spectral Shift with Current		λ _{P_Shift}		0.8		nm / A

Important Notes:

- (1) Requires thermal interface resistance between laser diode submount and heat sink of 0.1K/W by soldering to heat sink
- (2) FWHM
- (3) Other coatings are offered on request

Absolute Maximum Ratings

Parameter	Symbol	LU0785_808I050	Unit
LD c.w. Forward Current	I _{op, (c.w.) max}	6	A
LD pulsed (<100µsec, <10% d.c.) Forward Current	I _{op, (pulsed) max}	7	A
LD Reverse Voltage	V _{R, max}	2	V
Maximum Processing Temperatures:			
Soldering to heat sink base / max 10sec.	T _{op max, base}	250	°C

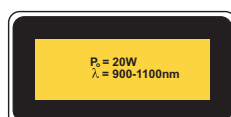
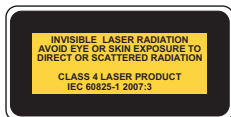
Notes:

Absolute Maximum Ratings may be applied to the laser module for short periods of time only. Exposure to maximum ratings for extended periods 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 chosen 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 0.05% of solid metallized InAlGaAsP crystal and uses an ALN ceramic

User Safety



Your ideas are welcome.