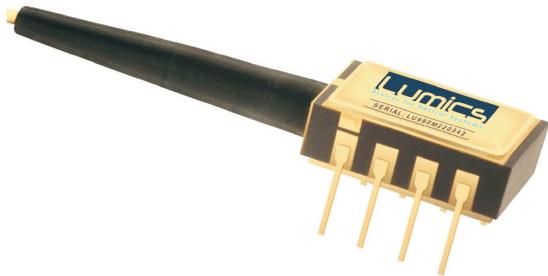


LU0977M250-2 Mini DIL Uncooled 977nm Single Mode Laser Module c.w. or pulsed mode



The single mode fiber pigtailed laser diode module contains an optimized GaAs substrate based quantum well high power laser diode. The extremely stringent reliability requirements are achieved through our patent pending innovative technology. This includes careful design, exactly defined manufacturing and extensive testing. The qualification contains a set of optoelectronic, thermal and mechanical tests. Each laser diode module is individually serialized for traceability and is shipped with a specified set of test data.

Features & Functions:

- Wavelength 977nm
- Up to 250 mW c.w. operating power
- Rise time < 2nsec
- Uncooled 0°C - 70°C operation

Options:

- FBG-option

Benefits:

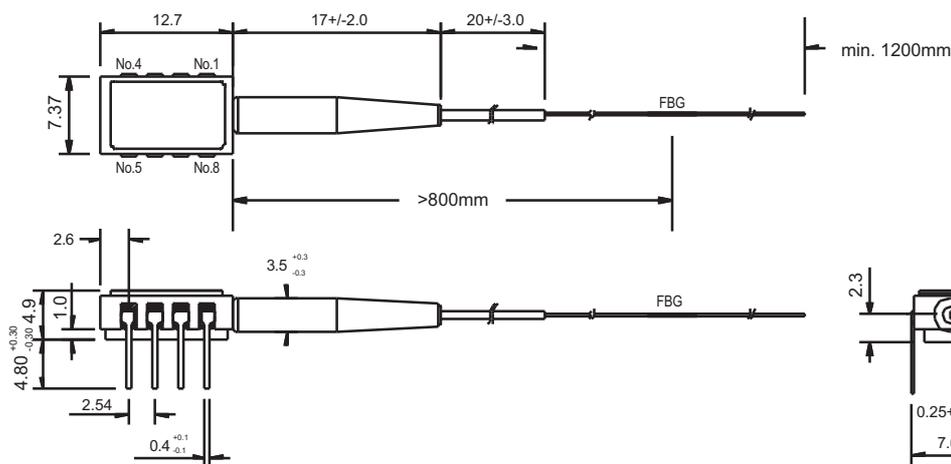
- All laser welded
- Field proven reliability
- Hermetic sealing
- Telcordia compliant package
- RoHS compliant

Applications:

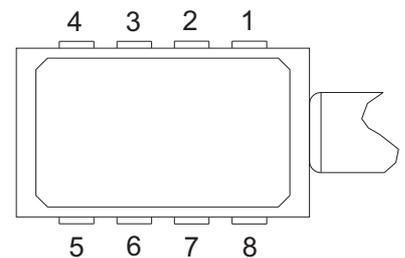
- Sensor applications
- Pumping
- Seeder for fiber lasers
- Frequency doubling

Module Drawing (dimensions in mm):

Dimensions in mm
General tolerance
(unless otherwise specified): +/-0.2



Pin Connections:



Pin	Connection
1	Thermistor
2	Package ground
3	Thermistor
4	Photodiode (-)
5	Photodiode (+)
6	Laser diode (-)
7	Laser diode (+)
8	not connected

We manufacture diode lasers.

Electrical and Optical Characteristics (at 0° to 70°C (T_{case}) and Begin of Life (BOL)):

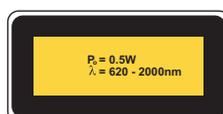
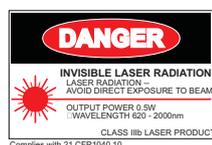
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Operating power	c.w., case 0°C	P _{op}		250		mW
Operating current	c.w., case 0°C	I _{op}		440	490	mA
Operating power	c.w., case 25°C	P _{op}		250		mW
Operating current	c.w., case 25°C	I _{op}		450	500	mA
Operating power	c.w., case 70°C	P _{op}		250		mW
Operating current	c.w., case 70°C	I _{op}		490	540	mA
Rise and fall time				2		nsec
Threshold current	c.w.	I _{th}	45	65	100	mA
Forward voltage	at I _{op}	V _{op}		1.7	1.8	V
Peak wavelength λ _{peak}	at P _{op} with FBG	λ	976	977	978	nm
Spectral width (FWHM)	at P _{op} with FBG	Δ λ			1	nm
Spectral shift with temp.	FBG Temp.	Δ / T			0.02	nm/ °C
Side mode suppression	at P _{op} with FBG			20		dB
Monitor responsivity		R	0.1	3	10	μA / mW
Monitor dark current				5	40	nA
Thermistor resistance	T=25°C	R _{th}	9.5	10	10.5	kOhm
Thermistor B constant		B	3850	3950	4050	K
Steinhart-Hart-Equation coefficients	C ₁ = 1.1292E-03 / C ₂ = 2.3411E-04 / C ₃ = 8.7755E-08					
Large signal modulation bandwidth			100			MBit/s
Other Specifications						
Fiber type	single mode (similar to HI1060)					

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage temp.	T _{max}	-40	85	°C
Operating case temp.	T _{op, case}	0	70	°C
Soldering temp. (max. 10sec)		260		°C
LD forward current (c.w.)	I _{op max}		700	mA
LD forward current (Pulse 100ns 3% D.C.)			1	A
LD reverse voltage	V _{R, max}		2	V
Monitor forward current	I _{F, PD}		5	mA
Monitor reverse voltage	V _{R, PD}		20	V
ESD damage (1)			500	V
Fiber pigtail bend radius	HI 1060		25	mm

(1) A standard human body model (1.5kOhm, 1000pF) is used for ESD thresholds

User Safety



We manufacture diode lasers.