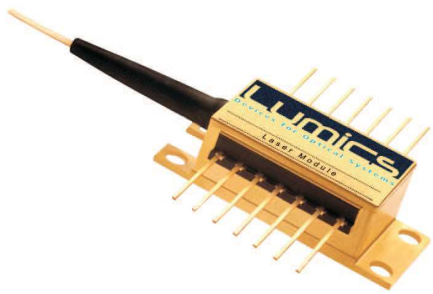




LU1064M300-1006F30H 1064 nm Single Mode Laser Module up to 300 mW c.w. Operating Power



Description:

The Lumics single mode laser module contains an optimized GaAs substrate based quantum well high power laser diode. It has been designed for customer specific applications and is available with special FBG's and fibers. 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:

- Single mode pigtail
- Cooled 14pin package
- Telcordia compliant package
- RoHS compliant

Options:

- FBG-options
- Low rise <1 ns
- Narrow and ultranarrow linewidth
- Connector incl. 900µm protection tube

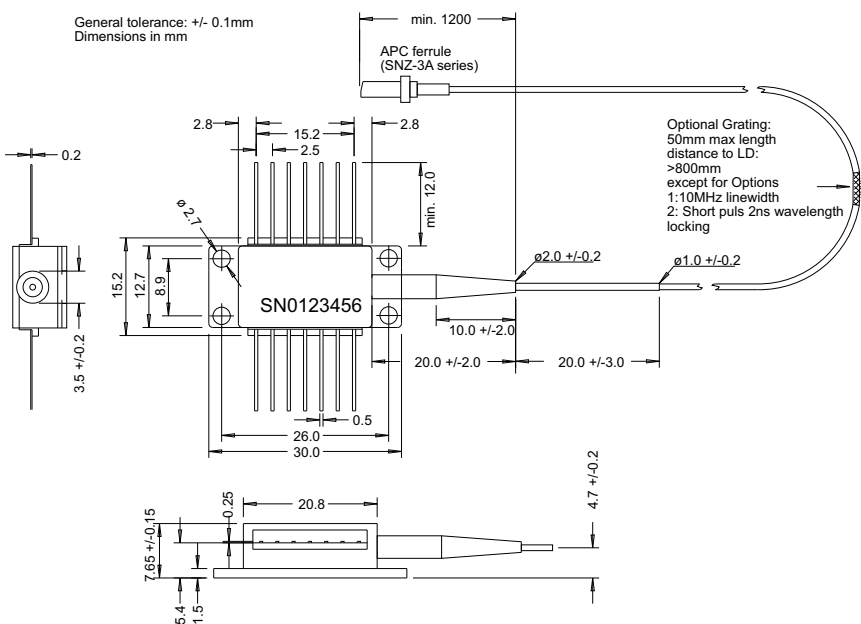
Benefits:

- All laser welded
- Field proven reliability
- Hermetic sealing

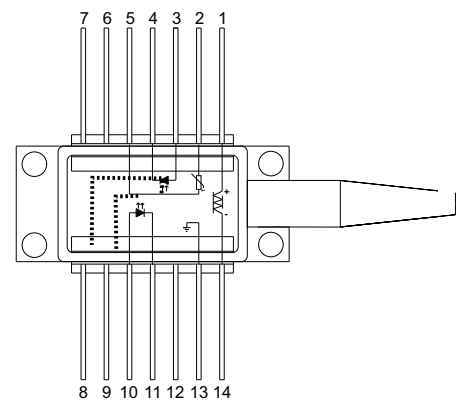
Applications:

- Sensor applications
- Analytical instruments
- Pumping and seeding
- Printing

Module Drawing (Dimensions in mm)



Pin Connections



Pin	Function	Pin	Function
1	Cooler (+)	8	(*) LD Cathode (-)
2	Thermistor	9	(*) LD Anode (+)
3	PD Anode (+)	10	LD Anode (+)
4	PD Cathode (-)	11	LD Cathode (-)
5	Thermistor	12	nc
6	nc	13	Case ground
7	nc	14	Cooler (-)

(*) Optional low inductive

We manufacture diode lasers.

Typical laser specifications at 25°C (*) (at 25°C (T_{chip} and T_{case}) and Begin of Life (BOL)):

Parameter	Conditions	Symbol	Min	Typ	Max	Unit	
Operating Power	c.w.	P _{op}		300		mW	
Operating Current	c.w.	I _{op}		490	600	mA	
Peak Power	<=100ns d.c.<50% in 0.8µs periode>=15µs	P _{peak}		1000		mW	
Peak Current	<=100ns d.c.<50% in 0.8µs periode>=15µs	I _{peak}			1.7	A	
Rise and fall time (requires appropriate driver)				1		nsec	
Threshold Current		I _{th}		70		mA	
Forward Voltage	at I _{op}	V _{op}		1.65		V	
Forward Voltage	at Peak Power V _{op_puls}			2.2		V	
Peak Wavelength λ _{peak}	at P _{op}	λ	1063	1064	1065	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	0.02	1	5	µA / mW	
TEC Current at Pop	chip 25°C, case 70°C	I _{TEC}		0.8		A	
TEC Voltage at Pop	chip 25°C, case 70°C	V _{TEC}		1.6		V	
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			160			MBit/s	
Other Specifications							
Fiber Type	single mode (similar to HI1060)						
FBG distance and Chip wavelenth such that wavelengh locks in pulsed mode within chip operating temperature range							
FBG distance to chip						45	mm

General Parameters / Accessories

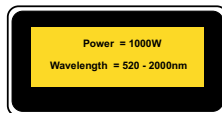
Parameter	Symbol	Min	Typ	Max	Unit
Storage temp.	T _{max}	-40		85	°C
Operating case temp.	T _{op, case}	-20		70	°C
Operating chip temp.	T _{op, chip}	20		40	°C
Soldering temp. (max. 10sec)		260			°C
LD reverse voltage	VR, max			2	V
Monitor forward current	IF, PD			5	mA
Monitor reverse voltage	VR, PD			20	V
TEC current	ITEC			2.5	A
TEC voltage	VTEC			3.2	V
ESD damage (1)		500		V	
Fiber pigtail bend radius				25	mm

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

Note:

Absolute maximum rating for the laser diode operating current in cw mode may be applied for short period of time only (<10s). 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.

User Safety



Important Note Read and carefully follow operating manual instructions. Especially, whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage. This product is not certified by with IEC 60825-1 or 21CFR1040.10/ 21CFR1040.11 and must comply with the applicable regulations by the Purchaser if sold as laser product.

We manufacture diode lasers.