


Pulsed 1064nm / 1030nm Narrow Bandwidth FBG High Power Laser Diode Module

LC96A1064NBFBG-20R

LC96A1030NBFBG-20R

Features:

- High pulse output power, up to 1W peak
- Wavelength stabilized at 1064nm or 1030nm
- Narrow bandwidth emission of <0.3nm
- Short pulse operation of 5ns-500ns
- Polarization maintaining single mode optical fiber
- Internal thermoelectric heat pump and monitor diode
- Hermetically sealed 14-pin butterfly package
- RoHS compliant 

Applications:

- Fiber lasers
- Frequency conversion
- Spectroscopy



The Oclaro LC96A10xNBFBG-20R wavelength stabilized high power single mode laser module has been designed as a light source for pulsed narrow bandwidth fiber laser and direct frequency conversion applications. Processes and techniques of coupling the fiber to the laser allow high peak output powers that are very stable with both time and temperature. A narrow bandwidth grating located in the polarization maintaining optical fiber close to the package allows for short pulse operation.

Characteristics

Conditions unless otherwise stated:

Case temperature -20 to +75°C

Submount temperature 25°C

Monitor diode bias -5 V

CW operation

Parameter	Min	Typ	Max	Unit
Threshold current (I_{th})	10	30	50	mA
Operating power at 750mA	300	350		mW
Operating pulsed peak power (<500ns / 500kHz)				
• LC96A1064NBFBG-20R	700	1000		mW
• LC96A1030NBFBG-20R	500	750		
Operating pulsed peak current (<500ns / 500kHz)				
• LC96A1064NBFBG-20R			2	A
• LC96A1030NBFBG-20R			1.5	
Forward voltage (V_f)		1.5	2.5	V
Peak wavelength (λ_f)				
• LC96A1064NBFBG-20R	1063	1064	1065	nm
• LC96A1030NBFBG-20R	1029	1030	1031	nm
Spectral width FWHM ($\Delta\lambda$, pulsed)			0.3	nm
Pulse width (t_{pw})	5		500	ns
Repetition rate (f_{rr})			500	kHz
Duty cycle (d.c.)			2	%
Rise time (t_{rs})			1.6	ns
Monitor detector responsivity	0.3	1.0		$\mu\text{A}/\text{mW}$
Monitor dark current			10	nA
Thermistor resistance (at 25°C)	9.5	10	10.5	k Ω
Heat pump current ($\Delta T = 50^\circ\text{C}$, $I_f = I_f \text{ max}$)			1.5	A
Heat pump voltage ($\Delta T = 50^\circ\text{C}$, $I_f = I_f \text{ max}$)			3.0	V
Polarization extinction ratio	10	13		dB

Absolute Ratings

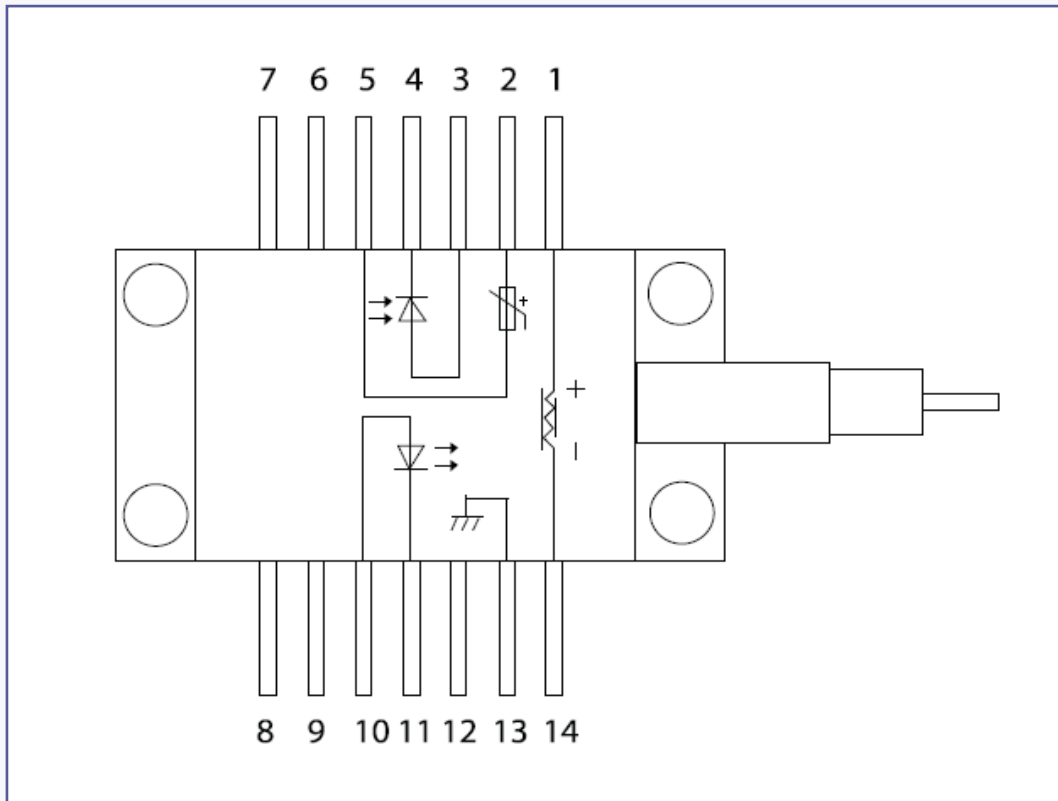
Parameter	Min	Max	Unit
Storage temperature	-40	85	°C
CW laser forward current (10s max)		1000	mA
Laser reverse voltage		2	V
Heat pump current		2.2	A
Lead soldering temperature (10s max)		260	°C
Fiber bend radius	30		mm

Fiber Characteristics

Parameter	Min	Typ	Max	Unit
Fiber type: Polarization maintaining Nufern PM980-HP or equivalent (e.g. Fujikura SM98)				
Mode field diameter	5.6	6.6	7.6	μm
Buffer diameter	230	250	270	μm
Optical length (module to fiber end)	0.7			m
Lens to FBG center	12	14	16	cm
Pristine fiber proof test level	200			psi
FBG proof test level	150			psi

Connections

Pin #	Description	Pin#	Description
1	Peltier cooler (+)	8	Not connected
2	Thermistor	9	Not connected
3	Monitor anode (-)	10	Laser anode (+)
4	Monitor cathode (+)	11	Laser cathode (-)
5	Thermistor	12	Not connected
6	Not connected	13	Case ground
7	Not connected	14	Peltier cooler (-)



RoHS Compliance



Oclaro is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

Ordering Information

LC96A1064NBFBG-20R	1064nm Narrowband FBG High Power Laser Diode Module
LC96A1030NBFBG-20R	1030nm Narrowband FBG High Power Laser Diode Module

Contact Information

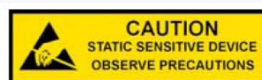
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