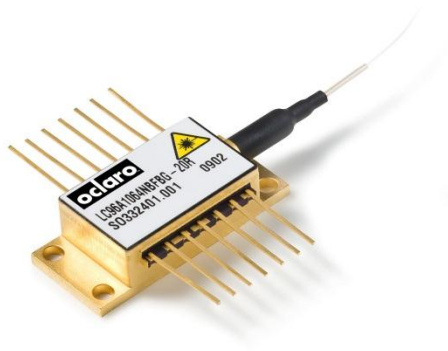
Data Sheet

Pulsed 1064nm Broad Bandwidth FBG High Power Laser Diode Module

LC96A1064BBFBG-20R



The Oclaro LC96A1064BBFBG-20R wavelength stabilized high power single mode laser module has been designed as a light source for pulsed fiber laser 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 broad bandwidth grating located in the polarization maintaining optical fiber close to the package allows for short pulse operation.

Features:

- High pulse output power, up to 1W peak
- Wavelength stabilized at 1064nm
- Broad bandwidth emission of typ. 0.9nm
- 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
- Sensing

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	10	30	50	mA
CW Operating power at 750mA	300	350		mW
Operating pulsed peak power (<500ns / 500kHz)	0.7	1		W
Operating pulsed peak current (<500ns / 500kHz)			2	A
Forward voltage		1.5	2.5	V
Peak wavelength	1063	1064	1065	nm
Spectral width (FWHM)		0.9	2	nm
Pulse width	5		500	ns
Repetition rate			500	kHz
Duty cycle			2	%
Rise time			1.6	ns
Monitor detector responsivity	0.3	1.0		µA/mW
Monitor dark current			10	nA
Thermistor resistance (at 25°C)	9.5	10	10.5	kΩ
Heat pump current (ΔT = 50°C, If = If max)			1.5	A
Heat pump voltage (ΔT = 50°C, If = If max)			3.0	V
Polarization extinction ratio		13		dB

Absolute Maximum Ratings

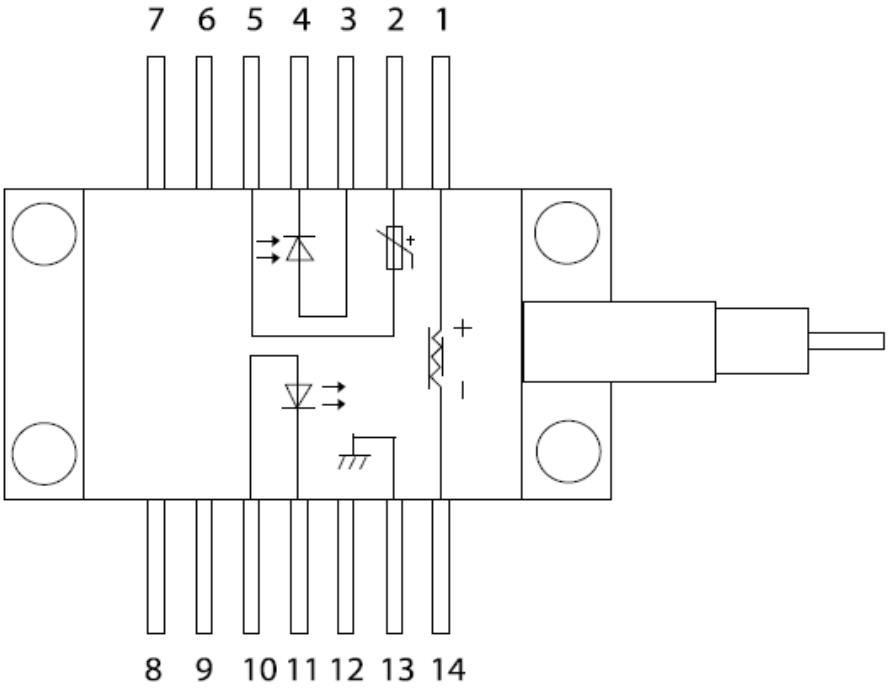
Parameter	Min	Max	Unit
Storage temperature	-40	85	°C
CW laser forward current (10s max)		1	A
Laser reverse voltage		2	V
Heat pump current		2.2	A
Lead soldering temperature (10s max)		350	°C
Fiber bend radius	30		mm

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	um
Buffer diameter	230	245	260	um
Fiber length (module to fiber end)	0.7			m
Lens to FBG center	12	14	16	cm
Pristine fiber proof test level	200			psi
Fiber pull to housing	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

LC96A1064BBFBG-20R 1064nm Broadband FBG High Power Laser Diode Module

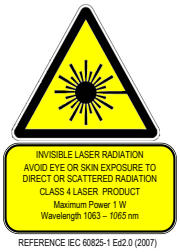
Contact Information

www.oclaro.com

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Oclaro before they become applicable to any particular order or contract. In accordance with the Oclaro policy of continuous improvement specifications may change without notice. Further details are available from any Oclaro sales representative.

THIS PRODUCT COMPLIES WITH 21CFR 1040.10



REFERENCE IEC 60825-1 Ed2.0 (2007)

ISO14001:1996 EMS 504193
TL9000 Rev 3.0 (ISO9001:2000)
FM15040

Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.