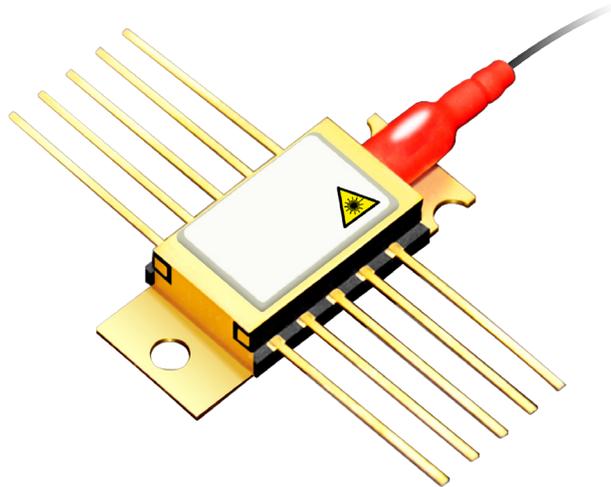


PULSED 1064 nm NARROW BANDWIDTH FBG HIGH POWER MINI-BUTTERFLY LASER DIODE MODULE

CM97A1064NFBG

The Coherent CM97A1064NFBG next generation 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.



FEATURES

- High kink free pulse output power, up to 1.5 W peak
- Wavelength stabilized at 1064 nm
- Narrow bandwidth emission of <math><0.3\text{ nm}</math>
- Short pulse operation of 5 ns - 500 ns
- Polarization maintaining single-mode optical fiber
- Internal thermoelectric heat pump and monitor diode
- Hermetically sealed 10-pin mini-butterfly package
- RoHS compliant 

APPLICATIONS

- Fiber lasers
- Frequency conversion
- Spectroscopy

PULSED 1064 nm NARROW BANDWIDTH FBG HIGH POWER MINI-BUTTERFLY LASER DIODE MODULE

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	40	60	80	mA
CW Operating power at 1.1 A	600	700		mW
Operating pulsed peak power (<500 ns / 500kHz)	1.2	1.4		W
Operating pulsed peak current (<500 ns / 500kHz)			2.2	A
Forward voltage		1.7	2.5	V
Peak wavelength (pulsed operation)	1063	1064	1065	nm
Spectral width FWHM (pulsed operation)		0.15	0.3	nm
Pulse width	5		500	ns
Repetition rate			500	kHz
Duty cycle			5	%
Rise time			1.6	ns
Monitor detector responsivity	2.5		40	μA/mW
Monitor dark current			50	nA
Thermistor resistance (at 25 °C)	9	10	11	kΩ
Heat pump current ($\Delta T = 35$ °C, $I_f = I_f$ max)			1.5	A
Heat pump voltage ($\Delta T = 35$ °C, $I_f = I_f$ max)			3.0	V
Polarization extinction ratio		13		dB

Absolute Maximum Ratings

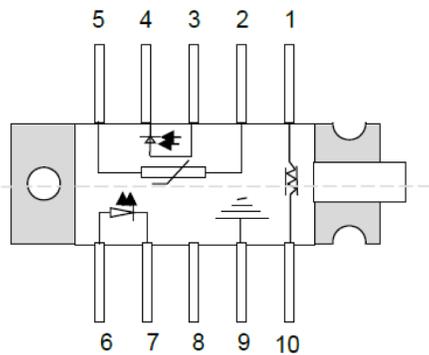
Parameter	Min	Max	Unit
Storage temperature	-40	85	°C
CW laser forward current (10 s max)		1.5	A
Laser reverse voltage		2	V
Heat pump current	-2.2	2.2	A
Heat pump voltage	-3.3	3.3	V
Lead soldering temperature (10 s max)		350	°C
Fiber bend radius	20		mm

PULSED 1064 nm NARROW BANDWIDTH FBG HIGH POWER MINI-BUTTERFLY LASER DIODE MODULE

Fiber Characteristics

Parameter	Min	Typ	Max	Unit
Fiber type: Polarization maintaining Nufern PM980-XP or Corning PM 98-U25				
Mode field diameter	5.6	6.6	7.6	μm
Buffer diameter	230	250	270	μm
FBG center to fiber end	70			cm
Module case to FBG center	10	14	18	cm
Pristine fiber proof test level	200			psi
Fiber pull to housing	150			psi

Connections



Pin	Description	Pin	Description
1	TEC (+)	6	Laser anode (+)
2	Thermistor	7	Laser cathode (-)
3	Monitor anode (-)	8	NC
4	Monitor cathode (+)	9	Package ground
5	Thermistor	10	TEC (-)

RoHS Compliance

Coherent 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

CM97A1064NFBG	1064 nm Narrow Bandwidth FBG High Power Laser Diode Mini-Butterfly Module
---------------	---

Important Notice

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

Safety Labels



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