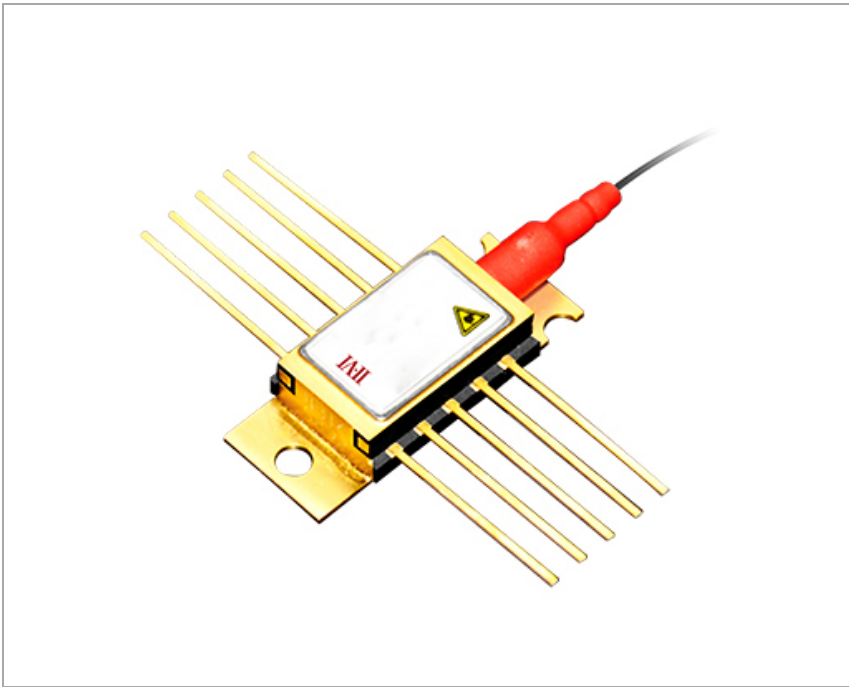


Pulsed 1064nm Narrow Bandwidth FBG High Power Mini-Butterfly Laser Diode Module

CM97A1064NFBG



The II-VI Laser Enterprise 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 1.5W peak
- Wavelength stabilized at 1064nm
- Narrow bandwidth emission of <math><0.3\text{nm}</math>
- Short pulse operation of 5ns-500ns
- 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

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 (<500ns / 500kHz)	1.2	1.4		W
Operating pulsed peak current (<500ns / 500kHz)			2.2	A
Forward voltage		1.7	2.5	V
Peak wavelength (pulsed operation)	1063	1064	1065	nm
Spectral width (FWHM)		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)	9.5	10	10.5	kΩ
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		13		dB

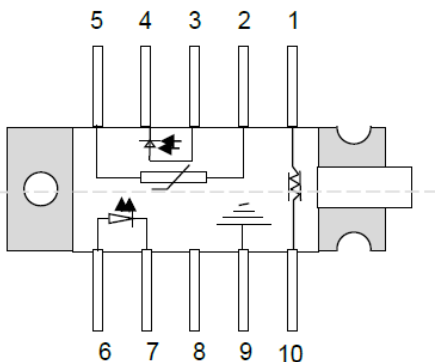
Absolute Maximum Ratings

Parameter	Min	Max	Unit
Storage temperature	-40	85	°C
CW laser forward current (10s max)		1.5	A
Laser reverse voltage		2	V
Heat pump current	-2.2	2.2	A
Heat pump voltage	-3.5	3.5	V
Lead soldering temperature (10s max)		350	°C
Fiber bend radius	20		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	250	270	um
Fiber length (module to fiber end)	1			m
Lens 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

II-VI Laser Enterprise 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 1064nm Narrow Bandwidth FBG High Power Laser Diode Mini-Butterfly Module

Contact Information

www.laserenterprise.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 II-VI Laser Enterprise before they become applicable to any particular order or contract. In accordance with the II-VI Laser Enterprise policy of continuous improvement specifications may change without notice. Further details are available from any II-VI Laser Enterprise sales representative.



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

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