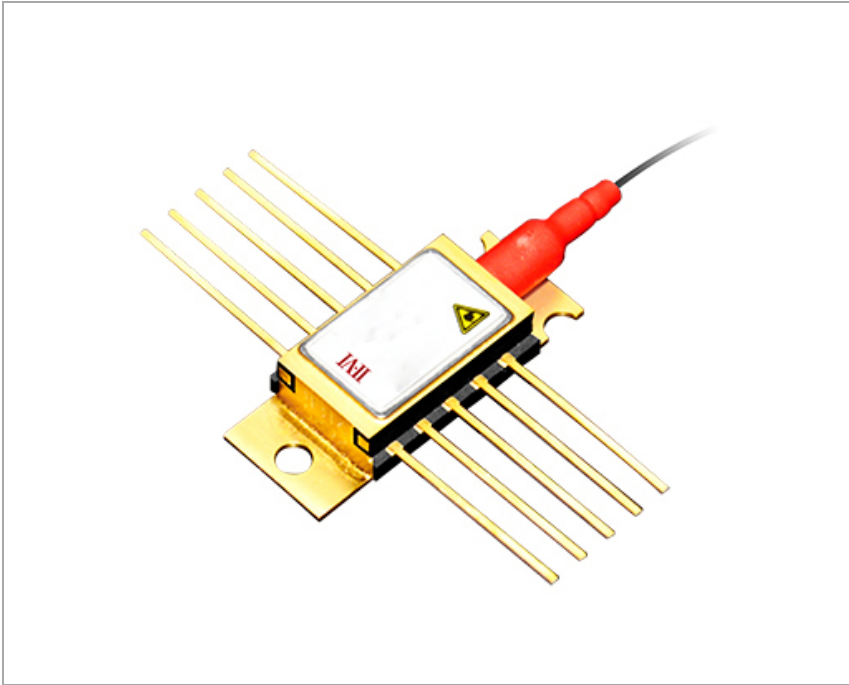



# Pulsed 1064nm Ultra Broad Bandwidth FBG High Power Mini-Butterfly Laser Diode Module

CM97A1064BFBG



The II-VI Laser Enterprise CM97A1064BFBG next generation 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 kink free peak output powers that are very stable with both time and temperature. A ultra broad bandwidth grating enables a controlled broad spectrum that helps to suppress SBS generation in pulsed fiber lasers

## Features:

- High kink free pulse output power, up to 1.5W peak
- Wavelength stabilized at 1064nm
- Ultra broad controlled bandwidth emission of 1-2nm for SBS suppression in pulsed fiber lasers
- 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
- 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	40	60	80	mA
CW Operating power at 1.1 A	550	650		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)	1062	1064	1066	nm
Spectral width (FWHM)		1-2	4	nm
Pulse width	5		500	ns
Repetition rate			500	kHz
Duty cycle			5	%
Rise time			1.6	ns
Monitor detector responsivity	0.5		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

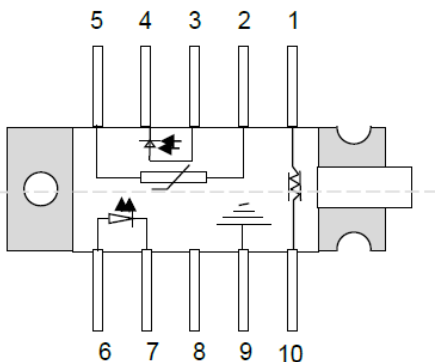
### Absolute Maximum Ratings

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	45	55	65	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**

CM97A1064BFBG      1064nm Ultra Broadband FBG High Power Laser Diode Mini-Butterfly Module

**Contact Information**

[www.laserenterprise.com](http://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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