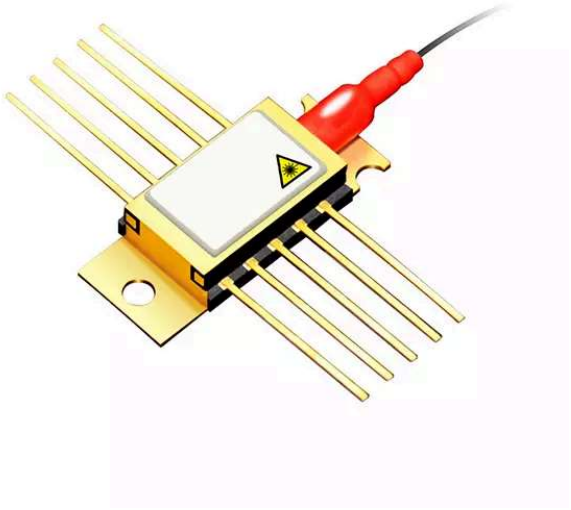
COHERENT

DATASHEET

Diode Lasers

PULSED 1064 nm HIGH POWER MINI-BUTTERFLY LASER DIODE MODULE



The Coherent CM 97A1064 next generation high power single mode laser module has been designed as a light source for pulsed fiber lasers and CW applications that require 1064nm single mode light. Processes and techniques of coupling the fiber to the laser allow high output powers that are very stable with both time and temperature. Devices achieve high kink free output powers of 1.5 W pulse peak.

FEATURES AND BENEFITS

- High kink free pulse output power, up to 1.5 W peak
- Wavelength: 1064 ± 5 nm
- Short pulse modulation, down to 100 ps
- Lateral and longitudinal single mode in short pulse operation
- Polarization maintaining single mode optical fiber
- Internal thermoelectric cooler and monitor diode
- Hermetically sealed 10-pin mini-butterfly package
- RoHS compliant

APPLICATIONS

- Fiber lasers
- Sensing

COHERENT

Coherent, Inc.
5100 Patrick Henry Drive, Santa Clara, CA 95054
p. (800) 527-3786 | (408) 764-4983
f. (408) 764-4646

tech.sales@coherent.com **www.coherent.com**

DATASHEET

Parameter	CM97A1064
Package	10-pin Butterfly
Operating Condition	Pulsed
CW Electrical and Optical Specification[1]	
Threshold Current (mA)	60 (typ.), 40 (min.), 90 (max.)
Operating Forward Current (A)	1.1 (max.)
Operating Power (mW)	700 (typ.), 600 (min.)
Operating Forward Voltage (V)	1.7 (typ.), 2.5 (max.)
Polarization Extinction Ratio (dB)	13 (typ.)
PULSED SPECIFICATIONS	
Output Power (W)	1.4 (typ.), 1.2 (min.), peak power[2]
Operating Peak Current[2] (A)	2.2 (max.)
Center Wavelength (Centroid) (nm)	1064 (typ.)
Center Wavelength Range (nm)	1050 - 1075
Pulse Width (ns)	5 (min.), 500 (max.)
Repetition Rate (kHz)	500 (max.)
Duty Cycle (%)	5
Rise Time (ns)	1.6 (max.)
Package	
Monitor Detector Responsivity (µA/mW)	0.5 - 40
Monitor Dark Current (nA)	50 (max.)
Thermistor Resistance (at 25°C) (kOhm)	10 (typ.), 9 (min.). 11 (max.)
TEC Current (ΔT = 35 °C, If = If max) (A)	1.5 (max.)
TEC Voltage (ΔT = 35 °C, If = If max) (V)	3.0 (max.)
ABSOLUTE MAXIMUM RATINGS[3]	
Package	
Storage Temperature (°C)	-40 - 85
Lead Soldering Temperature (10s max) (°C)	350 (max.)
TEC Current (A)	-2.2 to 2.2
TEC Voltage (V)	-3.3 to 3.3
Laser	
Laser Forward Current (10s max) (mA)	1500 (max.)
Laser Reverse Voltage (V)	2 (max.)
Fiber Pigtail	
Fiber Bend Radius (mm)	20 (min.)
Fiber Type	Polarization maintaining Nufern PM980-HP or equivalent (e.g. Fujikura SM98)
Fiber Cladding Diameter (µm)	6.6
Mode Field Diameter (µm)	6.6 (typ.), 5.6 (min.), 7.6 (max.)
Buffer Diameter (µm)	250 (typ.), 230 (min.), 270 (max.)
Fiber Length (module case to fiber end) (m)	1 (min.)
FBG Center to Fiber End (cm)	70 (min.)
Lens to FBG Center (cm)	55 (typ.), 45 (min.), 65 (max.)

COHERENT
Coherent, Inc.
5100 Patrick Henry Drive, Santa Clara, CA 95054
p. (800) 527-3786 | (408) 764-4983
f. (408) 764-4646
tech.sales@coherent.com www.coherent.com

Parameter	CM97A1064
Pristine Fiber Proof Test Level (kpsi)	200 (min.)
Fiber Pull to Housing (psi)	150 (min.)
Miscellaneous	
RoHS Compliance	compliant (China RoHS 50)
Laser Safety	Class 4 Laser Product
Comment	Without FBG

Notes:
1. Conditions unless otherwise stated: Case temperature -20 to +75°C, Submount temperature 25°C, Monitor diode bias: -5 V, CW operation
2. <500 ns / 500kHz
3. The absolute maximum ratings are conditions for which the device is expected to recover fully the specified performance. Exceeding these limits may impair the device reliability. The ratings apply to each parameter in isolation; that is when all other parameter have values within the relevant characteristics. It cannot be assumed that limiting values of more than one parameter may be applied to a device at the same time.

COHERENT

Coherent, Inc.
5100 Patrick Henry Drive, Santa Clara, CA 95054
p. (800) 527-3786 | (408) 764-4983
f. (408) 764-4646

tech.sales@coherent.com **www.coherent.com**