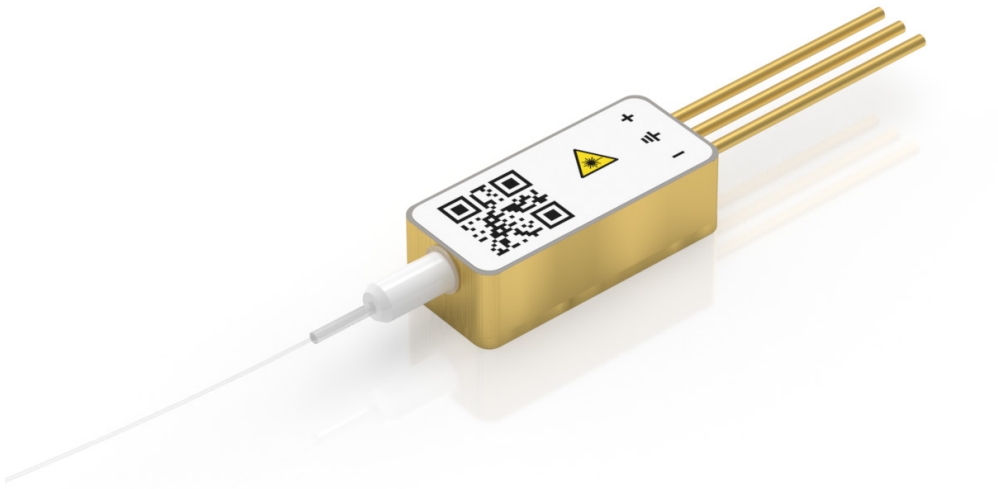
Optoelectronic Devices

PULSED 1060 nm SLD TYPE HIGH POWER UNCOOLED 3-PIN MICRO-FORMAT LASER DIODE MODULE

MLU96A1060CWG

The new Coherent MLU96A1060CWG high power single mode laser module has been designed as a broadband compact light source for pulsed fiber lasers. Its features a compact 3-pin miniature package. The device achieves high kink free output powers of 1 W pulse peak emitting a SLD type spectrum of larger 10 nm that helps to suppress SBS generation in pulsed fiber lasers.



FEATURES

- High kink free pulse output power, up to 1 W peak
- Wavelength of 1060 nm
- SLD type spectrum of >10 nm
- Short pulse operation of 5 ns - 500 ns
- Hermetically sealed uncooled 3-pin micro-format package

APPLICATIONS

- Fiber lasers
- Sensing

COHERENT

CW Electrical and optical specification

Conditions unless otherwise stated:

- Case temperature: -20 to +75 °C
- Submount temperature: 25 °C
- Operating current 750 mA
- CW operation

Operating characteristics (BOL)

Parameter	Symbol	Min	Typ	Max	Unit
Threshold current	I_{th}			90	mA
Operating forward current	I_{op}			750	mA
Operating power at 750 mA	P_{op}	300	350		mW
Operating forward voltage	V_{op}		1.5	2.5	V
Wavelength (centroid)*	λ		1060		nm
Wavelength at chip bartest level (250 mW)		1050		1060	nm
Spectral width (200 mW)	$\Delta\lambda$	10			nm
Polarization extinction ratio	PR	10	13		dB

* no screen

Pulsed Specifications

Conditions unless otherwise stated:

- Ambient temperature 25 °C
- 10 ns pulse width
- 100 kHz repetition rate

Target operating characteristics (BOL)

Parameter	Symbol	Min	Typ	Max	Unit
Operating peak power	P_{peak}	0.8	1.0		W
Operating peak current	I_{peak}			2	A
Center wavelength (centroid)	λ_c		1060		nm
Pulse width	τ	5		500	ns
Duty cycle	D			2	%

Absolute Maximum Ratings

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.

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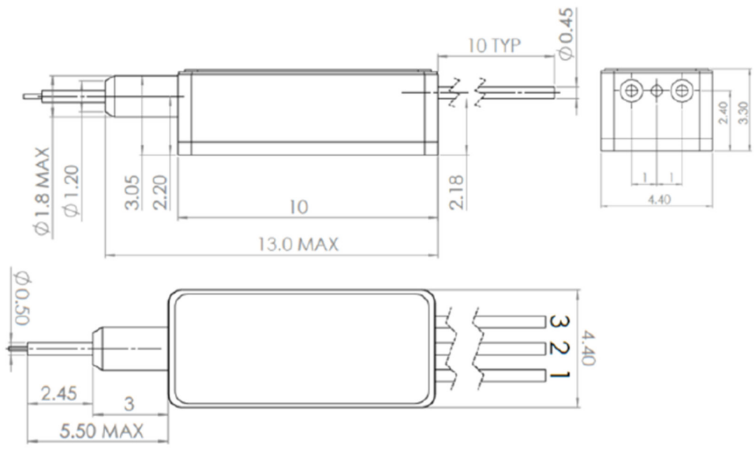
Absolute maximum ratings for module operation at carrier temperature of 25 ±2 °C, cw operation

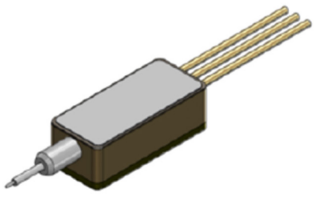
Parameter	Min	Max	Unit
Package			
Operating temperature	0	75	°C
Storage temperature	-40	85	°C
Lead soldering temperature (10s max)		350	°C
Fiber pigtail			
Fiber bend radius	7		nm
Fiber pull force		5	N
Laser			
Laser forward current (for max. 10 sec)		1000	mA
Laser reverse current		10	µA
Laser reverse voltage		2	V
ESD damage (HBM, C=100 pF, R=1.5 kW)		500	V

Absolute Maximum Ratings

Parameter	Min	Typ	Max	Unit
Fiber type: Corning HI1060 or equivalent				
Mode field diameter	5.6	5.9	6.2	µm
Buffer diameter	235	245	255	µm
Fiber length (module case to fiber end)	1			m
Recoating diameter			320	µm
Pristine fiber proof test level	200			kpsi

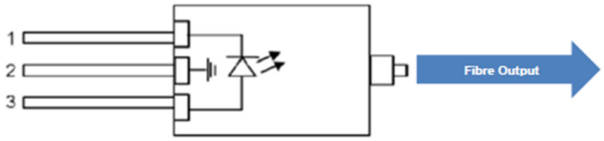
Module Drawings and Pin Connections





PIN	CONNECTION
1	Laser Diode Cathode (-)
2	Package Ground
3	Laser Diode Anode (+)

Viewed from package top



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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

MLU96A1060CWG	Pulsed 1060 nm SLD Type High Power Uncooled 3-Pin Micro-format Laser Diode 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.

Satefy Labels

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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