

3W 14 Pin Cooled Multimode Pump Laser

Features

- 808nm center wavelength +/- 10nm
- 0.22NA 105µm core multimode fiber pigtail
- Internal package laser welded and epoxy free
- Hermetically sealed
- Built in thermistor
- Test to Telcordia GR-468 Core / MIL-Std 883

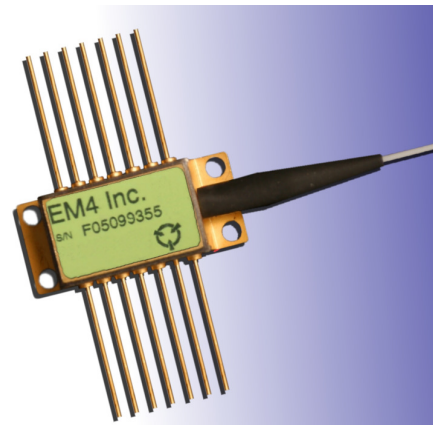
Applications

- Fiber lasers
- Laser pumping
- Marking

General Description

The G&H high power laser (HPL) has high brightness with a fiber-coupled output power. The HPL is ideal for use in a variety of applications where brightness is essential with a reliable and robust packaging.

The high power laser device is hermetically sealed into an industry standard 14 pin butterfly metal ceramic package. The butterfly package has a Peltier cooler for chip temperature control and thermistor for temperature monitoring. The high power laser is pigtailed using a step index fiber with a 0.22 numerical aperture, 105 micron core diameter.



Ordering Information

Part	λ_c [nm]	Fiber NA
EM339	808	0.22

Absolute Maximum Ratings

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and operation of the device at these or conditions beyond these are not implied. Exposure to absolute maximum ratings for extended periods of time may affect device reliability.

Parameter	Sym	Condition	Min	Max	Unit
Storage Temperature	T_{STG}		-40	85	°C
Operating Case Temperature	T_{OP}		-20	70	°C
Laser Forward Current	I_F			4.5	A
Laser Reverse Voltage	V_R			2	V
PD Forward Current	I_{PD}			10	mA
PD Reverse Voltage	V_{PD}			16	V
TEC Current	I_{TEC}			5	A
TEC Voltage	V_{TEC}			6	V
Thermistor Current				2	mA
Thermistor Voltage				5	V
Fiber Pull Force				5	N
Fiber Bend Radius			35		mm
ESD		HBM		500	V

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Absolute Maximum (continued)

Parameter	Sym	Condition	Min	Max	Unit
Lead Soldering Time				10	s
Lead Soldering temperature				250	°C

Optical And Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise specified.

Parameter	Sym	Condition	Min	Typ.	Max	Unit
Center Wavelength	λ_C		798	808	818	nm
Operating Current	I_{OP}	$P=P_{OP}$			4.5	A
Operating Voltage	V_{OP}	$I=I_{OP}$			2.3	V
Output Power	P_{OP}		3			W
Threshold Current	I_{TH}			0.6	0.8	A
Wavelength Drift vs. T_C	$\delta\lambda/\delta T_C$			0.3		nm/°C
Spectral Width	$\Delta\lambda$	17dB down from peak		6		nm
PD Reverse Voltage	V_{PD}				16	V
PD Current	I_{PD}		0.1			mA
TEC Current	I_{TEC}	$\Delta T_{base}=35^\circ\text{C}$, $P=P_{OP}$			4	A
TEC Voltage	V_{TEC}	$\Delta T_{base}=35^\circ\text{C}$, $P=P_{OP}$			5.5	V
Operating Base Temperature	T_C		0		60	°C
Thermistor Resistance	R_{TH}	$T=25^\circ\text{C}$	9500	10000	10500	Ω
Thermistor β coefficient	β	$0 / 50^\circ\text{C}$		3892		

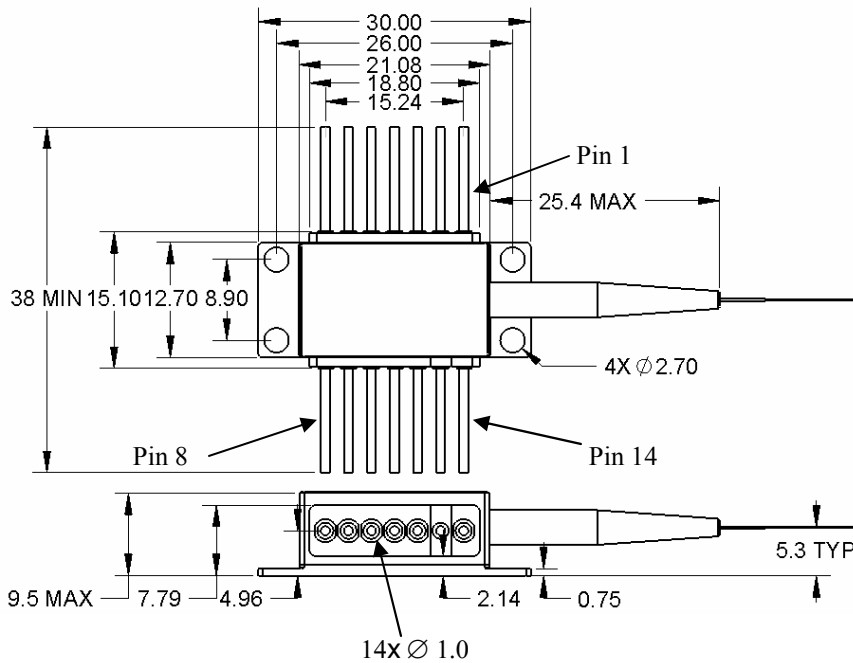
Fiber Specification

Parameter	Sym	Condition	Min	Typ.	Max	Unit
Fiber Type			Step Index			
Jacket Material			PVDF			
Numerical Aperature				0.22	0.24	
Core Diameter			102	105	108	μm
Cladding Diameter			123	125	128	μm
Buffer Diameter			235	250	265	μm
Jacket Diameter				900		μm
Jacket Length From End Of Boot			75		95	mm
Pigtail Length			1			m

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Mechanical Drawing

All units in mm



Pinning

Pin	Description
1	TEC+
2	Thermistor
3	Monitor Anode
4	Monitor Cathode
5	Thermistor
6	Monitor Cathode
7	Monitor Anode
8	NC
9	Laser Cathode
10	Laser Anode
11	Laser Cathode
12	NC
13	Case GND
14	TEC-



OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DEVICES



The component complies with all applicable portions of 21 CFR 1040.10, 21 CFR 1010.2 and 21 CFR 1010.3. Since this is a component, it does not comply with all of the requirements contained in 21 CFR 1040.10 and 21 CFR 1040.11 for complete laser products.

For pricing and delivery information, please contact G&H Boston, direct at +1 781-275-7501, bostonsales@goochandhousego.com or any of the representatives listed at www.goochandhousego.com.

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