

Features

- 915, 940 or 960nm center wavelength
- 0.15 or 0.22NA 105µm core multimode fiber pigtail
- Uncooled
- Laser welded and epoxy free
- Hermetically sealed
- Built in thermistor
- Telcordia GR-468 Core / MIL-Std 883 compliant
- RoHS compliant

Applications

- Fiber lasers
- Yb laser pumping
- Marking
- Defense

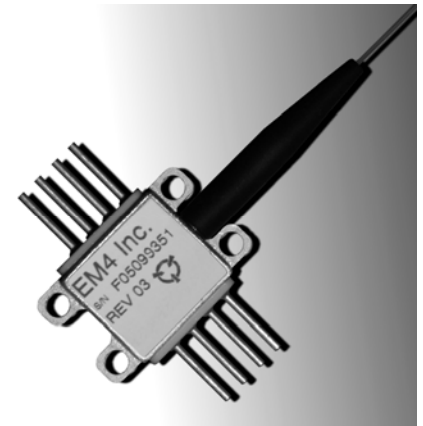
General Description

The EM4 high power laser has a fiber coupled output power of typical 7W. The module is ideal for use in a variety of applications where brightness is essential with a reliable and robust packaging. The module is hermetically sealed into an 8 pin butterfly metal ceramic package and contains a thermistor for temperature monitoring. The module is pigtailed using a step index fiber with a 0.15 or 0.22 numerical aperture, 105 micron core diameter.

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			11	A
Laser Reverse Voltage	V _R			2	V
Thermistor Current				2	mA
Thermistor Voltage				5	V
Fiber Pull Force				5	N
Fiber Bend Radius			35		mm
Lead Soldering Time				10	s
Lead Soldering temperature				250	°C
ESD		HBM		500	V



Ordering Information

Part	λ _C [nm]	Fiber NA
EM314	915	0.15
EM315	915	0.22
EM316	940	0.15
EM317	940	0.22
EM318	960	0.15
EM319	960	0.22

For pricing and delivery information, please contact EM4 inc. direct at +1 781 275 75 01, sales@em4inc.com or any of the representatives listed at www.em4inc.com.

The information published in this datasheet is believed to be accurate and reliable. EM4, Inc. reserves the right to change without notice including but not limited to the design, specification, form, fit or function relating to the product herein. ©2004 EM4, Inc. All rights reserved.



7W 8 Pin Multimode Pump Laser

Optical And Electrical Characteristics

T_C=25°C unless otherwise specified, good thermal contact

Parameter	Sym	Condition	Min	Typ.	Max	Unit
Center Wavelength	λ_C	EM314, EM315, I=I _{OP} -1	905	915	925	nm
		EM316, EM317, I=I _{OP} -1	930	940	950	
		EM318, EM319, I=I _{OP} -1	950	960	970	
Operating Current	I _{OP}	P=P _{OP}			9	A
Operating Voltage	V _{OP}	I=I _{OP}			2.2	V
Output Power	P _{OP}		7			W
Threshold Current	I _{TH}			0.4	0.6	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
Operating Case Temperature	T _C		0		45	°C
Thermistor Resistance	R _{TH}	T=25°C	9500	10000	10500	Ω
Thermistor β coefficient	β	0 / 50°C		3892		

Fiber Specification

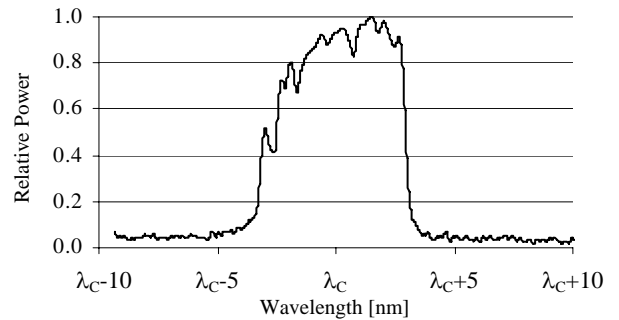
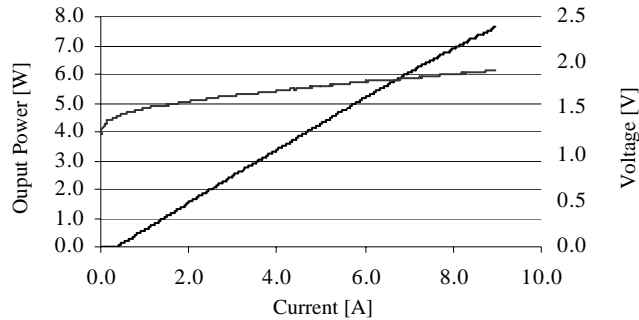
Parameter	Sym	Condition	Min	Typ.	Max	Unit
Fiber Type			Step Index			
Jacket Material			PVDF			
Numerical Aperture		EM314, EM316, EM318		0.15	0.17	
		EM315, EM317, EM319		0.22	0.24	
Core Diameter			102	105	108	μm
Cladding Diameter			123	125	128	μm
Buffer Diameter			235	250	265	μm
Jacket Diameter				900		μm
Jacket Length From End Of Boot			75		95	mm
Pigtail Length			1			m

For pricing and delivery information, please contact EM4 inc. direct at +1 781 275 75 01, sales@em4inc.com or any of the representatives listed at www.em4inc.com.

The information published in this datasheet is believed to be accurate and reliable. EM4, Inc. reserves the right to change without notice including but not limited to the design, specification, form, fit or function relating to the product herein. ©2004 EM4, Inc. All rights reserved.

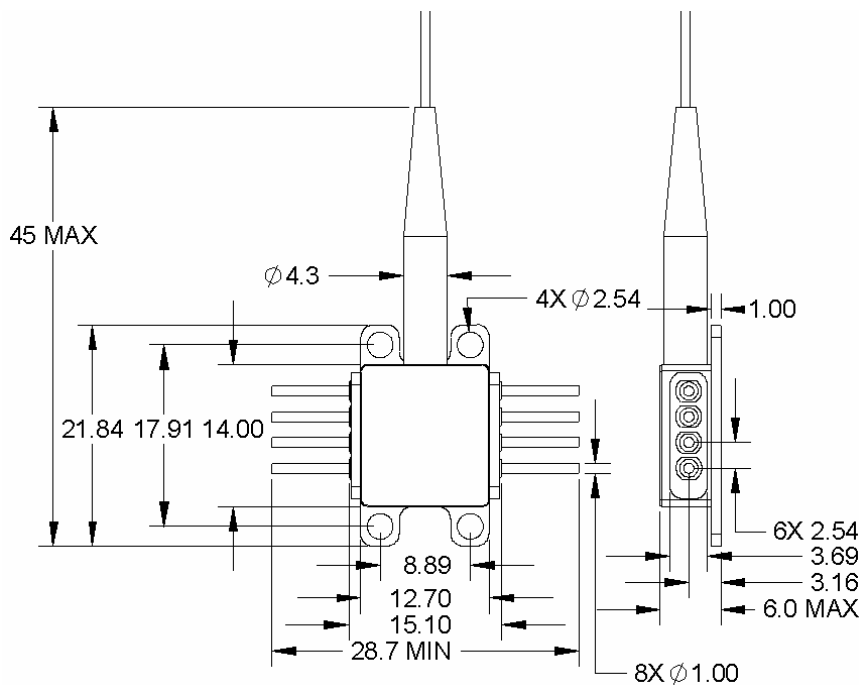
Typical Operating Characteristics

$T_c=25^\circ\text{C}$



Mechanical Drawing

All units in mm



Pinning

Pin	Description
1	Thermistor
2	NC
3	Thermistor
4	NC
5	Laser anode (+)
6	Laser cathode (-)
7	NC
8	NC



OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DEVICES

DANGER



INVISIBLE LASER RADIATION
AVOID DIRECT EXPOSURE TO BEAM

MAXIMUM POWER 15W
WAVELENGTH 760-1070nm

CLASS IV LASER COMPONENT

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 EM4 inc. direct at +1 781 275 75 01, sales@em4inc.com or any of the representatives listed at www.em4inc.com.

The information published in this datasheet is believed to be accurate and reliable. EM4, Inc. reserves the right to change without notice including but not limited to the design, specification, form, fit or function relating to the product herein. ©2004 EM4, Inc. All rights reserved.