

Features

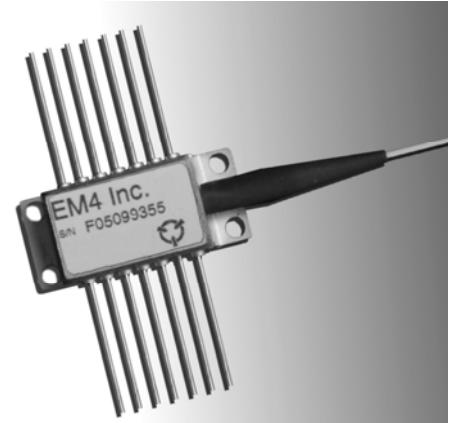
- 915, 940 or 960nm center wavelength
- 0.15 or 0.22NA 105µm core multimode fiber pigtail
- Uncooled
- Laser welded and epoxy free
- Hermetically sealed
- Built in thermistor
- Telcordia GR-468 Core / MIL-Std 883 compliant

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 a hermetically sealed 14 pin butterfly metal ceramic package and contains a thermistor and monitor detector. The module is pigtailed using a step index fiber with a 0.15 or 0.22 numerical aperture, 105 micron core diameter.



Ordering Information

Part	λ_c [nm]	Fiber NA
EM322	915	0.15
EM323	915	0.22
EM324	940	0.15
EM325	940	0.22
EM326	960	0.15
EM327	960	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			11	A
Laser Reverse Voltage	V_R			2	V
PD Forward Current	I_{PD}			20	mA
PD Reverse Voltage	V_{PD}			20	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

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.

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7W 14 Pin Multimode Pump Laser

Optical And Electrical Characteristics

T_C=25°C unless otherwise specified.

Parameter	Sym	Condition	Min	Typ.	Max	Unit
Center Wavelength	λ_C	EM322, EM323, I=I _{OP} -1	905	915	925	nm
		EM324, EM325, I=I _{OP} -1	930	940	950	
		EM326, EM327 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
PD Reverse Voltage	V _{PD}				20	V
PD Current	I _{PD}		0.1			mA
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

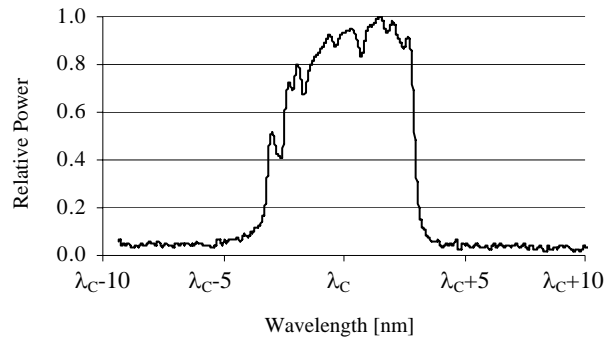
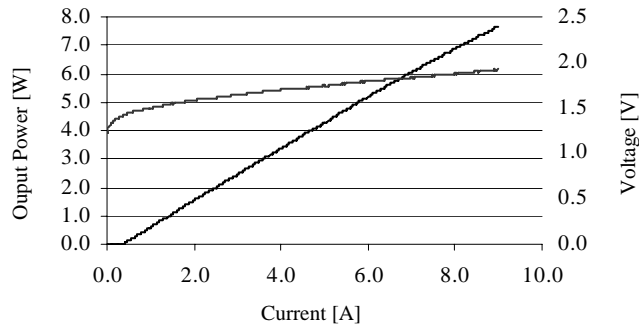
Parameter	Sym	Condition	Min	Typ.	Max	Unit
Fiber Type			Step Index			
Jacket Material			PVDF			
Numerical Aperture		EM322, EM324, EM326		0.15	0.17	
		EM323, EM325, EM327		0.22	0.24	
Core Diameter			102	105	108	μm
Cladding Diameter			123	125	128	μm
Buffer Diameter			235	250	265	μm
Jacket Diameter				900		μm
Jacket Length From End Of Boot			75		95	mm
Pigtail Length			1			m

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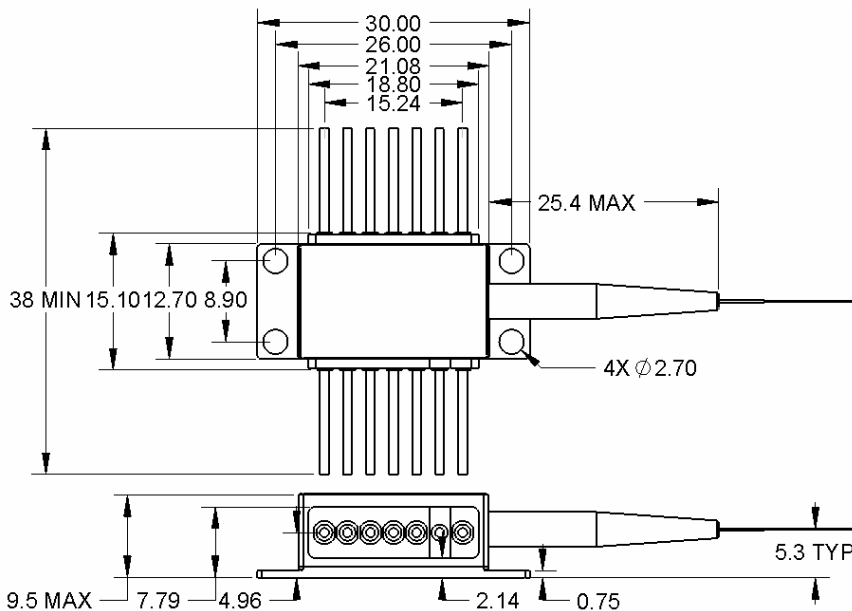
Typical Operating Characteristics

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



Mechanical Drawing

All units in mm



Pinning

Pin	Description
1	NC
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	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.

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