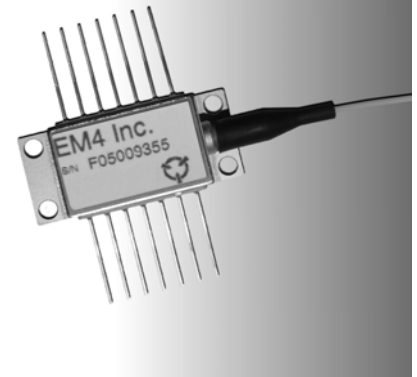


## Features

- 400mW Kink Free
- 1060 wavelength
- Internal cooler and thermistor
- PM Fiber



## Applications

- Fiber Lasers

## Ordering Information

Part number	Description
EM250	1060nm SM Pump

## General Description

The EM250 single mode, cooled 1060 nm pump laser delivers up to 400mW of fiber-coupled power. The module is packaged using the unique, patent pending technology Uniline™ for permanent fiber alignment. Uniline™ provides superior end-of-life optical and electrical performance, achieved by maintaining a highly stable, all-axis alignment lock between the laser chip and the tip of the single-mode fiber.

The hermetically sealed 14 pin butterfly package includes a thermoelectric cooler, thermistor, monitor photodiode and UniDry™ getter. EM4's Uniline™ family of pump lasers are qualified to meet the requirements outlined in Telcordia GR-468-CORE.

## 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 <sub>STG</sub>		-40	85	°C
Operating Case Temperature	T <sub>OP</sub>		-20	75	°C
Laser Forward Current (10s max)	I <sub>F</sub>			1.0	A
Laser Reverse Voltage	V <sub>R</sub>			2.0	V
Photo Diode Forward Current	I <sub>PD</sub>			10	mA
Photo diode Reverse Voltage	V <sub>PD</sub>			20	V
TEC Current	I <sub>TEC</sub>			6.0	A
TEC Voltage	V <sub>TEC</sub>			4.0	V
Thermistor Current				2	mA
Thermistor Voltage				5	V
Lead Soldering Time				10	s
Lead Soldering temperature				250	°C
Fiber Pull Force				5	N
Fiber Bend Radius			25		mm
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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# 400mW /1060nm Single Mode Pump Laser

## Optical And Electrical Characteristics

T<sub>OP</sub>=25°C, continous wave and beginning of life unless otherwise specified.

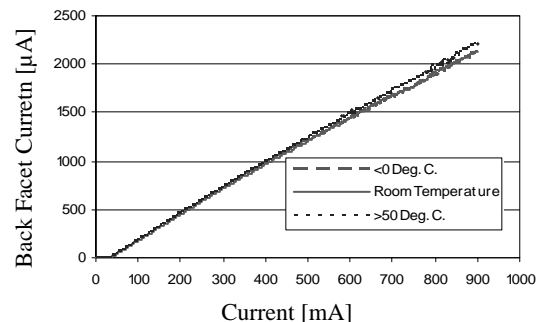
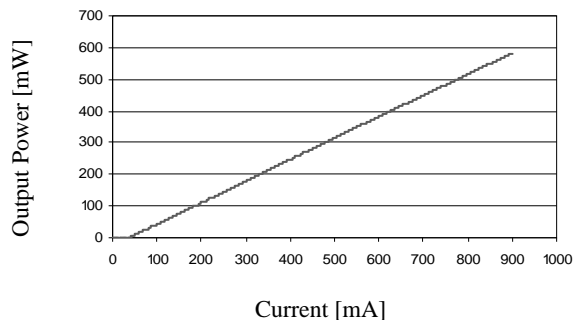
Parameter	Sym.	Condition	Min	Typ.	Max	Unit
Operating Chip Temperature	T <sub>CHIP</sub>		20		35	°C
Threshold Current	I <sub>TH</sub>		10	40	70	mA
Laser Drive Current	I <sub>OP</sub>				900	mA
Laser Forward Voltage	V <sub>F</sub>	I=I <sub>MAX</sub>			2.5	V
Operating Power	P <sub>OP</sub>	I=I <sub>OP</sub>	400			mW
Center Wavelength	λ <sub>C</sub>	P=P <sub>OP</sub>	1050	1060	1070	nm
Monitor Photo Diode Current	I <sub>PD</sub>	P=P <sub>OP</sub>	0.1		6.0	mA
Monitor Photo Diode Dark Current	I <sub>D</sub>				100	nA
TEC Current		ΔT=25°C, P=P <sub>OP</sub>			3.5	A
TEC Voltage		ΔT=25°C, P=P <sub>OP</sub>			3.5	V
Thermistor Resistance	R <sub>TH</sub>	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			PM			
Jacket Material			Hytrel Acrylate			
Core Diameter			5.6	6.6	7.6	μm
Cladding Diameter			123	125	127	μm
Buffer Diameter			230	245	260	μm
Pigtail Length			1.0	1.3	m	
Proof Strength			120			kpsi

## Typical Operating Characteristics

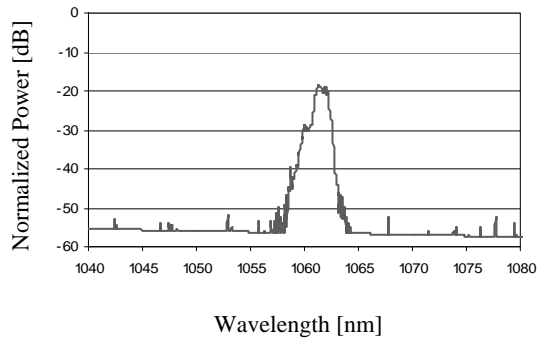
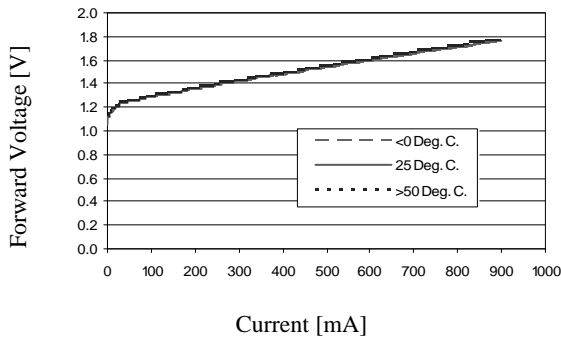
T<sub>C</sub>=25°C



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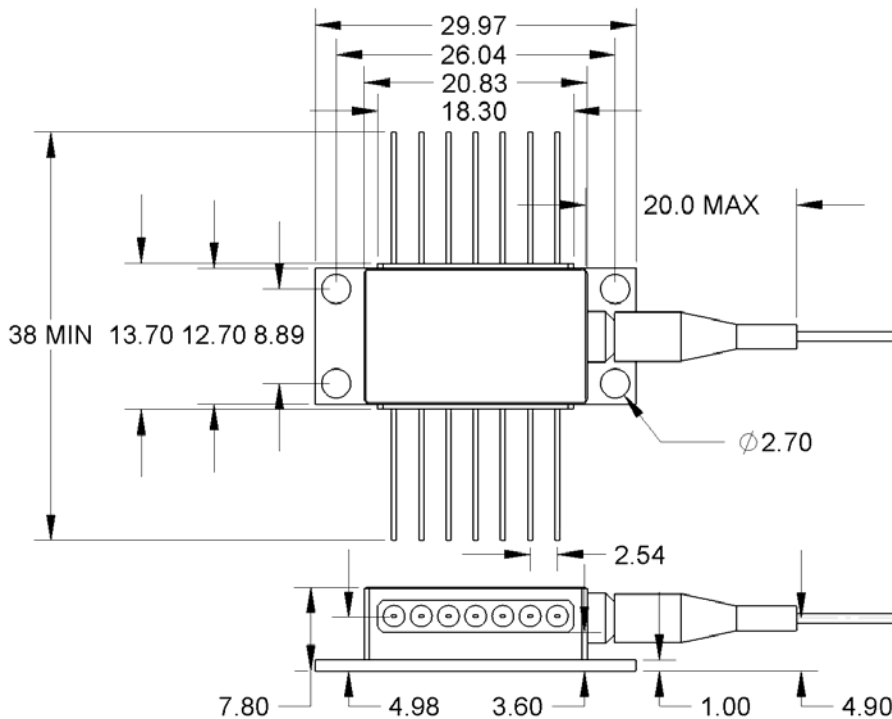
## Typical Operating Characteristics (continued)

T<sub>c</sub>=25°C



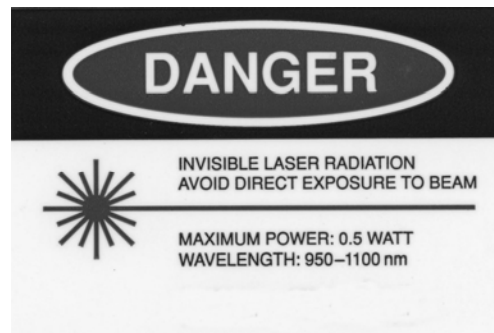
## Mechanical Drawing

All units in mm



## Pinning

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



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.