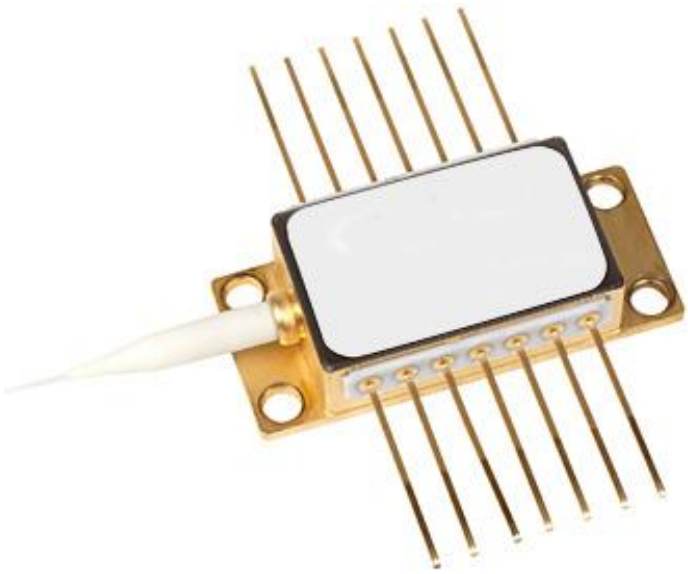
976nm 480mW SM Pumping Laser



Product Description

Optional peak wavelength, optional output power, and optional FC/APC connector.

Product features

Single-mode fiber output; high power stability; narrow linewidth characteristic; low noise design; industrial-grade package

Part Number

MP-FP-976-480-14BF-SM

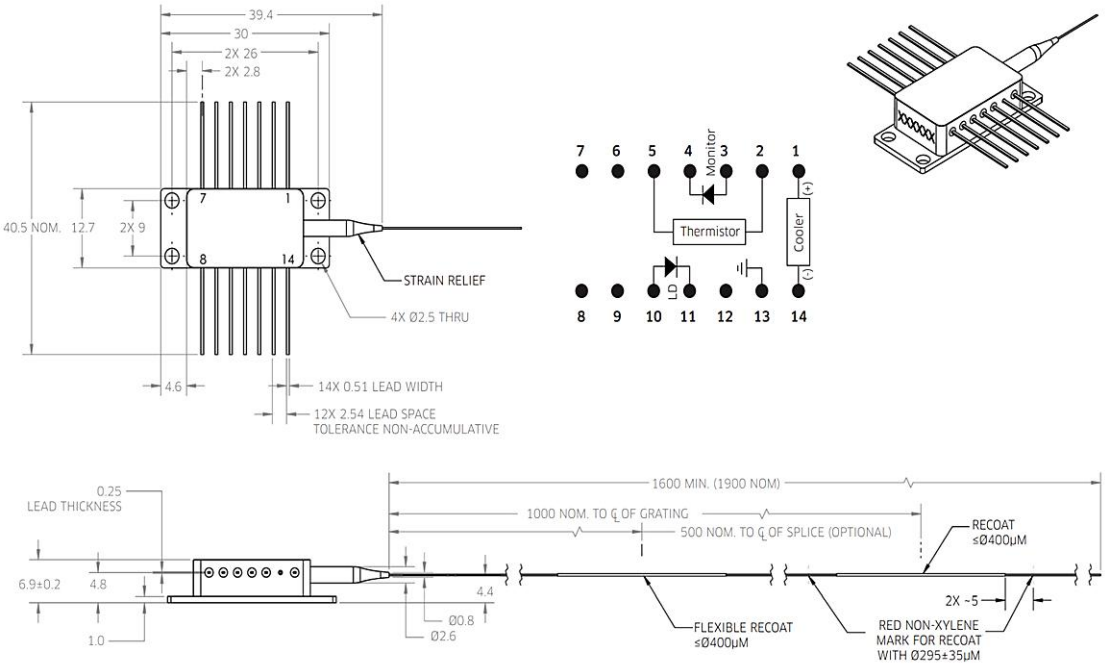
Application area

Fiber Amplifier Pumping | Fiber Lasers | Coherent Optical Communication | Fiber Optic Sensing | Quantum Technology

Core parameters

Center Wavelength	Output Power
976nm	480mW

Dimension Drawing



General Parameters

Technical Parameter

Optoelectronic Performance (BOL, Tcase = −5 to 75°C, Pf range = 20 mW to Pmax, −50dB reflection)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Center Wavelength	—	—	975	977	nm
Threshold Current	Ith-BOL	—	—	35	mA
Forward Voltage	Vf	If = Iop	—	2.6	V
Fiber Output Power	Pf	—	20	480	mW
Operating Current	Iop	—	—	960	mA
Pump Power @ Band = λm ±1.5 nm	Ppump	Ppump Band = λm ± 1.5 nm, at Pop	90%	—	—
Spectral Width	ΔλRMS	50 mW < Pf < Pop	—	2.0	nm
Wavelength Tuning vs. Temperature	Δλ/T	I = Iop	—	0.01	nm/°C
Optical Power Stability	ΔPf_t	Over Pf range, DC to 50 kHz, 20 mW to Pop	—	2.0	%

Tracking Ratio 1	TR	0.1Pop < Pf < Pop	0.75	1.25	—
Tracking Error 2	TE	At Pop	−25	25	%
PD Monitor Responsivity	IBF	At Pop, VPD = −5 V	1	5	μ A/mW
Thermistor	Rth	Tset = 25 °C	9.5	10.5	kΩ
	Rth	Tset = 45 °C	4.1	4.6	kΩ
Thermistor Constant	B	—	3600	4200	K

1.Tracking Ratio is a measure of tracking performance during output power variation. A straight line is drawn between the minimum power (20 mW) and operating power (Pop) points on the plot of optical power versus back-facet monitor photocurrent. Tracking Ratio is defined as the ratio of the measured optical power (shown as data points on the plot) to the value obtained from the straight line.

2.Tracking Error is defined as the normalized change in output power at operating power corresponding to a constant back-facet monitor current, over the case temperature range of 0 to 75 °C.

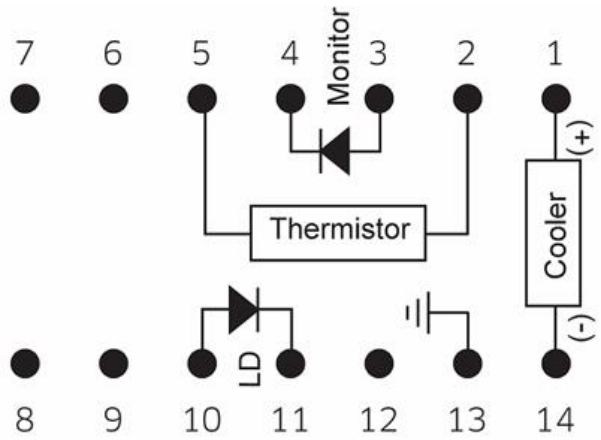
TEC and Module Total Power Consumption Parameters

TEC Current Imax	2.03 A
TEC Voltage Vmax	2.60 V
TEC Power Consumption PTEC	5.55 W
Total Module Power Consumption Pmax	7.48 W

Characteristics and Tolerances of HI1060 Fiber

Parameter	Value
Cutoff Wavelength	920 nm
Max. Attenuation at 980 nm	2.1 dB/km
Cladding Diameter	125 ±1 μm
Coating Diameter	245 ±10 μm
Core-Cladding Concentricity	⩽0.5 μm
Mode Field Diameter	5.9 ±0.3 μm

Pin Definitions



Pin	Description
1	Cooler (+)
2	Thermistor
3	Monitor PD Anode
4	Monitor PD Cathode
5	Thermistor
6	N/C
7	N/C
8	N/C
9	N/C

10	Laser Anode
11	Laser Cathode
12	N/C
13	Case Ground
14	Cooler (−)

Ordering Information

Part Number	Max. Output Power Pop (mW)	Max. Operating Current Iop (mA)	Min. Kink-Free Power Pmax (mW)	Max. Kink-Free Current Imax (mA)
MP-FP-9xx-300	300	630	330	640
MP-FP-9xx-320	320	655	360	700
MP-FP-9xx-340	340	680	380	760
MP-FP-9xx--360	360	720	400	805
MP-FP-9xx-380	380	760	420	855
MP-FP-9xx-400	400	805	440	890

MP-FP-9xx-420	420	860	460	940
MP-FP-9xx-440	440	890	480	985
MP-FP-9xx-460	460	920	505	1050
MP-FP-9xx--480	480	960	530	1100
MP-FP-9xx-500	500	1000	550	1150
MP-FP-9xx-520	520	1050	570	1200
MP-FP-9xx-540	540	1100	595	1250
MP-FP-9xx-560	560	1150	615	1300
MP-FP-9xx-580	580	1200	640	1350
MP-FP-9xx-600	600	1250	660	1400
MP-FP-9xx-620	620	1150	680	1300
MP-FP-9xx-640	640	1200	710	1350
MP-FP-9xx-660	660	1250	730	1400
MP-FP-9xx-680	680	1250	750	1400
MP-FP-9xx-700	700	1300	770	1450

MP-FP-9xx-720	720	1300	790	1450

Product Code	Min. Center Wavelength	Max. Center Wavelength
MP-FP-974-yyy	973.0 nm	975.0 nm
MP-FP-976-yyy	975.0 nm	977.0 nm
MP-FP-980-yyy	973.0 nm	981.5 nm