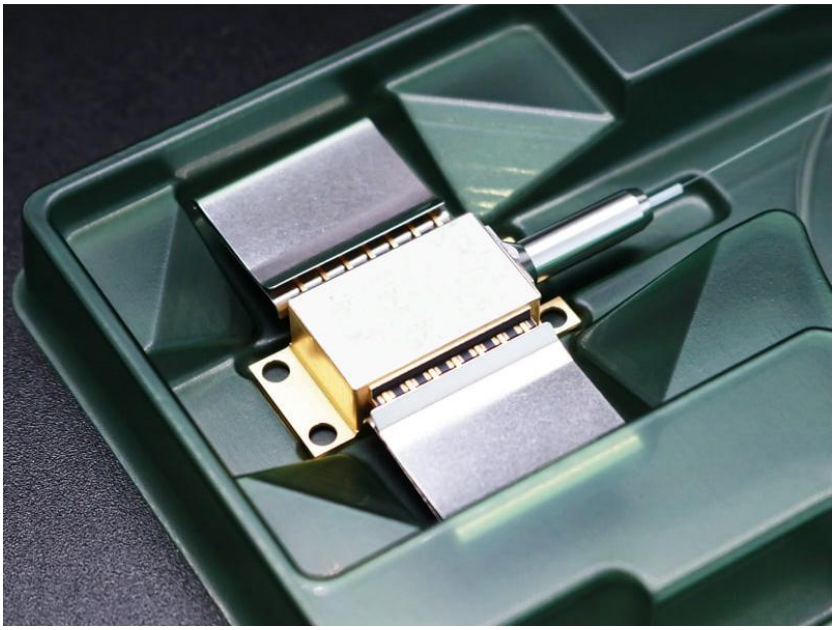
1480nm 300mW PM FP laser diode without FBG



Product Description

The 1480nm laser is designed for optical amplifier systems, such as fiber Raman amplifiers used in optical transmission systems, and can also be used in DWDM systems. The laser diode chip is packaged in an industry-standard 14-pin butterfly package, with built-in TEC, thermistor, and PIN photodiode. A dual-lens system efficiently couples the circular beam from the laser chip into the optical fiber, achieving an output power of up to 320mW.

Product features

High output power; FBG frequency stabilization technology; Multi-longitudinal mode characteristics; High-reliability package; Low-noise design

Part Number

MP-FP-1480-300-14BF-PA

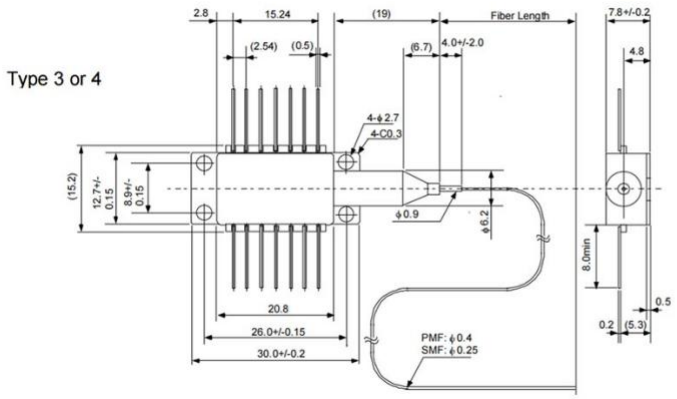
Application area

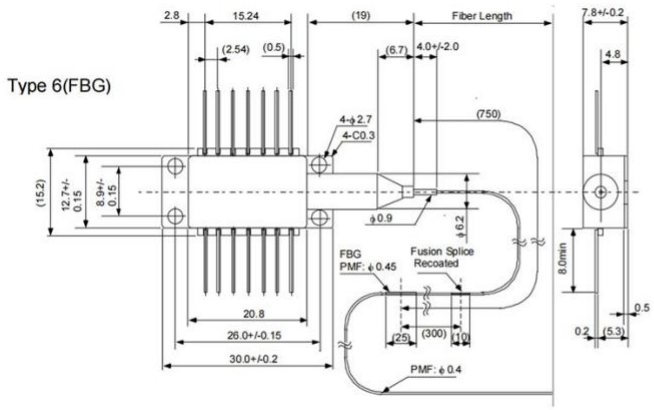
Fiber laser pumping | Industrial processing | Medical equipment | Scientific research experiments | Optical fiber sensing

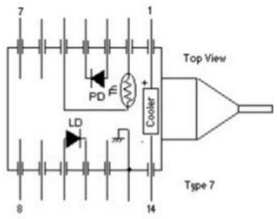
Core parameters

Central Wavelength	Output Power
1480nm	300mW

Dimension Drawing







Pin#	Function	Pin#	Function
1	Cooler(+)	8	No Connection
2	Thermistor	9	No Connection
3	PD anode(−)	10	LD anode(+)
4	PD cathode(+)	11	LD cathode(−)
5	Thermistor	12	No Connection
6	No Connection	13	Case GND
7	No Connection	14	Cooler(−)

General Parameters

Technical Parameters

Optoelectronic Characteristics (Sensor Temperature Ts= 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Output Power	Pf1)				mW	
MP-FP-1480-250		250	-	-		IfBOL < 1100 mA
MP-FP-1480-260		260	-	-		IfBOL < 1100 mA

MP-FP-1480-270		270	-	-		IfBOL < 1200 mA
MP-FP-1480-280		280	-	-		IfBOL < 1200 mA
MP-FP-1480-290		290	-	-		IfBOL < 1300 mA
MP-FP-1480-320		320	-	-		IfBOL < 1300 mA
Center Wavelength (FP)	Ic	1460	-	1490	nm	RMS(-20dB), Rated Power
Center Wavelength (FBG)	Ic2)	Ic− 1.5	Ic	Ic+1.5	nm	RMS(-20dB), Rated Power
Spectral Width (FP)	DI	-	-	8	nm	RMS(-20dB), Rated Power
Spectral Width (FBG)	DI	-	-	3	nm	RMS(-20dB), Rated Power
LD Forward Operating Voltage	Vf	-	-	2.6	V	Rated Power
LD Forward Current at EOL	IfEOL	-	-	1.2× I_fBOL	mA	End of Life
Monitor Current	I_m	100	-	2000	mA	VrPD=5V, Rated

						Power
Monitor Dark Current	I_d	-	-	100	nA	VrPD=5V
Extinction Ratio	Re	16	-	-	dB	Type4 and Type6
Isolation	Iso	30	-	-	dB	Type3 and Type4
TEC Spec.	-	-	Refer to below	-	-	-
Thermistor Resistance	R_{th}	9.5	10	10.5	kΩ	Ts=25◦ C
Thermistor B-Value	B_{th}	-	3900	-	K	Ts=25◦ C

1. P_f: Available P_f depends on the selected center wavelength.

2. I_c: Selectable center wavelength ranges from 1420 nm to 1510 nm.

TEC Characteristics and Power Consumption

Parameter	Itec [A]	Vtec [V]	Ptotal4) [W]	Condition
RR* series Pf=250 to 260 [mW]	2.5	3.2	10.5	Max. Val, Ts=25°C, DT=45° C, IfEOL
RS* series Pf=270 to 280 [mW]	2.7	3.4	12.3	Max. Val, Ts=25°C, DT=45° C, IfEOL
RT* series Pf=290 to 320 [mW]	2.9	3.7	14.1	Max. Val, Ts=25°C, DT=45° C, IfEOL

Note 4: Ptotal=Wtec+Wld (Total Power Consumption)

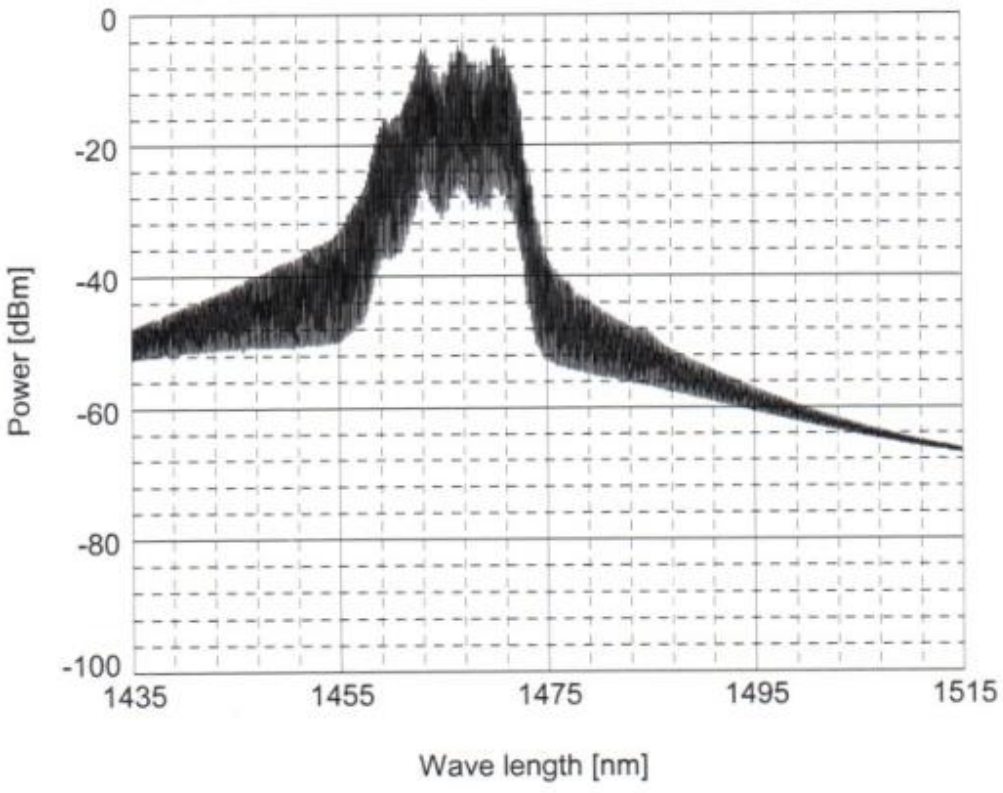
Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Tstg	-40	85	°C	PD Forward Current	IfPD	-	5	mA
Operating Case	Tc	-20	70	°C	PD Reverse	VrPD	-	20	V

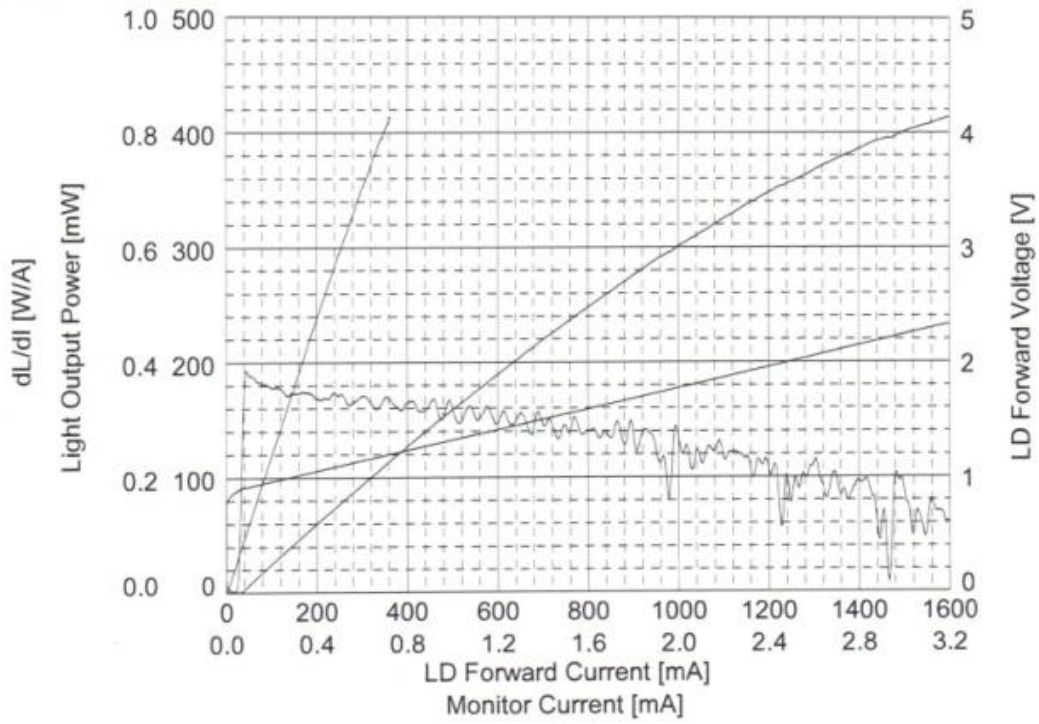
Temperature					Voltage				
LD Forward Current	If	-	1600	mA	TEC Current	Ic	-1.1	4.5	A
LD Reverse Voltage	Vr	-	2	V	TEC Voltage	Vc	-	4.5	V

Product Characteristics

Optical Spectrum



Power Curve



Ordering Information

MP-FP-1480-xx-14BF-y-z

xx:Output Power

250: 250mW, I<=1100mA

260: 260mW, I<=1100mA

270: 270mW, I<=1200mA

280: 280mW, I<=1200mA

290: 290mW, I<=1300mA

300: 300mW, I<=1300mA

320: 320mW, I<=1300mA

y:

S: SMF pigtail

P: PMF pigtail

z:

FBG