

980nm Pump Laser Diode Module



Applications

- Pump Source for Er-Doped Fiber Amplifier
C- Band EDFA
- Single Channel Amp to DWDM Amp

Product Type : FOL0907 Series

Descriptions

- The FOL0907 series has been designed for use in a wide variety of optical amplifier, such as EDFA used in optical transmission systems, especially in dense wavelength-division-multiplexing (DWDM) systems.
- A strained quantum well laser diode chip is integrated with thermo-electric cooler (TEC), thermistor and PIN photodiode in a hermetically sealed 14 pin butterfly package.
- A lensed-fiber system enables high coupling efficiency and the output power up to 220 mW.
- This laser module complies with telecom requirements described in Telcordia™GR-468 requirement and manufactured in an ISO™9001 certified production line.

Features

- Rated output power up to 220 mW (operating)
- Widely deployed reliable package design with industry compatible 14 pin butterfly footprint
- Internal Thermo-electric cooler (TEC) and Thermistor for stable operation
- Integrated PIN photodiode
- Wavelength stabilization with external FBG
- PMF pigtail is available.
- Epoxy free design inside the module for long term Reliability

Data Sheet

FOL0907 Series

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Absolute Maximum Rating

Parameters	Sym.	Min.	Max.	Unit
Storage Temperature	Tstg	-40	85	°C
Operating Case Temperature	Tc	-20	75	°C
Fiber Output Power	Pf	-	500	mW
LD Forward Current	If	-	700	mA
LD Reverse Voltage	Vr	-	2	V
PD Forward Current	IfPD	-	5	mA
PD Reverse Voltage	VrPD	-	20	V
TEC Current	Ic	-0.6	2	A
TEC Voltage	Vc	-	4.5	V

Specifications

(LD Temperature (Ts) = 25°C)

Parameters	Sym.	Min.	Typ.	Max.	Unit	Conditions				
Output Power	Pf				mW					
FOL0907A10							100	-	-	IfBOL=<250mA
FOL0907A11							110	-	-	IfBOL=<260mA
FOL0907A12							120	-	-	IfBOL=<280mA
FOL0907A13							130	-	-	IfBOL=<300mA
FOL0907A14							140	-	-	IfBOL=<320mA
FOL0907A15							150	-	-	IfBOL=<350mA
FOL0907A16							160	-	-	IfBOL=<370mA
FOL0907A17							170	-	-	IfBOL=<390mA
FOL0907A18							180	-	-	IfBOL=<410mA
FOL0907A19							190	-	-	IfBOL=<430mA
FOL0907A20							200	-	-	IfBOL=<450mA
FOL0907A21							210	-	-	IfBOL=<470mA
FOL0907A22	220	-	-	IfBOL=<500mA						
Threshold Current	Ith	-	40	50	mA	CW				
Center Wavelength	λ_c	λ_c-1	λ_c	λ_c+1	nm	Peak, Rated Power $\lambda_c=974\sim 976\text{nm}$				
Spectral Width	$\Delta\lambda$	-	-	2	nm	FWHM, Rated Power				
Wavelength Stability (Temp)	$\Delta\lambda/\Delta T$	-	0.01	0.02	nm/°C	T: FBG Temp.				
LD Forward Voltage	Vf	-	-	2.5	V	Rated Power				
LD Forward Current at EOL	IfEOL	-	-	1.1xIfBOL	mA	End of Life				
Kink Free Power	Pkink	1.1xPf	-	-	mW	-				
Optical Power stability	ΔPf			2.5	%	20mW~40mW, 60s peak to peak				
				1.0		40mW~Pop, 60s peak to peak				
Monitor Responsivity	Im/Pf	2	-	20	$\mu\text{A}/\text{mW}$	VrPD=5V, Average 0mW ~ Pf				
Monitor Dark Current	Id	-	-	100	nA	VrPD=5V				
TEC Current	Ic	-	-	1.4	A	max. $\Delta T=50^\circ\text{C}$, IfEOL				
TEC Voltage	Vc	-	-	3.2	V	max. $\Delta T=50^\circ\text{C}$, IfEOL				
Thermistor Resistance	Rth	9.5	10	10.5	k Ω	Ts=25°C				
Thermistor B Constant	Rth	-	3900	-	K	Ts=25°C				
Tracking Error	T.E.	-0.5	-	0.5	dB	Tc=-5~75°C Referred to Tc=25°C				

Data Sheet

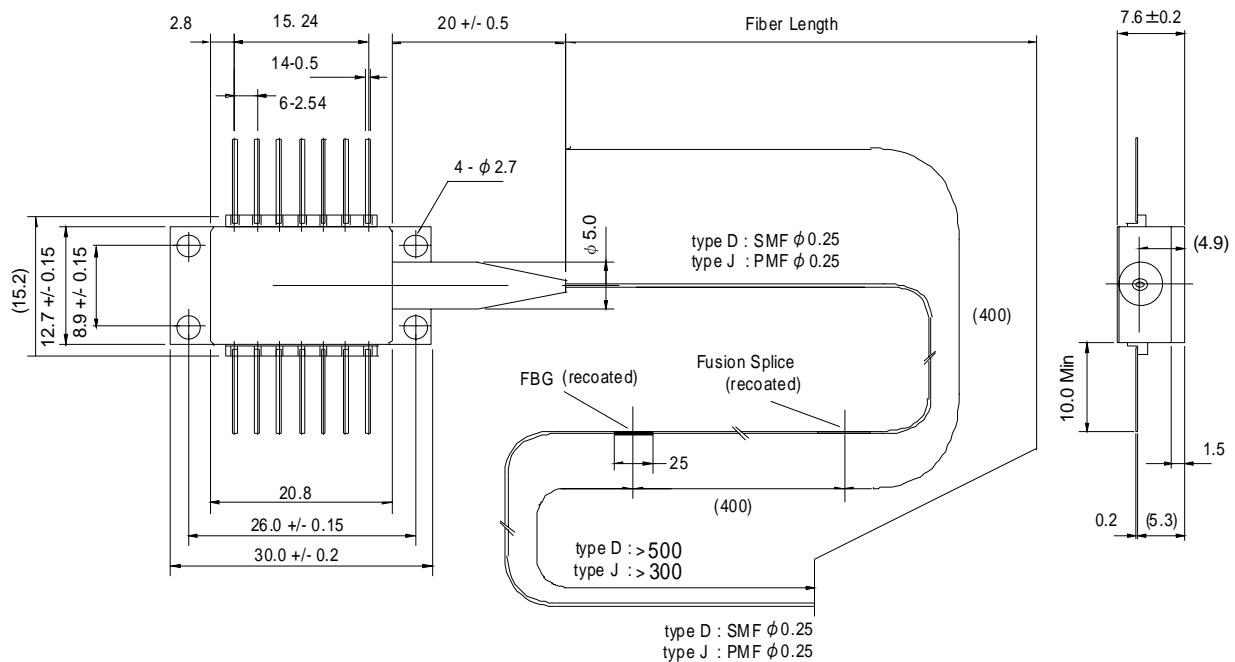
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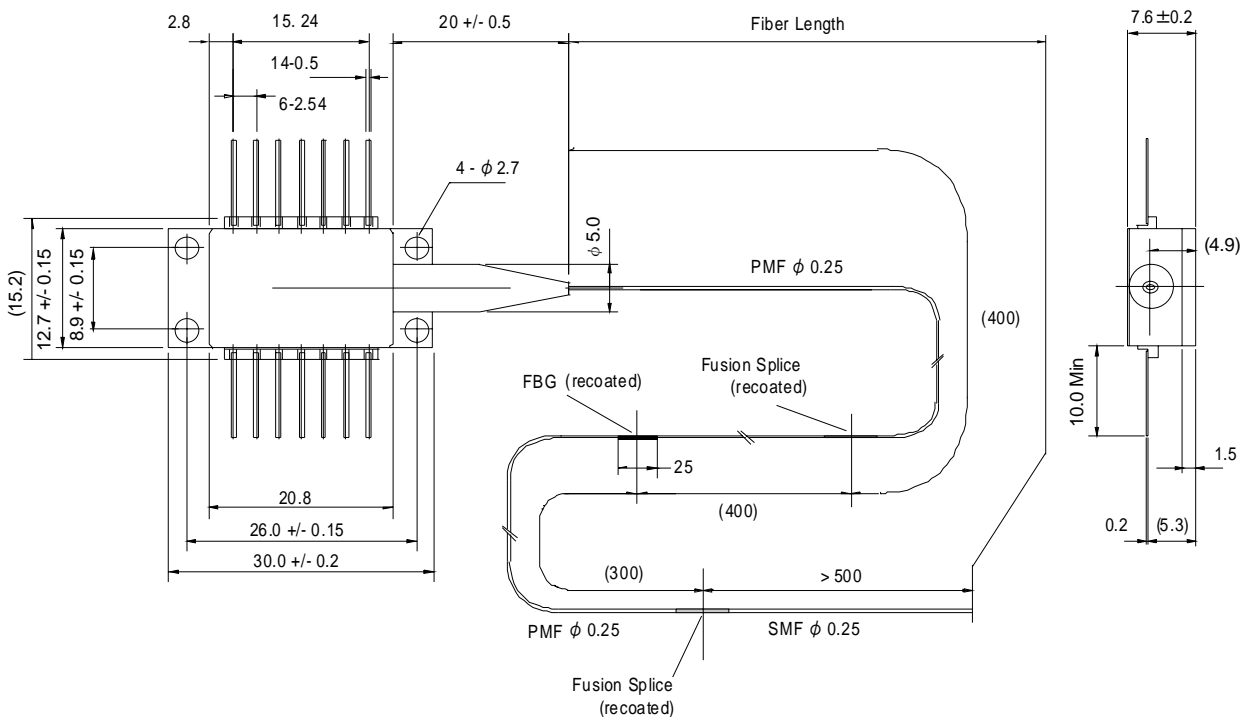


Dimensions

D17 (All SMF) and J17 (All PMF)



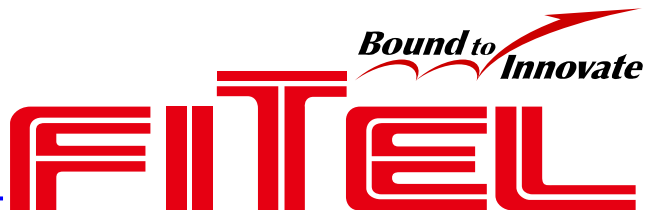
H17(PMF+SMF)



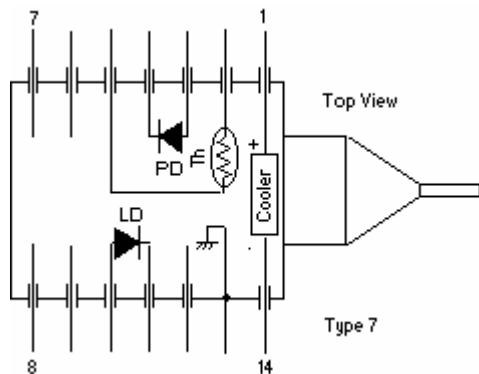
Data Sheet

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Pin Assignment



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(-)

Ordering information

FOL0907A - 17 -

Wavelength
ex. 976

Output Power
ex. 250mW --> 25

D: SMF pigtail w/ FBG (Puremode™1060)

H: PMF pigtail w/ FBG + SMF interface (Puremode™1060)

J: PMF pigtail w/ FBG

Safety Information

This product complies with 21 CFR 1040.10 and 1040.1 Class IIIb laser product. Invisible laser radiation is emitted from the end of the fiber or connector. Avoid direct exposure to the beam.

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