

Data Sheet

FOL1425Rxy / 1480nm High Efficiency Module

Date May.18.2005 ODC-2C002D



1480nm Pump LDM up to 400mW



Applications

- Pump Source for Er-Doped Fiber Amplifier
 - C- and/or L-Band EDFA
 - DWDM Amp
- Pump Source for Raman Amplifier

Description

- The FOL1425R series has been designed for use in a wide variety of optical amplifier, such as EDFA or Raman Amplifier used in optical transmission systems, especially in dense wavelength-division-multiplexing (DWDM) systems.
- Newly developed thermal design enables the output power up to 400mW in the conventional 14 pin butterfly package.
- A 2-lens-system couples a round shape light from the laser chip efficiently to the fiber.
- This laser module complies with telecom requirements described in Telcordia™ GR-468 requirement in the module.

Features

- Rated output power up to 400 mW (CW) with conventional 14 pin butterfly package
- Internal Thermo-electric cooler (TEC) and Thermistor for stable operation
- Integrated PIN photodiode for back facet monitor
- Internal optical Isolator (optional)
- Single mode fiber and Polarization maintaining fiber pigtail
- Wavelength stabilization available with external FBG (optional, PM fiber only)
- Epoxy free design inside the module for long term Reliability

Data Sheet

FOL1425Rxy / 1480nm High Efficiency Module
ODC-2C002D Date May.18.2005

Absolute Maximum Ratings

Parameters	Sym.	Min.	Max.	Unit	Parameters	Sym.	Min.	Max.	Unit
Storage Temperature	Tstg	-40	85	°C	PD Forward Current	IfPD	-	5	mA
Operating Case Temperature	Tc	-20	70	°C	PD Reverse Voltage	VrPD	-	20	V
LD Forward Current	If	-	1700	mA	TEC Current	Ic	-1.1	4.5	A
LD Reverse Voltage	Vr	-	2	V	TEC Voltage	Vc	-	4.5	V

Optical and Electrical Specifications (Sensor Temperature (Ts) = 25°C)

Parameters	Sym.	Min.	Typ.	Max.	Unit	Conditions
Output Power						
FOL1425RTW	Pf ¹⁾	340	-	-	mW	IfBOL=<1300mA, w/o FBG
FOL1425RTX		360	-	-		
FOL1425RUY		380	-	-		IfBOL=<1400mA, w/o FBG
FOL1425RUZ		400	-	-		
FOL1425RTW		340	-	-		IfBOL=<1300mA, w/FBG
FOL1425RUX		360	-	-		
Threshold Current	Ith	-	40	75	mA	Ts25°C
Center Wavelength(FP)	λ_c	1460	-	1490	nm	RMS(-20dB), Rated Power
Center Wavelength(FBG)	$\lambda_c^{2)}$	$\lambda_c-1.5$	λ_c	$\lambda_c+1.5$	nm	RMS(-20dB), Rated Power
Spectral Width(FP)	$\Delta\lambda$	-	-	8	nm	RMS(-20dB), Rated Power
Spectral Width(FBG)	$\Delta\lambda$	-	-	3	nm	RMS(-20dB), Rated Power
LD Operating Forward Voltage	Vf	-	2.2	2.7	V	Rated Power
LD Forward Current at EOL	IfEOL	-	-	1.2xIfBOL	mA	End of Life
Monitor Current	Im	100	-	2000	μ A	VrPD=5V, Rated Power
Monitor Dark Current	Id	-	-	100	nA	VrPD=5V
Extinction Ratio	Re	16	-	-	dB	Type4 and Type6
Isolation	Iso	30	-	-	dB	Type3 and Type4
Thermistor Resistance	Rth	9.5	10	10.5	k Ω	Ts=25°C
Thermistor B Constant	Bth	-	3900	-	K	Ts=25°C

1)Pf; Available Pf may depend upon center wavelength selected.

2) λ_c ; Selected center wavelength from 1420nm to 1510nm available.

If expected wavelength is beyond the above range, please feel free to contact sales dept.

Thermo-Electric Cooler Characteristic & Power Consumption

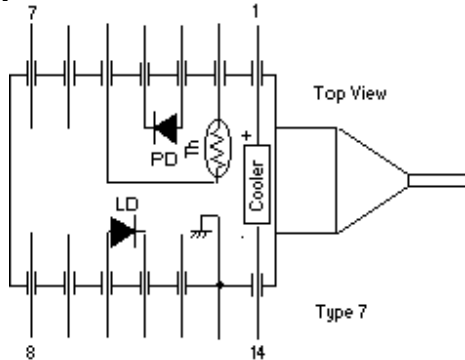
Part Number	Itec[A]	Vtec[V]	³⁾ Ptotal[W]	Condition
RT* series Pf=340 to 360mW	2.9	3.7	14.1	Max. Val., Ts=25°C, Δ T=45°C, IfEOL
RU* series Pf=360 to 400mW	3.2	4.0	16.5	Max. Val., Ts=25°C, Δ T=45°C, IfEOL

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

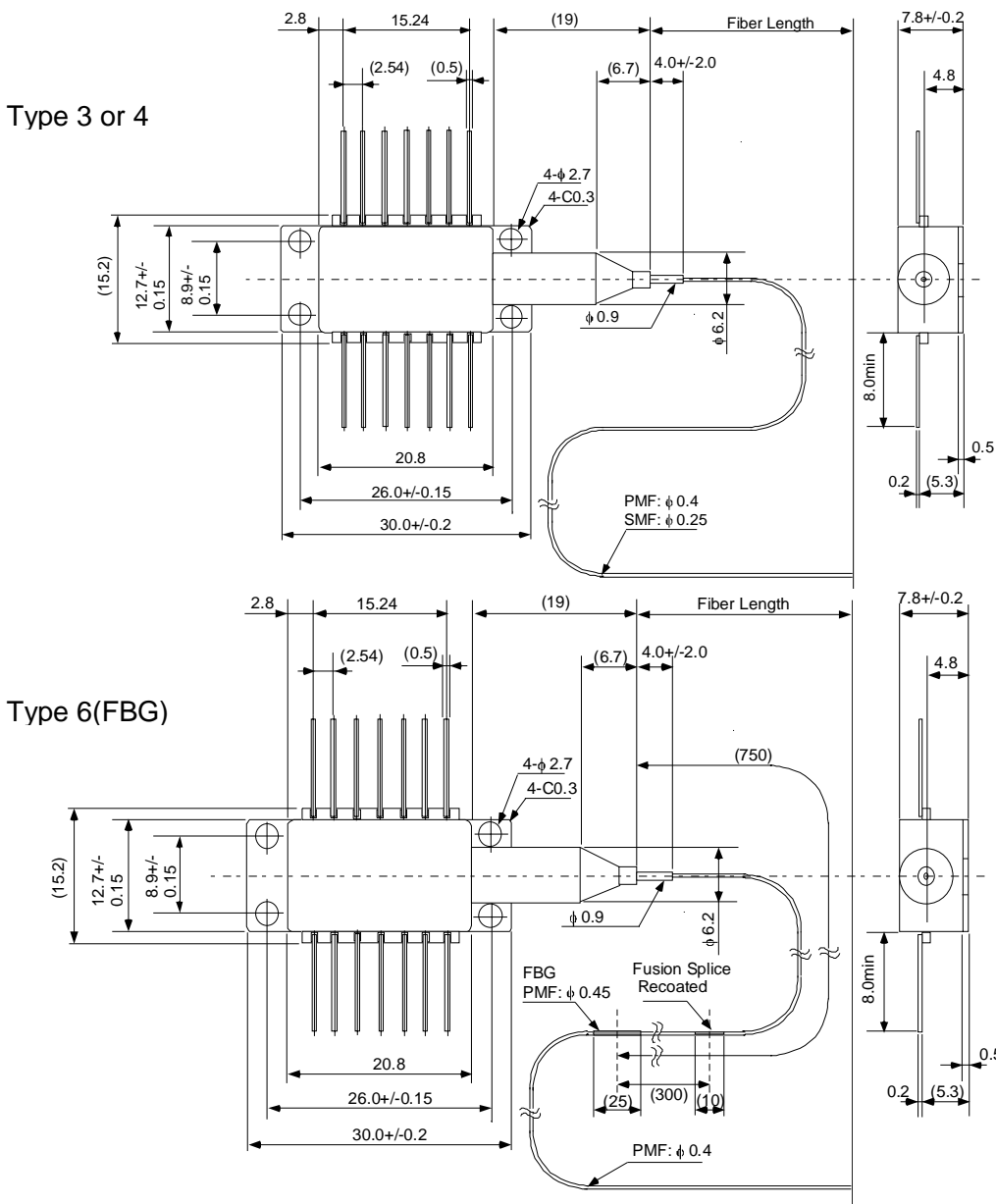
Data Sheet

FOL1425Rxy / 1480nm High Efficiency Module
 ODC-2C002D Date May.18.2005

Dimensions & Pin Assianment



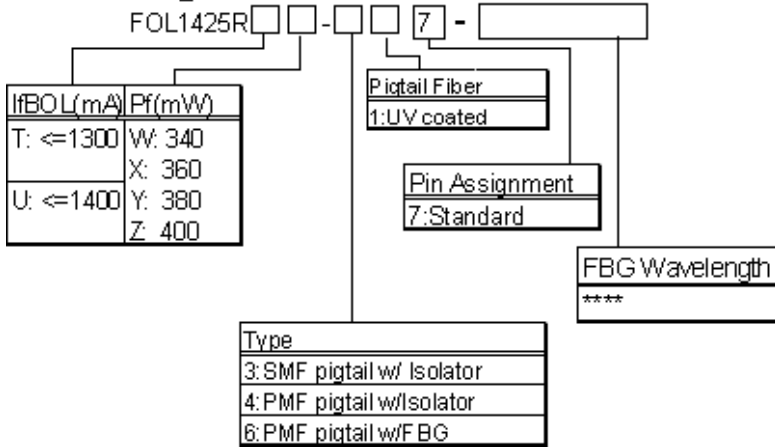
Pin#	Function	Pin#	Function
1	Cooler(+)	8	No Connection
2	Thermistor	9	No Connection
3	PD anode(-)	10	LD anode(+)
4	PD cathode(+)	11	LD cathode(-)
5	Thermistor	12	No Connection
6	No Connection	13	Case GND
7	No Connection	14	Cooler(-)



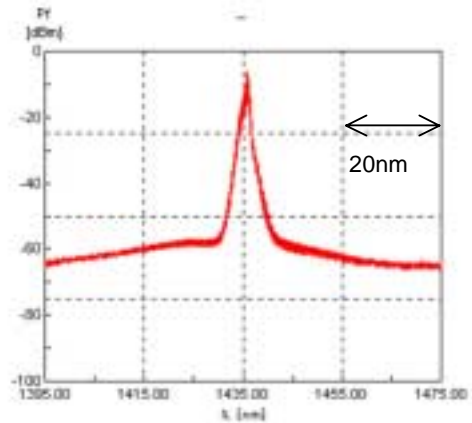
Data Sheet

FOL1425Rxy / 1480nm High Efficiency Module
 ODC-2C002D Date May.18.2005

Ordering Information



Spectrum (w/FBG)



Safety Information

This product complies with 21 CFR 1040.10 and 1040.11, Class 3b laser product. Invisible laser radiation is emitted from the end of the fiber or connector. Avoid direct exposure to the beam



Telcordia is a trademark of Telcordia Technologies, Inc.

Furukawa Electric Co, Ltd., Fitel Technologies, Inc, and Furukawa Electric Europe, Ltd. reserve the right to change data contained in this document in the interest of continued product improvement. The publication of this information does not imply freedom from patent or any other rights of The Furukawa Electric Company, Ltd. or its affiliated companies. All Rights Reserved, Copyright© THE FURUKAWA ELECTRIC CO., LTD.

 **THE FURUKAWA ELECTRIC CO., LTD.**

FITEL

Furukawa Electric Co, Ltd
 Headquarters
 2-3 Marunouchi 2-chome
 Chiyoda-ku Tokyo
 100-8322 Japan
 T: 81-3-3286-3253
 F: 81-3-3286-3515
www.furukawa.co.jp

Furukawa Electric Europe, Ltd
 3rd FL Newcombe House
 43-45 Notting Hill Gate
 London, UK
 T: 44-20-7221-6000
 F: 44-20-7313-5310
www.furukawa-fitel.co.uk
sales@furukawa-fitel.co.uk

Furukawa America, Inc.
 200 Westpark Drive, Suite 190
 Peachtree City, GA 30269
 T: 770-487-1234
 Toll-Free: 1-866-GO-FITEL (463-4835)
 F: 770-487-9910
www.furukawaamerica.com
oesales@FurukawaAmerica.com